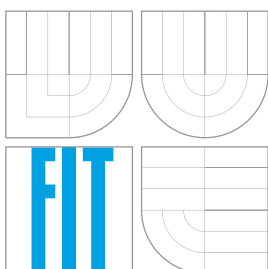# BRNO UNIVERSITY OF TECHNOLOGY
VYSOKÉ UČENÍ TECHNICKÉ V BRNĚ

FACULTY OF INFORMATION TECHNOLOGY
DEPARTMENT OF COMPUTER GRAPHICS AND MULTIMEDIA

FAKULTA INFORMAČNÍCH TECHNOLOGIÍ
ÚSTAV POČÍTAČOVÉ GRAFIKY A MULTIMÉDIÍ

WORK AND TRAVEL REVIEW SERVER
SERVER PRO RECENZOVÁNÍ WORK AND TRAVEL PROGRAMŮ

MASTER'S THESIS
DIPLOMOVÁ PRÁCE

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VEDOUCÍ PRÁCE

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Vysoké učení technické v Brně - Fakulta informačních technologií

Ústav počítačové grafiky a multimédií　　　　　　　Akademický rok 2015/2016

Zadání diplomové práce

Řešitel:　　**Bambušek David, Bc.**
Obor:　　　Inteligentní systémy
Téma:　　　**Server pro recenzování programů Work and Travel**
　　　　　　Server for Reviewing Work and Travel Programs
Kategorie: Uživatelská rozhraní

Pokyny:
1. Vyhledejte, analyzujte a popište existující weby pro recenzování služeb, zaměřte se na služby v nějakém ohledu podobné programům work and travel.
2. Analyzujte a popište problematiku work and travel programů z hlediska zájemce/účastníka případně dalších relevantních uživatelů.
3. Navrhněte funkčnost portálu, který umožní hodnocení a vyhledávání work and travel programů.
4. Navrhněte uživatelské rozhraní vytvářeného systému.
5. Navrhněte backend řešeného systému.
6. Implementujte kritické části řešeného systému - zaměřte se na "minimal viable product".
7. Rozvíjejte systém na základě zpětné vazby uživatelů a podle analýz návštěvnosti.
8. Zhodnoťte dosažené výsledky a navrhněte možnosti pokračování projektu; vytvořte plakátek a krátké video pro prezentování projektu.

Literatura:
* dle pokynů vedoucího

Při obhajobě semestrální části projektu je požadováno:
* Body 1 až 3,
* značné rozpracování bodů 4 a 5.

Podrobné závazné pokyny pro vypracování diplomové práce naleznete na adrese http://www.fit.vutbr.cz/info/szz/

　　　Technická zpráva diplomové práce musí obsahovat formulaci cíle, charakteristiku současného stavu, teoretická a odborná východiska řešených problémů a specifikaci etap, které byly vyřešeny v rámci dřívějších projektů (30 až 40% celkového rozsahu technické zprávy).

　　　Student odevzdá v jednom výtisku technickou zprávu a v elektronické podobě zdrojový text technické zprávy, úplnou programovou dokumentaci a zdrojové texty programů. Informace v elektronické podobě budou uloženy na standardním nepřepisovatelném paměťovém médiu (CD-R, DVD-R, apod.), které bude vloženo do písemné zprávy tak, aby nemohlo dojít k jeho ztrátě při běžné manipulaci.

Vedoucí:　　　**Herout Adam, doc. Ing., Ph.D.,** UPGM FIT VUT
Datum zadání:　　1. listopadu 2015
Datum odevzdání: 25. května 2016

doc. Dr. Ing. Jan Černocký
vedoucí ústavu

Abstrakt

This thesis is a documentation covering complete design process of a web server for reviewing Work and Travel programs and other opportunities for working and travelling abroad, mainly focused on young people. It describes not only the concept of the user interface and application implementation, but also a business plan for running the website and making it profitable. This project called GapPacker is intended as a start-up, aggregating various programs and articles from the world of Work and Travel and its main income will come from paid clicks through to registrations or websites of providers offering the programs. After its introduction on the Czech market, it has ambitions to expand to other European markets.

Abstract

Tato práce se zabývá kompletním návrhem webového portálu pro recenzování programů Work and Travel a jiných příležitostí pro práci a cestování v zahraničí, přednostně pro mladé lidi. Popisuje portál jak z hlediska návrhu a implementace jeho uživatelského rozhraní, tak také z hlediska návrhu business plánu pro reálné nasazení a ziskovost webu. Tento projekt s názvem GapPacker je zamýšlen jako start-up, agregující různorodé programy a články ze světa Work and Travel a bude profitovat na zpoplatněných proklicích na stránky poskytovatelů těchto programů a na jejich registraci. Projekt má po zavedení na českém trhu ambice expandovat i na další evropské trhy.

Keywords

GapPacker, reviews, student, work abroad, travelling, startup, user interface, business plan, web application, Ruby on Rails

Klíčová slova

GapPacker, recenze, student, práce v zahraničí, cestování, startup, uživatelské rozhraní, business plan, webová aplikace, Ruby on Rails

Reference

BAMBUŠEK, David. *Work and Travel review server*. Brno, 2016. Master's thesis. Brno University of Technology, Faculty of Information Technology. Supervisor Herout Adam.

Work and Travel review server

Declaration

I declare that this thesis and the work presented in it is the result of my own work under the supervision of prof. Ing. Adam Herout, Ph.D. All the sources and publications I have used during my research and work are stated in the bibliography.

....
David Bambušek
May 16, 2016

Acknowledgements

Herby, I would like to thank my supervisor prof. Ing. Adam Herout Ph.D. for all the expertise and ideas he shared with me during the process of creating this project. The next person to be acknowledged is my colleague Dean, that was a consultant to the final graphical design. The last and the biggest thanks belongs to my girlfriend Petra who was my greatest support during the work on this thesis.

Contents

Chapter 1

Introduction

This thesis offers an insight into the process of creating web application called GapPacker. In five chapters it describes all the steps of the procedure, that consists of formation of the idea, creating business plan, user research, user interface and graphical design, implementation and final deployment. This server's main purpose is to aggregate Work and Travel programs and other opportunities for mainly young people to go work abroad and travel there afterwards and to give people chance to review them. Besides the main functionality, there are going to be couple of other features enriching the site's functionality, as possibility to write articles, receive rewards for being active, link to interesting events and others.

Each chapter od this document will introduce one step of the process. Starting with the initial planning of the project, going further to user interface design process, and finally getting to details of implementation and deployment onto a live server. The Chapter following introduction goes back in time, presenting the story behind this thesis and guides through my initial thoughts that lead to creation of this web server. After getting familiar with the concept a business model that settles the idea on a ground with real numbers is presented, showing how would or should the project work in real life. Crucial part of this thesis is an analysis of websites that review hotels and other types of accommodation which serve as an inspiration and insight to the world of reviews, that is certainly very important to have before creating a new website with a relatively similar focus. The forth section is dedicated to the design of user interface, which has several stages and are very crucial for the project. The fifth chapter describes the creation of GapPacker's brand, design of the site and its elements. It also covers a short section about the content that will be published on the site. The last chapter will go into more technical details as it describes implementation in Ruby on Rails framework and deployment of this whole project onto a server.

GapPacker website is live since May 2016 and can be seen on http://www.gappacker.cz

Chapter 2

The Idea

This chapter introduces the idea of GapPacker, gives a short introduction to the story behind it and describes the project in more details. Since the aim of this project is to create a real website with real users, it is necessary to transfer the idea into real plan with help of a business plan, which is the second part of this chapter.

2.1 Project Proposal

Before getting to business and technical details, let me first make a short descriptive introduction into how was an idea of creating such a website formed and how it relates to me personally.

2.1.1 Story Behind the Idea

Five years ago, right after I started studying at the university, I shortly realized that I will be having much longer summer breaks than at my high school and that it would be quite a pity not to make the best of it. Since I was quite sick and tired of our country and life here in the Czech Republic, I was dying to go somewhere abroad, explore the world and meet new people. My childhood dream was to visit places I saw in American films – climb to the top of the Empire State Building in New York, sail under the Golden Gate Bridge in San Francisco or have a surf ride on the Waikiki Beach. Therefore the United States was at the top of my dream "go to" list. Thankfully I had a friend who told me about his "work and travel" experience from the year before which made me really excited and I decided to go on the same program as he did.

Although I have been abroad many times, I was still somewhat scared and nervous from going to the USA, mainly thanks to the fact that wherever I was before, I could take the the first bus and next day I could be home. But with the USA, it means getting across the ocean and flying quarter way around the globe. To calm myself and my parents down, I was trying to get as much information about the agency providing the program, the camp I will be working at and also about life and travelling in the USA, as possible. It turned out, that for the two first mentioned, it will be quite a problem. It was year 2011 and sites such as Hostels.com and Tripadvisor already existed, so finding information about travelling was no big issue, but there was no place aggregating all the information about different programs, agencies and destinations people could go on during their summer break/year off, which made my research really hard.

Nevertheless, I had a great experience with my three-months-long Work and Travel program in the USA that I returned to do the same not only the next summer, but I spent a total of four summers there. At the place where I have worked, I met with a boss

of agency that was sending people from Slovakia to the USA and he asked me to help him run the business also in the Czech Republic. I agreed and that is how my career in Work and Travel business started. Years passed and while I was still working for this company I moved to a position of a developer in an IT team situated in Liverpool, where we often consulted ideas to improve Work and Travel business by using web and modern technologies. Such a website that I was looking for before my first trip to the USA was still missing on the market. Therefore I presented my idea of creating it to the company's board. Idea of creating a website that could compare to Tripadvisor by its functionality, just comparing work and travel programs instead of hotels. Everyone endorsed my idea, I got a lot of feedback and since the time to chose my thesis topic was approaching, I decided to start working on this project and write dissertation about it.

2.1.2 Project Idea

In recent years, much of buying and selling moved online and nowadays, there is almost no such thing that could not be bought in some kind of an e-shop. Online shopping, for sure, brings a lot of comfort not only to the end customers, that do not need to make a step out of their living room to make an order, but also to companies, that do not need to run physical stores and save money on rent, energy, human resources and other expenses connected to running an actual shop. However, while moving online, we lose human interaction and it is very hard to gain trust of customers, that would normally make a picture of a business by visiting the store, seeing the items they are buying and talking to staff or owner personally. There are many ways how one can make his online business look slightly more credible, such as good graphical design and using proper language, but really the only way how to build a reputation is directly through people, who are already business's customers, telling other people how good it is and what is the quality of its product. Shortly said, reviews.

As some studies reflect, it is really important not to underestimate customer's feedback. More than 75% of customers in the UK check online reviews before buying certain item. In the world of hotels, online reviews make up to 10% of the revenue per available room, which means having good reviews heavily pays of. It is certainly important to have good reviews, but nevertheless, having negative feedback and reacting to it improves impression of the hotel with 84% people [4].

Very well know websites offering reviews are Booking.com[1] (hotels), Tripadvisor[2] (hotels, places, restaurants and others) or Trustpilot[3] (possibility to review any existing company or product).

Another comfort that online shopping offers is the easiness with which different stores can be visited, being only one click away, compared to physical shopping, where one needs to walk or even drive to a different shop. When visiting different stores looking for goods people usually compare price, which resulted in a big boom of search engines that are able to compare prices from different stores, such as Google Shopping[4], PriceGrabber[5] or Amazon[6].

A living proof that reviews and being in some kind of search/comparing engine is really important for people who are shopping for something or booking a hotel are websites such as Tripadvisor, Booking.com or Amazon that have millions of visits a day. And it is the

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[1] www.booking.com

[2] www.tripadvisor.com

[3] www.trustpilot.com

[4] http://www.google.com/shopping

[5] http://www.pricegrabber.com/

[6] http://www.amazon.com/

information they find there what makes them decide if they will or will not buy/book the thing/service they are looking for.

Since I have close contacts on people from Work and Travel industry I talked to and worked with and also based on online research, I came to the conclusion, that there is no such website, presenting reviews and aggregating all the offers from different agencies, that would be focused on Work and Travel market. The only one discovered is GoAbroad[7], which is a big player with its 16 thousands reviews and almost 18 thousands programs in their database, but it is focused worldwide and therefore does not offer any information value for specific markets, especially European ones. Moreover, by short user testing we came to the conclusion that GoAbroad user experience is very poor and could be easily competed.

My idea to create country and market specific website therefore looks like a unique project with no direct competitor, but one big competitor closely alike.

2.1.3 Project Specification

The aim of this project and thesis is to create a website that would aggregate providers of opportunities for working abroad focused on young people, mainly students during their summer break, fresh graduates or people having their gap year. These programs could be rated by users, which would create a feedback for companies and serve as a clue for other people when choosing between different programs themselves. Website would provide basic information not only about different programs, but also about companies offering them. Each program/company page would be operated by the company itself, in case of their disinterest, a page with basic information about their company and programs would be still created upon someone reviewing it or by our staff.

In order to bring more traffic and interest to the website a very important part of the project will be creation of content in form of travel articles and guides, which would present visitors with professionally written content full of information, tips, tricks and other information concerning accommodation, transportation, visa process and all other important topics for people going abroad.

Because we would like the content to be also user generated, there will be an option to create a blog, where any registered user could compose articles with any topic related to his travel experience, website's focus or just his life as a traveller.

Yet the most important part will be the reviews section of each program and the main goal should be building up the number of reviews for every program. Although it is mainly a matter of marketing, propagation and cooperation with companies, it has to be build on an easy to use user interface for adding reviews and the complete user experience of the website has to be on the highest level possible.

The last feature of the web will be in-site search functionality for finding desired programs according to entered criteria, which will enable advanced filtering and sorting functions.

For the start, the project is intended to be free for use on both user and company sides, but after we gain some reputation, traffic and most importantly companies with their programs and reviews, it is planned to start monetizing GapPacker. So far we have four models that could be used to get income from the project. It will always be free for use on customer side, but companies will be charged for specific features or special actions. First of all, a company can buy sponsored or featured places in search results, on the homepage and other places, to make their program appear on the top, though it is important that it will be clearly stated that a program is sponsored to make everyone sure that no-one

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[7]www.goabroad.com

can buy better rating/ranking. The second way of monetizing is that companies can enter all information about them and their programs for free, but if they want a direct link to a registration page/their website for their services on their company/program page, they need to pay for every click made through those links. The third way to make a profit is a bonus feature subscription, where companies could personalize their company/program pages and would get an access to features such as creating events, program badges, extra statistics and others. The last possibility to turn a profit is affiliate marketing connected to traveling, such as flight tickets, accommodation, trips, and others.

2.1.4 Resume of What Will Be Done

The output of my work will be a fully functional website for reviewing Work and Travel opportunities, enriched by various content focused on youth travelers together with content generated by users as their blog articles. My work will consist of several subtasks. Namely user research, which will be followed by designing and testing user interface, continuing with design of all the data structures, together creating front-end environment administered by own CMS (content management system) system. To make the project live, it will be also necessary to create a business plan to make it profitable or at least self-sufficient and also to work and communicate with many possible customers, to get certain number of programs. Lastly it will be necessary to promote the site to get as much traffic as possible.

2.2 Business Model

All the important details and specifications of what is going to be done were stated in the previous section, therefore let us have a look on some numbers to see how vital and realistic this project is when put into real environment. Business plan and its structure which is presented ahead is based on the schema from [10].

2.2.1 The Elevator Pitch

GapPacker is "Tripadvisor for meaningful travel", in more detailed words it is an online platform where young travellers can find and gather information about meaningful travel opportunities worldwide. The platform's main goal is to help travelers decide for the best travel opportunity based on genuine reviews, to make comparison between different programs quick and easy to comprehend and finally make the search for information about travelling only as far as one click is. We believe that all this together will make travellers' path from the initial thought of going somewhere to really going somewhere easy and straightforward and make them feel secure about their choice.

While comparing and reviewing programs together with presenting rich travel focused content, we want to impact the "Work and Travel world" in matter of rising its quality and making it better and accessible for anyone anywhere.

We feel that majority of young travellers usually know where they want to go and they only search for possibilities how to get there. Therefore, all the content and program categories on GapPacker take this into account and they are divided according to their destination with further segmentation by type of job, budget, and duration of each program.

2.2.2 Impact of Reviews

Reviews are really important, no matter if they are good or bad. It is really the feedback and communication between customer and seller that has further impact on their relationship [4].

70% of people read online reviews before purchasing

Reviews have become a defining purchase factor in the tourism, hospitality and retail sectors. More than 33% of travellers say recommendations from review sites and online forums are the most influential factor in booking a trip. We believe that the expectations of reviews will and already are carrying over into the meaningful travel sector.

Why bad reviews are useful

Having a mix of positive and negative reviews helps to improve consumer trust in the platform they are using. 68% of consumers trust reviews more when they see both good and bad scores, while 30% suspect censorship or faked reviews when they do not see any negative opinions on the page.

Changing consumer's attitude

Another positive of receiving negative feedback is that it allows the provider to act upon it. It gives an opportunity to turn an unhappy customer into a loyal brand fan and the knowledge to combat the problem to make sure it does not happen again in the future.

2.2.3 Customer Segment

GapPacker has two main customer segments which are characterized as follows:

Travellers

Young people:
- age between 18 – 26
- university students / recent graduates
- eager to travel, meet new people and cultures
- online generation
- review conscious

Providers

Meaningful travel companies with focus on:
- Work and Travel
- volunteering
- au-pair
- teaching abroad
- internships

2.2.4 Value Proposition – Why Would They Use It?

Travellers

- discover programs based on where they want to go, what they want to do, how long they want to go for and how much they can afford to pay

- unbiased ranking and rating of travel programs giving travellers a more informed view of providers and allowing them to make a confident buying decision
- to get access to free travel guides, tips and ideas, fun motivational travel articles

Providers

- access to traffic / target audience
- allows a quicker route for providers to present a new program
- creating brand trust and credibility by being rated / ranked by genuine reviews
- access to powerful customer feedback and tools for gathering data about company's customers
- allows companies to compete irrelevant to their size, opening the market to all business sizes

2.2.5 Channels – Through What Routes Can We Access Customers

- online/mobile
- website
- social
- search (Google)
- news/media websites
- startup/tech company blogs e.g product hunt, hacker news
- offline
- leaflets
- universities
- work and travel organizations/groups (e.g. WYSTC[8] – sell the value of consumer feedback to industry as a whole)
- direct access to customers via SEG[9] (company I am connected to) partners and other partners featuring their programs on the site

2.2.6 Revenue Streams – How Do We Make Money?

The main premise to create any revenue on GapPacker is bringing significant amount of traffic to the site. Once there is traffic, there will be also revenue, which in case of GapPacker can be divided into four streams:

1. lead generation / referral traffic – providers pay for traffic directed to their websites (flat rate cost per click (CPC) model)
2. subscription for providers offering extra features, custom styling, data analysis, embedded ratings for their websites etc. – providers pay for monthly subscription for extra features
3. sponsored listings – providers pay for placement of their programs on dedicated spots of the website (bid CPC model)
4. affiliate marketing / sales – possibility for 3rd parties to sell relevant travel products such as flights, insurance, accommodation etc. on the site (affiliate commission)

First of the mentioned streams will be the most important and crucial income stream. The idea of implementing the CPC model is that each company that will participate in this model will have a "Book" button visible for each of their programs and they will be charged for every click on it that results in direct program booking or visiting provider's

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[8]https://www.wystc.org/
[9]http://www.smallerearth.com/

webpage. If a company will not want to participate in this model, there will be no direct links to their websites or program bookings.

To give more detailed insight to this model, let us introduce an example for the UK market with attributes that we plan to use for the website launch. After some time all the data and costs will be evaluated and redesign if needed.

Cost per click: £0.50
Total Clicks (per month): 2500
Avg Provider Conversion Rate: 2%
Provider Sign up CPA (How much a lead from GapPacker costs): £25
GapPacker Revenue: £1250

In this example, for each click, the provider pays GapPacker £0.50. If the average conversion rate which stands for what percentage of people from those who clicked on the book button really booked the program, is 2%, the cost of one booking for the provider to GapPacker is £25. GapPacker's revenue is then simply total clicks multiplied by cost per click, which would be £1250.

We expect the conversion rate to be around 2% from the data we have available from our partners' websites providing work in summer camps in the USA. Since the nature of GapPacker where traffic leaving the site will be highly qualified for booking, we expect the rate to be higher than stated 2%, but to be realistic and not to overestimate calculations, 2% are taken as a number to be counted with. If the model worked with stated numbers, it would certainly be considered as profitable project.

2.2.7 Customer Relationship – How Do We "Get, Keep, Grow" Customers

Travellers		
Stage	**Tactic**	**Notes**
Get (acquire)	Content	Provide free educational and inspirational content to travellers. Delivered through multiple channels e.g email, social and website.
	Social Media	Inspire consumer's desire to travel via imagery, video and content
	Email	Build lead list via content giveaways. Create email campaigns focused on turning a passer by into a customer
	SEO	Rank high across a broad range of keyword results. Example target: Work abroad, Campleaders reviews
	Provider Referral	Give providers access to feedback tool which they share with travellers
Keep (retention)	Unexpected Rewards	Once acquired "surprise" users with free valuable content via email and social. Send gifts to members of community e.g t-shirts, stickers, notepads etc
	Discounts and Offers	Give community members access to discounts and offers
	Points / Gamification	Reward user reviews with points and ranking system, e.g "Experienced Traveller", create voting poles for different interesting topics
Grow (upsell)	Program Suggestions	Suggest new relevant programs to consumers based on the user data we have
	Cross / Affiliate Sales	Suggest relevant travel add-ons such as flights, insurance, travel cards etc

Providers		
Stage	**Tactic**	**Notes**
Get (acquire)	Education / Content	Create content to educate providers around the importance of user feedback, customer service and digital strategy
	SEO	Build awareness. Rank high across a broad range of keyword results. Example target: Campleaders review, Work and Travel provider
	Traffic	The more traffic we build the easier it is to sell the idea to providers (links with SEO)
	SEG Network	Utilize existing network of contacts and connections to access providers
Keep (retention)	Competition (Ranking / Reviews)	Use ranking to promote competition between providers. Make providers want to be #1
	Feedback Tools	Create tools that allow providers to collect actionable and useful feedback
	Subscription	Give access to advanced features when providers subscribe to the platform.
	Results	If platform is delivering profitable customers they will unlikely want to leave. Create reports showing providers the value of being on Gap-Packer.
Grow (upsell)	Sponsored Listings	Upsell free or CPC providers on the value of sponsored listings
	Education	Continually educate on the value of feedback and digital innovation

2.2.8 Key Activities – What Are The Most Important Things to Do?

Activity	Notes
Website and Platform Development	Building an innovative industry beating platform and then maintaining that position.
Traffic Generation	Traffic is our primary product – everything builds from there, the more we have the more important GapPacker becomes
SEO	Closely related to traffic it is important we have a heavy focus on SEO.
Review Capture	Get as many reviews as possible
Content Development	Create quality content focused on going abroad and everything connected to it
Provider Management, Outreach and Sales	Establish contact with providers and try to sell them the idea and premium content
Provider Education	Educate providers about importance of customer feedback and value of reviews

2.2.9 Key Resources

– people
– platform – software product
– infrastructure – servers and hardware to run platform on
– content – travel guides and articles, companies and programs information and reviews
– Smaller Earth Group (SEG) network and knowledge – contacts and know-how of established brand targeting big market

2.2.10 Cost Structure

– platform and content development
– guides/articles
– images and videos
– (digital) advertising
– travel conferences/events

2.2.11 Challenges and Questions

Is there enough depth in the UK/CZ Work and Travel market for:
– providers/programs to be listed
– user reviews to be generated in at least dozens
– how providers will react to proposed revenue model
– how to create quality and valuable travel content

Chapter 3

Analysis of Review Websites

In order to find out how somehow similar websites or websites close in their core to the proposed GapPacker project work and are designed, I decided to create a review of six top used sites for booking hotel rooms. The choice of hotels was quite obvious, because they share a lot of similarities in matter of attributes with work and travel programs, because they cost something and they happen at a specific location at some exact date. More importantly many people visit them and possibly can leave a review, which other people can use to decide whether to chose this or some other hotel.

The aim of this review is to find out what is the best practice to design a reviewing site, with focus on converting people to book, how to manage content so there is some space for sponsored and featured links and what are the interesting user interface components these sites use. This review takes a closer look at three main and the most important parts of each website – **homepage**, **search results page** and **hotel page**. There is a separate text dedicated to each of these sections, with a short summary of interesting, well done and badly done things.

I look at how the space on the page is managed, if the important things, which are price, rating and book buttons draw the user's attention and what is the overall design feel of the webpage, which might be affected by my subjective feelings, but for the sake of generality, I try to stay as objective as possible. In the results page section I also look at filtering and sorting possibilities and user interface (UI) elements that are used to select them.

The six websites reviewed are: Hotels.com[1], Trivago[2], Expedia[3], Tripadvisor[4], Booking.com[5] and Airbnb[6].

Summarization with all the important facts, interesting features and pros & cons of each site can be found at the end of this chapter.

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[1] www.hotels.com
[2] www.trivago.com
[3] www.expedia.com
[4] www.tripadvisor.com
[5] www.booking.com
[6] www.airbnb.com

3.1 Hotel Review Websites

3.1.1 Hotels.com

Homepage

First thing that hits a visitor's eye when visiting Hotels.com are their significant, very exclamatory brand colors – bright red and violet – that are used for many UI elements throughout the website. For some, they might seem really hideous and the whole homepage has a feeling of webpage designed in 90's, but it is so different from its competitor's websites, that it tends to sticks in visitor's head, which is probably why designers made such a choice of colors.

The main dominant of the homepage is a high header with a randomly picked image of a hotel room with a search box on the right side. This search box is aligned horizontally and is divided into three sections. the first one is an input field for location with a small icon that enables to auto-locate yourself, which is quite bizarre, since people usually look for a hotel before they go somewhere rather than when they are actually already at their destination. The next one is a section with two date-pickers for check-in/out with a counter of nights next to them and the last section enables to choose a room type. For sure, no one is going to overlook the search button since it is made in a light blue color and a big font, which makes it stand out a lot.

If user has ever visited this site before, there will be a list of recently viewed hotels next to the search form, which can be optionally hidden. Right under the header, there is a violet section featuring Hotels.com special offer "buy 10 nights, get one free", with an actual counter of how many nights user has already booked and how many are missing until he reaches 10.

A slightly chaotic content section follows under the header with the most popular deals. There are 5 deals in total, but there is always only irrelevant title of the deal with a highlighted discount. The most trending cities in which people searched for a hotel today and the site would recommend them for a visit is situated beneath, with three featured hotels in each of four presented cities with a price mentioned.

Interesting features
  – auto location – even though quite useless
  – booked nights counter
  – loyalty offer/special offer

Pros
  – design that tends to stick in head
  – recommended places to go in case user is struggling with his vacation choice

Cons
  – hideous design
  – featured offers with no further information

Results Page

Filter panel
  – name contains – input
  – price – slider
  – stars – checkboxes
  – guest rating – slider
  – neighborhood, landmarks,accommodation type,facilities, themes, accessibility – checkboxes

The filter panel is very standard, it uses sliders and checkboxes, with no interesting elements. Easy to use, but again, design-wise very plain.

Sort options
- our favourites
- stars
- distance from landmarks
- price

Hotel box

Hotels.com presents quite spacious boxes with lot of padding and free space inside. Hotel name is styled as an ordinary HTML link, which resembles quite cheap looking design. The visitor is informed what was the last time this hotel was booked. Telephone number in a small font follows and right beneath it is an image of the hotel room. Hotel's number of stars in the brand red color is floating next to this image, which is the only item that stands out, contrary to location of the hotel and distance to the city center/nearest airport. Not far a floating bubble with rating and a number of reviews is located. Price is placed in the rightmost part of the box which has slightly different background color. A button to continue with booking has the same color as search button on the homepage, but it is significantly smaller and not very distinctive.

Overall, the design of the hotel box is very chaotic, with things scattered here and there. Most important things such as the price and rating are not anyhow highlighted and the only thing that draws attention is the number of hotel's stars, which is nowadays honestly said very useless information.

Hotel Page

The hotel page of this site adapts all the chaotic concepts and elements that have been seen so far in every other section of the website. Lack of design consistency, elements which are the most important are rarely highlighted and blend in between others. The hotel page consists of different sections as usually, but they are not anyhow visibly separated and each of them has a different design. There is even no submenu to navigate through the page, so one must scroll a lot to go from one section to another.

The top most section's main element is an image slideshow with pictures from hotel's rooms with a sidebar with a price, a book button and a review box. The price and surprisingly also book buttons are very small and lost between the rest of the content in the section. The review box presents two of the best reviews with link to see also the rest of them, which is a good compromise to show at least some reviews and save some space at the same time.

The rest of the page is dedicated to different sections with room types and prices, key facts about the hotel, policies and others, but as was previously said, section design is different for each one of them and it feels like they just wanted to put all the information on one page somehow.

Interesting features
- compromise between taken space/presented reviews in review box

Pros
- none

Cons
- "hidden" price and book button
- inconsistent design throughout the page

3.1.2 Trivago

Homepage

Trivago offers a very minimalistic homepage, where there is only their logo in the header, their slogan beneath, an input field with a placeholder saying "e.g. Barcelona" and a search button next to it.

Visitor observant enough to actually notice a scroll bar in the browser window, will find out that it is possible to scroll down and get to a section featuring either 6 top cities or 6 top destinations, with a number of hotels to chose from based on location and the lowest price available.

This section is followed by a content section presenting Trivago as the largest hotel search site together with information about how to book a hotel, but it is really a boring reading in plain text without any typographic styling, which is not going to attract anybody to actually read it.

Interesting features
– minimalistic concept of the homepage

Pros
– no disturbing elements
– "easy to navigate" homepage
– straightforward flow of a booking process

Cons
– hidden rest of the homepage
– not well designed bottom section of the homepage with information and numbers about Trivago
– featured cities/destinations are also hidden away from the visitor

Results Page

Filter panel
– stars – icons
– rating – icons
– price – slider
– distance from – input + slider
– top options – icons
– hotel name – input
– extra filters – checkboxes

Trivago's filter panel is very fancy and uses concept of icons. Rating is measured by color from red to green with a face showing an emotion from sad to smiling, top options are also illustrated with icons what altogether creates a more user friendly and human feel, than the technical one brought by plain checkboxes and text.

Sort options
– popularity
– rating
– distance
– price

Hotel box
If Booking.com has plenty of free space in their hotel boxes, Trivago has almost none left. Everything is pushed into the smallest area possible, what looks somewhat claustrophobic.

However, sections with a name and stars, rating, reviews and a price are distinctively separated by a thin border, what increases the readability to a very comfortable level. The cheapest price is marked with green color and the rating stands out thanks to usage of a colorful icon with a face on it. Together with the big green button these are the three things that stand out the most in the box. Every hotel box also has a small heart icon in the top left corner, which enables to add the hotel to the favourite list.

Hotel Page

Trivago only compares prices of other booking sites and does not present its own hotel page.

3.1.3 Expedia

Homepage

Expedia is a site not only for booking hotels, but also flights and cars. Also a comprehensive section with many tips on what to do in desired destinations can be found here. It has a high header with menu rich in options, referring to all sections of the website. Beneath, there is a header with a static image and a search form with a transparent background. Here the visitor can choose weather he is looking for a hotel, flight, car, thing to do or some combination of these. As is usual on these sites, input fields for location, check-in/out dates and room type follow. What is different from sites mentioned before is that Expedia differs between people aged 0–18 and 18+ when selecting how many people are going. An easy to see search button in a bright yellow closes the header and as last, on the right, there is a mention of a promo action called "collecting nectar" without any further information.

Expedia uses design based on "cards" or "boxes", that can be seen on many modern websites featuring some sort of a product or service. But as first, there is a section about how people rate Expedia and what features it offers, such as the best price guarantee and so on.

Again if the visitor pays Expedia a second visit, he will see a section with his recently viewed hotels, which is followed by recommended hotels, derived from the last information he filled in the search bar. Trending destinations and deals of the day follow. Each box presents hotel/destination name, rating, and (average) price. What I personally consider somewhat confusing is that each box section has different way of showing the rest of its hidden content – different design of "see more" button. In one case boxes work like a carousel, second time it is necessary to click on a "show more" button to see more of them.

After the graphical section with boxes there is a section of plain text links to articles about trip planning sorted into various categories, which are unfortunately quite hard to navigate through and after the section full of graphics it looks like someone did not want to spend any more time working on the homepage.

Interesting features
    – box design

Pros
    – well structured homepage
    – lot of graphical elements
    – boxes contain important information
    – links to articles at hand

Cons
  – inconsistent "show more" functionality
  – big difference between design of the article links section and featured boxes with hotels/destinations

Results Page

Filter panel
  – hotel name – input
  – stars – checkboxes
  – price – checkboxes
  – nearby to sight – radio buttons
  – area – radio buttons
  – accommodation type – checkboxes
  – meals plan – checkboxes
  – hotel preferences – checkboxes

Expedia's filter panel is again done in very plain textual form with no graphics. The only new feature is that it shows, in case of hotel's stars and price ranges, how many such hotels there are on the current result page. What I see as controversial is the price selection via selecting multiple price ranges, which makes the selection much more uncomfortable opposed to using a slider, but allows for mentioned feature of counting how many hotels there are in which price range.

Sort options
  – price
  – guest rating
  – hotel name
  – hotel class
  – best deals
  – recommended

Hotel box
The first thing to mention here is probably that a hotel room image takes the whole width of the hotel box, where on previous sites it only took a part of it. Expedia uses colors in a great scale to highlight different price offers, special offers such as free cancellation, "book now – pay later" and also adds adjectives to very high guest reviews such as "Exceptional", "Superb" or "Very good", which is a great way how to highlight high ratings. Overall, this hotel box looks very tidied up and it is drawing attention to important items such as rating and price.

Hotel Page

Expedia.com is very similar to Hotels.com in terms of page concept. It also has no menu to help in navigating through the sections and it also uses different design for each one of them, sometimes even for every element on the page. Again, the top most part presents an image slideshow with a side panel. This time the sidebar is slightly more sophisticated. The price and the book button are much larger and much easier to spot. Even though the sidebar does not present any specific reviews, it is very review oriented. At first it translates rating into a verbal form, for example 5 stars to "Excellent", then it states the percentage of recommendations, user rating and finally links to Expedia's and Tripadvisor's reviews. It is good to see all these statistics on one place, but it would be much better to integrate

them into one indicator of quality rather than presenting the visitor with such a quantum of statistic data.

The rest of the page goes in the same style as on Hotels.com. There is a panel with different types and prices of rooms, hotel amenities, "You might also like" section and footer with many links to different hotels, articles and tips, which is very unsightly, chaotic and in my opinion needless.

Interesting features
  – great amount of quantitative quality statistics

Pros
  – better price and book button visibility
  – better promotion possibilities with "You may also like" section

Cons
  – same design flaws as Hotels.com

3.1.4 Tripadvisor

Homepage

Tripadvisor is probably the most complex website in matters of content from all the reviewed websites from this study. It not only covers hotels, but also restaurants, flights, places to visit and many more. Although all other websites also present user reviews, Tripadvisor is heavily built around them, which makes it slightly different than the other websites. Tripadvisor has also a much more different homepage compared to the rest. Right under its header there is a first small search form prompting to fill in a visitor's destination. After the destination is filled in, an options list suggesting relevant references to the destination, such as hotels, flight, trips and others shows up. After the visitor starts filling in the search input field an auto-whisper functionality known from Google's search shows up. Clicking one of the items results in redirection to a result or landing page of selected item, which will be discussed later.

Beneath this, there is a typical header with an image of one of the destinations that has the best reviews, with one of actual reviews stated together with its rating and a review title. A form in style of Expedia hovers over the headline image with choice of hotel/restaurant/flight/etc. and input fields corresponding to them as destination or check-in/out date.

The section following header is divided into left and right part. Right part is used only for a newsletter subscription and social links and nothing else, which seems like a wasting of space. Left section contains all the remaining content starting with the "Welcome back" section, which appears if the visitor is signed in and encourages to write a review to the destination he has recently visited. It also states how many places has the user visited, if any and how many of his Facebook friends are on Tripadvisor too. Recently viewed hotels/destination are not missing right underneath. The rest of the homepage is derived from the fact which place the user has lastly visited. If it is let us say London, he will be presented with what other travellers are saying about London, with an option to see photos of London or read articles in forums about it. The next section features three of the most popular places and things to do at the destination, together with their rating and number of reviews.

The remaining bottom part is dedicated to present random pictures taken by Tripadvisor's users from all around the world and quick links to guides, articles or any other things a person might be interested in while travelling.

Interesting features
- two search forms
- most of the content generated according to user's recent travels
- heavy review oriented

Pros
- visitor is presented with content relative to his travels
- bigger cohesion with social networks
- really intelligent and well done search

Cons
- no utilization of the remaining space in right column
- too many different UI elements

Results Page

Filter panel
- accommodation type – button
- Tripadvisor collections – buttons
- price – slider
- stars – buttons
- style – buttons
- hotel brand – buttons
- location – buttons
- amenities – buttons

Tripadvisor presents a very interesting concept of transforming checkboxes into box buttons, that get a green tick next to them if selected. I think it is a great idea to get rid of checkboxes and give them much more nicer and modern looking feeling. This makes the filter panel more compact and unified in matters of design. Tripadvisor profits from its huge content base and offers filter options to sort out hotels based on fact if they are mentioned in some of Tripadvisor's favourite collections, which is probably the first more complex and intelligent filter seen so far throughout the review. A great feature is that the price is displayed not only in hotel's default but also visitor's local currency. Very well done and designed filter panel.

Sort options
- just for you
- availability
- ranking
- price

Hotel box
In my opinion Tripadvisor did the best job in designing hotel boxes from all the sites. They display the most important information in logical order with focus on user rating. A hotel name as the first from the top is no surprise, but the rest is different from others. The next thing presented is rating visualized by Tripadvisor's iconic five green joined circles with a number of reviews right next to it. The next unique thing is ranking, which states how does hotel stand among others hotels at the same place. Aside this information they state how many hotels in total there are at the selected destination. This is a very simple, clean and powerful solution. Beneath they continue with user focused content and present few titles of the best user reviews, followed by list of tags belonging to the hotel. Tripadvisor compares prices from other sites and shows the lowest one with an icon of the site it comes from. Objectively, the best hotel box from all the reviewed sites.

Hotel Page

The first important thing to mention is that Tripadvisor does not provide booking of hotels by itself, it only compares prices and in case of visitor's interest, it redirects him to other websites. Nevertheless, it brings the best concept of a hotel page from all the websites, with really elaborate features, design and content management.

Its most top part features a slideshow with hotel images so as others do and it also has a panel with a price next to it. This time the sidebar is only dedicated to price and features different offers from different booking sites. A very clever feature that draws attention to prices and book buttons is that if visitor does not interact with the page for some time, the screen completely darkens, leaving only the box with prices visible.

Tripadvisor is the first site that offers a navigation to help in navigating its page section. When the page is scrolled down, the menu gets fixed to the top of the page, highlighting the button which corresponds to the cuurently visible section, which makes orientation on the page very easy and comfortable. Together with the menu, also the panel with prices in a smaller version gets fixed to the left edge of the content panel, so it is visible all the time, no matter where the visitor is on the page.

Page concept is very oriented on presenting and receiving user reviews. There is a "Write a review" button right at the top with a very detailed box with statistics derived from submitted reviews. The content part is divided into two vertical panels, right one dedicated to feature other hotels and offers, that also pulls travel information about visitor's friends from social networks, while the left one continues with full text of reviews. Very interesting is also a photo section below, that is divided into user's photos and management's photos, to see the differences. Before visitor scrolls to section with information about the hotel, there is "You may also like" section, which again offers space for featuring sponsored content. Quite a unique section comes after the box with general hotel information with questions, answers and also tips. Here, as on other sites people can not, user can interact with hotel management and ask them questions or he can leave a tip for other travellers such as which room is the best. This feature really gives opportunity to collect the ultimate review information.

All together this is the best hotel page from all the booking sites, it is really heavily focused on user reviews. Although the general hotel information might be slightly pushed to back, reviews are what Tripadvisor really cares about the most and it is visible from every aspect of the page.

Interesting features
    – background shading highlighting the price box while user is inactive
    – fixed menu and the price box while scrolling
    – questions and answers box
    – hotel tips box

Pros
    – great amount of space dedicated for featured/sponsored hotels/articles...
    – consistent design
    – detailed review statistics
    – many UI features

Cons
    – general hotel information is slightly lost in between the remaining sections

3.1.5 Booking

Homepage

Booking is the first website that does not have any header image, which makes the feel of the website different and more pressed. It has a main menu in the header, where it is possible to switch between languages, currencies, manage bookings and see user's favorite places. There is also a second menu below the header, but thanks to the same background color as the rest of the page has it completely blends in. However, it only contains links to marginal services such as booking for companies or links to apartment/house booking website, which are probably not that important to be standing out.

The rest of the homepage is divided into left and right half. Let us begin with the left one. The first section consists of a search form. Design of Booking's search form is rather interesting. As usually, the first item is an input field for a destination, which takes the whole width of the section. Beneath are select boxes for dates, where it is necessary either to click on a calendar icon to chose exact day in a datepicker, or to use select boxes to select the day and then the month of a check-in/out. This is the first search form where it is possible to chose the day and the month separately and the first one where you are not presented only with a datepicker, but also a plain list of days and months. Since the calendar icons do not look like things to click on at the first sight, it is probable that most people will fill in dates, by selecting day and month separately from select boxes. This is in my opinion very uncomfortable way, where there is also a much bigger chance to make a mistake. Visitor can also chose option that he does not know the dates yet, which when committed will result in presenting a list of hotels without price, only sorted by rating. It is also possible to optimize the search results by specifying if the booking is for going on holiday or on a business trip. Booking is also the second site which differentiates between adults (18+) and kids when entering number of people staying in the hotel.

The next section is very unique. It shows recent bookings made by other people in real time. There is a new booking every two seconds, which induces a feeling that the site is really busy and living its own life. Below this section Booking wants to amaze its visitors by how many reviews, hotels and features it contains and also presents a link for their mobile application.

Right column is filled with a section presenting top cities which are generated according to user's recent searches, with information of how many people from user's country voted for that city to be attractive. This section is followed by featured deals of the day. In case that the visitor still has not decided where to go, Booking also has a similar list of cities and places where to go as other sites, without any fancy graphics only as a plain text lists.

Interesting features
  – options to specify/generalize search results
  – live feed of recent bookings
  – no header graphics

Pros
  – many unique features

Cons
  – strange way how to select dates
  – too many sections compressed to a small place on the homepage
  – UI design is not the best

Results Page

Filter panel
  – price – checkbox
  – property type – checkbox
  – deal – checkbox
  – meals – checkbox
  – stars – checkbox
  – user rating – checkbox
  – facility – checkbox
  – location – checkbox

Booking as the only one keeps the search form on the results page in the filter panel, which looks very alike as on the homepage, taking quite a significant space, pushing the actual filters lower on the page. All the filters are checkboxes, therefore there is no graphics at all. They adapt the same feature Expedia has with price and stars, which is stating how many properties correspond to the filter's choice. Both interesting and annoying is the fact that even though filters such as location have more than ten options, they are all listed, taking more than thousand pixels of height. It is possible to collapse them, but I would find it much more comfortable if collapsed would be the default state.

Sort options
  – recommended
  – price
  – distance from a city center
  – review score

Hotel box
Booking is again one of the websites, whose hotel boxes play with all colors and appeal slightly chaotic. Thanks to the big font and top location, the thing that draws attention the most is the name and rating of the hotel. The rest of the space in the box is dedicated to various special offers and discounts. A price can be crossed and next to it there is a lower one. Green takes turns with red and blue, some links are underlined and it is even possible that sometimes there is a separate small box inside the hotel box itself with some information. Summed up, Booking's hotel box is a mixture of colors and font sizes where visitor can hardly find what he is looking for.

Hotel Page

Booking.com brings us back to the same level where Hotels.com or Expedia settled down. Booking also tends on its weird concept of two columned design, where in the left column they keep the search form from the homepage, which is really needless once the user gets to the hotel page, because he has already selected where and for how long he wants to book a room. What is different to other websites is that Booking understands that a book button is very important and therefore it can be found on multiple places. It also has a navigation, unfortunately placed at the most top of the page, even over the main image section and it is not fixed as on Tripadvisor, so if anyone wants to use it, there is no other option than to scroll back to the most top of the page.

The only interesting feature is how they managed the top part with a typical image slideshow, because they combined it with two floating boxes. One displays verbal rating, numerical rating and a number of reviews and second one is a box displaying one review at the time, but it can be controlled as slideshow to see more of them.

Slightly different is also room type box, where previous sites had a book button in each row, but Booking decided to use the fixed menu. The header of the box together with the book button always stay on the same place, which is a very nice way how to get rid of dozens of same looking buttons on the page one by one beneath each other.

Interesting features
- floating "slideshow" box with reviews
- fixed room type header and the book button

Pros
- more focused on converting users to book with a book button in multiple places

Cons
- needless search form in the left column
- same design flaws as Hotels.com and Expedia

3.1.6 Airbnb

Homepage

Although Airbnb represents somewhat different system of renting a place to stay, based on principles of shared economics, it directly competes with the traditional hotel business, although probably not in a full scale. However, there is no reason why the website could not be used to compare to others, because the basic principle of renting and leaving reviews is the same.

Airbnb is built on a relatively new and young idea of sharing things with others and their website reflects it in every aspect. For sure, it has the best design among all the other reviewed sites. It also uses boxes as the main UI element, but in a more compact and neat way.

The biggest difference of this website can be seen right at the top, where instead of a static header image visitor is presented with a video from life of people using Airbnb, which feels like looking into lives of other people, that inspires to try Airbnb on your own.

Airbnb has a search form such as other websites, with location, check-in/out date and a number of guests. It remembers visitor's last searches which are offered in style of auto-whisper, but the select date inputs seem to respond in a weird way. To jump from one to another it is necessary to click twice, first to make the old one disappear and then again to make the new one appear, which is quite annoying.

The rest of the homepage is filled with boxes presenting different selections of trips, for example "Trips for the weekend" or "Explore the world".

At the most bottom a video explaining the principles behind Airbnb can be found.

Interesting features
- video in the header
- search whispering places visitor has already been to

Pros
- beautiful and compact design
- well-arranged sections
- sense of keeping the homepage clear and not overstuffed

Cons
- buggy datepickers

Results Page

Airbnb's result page is very different from all others. It is divided into two parts. The right one is a map, where all the properties can be seen with their prices and the left one is dedicated to property boxes and filters. So as the homepage stands out among the other websites thanks to its clean and nice design, so does the result page. It keeps things very simple, is easy to orientate and everything follows site's design guidelines.

Filter panel
 – room type – checkbox
 – price range – slider
 – size – select box
 – neighborhood – checkbox
 – amenities – checkbox
 – property type – checkbox
 – host language – checkbox

Airbnb's designers though of the space management very carefully and therefore the only filters presented are room type and the price by default. It is worth mentioning that the price filter has a histogram built in, so it can be easily seen what is the average price to rent such a property. It is possible to use more filters by clicking button "more filters", but again, only three most commonly used options show up for each filter by default and if visitor is still in need of using more filters, he needs to expand the box once again manually by clicking a button. Overall, very elaborate design.

Sort options
 – none

Hotel box
Airbnb uses boxes which are big in matter of space and small in matter of the presented content. Majority of the space is taken by an image of the property which is actually a slideshow. The price is floating over the image in visitor's local currency. Below the image there is a title of the property with its type, rating and a number of reviews. As a bonus, there is an avatar of the owner at the right bottom corner. Very simple, but functional.

Hotel Page

As seen in previous sections, Airbnb is quite different from the other sites and also its hotel page is much more different. The biggest part of the page, as it displays after it loads up, is taken by a huge image of the property that the visitor is trying to get information about, with no floating boxes, no sidebars, just the image.

After scrolling down, the page gets divided into a content part and a sidebar with a price, dates and a book button, which is, such as on Tripadvisor, fixed together with the navigation menu. Even though Tripadvisor's design is very nice, they did not put that much effort in the fixed sidebar, which Airbnb did and it looks really professional and fits with the rest of the page. Not to mention that Airbnb's book button is the main element that draws attention, what was not seen on the other sites.

In the content part, visitor is presented with basic details about the property with help of graphical icons, which make the look of it stand out, because no other site uses such graphical elements. The next section presents all the remaining information in a form of a table and is followed by a small image gallery. Since reviews are probably even more important when booking a private property than when booking a hotel room, to be sure the owner is not a counterfeit, the rest of the page is dedicated to full text reviews.

Each of them presents an overview of how people rated separately each perspective of the property, such as value, location, accuracy, cleanliness and so on. The most bottom part is dedicated to a short portfolio of the property owner. Again, Airbnb did a great job designing this part of the website and together with Tripadvisor is the best among the others.

Interesting features
– fixed menu and the sidebar
– use of graphical icons
– reviews can rate different perspectives separately

Pros
– many great features on the page
– design consistency with the rest of the site
– outstanding book button

Cons
– top header image is quite huge and looks very hideous (pixelized) on big screens if the image resolution is low

3.2 Analysis Conclusion

Exhaustive analysis of hotel booking and reviewing sites showed us, that it is possible to design UI elements in many different ways, where some of them are wonderful and professional, but some of them are really bad. It is important to focus on the things well done and use them as inspiration for the newly designed GapPacker webpage. It is for sure that these UI elements have been tested and used by millions of users and it certainly would not be wise to waste time with reinventing the wheel. On the other hand, it is important to be original and not to copy someone else, but rather spice our own ideas and the spirit of the GapPacker project by the inspiration gotten from others.

3.2.1 Summary of Observations

After seeing multiple existing websites, it is possible to make conclusions about what is important on such a type of website. Let us begin with the homepage, which serves as a shopping window and therefore should offer insight into what is being sold and it should lure the visitor to enter and buy. Homepage needs to directly tell what is the main website's purpose, offer a small tasting of products or show of with some of the featured products and offer logical navigation to the rest of the website or some search functionality.

When we get to the page with product listing, it is again important to keep oriented and be sure it is possible to filter only those options that are desirable for the user. While this page is usually very long, it is important to reach a compromise in matters of size of the individual boxes with products and keeping all the important information listed, but at the same time keeping the box small, so more of them can fit onto the page.

Lastly, the product page should be focused on converting the user to buy or book the product and state clearly the main attributes of the product, which are the price and user rating. These should be somehow highlighted and step out from the rest of the page. Comfortable navigation on the page is also very important, especially if the page is long and full of information.

3.2.2 Features to Adopt for GapPacker

There have been many interesting features, that will for sure influence the design process of GapPacker. Let us list them so we know about them.

Homepage

– intelligent search on Tripadvisor
– video in the header
– sign in using social network accounts
– show recent reviews

Program listings

– use of graphical icons
– various sort/filter options
– possibility of comparing different programs

Program page

– floating menu
– floating sidebar
– shading everything but the book section while user is inactive

Chapter 4

User Interface

After getting an insight into already existing review websites, let us focus on creating our own. Design of a user interface (UI) has many steps, which will be introduced in this chapter [3]. With every project, the most important part is to define or find out, who will be its users/visitors, because without demand, there is so sense to create supply.

Once it is known who the users are, the next step is to sketch up prototypes, or so called wireframes to design a UI the users will use to achieve their goals towards the website. The ultimate quest in designing a UI is to make it as user friendly as possible, creating the best user experience (UX). To measure UX, it is necessary to prepare user scenarios, that describe typical actions people do on the website and then to crate testing scheme to capture if they are successful in what they want to do or not and make conclusion from these. All of this is covered in the following chapter.

4.1   User Behavior Models

The first step of creating a UI is to generally describe types of people that will visit Gap-Packer, their primary goal, their current knowledge about the site, relationship towards it and to define in what case it can be said that GapPacker succeeded in fulfilling their needs.

This section will introduce several behavior models that will present these descriptions and definitions. The next section will build upon them, where these behavioral models will be implement onto real people. To create such models it is crucial to make a survey between potential users or conduct small conversations with them about the site and the users themselves. I have a great advantage of four years working experience in Work and Travel business, where I have met more than 400 young people that went abroad. I talked with every one of them and sometimes even communicated with their parents before and after their stay abroad. I have had a long conversation about this project with 4 different travel agency owners to affirm if the insight I got about people going to work abroad personally is correct and if they share it. The answer from agency owners was positive and they presented me with the same opinion about their customers' characteristics as I have about them, which will be presented further in this section. All the following characterizations are therefore based on my experience and direct conversations with potential users of GapPacker [13].

4.1.1 Passer By

Bio

A user does not know anything about this website yet. He has been told by someone that it is an interesting source of information, seen a link somewhere else on the web and clicked through or he has seen some promotional material with a website link on it. So far he has never been abroad on any program other than on vacation with his parents or friends.

Successful conversion action

The user finds the website interesting, sees some of the programs, reads reviews and thinks about if there is a program he might want to go on. Later user comes back as Acquainted Seeker.

Prerequisites for successful conversion

User friendly and modern looking website, containing the most important information about programs. The website makes visitors imagine themselves as going on such a program, all this with help of meaningful information and a spark ignited by reviews written by other people.

4.1.2 Seeker

Bio

A user knows that he wants to go abroad, work there, earn some money, travel through the country, meet new people and get to know new cultures, but he does not know where to find any information about any of the mentioned things. Therefore he searches the web and finds our website.

Successful conversion action

The user finds all the important information about travelling and working abroad with examples of programs that are offered by different companies. Later the user comes back as Acquainted Seeker or Customer.

Prerequisites for successful conversion

Well built content containing important information about all aspects of going, working and travelling abroad. Each program has all the important information (where, how, when, for what price and under what circumstances) stated on its program page. Lot of effort put into search engine optimization in order to make the website visible on Google, target and use important keywords and elaborate valuable content articles on them.

4.1.3 Acquainted Seeker

Bio

A user knows about possibility to go and work abroad, he knows that there are several programs suitable for different people with different desires and he wants to find the one that suits him the best. His decision factors can be a destination, price, duration, program type, reviews and rating.

Successful conversion action

The user finds a program that suits him the best according to his decision factors and becomes Customer.

Prerequisites for successful conversion

Great amount of different programs to be compared on our website together with user reviews and detailed information on all aspects program can have.

4.1.4 Customer

Bio

A user has decided to take part in some of offered programs and registers for it.

Successful conversion action

The user is immediately taken to a registration on the 3rd party site of the company offering the certain program. He smoothly signs up for the program and that company takes care of him. After completing his program he comes back as Reviewer. He also might become Advice seeker or Blogger during his stay abroad.

Prerequisites for successful conversion

The book button is clearly visible for every program and lures attention. Transition from our website to 3rd party website is easy and straightforward. There is an article how to register for each of the programs with frequently asked questions (FAQ) included and the customer is aware of it, so he can go back and see it in case of any trouble with the registration.

4.1.5 Reviewer

Bio

A user has completed some of the programs offered on our website, regardless of if he registered through our website or some other place, he wants to share his experience with other people and give a feedback to the company itself.

Successful conversion action

The user leaves a review, rates the program and shares some other information that might be interesting for others. He is satisfied with our website and talks about it with others when talking about his experience abroad.

Prerequisites for successful conversion

Leaving a review is easy and not boring. After user completes the program, he is asked by either us or the company he went abroad with, to leave a review. There is a motivation for the user to leave a review.

4.1.6 Advice seeker

Bio

A user is currently somewhere abroad and has bumped into some kind of trouble. He needs answers or advice to resolve his problem or answer the question he has. Therefore he searches the web or directly comes to the guides/articles section of our website to find an advice/answer he is looking for.

Successful conversion action

The user finds what he was looking for or in the case the piece of information was not present, he tells us by filling in the "Tell us what's missing" short form present on each content page. When talking to someone who has also bumped into some trouble he refers to our site as to a place where to look for an answer.

Prerequisites for successful conversion

Great number of articles solving frequent troubles, frequently asked questions and situations people going abroad might be in. "Tell us what's missing" feature, that allows people to ask for what they did not find on the site and think is important for them or others and think we should write an article about it.

4.1.7 Blogger

Bio

A user is currently on a program and wants to share his/hers experience online by writing articles and sharing photos or videos. Therefore he goes and looks for the best and the easiest to use blogging platform for his purposes.

Successful conversion action

The user uses our micro blogging platform and publishes an article. Later he comes back to write another article.

Prerequisites for successful conversion

An easy to use blogging platform created with focus on publishing and sharing work and travel experience.

4.1.8 Worried Mum

Bio

A user is a parent or other relative of some Acquainted seeker or Customer and wants to know more about the program his/her son/daughter/friend wants to go or is on. They are mainly focused on details, pricing conditions, legal perspectives and fees. They lack the hype of Acquainted seeker or Customer and see things without "pink glasses", they look carefully for any potential catch in terms of price and are mostly skeptical about everything.

Successful conversion action

The user finds all the information about program, ensures him/herself there is no catch or dirty trick in program's conditions and pricing and gives a positive feedback to his/her child and supports him/her in his decision to go abroad.

Prerequisites for successful conversion

Detailed information about every program, its pricing and conditions, good number of reviews, trustworthy look and feel of website. Good user experience also for mid-aged users not that experienced with computers/Internet.

4.1.9 Curious friend

Bio

A user is a friend/relative/acquaintance of Customer, who can be also Blogger. He is curious where he is, what is he doing there and how is he doing, therefore goes and looks for information about the program he is on or reads his blog posts.

Successful conversion action

The user finds information about the program his friend is on or reads his blog posts. He comes back and might be inspired to become Acquainted Seeker.

Prerequisites for successful conversion

Blogging platform helps to create good looking posts while still giving users lot of space for creativity and creates posts under certain design guidelines. Blog posts are connected with certain programs, so readers can go explore the program itself right after reading the blog post.

4.1.10 Travel company owner/employee

Bio

A user is an owner or employee of travel company/agency, that offers various programs to young people to go and work abroad. He wants to sell the biggest number of programs possible and is constantly looking for new medias and streams where he could advertise them. On the other hand he is also looking for user feedback to make his business even better for new customers.

Successful conversion action

The user finds the platform interesting, useful and favorable in terms of the advertisement cost. He registers all of his programs to platform and pays for directing traffic from our website to his or directly to registration. He also encourages his current customers to leave feedback on our platform.

Prerequisites for successful conversion

The platform is easy to use for regular employee, skilled enough to use computer in office. It is not very time demanding to put up all details and information about their programs

and put them on the platform. Cost per click for book button is reasonable and the total cost does not differentiate from amounts spent on other advertising platforms.

4.2 Personas

Creating personas is the next step in developing an UI. Behavioral models created in the previous sections are going to be taken and embodied into real people. This step is very helpful for all the next phases of the whole project, because it lets us talk about the users as about John or Mike who are student of law and a fresh graduate, rather than about some student in general. User interfaces are created for people and therefore having real people in mind as John and Mike makes it easier to design the interface for them, it boosts imagination and sometimes when thinking about the people's lives and their stories it is possible to find out things and come up with features that should be implemented into the site, that would have never been found otherwise.

This section will introduce five different people that were created for purposes of Gap-Packer to represent its users. Each of them was given a life story based on stories of real people and each of them embodies one or more of behavioral models from the previous section.

4.2.1 John Torens

Age and sex: Male, 21
Occupation: Student of economics at the Liverpool University
Behavior: Passer by/Seeker/Curious friend

Background

John is a student living and studying in Liverpool. He is in his second year of bachelor's degree. He is a big football fan and likes to go out to a pub to watch a match with his friends. He has been dating a fellow student from his course for a year, but he still lives with his parents in a small house in Liverpool's suburbs. He was abroad few times, but it was always just for a week or two, mostly with his parents or friends, escaping the British weather and enjoying some sun on a beach in the Mediterranean. He has no plans for his future whatsoever, but feels like he should get the most from his student status and try to get some real life experience, while he can, before he is stuck forever in an office in a boring job.

Figure 4.1: John Torens[1]

Technology skills

John is online basically all the time, he has a smartphone with LTE and chats with his friends all the time on WhatsApp. He has a laptop at home and everything he can he does online: banking, shopping, buying tickets and sometimes even groceries. He is skilled with computers and using the Internet, he is not scared to try new things and technology and uses it on daily basis.

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[1]http://www.uifaces.com

Story

The academic year is almost over and John starts to think about his 3 months summer break. Recently, he had a pint with one of his friend who spent last summer in the USA in a camp and tells John about it. Back at home John realizes it could be also good experience for him and starts doing some online research about his possibilities to go abroad.

Goals

– to find some source of information about going abroad for work
– to be able to chose from a large variety of programs
– to enjoy the summer, find new friends, live different culture and get new experience
– "YOLO" – whatever wild or boring experience it is, he wants to go somewhere

Goals towards GapPacker

– to find enough information about going abroad
– to find a variety of programs he can chose from

4.2.2 Merry Milton

Age and sex: Female, 20
Occupation: Student of pedagogical faculty at the London University
Behavior: Acquainted seeker

Background

Merry comes from a small village west of London and always dreamed of studying at the London University. She has always been the best in her class and knew that she has to work hard to achieve her goals. Every second of her life is organized and her diary is always full at least until next month. She devotes most of her time to studying, but she loves to get a cup of coffee from Starbucks and chat with her BFF over it. She does not have a boyfriend, because there is simply no time for relationship in her busy life, but after she is done studying, she definitely wants to have a big family, but not before she makes the best of opportunities she has as a student.

Figure 4.2: Merry Milton[2]

Technology skills

Merry uses her phone only to text and call friends, she is not very familiar with all the apps and finds it more comfortable to use her laptop instead. She is able to write an essay in Word and to create and share spreadsheet with her dad containing her monthly expenses. She also learned how to use Facebook and Twitter like a duck takes to water, but really that is all she does online, because she is slightly scared of using services she does not know or does not understand.

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[2] http://www.uifaces.com

Story

Merry decided that since she is having a 3-months-long summer break, she wants to get some job, that will look good in her CV and which could be a nice break from the studying routine. Therefore she came up with an idea to go volunteering to Africa. She has a limited budget so she needs to find some program that fits her criteria perfectly.

Goals

– to find program according to her needs, budget and selected destination
– to find program that would be a great item in her CV
– to get the most detailed program description as possible so she can plan everything in advance
– to have a smooth experience abroad, thanks to her preparation and detailed research

Goals towards GapPacker

– to easily and without any great technical skills filter programs that would suit her requirements
– to find quality and trustworthy program descriptions and reviews

4.2.3 Frank Goldink

Age and sex: Male, 24
Occupation: Front-desk manager in a hotel in Canada mountains
Behavior: Blogger

Background

Frank comes from Birmingham, where he lived until his university graduation few months ago and then applied for a job in Canada through a program that one of the local agencies was providing. He was always a very extrovert person and liked talking to people, so he chose a job at a front-desk in a hotel, so he would be in face to face contact with people every day. He went to Canada all alone leaving all his friends and family at home for 6 months and he has been missing all of them a lot recently. His job, though, is really exciting and he is having great time there, no need to mention that he will be bringing some nice pile of cash back home too.

Figure 4.3: Frank Goldink[3]

Technology skills

Back home Frank had a laptop, but he did not take it with him to Canada, so he is only left with his smartphone. He works long days and does not have much time to spend online, but if he needs to, there are some computers he can use in the hotel office, available almost any time. He is very confident using computer and the Internet for anything he needs.

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[3]http://www.uifaces.com

Story

Thanks to his long working hours and a time shift it is really hard for him to communicate with his family and friends back at home in real time, so he decided to start writing a blog, where he would like to write about all the exciting stuff that has been happening to him. He does not want to spend much time creating and arranging articles, so he is looking for some easy to use blogging platform, that would also be easily sharable and accessible even for his mum. Of course he also has some gorgeous photos and videos that he would like to share in blog posts too.

Goals

– to reconnect with his family and friends back at home
– to find an easy to use blogging solution
– to be able to post any sort of media – photos, videos...

Goals towards GapPacker

– to quickly learn how to use blogging platform and publish his first article
– to be able to share his articles with his friends
– his blog should be accessible and visible among other blogs on GapPacker

4.2.4 Wilma Kelly

Age and sex: Female, 48
Occupation: Cashier at Tesco
Behavior: Worried mum

Background

Wilma was born and raised in Skelmersdale, where she lives with her family – husband and two sons (aged 21 and 15), in a brick row house not far from the city center. She graduated a high school, but never felt like going to a university, so she found a job nearby. She is a hardworking woman doing everything she can to make her family happy. Wilma knows England quite well, she likes hiking and has been to many places around, but she has never been abroad. She does not like rush cities, so even Liverpool is not a place she would enjoy, simply put she likes the life in Skelmersdale. She is also very

Figure 4.4: Wilma Kelly[4]

proud of her children, her older son is studying at the Liverpool University and is doing quite well. However, she misses him a lot, because he is staying away from home in a dorm in Liverpool and she is quite scared how is he coping with life far from his mum.

Technology skills

Wilma's family has a computer at home, but it is used mostly by her sons. Nevertheless, she knows how to read and send emails, to read news and always finds some spicy stories about TV stars on various tabloid servers. If she is shown how to do something with the computer, she gets it quickly, but she never learns anything new by herself. She has a mobile phone, but has never used it for anything else than calling and sending SMS.

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[4]http://www.uifaces.com

Story

Wilma's older son decided that he wants to take a gap year and go work somewhere abroad. He has found a website with broad offer of programs that would be suitable for him. His mum is quite afraid and cautious, because she heard about many fake agencies that only take money from people and never show up again. Therefore she would like to have as much information about where and how her son is going as possible, before actually sending him abroad.

Goals

– to find as much information as possible about the program her son wants to go on
– to read what other people wrote about that program
– to read stories of people who went abroad for a gap year

Goals towards GapPacker

– to quickly orientate herself on the website and find information about certain program
– to find reviews of other people and their experience with the providing agency and the work itself
– to read through guides and articles section to get more comfortable and feel more secure about her son going abroad

4.2.5 Chris Robinson

Age and sex: Male, 40
Occupation: Owner of BigWorld travel company
Behavior: Travel company owner

Background

Figure 4.5: Chris Robinson[5]

Chris comes from one of London's suburbs where he grew up and learned that to achieve something you need great amount of patience, work hard and have good ideas at the proper time. After finishing his studies, he established his first company that sold cars, which had a great success. But once he was talking to his good friend over a pint of beer and they got an idea, that they will help young people to get to the USA, work there and have some time to travel and see the country. That is how BigWorld came to life. Since then, they have sent thousands of people to various camps as counselors or support staff over the USA and their business is still growing.

Technology skills

Chris knows how to use computer and mobile phone very well, because nowadays you can not run a business without computer knowledge. He can do whatever connected to computers he wants or needs to, but he is very busy throughout every day, so he needs everything to be simple, quick and straightforward.

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[5]http://www.uifaces.com

Story

BigWorld travel is a prospering business, but since the time they have established the company, there have been many other people doing the same as them and now they face many competitors. Price wise, there is not much difference between various companies, so what plays the biggest role in the fight for customers is the quality of customer service and marketing. Therefore he is trying to find new medias, where he could advertise his program, collect feedback from customers and show them to others, so they would see, who is the best provider in here.

Goals

– to be visible on the Internet
– to get as much traffic to his site as possible
– to show that his business is better than those of others
– to collect feedback from customers

Goals towards GapPacker

– to register his programs on the platform and get feedback through reviews
– to evaluate reviews and communicate back with his customers
– to get all of this for reasonable price
– to rank high with his programs in between other providers

4.3 Information Design

Thanks to personas, it is already known who will be using our site and for what reason. The next step in designing the UI interface is to clearly define information entities that will be presented on the site. This step will be visited once again later during implementation, when will be the time to set up a database based on the entity relationship diagram, that will be crated upon definitions in this section.

It is possible to get a rough idea what will GapPacker present to its users from the previous sections, but it is necessary to formally define all the entities present and their relationships between each other, to be able to continue with next step, that will be creating interface prototypes in form of templates. There are several data entities on GapPacker, so lets name them in a list.

4.3.1 User

Users, even though they are real people, also form one data entity, since GapPacker collects and saves data about them. We will differentiate between a common user, which is a user logged in through Facebook or other social network and a user, which is a company owner. As will be seen later, each of these users has different role and can do different actions. A user is created upon sign up to GapPacker and common user upon first login through social media account. A user can edit his profile details or delete himself from the system completely.

4.3.2 Company

A company is an entity representing information about the real existing company and presenting basic information about it as its name, address, email, web and others. A company is owned by one or more users.

4.3.3 Program

A program is an entity representing information about the real existing program, describing basic information about it as its name, destination, price and others. A program belongs to one company and can have many tags.

4.3.4 Article

An article is a peace of content touching various topics from the world of Work and Travel. It is a compound of text and images. An article belongs to a common user and can have many tags.

4.3.5 Guide

A guide is a bigger version of an article, describing certain problem of Work and Travel world and trying to give a helpful answer to it. Guides are created by GapPacker staff, therefore do not belong to any other entity.

4.3.6 Review

A review is a peace of text expressing opinion about a certain program a common user has been on. Rating is expressed by his verbal opinion and numeral value of 0–5 stars, 5 being the best. Review has a general part and then also three subparts rating different aspects of the program, which are: **value for money** – describing how much you get for money paid, **service during application** – where you rate agency's services and **experience on program** – here you rate your actual experience during program as you subjectively felt it. As was said, review is created by a common user and belongs to one program.

4.3.7 Review Answer

A review can be answered by a company that the program belongs to. It is written by a user, belonging to a company owning the program and belongs to a review as a reaction to it.

4.3.8 Question

A questions is a problem that a common user has and would like a company to answer it or a peace of missing information. A question is asked by a common user and belongs to one program.

4.3.9 Answer

An answer is a reaction to a question written by the company the program belongs to. An answer is written by a user and belongs to a question.

4.3.10 Event

An event is a representation of something happening in the real world, either it can be a real event or some kind of a news. It is represented by written content that can be accompanied by images and a certain date. An event is created by user and belongs to the company user owns.

4.3.11 Tag

A tag is a string that somehow labels/defines a program or an article. Its purpose is to connect programs with articles that have something to do with program's destination, job type or anything that is connected to it. Tag is added to an article or program and can be used more times.

4.4 UI Prototypes

Once GapPacker's users and also all the entities GapPacker will have are defined, it is time to start designing the actual user interface. Every website is compound of different templates, that serve the content present on the site. GapPacker is no exception and this section will introduce all the templates which will be in use for presenting and listing different entities.

These templates are not yet the final version of how they will look like on the live site, but rather wireframes, which means they are rough sketches, giving an idea of how will be different elements placed on each page. They present the initial stage of how the website should look like, but the final design will come later.

This section shortly describes all the templates, actual wireframes can be found in appendix A.2.

4.4.1 Layout

GapPackers adopts the layout of a typical modern web application – top header with a menu, one or two columns for content and footer with a menu containing slightly more links than the top one, social media links and a language selector.

4.4.2 Homepage

The homepage is GapPacker's shopping window, that is intended to show the best it has to offer. It presents 4 columns of programs sorted by different criteria and two columns for lastly added reviews, that change every few seconds.

4.4.3 Program Page

A program page consists of few different sections, the header being the most important one. It contains a logo and all the details as the name, rating, ranking and other information. The next section is divided into two columns – sidebar with detailed information and social/media links and main part with reviews and questions. There is also a submenu present for navigating between page sections.

4.4.4 Company Page

A company page is basically the same as a program page, different only in the fact it presents all the programs and all the reviews aggregated for the company.

4.4.5 Article Page

An article page has two column layout, one presenting the actual article text and a sidebar that features the most read articles, a newsletter subscription box and tags.

4.4.6   Programs Index Page

The program index page has also two column layout, where the wider column lists all the programs and the sidebar contains filter panel. It has a similar submenu as a program page, only in this case it contains sort option buttons.

4.4.7   Articles Index Page

The articles index page has similar layout as an article page, but rather than the article text it presents 6 articles in 3x2 grid.

4.4.8   New Review Page

The new review page has also two columns, where the main one presents an actual form for adding a review and the second one features already added reviews to serve as a cue to what to write.

4.5   User Scenarios

At this stage it is already known how approximately will the website look like, so it is possible to step further and try to describe how users will actually use it. To achieve this, it is good to write so called user scenarios, which describe the story behind user's visit to the website, why is he there, what is he doing, what is he clicking on and so on. These stories are idealizations of how things should work in different situations, but it is almost for sure they will not. Therefore these scenarios will be later used to create test tasks, that will tell us what is wrong with the UX and what users are not able to achieve or what would they change on the site to make it better. This information will be used to improve templates before their final design.

This section presents only shortened versions of the actual stories, for the full versions please see appendix A.1.

4.5.1   Finding Summer Job Abroad

Persona: John Torens
Behavior: Passer by/Seeker
Covering: Homepage functionality/features and it's seductiveness

Story

John has a friend who told him about his last summer in the USA and he gets very interested it in, so he searches on Google for more information, while he finds GapPacker website. He interacts with it for a while looking at some programs that would suit him and remembers the site to visit it later...

Questions

Is the site helpful for John and does it inspire him to go abroad? Is it easy for John to find a program that will suit him? Is he going to come back to the site and use it again?

4.5.2 Au-pair in Canada

Persona: Merry Milton
Behavior: Acquainted seeker
Covering: Search process, results page, structure of company/program page

Story

Merry is a very smart, ingenious and hardworking girl that knows what she wants from life. She wants to go abroad and plans everything accordingly. She knows exactly what kind of program she wants to go on and uses filters on program index page to find such one. As she wants to know all the details, she explores all the tabs program pages offer...

Questions

Is Merry going to understand how the search and its categories work? Is she going to understand how to use all the filters and sort options? Is the structure of a program/company page logical and serves the most important information first? Is the connection of a program page with articles by tags useful and working?

4.5.3 I am Going

Persona: John Torens
Behavior: Customer
Covering: Booking process, articles and guides section, program page orientation

Story

Some while ago, John did a research on opportunities to go work abroad. He found one that he really liked and decided to go for it. He will work in a hotel in Canada on various positions. He registers through GapPacker and goes through the whole registration process. After he is done, he is contacted by the providing company and also GapPacker to give some feedback on the whole process.

Questions

Is the booking process quick and easy? If he has some questions can he easily find answers to them? Is the profile management and information saved in it useful/helpful?

4.5.4 Home Sweet Home

Persona: Merry Milton
Behaviour: Reviewer
Covering: Giving review, gamification

Story

Merry had a great time working in Canada. She worked there as an au-pair and was really satisfied with everything and has met a lot of interesting people. She just got home recently and received an email asking for a review from GapPacker. Since it says it will only take her 5 minutes, she fills the review and receives a badge of a participant as a reward for it.

Questions

Is Merry willing/interested in giving any review? Is the review short or long, is it boring to fill it in and does it take too long? Is the badge received fun to have and motivating?

4.5.5 Let's Go for a Trip

Persona: Frank Goldink
Behavior: Advice seeker
Covering: Guides and articles structure, information quality and helpfulness

Story

Frank has been working hard in his hotel in Canada and finally a calm week when there are not that many people checked in has come. He is having few days off and decided to go for a trip together with one of his friends. However this is his first time in Canada and therefore he goes to GapPacker to find some articles that would help him with renting a car and accommodation. . .

Questions

Is GapPacker the first website they are going to visit as first when looking for some information and tips? Is the guide going to be comprehensive and contain all important facts? What is going to be the structure of every guide/article and is it easy to find what you are looking for in them?

4.5.6 On the Road

Persona: Frank Goldink
Behavior: Blogger
Covers: Blog/Article creation and use of its CMS system and sharing options

Story

It has been already four weeks since Frank has started working in the hotel and it has been really interesting four weeks full of new experience. Unfortunately Frank works quite long hours and does not have much time left to chat or call with his family and friends. Therefore he decides to start writing blog on GapPacker. . .

Questions

Is GapPacker the platform he is going to use for blogging, why not some other? Is the CMS for creating articles easy to use? Does GapPacker produce good looking and design wise consistent articles?

4.5.7 New Business on GapPacker

Persona: Chris Robinson
Behavior: Travel company owner
Covering: Company/Program setup

Story

Chris discovered GapPacker few weeks ago and finally has some time to set up his company profile on it and add the two programs his agency offers. He fills in details about the company, creates programs they offer and starts writing to people to add some reviews for his company...

Questions

Is it easy and quick to set up a company page? Is there any motivation for Chris to upgrade to paid version? Does it pay off to go for the paid version? Is it easy to orientate on the company profile page?

4.6 Task Scenarios for Usability Testing

As was already outlined in the previous section, user scenarios are a basis for creating testing tasks that will show if the UI works correctly. I created 8 tasks that cover every functionality GapPacker has. Five tasks are focused on users seeking information and three of them on managing account of a company.

These tasks are prepared for real people to be tested on. Each of the tasks states which functionality is being tested and what a user is told before the testing. The user is told nothing else, but this and is not guided furthermore during the task. The person who is testing the task has a list of steps (for details see A.3) to watch and mark where the user possibly hits some problem.

After the task is done or the user is not able to continue, a short conversation follows to find out how the user felt, what were the problems, if any, and what is his/her general opinion about the site. All the results will be presented in the next section [8].

4.6.1 Process of Looking for a Job

What is being tested

– finding programs by different criteria
– reading up on detailed information about the chosen program
– finding out information about the company providing program
– checking out other programs offered by the company

User is told

You were thinking about going to work abroad, preferably to USA, during your summer break, which is three-months-long. A friend told you about site called GapPacker where you could find many opportunities for such a working trip abroad.

Find programs that are situated in the USA and fit into your time possibilities, you only have limited budget so you want to take the cheapest one. Find the cheapest program and read its description. Then check out the company that offers the program. Again read some information about it and then find out what are the other programs they offer.

4.6.2 Reviewing Program

What is being tested

– finding a specific program

– reading other people's reviews
– logging in
– adding own review

User is told

You have returned from the USA where you stayed in a resort for three months, working in a kitchen, helping chefs to prepare food. Your experience with this program called Campleaders provided by SmallerEarth company was totally awesome. You want to find out what other people think about the program and if they had different or similar experience and you also want to leave your own review saying that everything was great.

Sign in using your Facebook account. Find a program called Campleaders provided by SmallerEarth company. Read what other people wrote about the program. What is the best and the worst thing people say about the program? Write your own review and rate it as awesome.

4.6.3   Creating a Blog and Writing an Article

What is being tested

– creating a blog
– writing and publishing an article
– sharing the written article on social networks

User is told

You are currently in the USA, working as a counselor in a summer camp. Every day, there is something interesting happening and you would like to share your experience with others. You know that there is a possibility to start a blog on GapPacker and you are very eager to try it out.

Create a new blog post and write your first article called "Hello from the USA!", after publishing your article share it on Facebook or Twitter.

4.6.4   Asking and Answering Questions

What is being tested

– creating a question
– answering a question

User is told

You are exploring possibilities about going to the USA for summer and browsing programs on GapPacker. While reading a description and other information about program called Campleaders, you find out that there is no mention about how much a flight ticket costs and you would like to know it.

You go to Q&A section to see if someone hasn't asked that question already, but you see that no one has. Therefore, you have to do it yourself. Create a question and ask how much a flight ticket costs.

While reading various questions, you noticed that there is one yet unanswered, where someone wants to know how many kids are usually in a camp, where you work on this program. Since you read program description carefully, you know it is about 400. Answer the question to let the guy asking to know.

4.6.5 Reading Up on Program Information and Concerning Details

What is being tested

– finding detailed information about a program, price as the main thing
– finding other people's opinions about the program
– finding information related to the program such as visa, insurance and other

User is told

You are a parent of a young man, who wants to go to work to the USA. He has already found some Work and Travel program he would like to go on called Campleaders and asks you about permission to go. You as a considerate and careful parent want to check all the possible information about the program first. You are mainly concerned about the price and all the fees it includes, all the paperwork that needs to be done around (and your kid for sure skipped that part), and of course you want to know how other people liked this program.

Find Campleaders on GapPacker. Find detailed information about the program, how much it costs, what are all the 3rd party fees and what you get for the money paid. Find what other people say about the program. Find an article about visa process for going to USA.

4.6.6 Creating New Company and Program

What is being tested

– logging in as company
– creating a new company
– creating a new program

User is told

You heard that there is a website called GapPacker that list many programs for Work and Travel and your company BestCamp with its program GoCamp is not there and you want to change that.

Create a company profile on GapPacker, go to the administration and create a new company record. Fill in some information, upload a logo and a header image. Then create a new program called GoCamp and as well fill in some information and upload its logo image.

4.6.7 Answering Reviews and Questions

What is being tested

– answering to a bad review
– answering a question
– editing program information

User is told

Someone added a very bad review to your program GoCamp. He was not satisfied with the customer service provided from your side and you want to apologize to him for that.

Also, you noticed that someone was asking about the visa price for your program and you want to answer him and add this information to your program information.

Go to your administration and politely reply to the bad review. On the same place answer to the question, that the visa costs 120$. Edit your program information and add line that says the visa costs 120$.

4.6.8 Events

What is being tested

– creating events
– sharing events

User is told

Your company is organizing an information meeting for free next Monday and you want to let people on GapPacker to know. You already have this event created on Facebook, but you want to create it also on GapPacker.

Create an event called "Information meeting" happening next Monday and add a link to the Facebook event to it. After creating it, share this event on your Facebook profile.

4.7 UI Testing Results

Testing tasks presented in previous section were tested on 10 people. Seven of them were testing first 5 tasks as users and were selected from people aged between 18–26 to fall into the user category. Remaining 3 of them were older to represent a company owner, two of them are actual owners of such a travel company, so this sample of people can be for sure considered as valid for testing.

On the users side, none of the tasks was unfinished by anyone, but in different occasions these tasks took different time. One user struggled a lot while finding menu from which he could get into writing articles. As a reaction to that the corresponding menu label was renamed from "Articles" to "My Blog" not to be confused with the articles index page. Other test participants used the UI with ease and did not state any problems.

There were suggestions about design and colors of the website, mainly from the female part of the testing sample, which would welcome more colorful design, because the current one looks too pale. It will be for sure taken into consideration, but in a longer run. Another suggestion was to be able to sign in using different social accounts other than Facebook, which is a good idea and will be implemented in the next iteration.

On the company administrator side, only one problem occurred, caused by uploading video in incorrect format that completely broke the system which was fixed shortly after. Pagination of programs, reviews and questions in the administration was set to 10, that all the three test subjects considered to much making the page too long, therefore it was changed to 5.

On both sides GapPacker was welcomed as a great idea and well working site. As the testing showed the UI is well designed and there are no problems in using it, but really only feedback after some time the site is up as more people will use it will prove this completely.

Chapter 5

Branding, Design and Content Strategy

Once we have created prototypes of user interface, carefully tested them and implemented all the improvements and new features, it was time to give the site a proper graphical clothing. As this thesis shows, the thing that most people think comes first when doing a webdesign – designing a homepage or other pages in Photoshop or other graphical editor, is in fact one of the last steps. So far it has been a long way and a big amount of research and work, but without all the previous steps, it would not be possible to create a quality website offering a great user experience. Nevertheless, finally in this step the site will get its final look.

Before the work on creating visuals of each template starts, it is first necessary to think about the brand that will be the cornerstone for choosing colors, the language GapPacker will speak to its visitors and the look of UI elements. All of these steps will be shortly covered in this chapter.

Inspiration and knowledge about design, color theory and typography was taken from the book Design for Hackers [6].

5.1 Brand

Brand is quite a general term, but basically it is impersonation of the project, what comes to peoples minds when they hear about GapPacker, see its logo and what emotions they feel at that moment. If GapPacker was a living person, brand would be a mixture of its reputation, character and relationship of other people towards it [9].

Since GapPacker wants to have influence on certain kind of people – most importantly on students and young people, we had to create brand they will be friends with, fall in love with, if we go to extreme. Once such a brand is created, it is important to spread the word about it and finally get access to users we want to.

5.1.1 Brand's Presentation

An exhaustive research on who our users are is done, now it is time to adapt GapPacker's brand according to it. Young people nowadays are very informal, straightforward and hungry for a fast access to information. Therefore GapPacker needs to be friendly, present information without any big decorations, state clearly and visibly all important data and be fast to use.

In 2016, most of the users connect to the Internet through mobile devices, the website therefore needs to be responsive, work fast even with mobile connection and have the ability to express the same information as on desktop. GapPacker is fully responsive, optimized for slower connections and thanks to the menu and design customization, all the data is still visible and easily accessible even on smaller mobile displays.

Generation Y[1] as is the current young generation called is a generation of social networks. GapPacker has representation on the most important social network for the Czech market which is Facebook[2] and also on Twitter[3]. As it will move to different world markets, the list of social networks it lives on will surely grow according to which networks are popular on which markets. Every content published on GapPacker will be shared through this social medias to have the biggest reach possible.

GapPacker defines itself as neutral to any company, which also has to be taken into consideration. Any articles that could be favoring any of the companies should be avoided and in all situations GapPacker should stay objective.

5.1.2 Language and Attitude Towards Customers

GapPacker is for young people and therefore we decided it will also talk as young, use informal language towards users, funny system messages and no formalities. Everything is only "one click" far away for a visitor. Writing a review, asking a question, writing an article, none of these actions take more that three clicks. GapPacker will talk to its users as it would be one of them, knowing each other for ages. We believe it will bring more comfort to both sides. Example of young language can be found right in the main title of GapPacker's homepage, which translates as "Don't sit on your butt, pack your stuff and start exploring the world!". System messages try to express traditional messages as "Article created" in more funny way, such as "Shakespeare wouldn't write it better, good job!".

GapPacker alows users to sign up to its newsletter, that will inform them about newly created articles and important events from world of Work and Travel. It will also use informal language, that should feel like friendly conversation rather than formal informative email.

5.2 Design

After the brand was defined it was time to reflect it in the visual appearance of templates. GapPacker adopts a typical layout of current websites with a menu at the top, a footer with links and social connections in the footer and the important content in the middle. It does not experiment with any new UI elements, combinations of colors or breathtaking effects, but rather follows KISS principle[4] of "keep it simple, stupid" that states that the most effective and reliable systems are those made simple.

5.2.1 Colors

To express neutrality, objectiveness and professional look, a darker blue color was chosen to be the base color of the site and in contrast to it a bright yellow color was picked to be the action color for the main clickable elements. GapPacker uses only these two colors in

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[1] https://en.wikipedia.org/wiki/Millennials

[2] https://www.facebook.com/gappackercz

[3] https://twitter.com/GapPackerCZ

[4] https://en.wikipedia.org/wiki/KISS_principle

its layout, with only one addition of a light grey color used for highlighting cards and used as background on some pages. One color, light blue, is added to the pallet when it gets to button design, which will be discussed in the next section. Each button also has its hover over color. For control buttons, GapPacker adds two more colors, which are green and red.
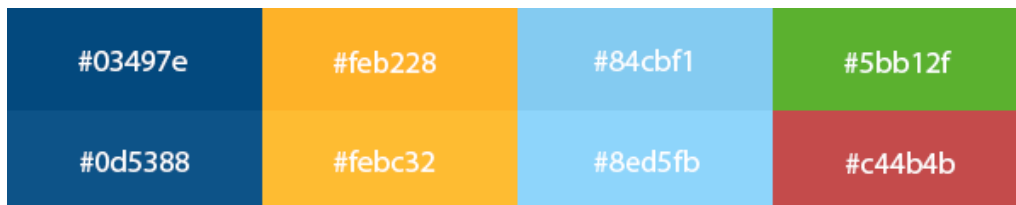

Figure 5.1: GapPacker's color pallet

5.2.2 UI Elements

As can be seen on wireframes, each template is composed from different UI elements that together create the complete unit. GapPacker has several of these elements that repeat themselves all around the site. It is important not to use too many different elements on one site to keep templates at least partly consistent in between each other. Inconsistency in the design and look of the website might confuse visitors, making them feel like they got to completely different site. This is very problematic, because then anything they see will not be considered as a part of your site, thus will not strengthen feeling about the site/brand.

GapPacker's UI elements are designed in a simple and clean way without any dateless or fancy design features. They were all designed to present information in the most understandable way possible, to be functional and easy to use. Let us look at each of them closely.

Buttons

Every website that is not a one page site and encourages its users into some action needs buttons. GapPacker uses three different button colors, each of them having hover effect, which is an effect fired upon moving the mouse cursor over the button.

There is a yellow primary action button in yellow base color for the most important actions as submitting forms, booking programs and writing reviews. It has the base yellow color because of its contrast against rest of the page, which attracts user's attention very successfully. Next button that can be found on GapPacker is made of blue base color and serves as the secondary action button for actions with lower priority as editing, visiting websites and others. Last type of button has light blue color and is used on places where there is a need of a third button, for example in the administration, blog management and others.

Figure 5.2: Buttons

Control buttons

Besides buttons mentioned in the previous paragraph, GapPacker also uses control buttons for purposes of adding, deleting, activating and deactivating different entities. Buttons expressing "creative" actions are green and those for "destructive" ones are red. There are two variants of control buttons. The first variant resembles ordinary button with slight difference of green/red border, the second variant is a simple green/red underlined text link.

Figure 5.3: Controll buttons

Menus

Every website needs a way how to navigate between different pages and their individual parts and GapPacker is no exception to them. Besides a typical main menu positioned at the most top of the layout to navigate between site's pages, some of the pages, which are more content heavy, offer a submenu to easily scroll to different page sections. These pages are program page, company page and administration. Once the visitor scrolls lower than is the natural position of the submenu, it becomes sticky and stays on top of browser's window, highlighting the currently viewed section. By clicking on one of submenu's items the page smoothly scrolls to the respective section, enabling an easy and quick way how to go through the page.

Figure 5.4: Sticky submenu

Sidebars

To make navigation on a page even easier and to make sure users know what page they are on, GapPacker implements concept of sticky sidebars. They can be found on program page, company page and program index page. They stick to the page in the same way as submenus. In case of program/company page, their main purpose is to keep important information about the program/company on user's eyes, even if they scroll further down

the page, far from the header, where all of this information can be found originally –
information such as the name, destination, price, rating, ranking and other. In case of
program index page, sidebar serves as a filter control panel and lets you filter programs
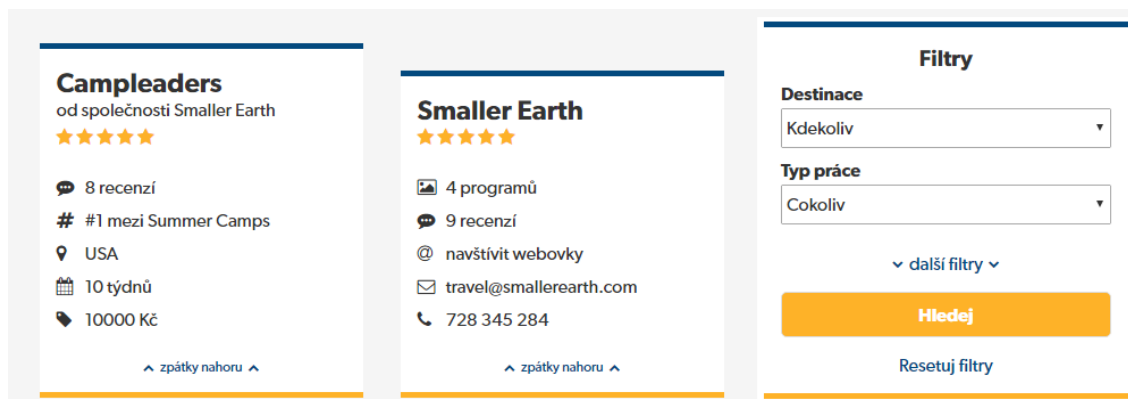according to name, price, destination and few more options.

Figure 5.5: Sidebars

Cards

GapPacker has a number of index pages and pages that list individual programs, reviews,
questions and events. Instead of rendering them as a plain list, GapPacker uses concept of
cards, brought by Google in its material design[5]. Cards enhance a feeling that each of the
items they list is unique, they step out of the uniform background, make the whole page
lucid and dispose of the uncomfortable feel of endless list of information. They are also
very easy to stack next to each other and manipulate in general for purposes of responsive
design.

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[5]https://www.google.com/design/spec/components/cards.html
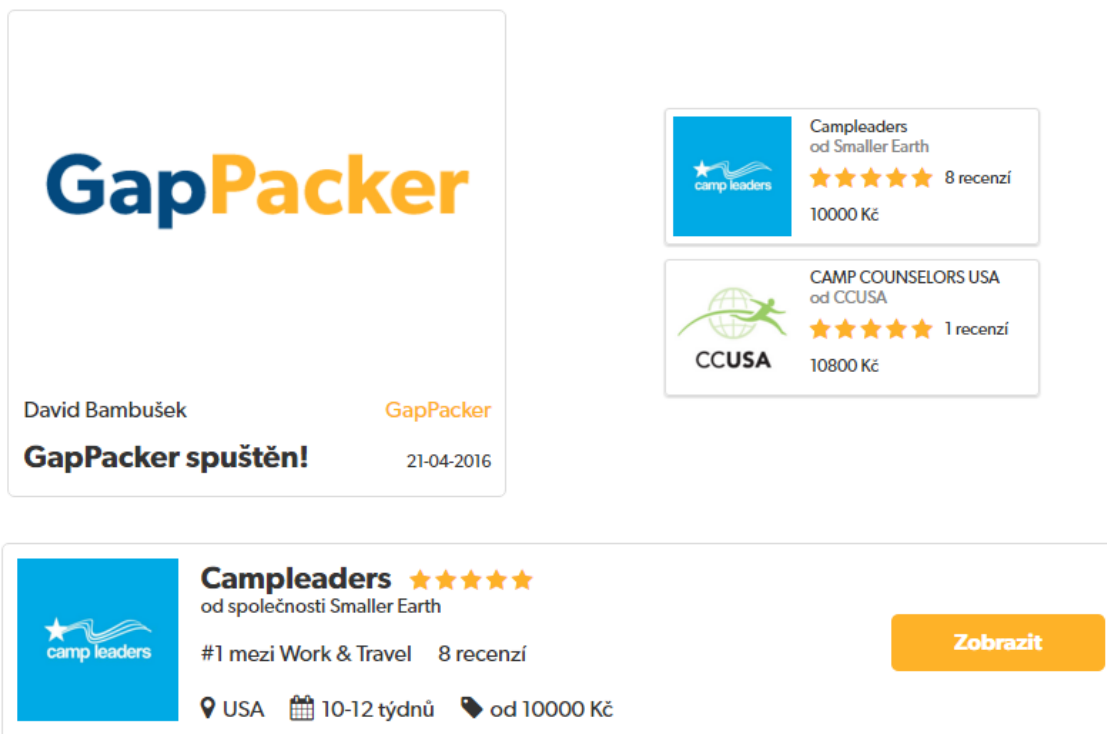
Figure 5.6: Different objects as cards

Headers

The first thing that will for sure get visitors attention right after he opens a program or company page is the header, as it is intended, since this part of page contains the most important data. It was designed to present the most important information about the program in three lines, in big font size, to clearly state what is important. For program page, the first row presents the name and the owning company, the second one destination, duration and price and the third line rating, ranking and a number of reviews. Company's header is very similar yet little simpler in number of information.

Figure 5.7: Program and company page headers

5.2.3 Icons

To fasten communication between the user interface and its user, GapPacker uses many graphical icons that express meaning of different sections or menu buttons and thus visitor does not have to read all the textual information and labels. GapPacker uses open source font set called FontAwsome[6] served from Bootstrap CDN (content delivery network). Icons are used all over the site on almost all templates and for the responsive version they replace textual labels in submenus and buttons.

Figure 5.8: Icon set

5.2.4 Typography

Carefully selected typography is very important for readability of site's content and establishing the right mood during reading it. GapPacker uses font called Gibson created by Canada Type, served from Abobe's Typekit[7] service. This font is sans-serif font, very modern and friendly looking, informal by its look, very well fitting the brand.

Waltz, bad nymph, for quick jigs vex!

Figure 5.9: Canada Type Gibson font

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[6] https://fortawesome.github.io/Font-Awesome/
[7] https://typekit.com

The next important thing concerning typography is correct selection of font sizes for different headlines, paragraphs, the body copy and other textual elements. In order to make visitors reading of the site's content fluent and comfortable it is necessary to provide consistency in sizes, padding and margins of textual elements, otherwise will reading become very uncomfortable and with high probability user will quit reading after few lines. To create scale for font sizes, it is important to set the base size, which is usually 14–16 pixels. Then a ratio is selected, it could be 0.75 or for example golden ration 1.168, and then the base size is constantly multiplied/divided by this ratio to get new font sizes. Sometimes it might be necessary to round the counted number as shows short demonstration:

$$16/0.75 = 21.3 \doteq 21px; 16 * 0.75 = 12px...$$

There are some helpful online tools that help with creation of the font scale, such as GridLover[8]. GapPacker uses font sizes that correspond to GridLover's output with settings set to font size 16px, line height 1.495 and scale factor 1.5. The last important thing to keep in mind is that paragraphs should be long between 45–70 characters counting both letters and spaces to be traceable by eye [1].

5.2.5 Responsive Design

Since 2014, majority of digital media and content consumption comes from mobile devices as smartphones and tablets [11], therefore it is crucial that every web is responsive, which means it displays correctly on smaller screens. When designing web applications, it is hugely advised to use so called "mobile first" attitude, which means all the templates are designed as if only mobiles (small displays) would exist and after that the designer comes up with a way, how those templates will display on desktop (larger screens), not vice versa as it was usual before, when mobiles were not that important [12].

GapPacker was carefully designed, baring mobile users strongly in mind. Usage of mobile compared to desktop is even bigger with young people and we think that majority of visits will come from mobile devices. Therefore every template has its responsive version that changes dynamically with display width, making sure everything will display correctly on any screen size.

There were few challenges how to fit all the information to a small screen. The biggest issue was to design submenus that have many items and long textual labels. This was solved by replacing the actual text by an icon, that expresses the same meaning as the original label, as can be seen on figure 5.10. Clearness of these icons was tested during UI testing and none of the respondents had a problem with them or reported that would not understand what they mean. The main menu is also collapsed into a mobile friendly version. Instead of the full menu the user sees an icon of a "hamburger" – three parallel lines, which is a very common concept for mobile applications. After the user clicks on this icon, he is presented with a full screen menu, with all the menu items as on the desktop.

Other elements usually respond in a way that their parts stack on each other if they were placed horizontally. As was mentioned before, concept of using cards makes it very easy to rearrange all the important elements all over the site as can be seen on figure 5.11.

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[8]http://www.gridlover.net/try

Figure 5.10: Header and submenu as seen on mobile

Figure 5.11: Card in responsive version

5.3 Content

Working and nice looking web application is a really nice thing to have, but once everything is designed and coded up, its life just begins as an empty shell, that needs to be filled, to fulfill its destiny of reaching visitors. Getting back from metaphorical world to web applications, we have come to the stage, when everything is set up and it is time to

start creating content, because content is what will attract people to visit GapPacker site. Content is not only important for bringing traffic to the site, but also for making the site visible throughout the search engines such as Google. Therefore let us look closely at how we are going to ensure that it really is visible for all of them and on how we will generate content on GapPacker in general [5].

GapPacker's content will consist of articles and guides. Main difference is that articles are going to be rather shorter texts covering individual specific topics as renting a car, the Yellowstone park etc. or serve as user's blog posts, while guides will be complex e-books covering every step of a usual travel. Another difference is that guides are intended to be written only by GapPacker's staff, while articles can be written by any registered user.

One of the main goals for GapPacker is to make itself a major blogging platform for gap year students and people going on Work and Travel. These people will be motivated to write their blogs on GapPacker with different kinds of writing competitions or gifts for their contributions.

Strategy for content creation is that we will focus on one destination at the time and once we have a feeling we covered it sufficiently, we will move to another, starting with the USA, as it is the most favorite destination among students going on Work and Travel.

5.3.1 Keywords Strategy and Content Generation

When searching for information, people use keywords, which are phrases that generalize the thing they are searching for and write it into Google's search form. It is necessary to define keywords, that will define our site and concentrate on building their strength by creating content rich on these keywords. In case of GapPacker they will be connected to traveling, working abroad, travel agencies, students and travel hacks.

Once a broad selection of keywords was chosen, it is worth checking how often people really search for them, because if for example "work with chimps" has only a marginal number of searches per month, it has no sense to build content around that keyword and try to reach high in search engines for it, because even if the site ranks first for it, it will only gain those few people searching for it to the site, noone else. Very helpful tool for analyzing keywords is Google AdWords[9], which gives an overview of how many people searched for a specific term each month and even how much it costs per click to advertise for that keyword with Google's AdWords.

After doing this analysis for GapPacker, we decided to build mainly on keywords "word abroad", "work and travel" and "gap year" and while we start writing articles and guides about different destination, we will also add focus on more keywords. For the USA it will be "summer camp", "work in resorts" and few others.

Google Analytics

Once the content is created it is necessary to analyze which topics have the most interest from the site's audience and which do not, so the effort can be put on the correct keywords and topics. For this purposes Google offers very powerful tool Google Analytics[10], which is very easy to set up and use and gives an overwhelming amount of data about who are visitors of the website, where do they come from, how long they stay on each page and what is their flow on the website. GapPacker will use Analytics not only for analyzing its visitors but also to count a click through rate on apply button for each program, to help us set the price for it, as it is meant to be the primary source of the income for us [7].

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[9] http://adwords.google.com
[10] http://analytics.google.com

5.3.2 SEO

The actual content of articles and that of GapPacker in general is crucial for search engines, but to rank higher in search results, it is necessary to correctly format it, so web crawlers will index things we really want them to and that they will correctly understand the true semantics of the content. Although Google and other search engines keep their search algorithms in secret and it is not exactly known what makes site rank higher than others, there is a set of recommended techniques and features a site should implement, known as SEO (search engine optimization), in order to rank high. Let us explore some of those techniques used for GapPacker [2].

HTML validity

It is quite obvious and logical that any code written should be valid, but for web applications it is rather exception if it really is. HTML has several versions and standards, where HTML5 is the most up to date between them and any web made in 2016 and further should follow its rules. There are numerous tools to check validity of HTML code, but it is wise to use W3C validator service[11], which was by people who stand behind the HTML5 standard. Every HTML template on GapPacker is fully valid.

Meta tags

Meta tags are specific tags, that are not physically visible for visitors of the site, but are machine parsable. They usually specify details about page as character encoding, page description, keywords, author's name and other metadata that can be used by the browser to optimize rendering of a page and by search engines and other web services. Once they had an important role and were heavily used, sometimes even abused, especially the one specifying keywords. Google soon realized that this is not the way how keywords should be extracted from sites, so they changed their search algorithms to find out keywords based on web's content and keywords metatag is completely ignored nowadays.

There are only few metatags that are important in 2016, where one of them is not even technically a meta tag. Description metatag should not be longer than 155 characters and is meant to give a short overview of what is the page about. It is this information that will be displayed on Google's search results page right under the title. Title, in fact a proper HTML tag, is responsible for the name of a page that will appear in search results and in the browser's window. It is important that every page has a unique name, otherwise it will get penalized for it. Next one is viewport, that persuades mobile and tablet devices to render webpages in their actual width and not just zoomed version of how the page looks on desktop as they do by default. This enables to create responsive templates. Last one is charset, which simply forces browser to use specific character encoding.

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[11]https://validator.w3.org/

This is all the meta headers as they appear on GapPacker:

```
<head>
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<meta charset="UTF-8">
<meta name="description" content="Explore, review and compare
Work and Travel opportunities">
<title>GapPacker</title>
</head>
```

HTML5 tags

HTML5 standard published by World Wide Web Consortium in October 2014 brought many new features into this markup language. One of them are new HTML tags, that help to better describe semantics/structure of the web page. In previous versions of HTML there were only several elements that helped to divide page into sections, which were basically <div> and <span>, where the only difference between them is their display style, where <div> is block, whereas <span> is inline.

To make the web and most particularly web parsing better, HTML5 brought a set of new tags, that can express the semantics of a web page in a greater detail. With their help, it is obvious without any guessing which part of a page brings what type of content. The most important tags are <header>, <footer>, <nav>, <article>, <section>, <figure> and <aside>. Their names are pretty self explaining, so there is no need to further specify how to use them. Each of GapPacker's templates uses these tags in a maximal possible way, to make itself easier crawlable, resulting in bigger chance to rank higher in search results.

Besides specific HMTL5 tags, it is important not to forget about typographical tags that were present in HTML since the beginning of its time. Those tags are headlines of several levels, marked <hx>, were x stands for a number from 1 to N (1 being the highest level), <p> for paragraph text, <ul> and <ol> for numbered and ordinary lists and <blockquotes> for quoting. Any content should be structured with help of these tags, headlines should come in logical order, were h1 should contain the most important keywords, h2 less important and so on, so crawlers can easily understand meaning and importance of each item on the page.

Structured data

Even though structuring HTML using semantic tags is an important feature, it is not possible to really interpret the correct meaning of the content with them, since it is usually very complex. To be able to describe web content properly and in detail, Google, Facebook, Twitter and others came with a schemes of microdata, that can be implemented into HTML to express real nature of it.

Schema.org[12] allows to define almost any type of content from a book to a concert ticket. GapPacker uses Schema.org to describe every entity present on it. Implementing it allows the content to be presented in Google's rich snippets[13] and to be more attractive and explaining in search results. It is only in Google's hands if it will take this microdata in consideration, but if it will, you can get interesting search results for your pages thanks to it, as can be seen on figure 5.12.

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[12]http://schema.org/
[13]https://developers.google.com/structured-data/rich-snippets/

Facebook has its OpenGraph[14] protocol, witch enables to define, how will the content be displayed on Facebook's wall page and which details will be presented. Again, GapPacker uses OpenGraph to describe all its entities. An example of how GapPacker's article shared on Facebook looks like can be seen on figure 5.13.
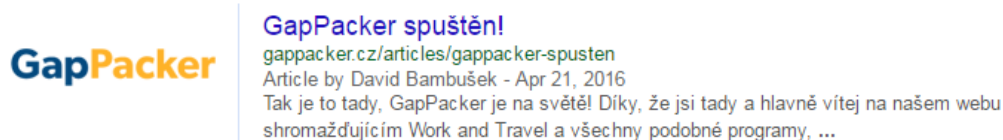

Figure 5.12: Google's rich snippets

Figure 5.13: Facebook's OGP

Chapter 6

Implementation

The website is designed, it is known how it will work, who will be its users, how it will look like and what will be written there, there is only one thing missing, which is the actual implementation of the website. Until now, everything was done just on a "paper" and there was no working application yet. However, at this stage everything is ready to change this state and this chapter will describe how to transform all the work done in the previous chapters into a functional website.

Coding up a website has several different parts. First of all it is necessary to transform all entities GapPacker will contain as programs, articles and so on into database tables and their attributes into tables columns. Once we have all the data ready and set to be used, we need to transform all the visuals that were designed in one of the previous steps into HTML, styled with CSS. Final step is to connect the data layer with the presentation layer by some application logic. For this process GapPacker uses Ruby framework Ruby on Rails (RoR), which is very well suited for creating web applications.

6.1   Data Management

GapPacker has all together 14 entities, which can all be seen on entity relationship (ER) diagram 6.1. They are all interconnected according to information design (section 4.3) we defined in the previous chapter. There are only few additions to it. Since there are two types of users, they were created as separate tables, one for companies and one for ordinary visitors. Then there are three tables for destinations, countries and job types that are in fact programs attributes, therefore they were not mentioned in information design in between all other entities.

6.1.1   ER Diagram

ER diagram has three basic types of relationships that exist between different entities. The first of them is "has one", which is represented by an ordinary line between rectangles representing entities. The second one is "has many" that is visualized by a line separated into three smaller ones coming from the entity that can posses multiple entities on the other end. And the last one is "zero or one" that represents that the relation is optional and can, but does not have to exist, visually represented by a line with a circle on the zero end.
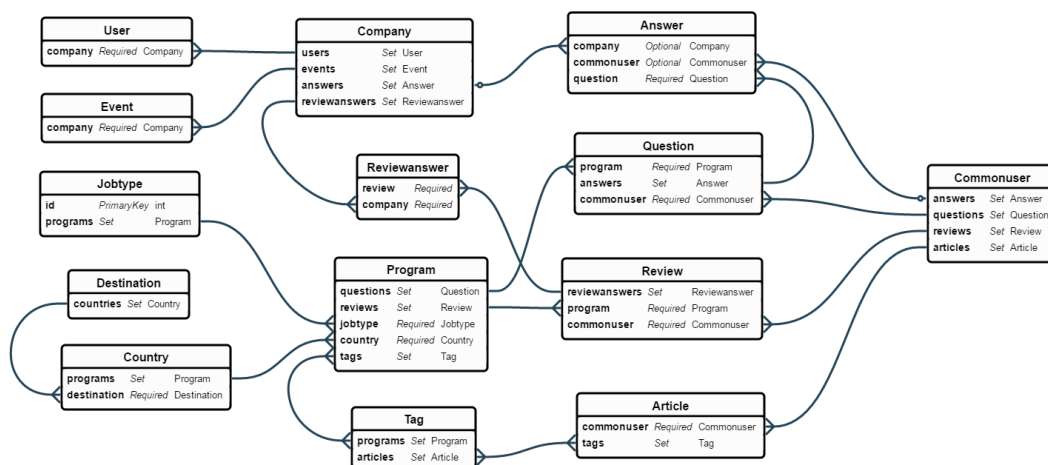
Figure 6.1: GapPacker's ER diagram

6.1.2 MySQL and ActiveRecord

There are many various database systems of different kinds. The mostly known are relational databases based on tables and columns, but there are also so called NoSQL databases, which are usually just key–value pairs arranged in form of documents or trees. It is common that NoSQL databases are frequently used in field of big data, such as social networks and real-time applications, which is not a case of GapPacker. This project uses MySQL, which is one of many available database systems alongside for example MariaDB or SQLite that operates over relational database model. Although it is true that MySQL has some disadvantages when it comes to scaling, it does not concern us that much since GapPacker does not have a huge database that would suffer from this issue. On the other hand, it is very easy to install and manage under RoR that offers big support for it.

To make handling with database objects more comfortable and to follow the style of Ruby where everything is an object, Ruby on Rails disposes of ActiveRecord library. This library is responsible for mapping all the tables into objects and their columns into their respective methods. This useful feature will be discussed more in the next section.

6.2 Ruby on Rails

At the moment there are many technologies for web development in use and each of them has its own specifications, advantages and disadvantages. I have chosen Ruby on Rails to implement GapPacker, since I have a lot of experience with it and it offers a tremendous number of already written libraries, called gems, that speed up the implementation very significantly.

GapPacker runs on Ruby on Rails version 4.2.2 which went live in June 2015, that is written in Ruby 2.0.

6.2.1 Assets Pipeline

Ruby on Rails was created in order to be used for development of web based applications and therefore it comes ready with features such as asset pipeline, that manages all resources for your site as cascading stylesheets (CSS), JavaScript and of course images or any other sort of static files. It makes sure they are served in a correct way, take minimum of space and get cached to keep performance of the site on maximum.

Rails also supports SASS (syntactically awesome stylesheets)[1] which is a scripting language that compiles to CSS. It enables developers to use features such as rule nesting, variables, arguments, loops, mixins and functions, which all together speed up any development concerning web page styling. In addition there are several gems that boost CSS development even further, such as for example autoprefixer[2]. It is a tool to parse CSS and add vendor prefixes to CSS rules using values from the website Can I Use[3] that maps which browsers support which CSS properties and which need vendor prefixes and modifies the CSS accordingly to it. Once the specification of which browser version should be supported, it takes care of all the job by itself.

Since Rails version 3.1 it also supports CoffeScript[4], which is a programming language, syntactically inspired by Ruby and Haskell, trying to bring more readability, that transcompiles to JavaScript.

6.2.2 MVC Approach

Rails is one of many frameworks that uses MVC approach to development, which stands for Model–View–Controller. Simply said, with this approach the application data is strictly separated from its presentation, where both are interconnected and operated by controllers, that take care of application's logic. Figure 6.2 can help with better understanding of how are these three parts connected and interact between each other.

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[1] http://sass-lang.com/
[2] https://github.com/ai/autoprefixer-rails
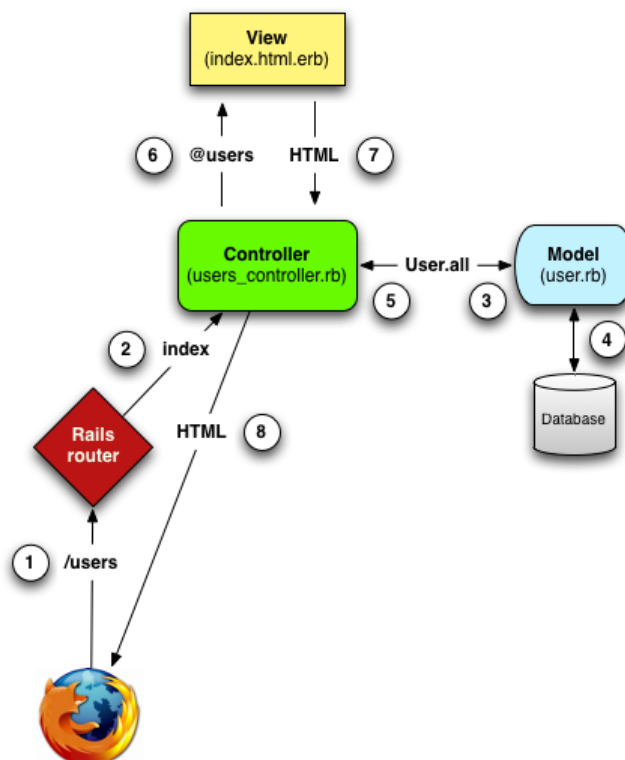[3] http://caniuse.com/
[4] http://coffeescript.org/

Figure 6.2: A request for the users index page – path of the request and its response in between MVC components and the browser

Model

A model is a part of MVC, that is in charge of maintaining relationship between a database and objects created of its basis. In Rails, this system is implemented by ActiveRecord library, which automatically transforms database tables into objects and table columns to object attributes. Model is also responsible for data validation, associations between different objects and basically every computation is done in a model. ActiveRecord allows for creation of virtual attributes, custom scopes and many more, but the most important thing is its abstraction of database into objects, that is used further in the application.

View

Every application needs to be presented in some form and that is where a view comes into work. In general, view is what transforms models into visual and digestible format for application's users, if they are humans, or into machine readable formats such as XML. In Rails, views subsystem is implemented by ActionView library, which is an Embedded Ruby (.erb) system for defining presentation templates, that is able to combine Ruby and plain HTML.

Controller

The last part of MVC is controller that sits between a model and a view and facilitates incoming requests from web browser. For every processed request, the controller queries a model for certain data, it may organize them in ways of sorting/searching/filtering and

64

sends them to the selected view to be presented to the user. This subsystem is in Rails implemented by ActionController.

6.2.3 Gems

Ruby on Rails has a huge developer community, which has over time created many useful libraries and plugins for Rails. In Ruby, these libraries are called gems and can be easily installed with RubyGems package manager, that makes possible to install any of these gems from remote server and manage their versions. There are more than seven thousands gems available and anyone can contribute to them or create a new one. GapPacker uses around 40 different gems. The most important ones are introduced shortly in the following section.

OmniAuth

GapPacker does not create its own user profiles for users, but rather uses OmniAuth[5] gem that standardizes multi-provider authentication for web applications. It is very easy to use, flexible and scalable. It enables visitors of a website to log in using their already existing profiles on different social networks and online services such as Facebook, Google+, Twitter and others, while giving the site access to data their profile carries. At the moment GapPacker uses only Facebook authorization, but it is planned to implement also Gmail and other services soon.

Bcrypt

Although GapPacker does not create user profiles for users, it does create them for companies. Together with managing company profiles comes also a responsibility to store passwords to their accounts. Even though GapPacker's database is secured by password on our server, we can be never sure if someone will not get access to it, therefore also to all of the passwords. To ensure passwords will be secured even when someone gets to a copy of the database, it is necessary to store them in hashed versions. Gem Bcrypt[6] is a lightweight gem, that helps with hashing. To make hashed passwords invulnerable even against dictionary attack, bcrypt adds so called salt to every hash, which is a piece of random data added to the beginning of a hash, to make it harder to guess the passphrase. Bcrypt is used in OpenBSD as the default password storage method, so we can hope it is safe way of storing passwords, even though we never know after affairs with Hearthbleed and others[7].

Friendly_id

By default, Rails uses integer identifiers to mark certain objects, therefore when we want to request a second company called BigAmerica, that has id 2, it is necessary to enter url such as "companies/2" which is not very human friendly, not very nice looking and for sure not SEO friendly. It would be much better if it would be possible to edit the url to rather look like "companies/bigamerica". That is exactly what gem Friendly_id[8] does. It lets you create nicely looking urls based on model attributes that can be combined together as you wish.

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[5] https://github.com/intridea/omniauth
[6] https://github.com/codahale/bcrypt-ruby
[7] https://en.wikipedia.org/wiki/Heartbleed
[8] https://github.com/norman/friendly_id

CarrierWave

GapPacker requires images to be uploaded on many places, therefore it needs some way of uploading them to the server. ActiveRecord does not support image files by default, that is why CarrierWave[9] was brought into the process. This gem simply enables ActiveRecord to work with images and is very easy to implement into already existing models.

Ransack

If GapPacker ever covers all the offered programs in any national European market, let us say Czech one, it will for sure contain at least 100 programs and users will need to search through them. Ransack[10] is a gem created for making searching, sorting and filtering easy. With Ransack it is possible to do these actions not only with any model attribute, but there is an option to specify custom attributes using model scopes and apply Ransack to them. For example rating of a program is computed as an average of all ratings concerning that program, thus it is not really present in a program table in the database, but there is no problem to create this virtual property using ActiveRecord dependencies and ransack to transform it into a searchable attribute.

CSS Gems

There are also many gems responsible for managing CSS code, some of them were already mentioned before. There is Sass–rails that enables writing stylesheets in SASS, Autoprefixer, that adds vendor prefixes and Uglifier, that minifies all the source codes to make them smaller, thereby speeding up the loading time of the website.

6.3 Server Deployment

GapPacker runs on a cloud server provided by DigitalOcean[11] that is equipped with Ubuntu 14.04.4 x64 server operating system. Currently it has 512 MB RAM and 20 GB HDD space. After some time up, it is planned to analyze site's traffic and access times to see if it is necessary to have a bigger RAM/HDD. This cloud service runs a Nginx[12] web server together with Phusion Passenger[13] that enables connection between the server and Ruby/Ruby on Rails application.

GapPacker's source code is stored on Bitbucket[14], which is a hosting service for projects using Git version control system and uses Capistrano[15] for deployment to the server. Capistrano is a lightweight tool for automation tasks such as deployment written in Ruby, that takes care of creating new releases of an application, uploading them to the server and restarting the whole application to make the updates visible.

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[9]https://github.com/carrierwaveuploader/carrierwave
[10]https://github.com/activerecord-hackery/ransack
[11]https://www.digitalocean.com/
[12]http://nginx.org/
[13]https://www.phusionpassenger.com/
[14]https://bitbucket.org/
[15]http://capistranorb.com/

Chapter 7

Conclusion

Aim of this thesis was to build a fully functional web application called GapPacker and give an insight into the process of its creation from the phase of an idea till its final implementation and launch. Each one of the previous chapters presented one of many steps of this process, which were the initial planning and composition of the business plan, user research, analysis of similar existing websites, user interface design, brand and graphical design, plan for content creation, implementation and server deployment.

The website is live since the beginning of May 2016 on url http://www.gappacker.cz. GapPacker was created with all the proposed features and is fully operational for both visitors and companies providing Work and Travel opportunities.

I believe that this project will bring a big change to online market of the Work and Travel business and soon will become a guidepost for anyone looking for a summer job or a way how to spend his gap year. I am strongly convinced that both visitors and companies will profit from the existence of GapPacker and will support its further growth and development.

After two weeks of the website being live, it already lists all of the 9 most important travel agencies offering Work and Travel programs in the Czech Republic, which so far have all together 19 reviews and almost every day a new one shows up. All of the companies were made aware of the site and the biggest growth in the number of reviews is being expected after the summer, when majority of students comes back from their summer experience. It will be that time when GapPacker will be strongly advertised and will try to get the biggest possible audience. One of the biggest quests will be to motivate these people returning from their Work and Travel experience to write a review, which we plan to achieve by rewarding some of them with various prizes as travel guides or t-shirts and with help of providers by by offering discounts applicable to their programs. Once the providers understand the importance of having customer feedback and reviews, we hope they will start motivating their customers by themselves.

Undoubtedly there is still great amount of work on GapPacker, mainly with building its content, reputation and getting its audience. There is also a great potential for many new features such as more gamification components, better and faster connection between companies and eventual program participants in form of a chat or a forum and many other ideas to improve the site that await to be implemented.

If the site proofs to be reliable, working and meaningful, it is planned to move it also to other markets, most importantly to the English one, were I have strong connections and the market and mood of local companies is very promising for the launch of GapPacker UK. After the UK it will be central European markets – Slovakia, Poland and Hungary.

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Appendix A

UI Design Appendix

A.1 Detailed User Stories

A.1.1 Finding summer job abroad

Yesterday, John's friend told him about his last summer, which he spent in the USA. He was very excited and John was surprised, how many stories he had, how many new people he has met and how many places he has visited and what a great experience it was. It left John quite speechless and very envious.

Today in the morning John is thinking maybe his friend Dave was just bit boasting and exaggerating, but still, even if just half of what he said was true, it could be a great opportunity how to spend his summer too. Since John is desperately looking for some summer job abroad, he fires up Google and starts searching for terms like "Work abroad", "Summer job abroad" and others alike.

On the first of Google's result pages, because he never looked at the second or later, he finds few interesting websites, that could help him find what he is looking for. One of them is GapPacker. He clicks the link at gets to the homepage. There is a search form that lets him enter keywords he is searching for. But he does not really know what he wants, so he just keeps scrolling down. Fortunately, right under the header there is section with few categories, listing the most interesting programs. One of them lists trending programs, which seems like a good starting point for him.

Scrolling further down he sees some reviews from other people, what he finds terrific, because it is always good to know how other people were satisfied with the program and there might be some interesting information hidden in the review. But still, he is not sure where he wants to go, so some random reviews will not help him much. He clicks on the "Programs" top menu item and gets to a big list of all programs with a sidebar on the right that allows him to filter programs by multiple criteria. He is not interested in going anywhere else than USA, so he chooses USA as an option for destination filter. He is left with a list of 20 programs to chose from.

Top three programs have very good rating, so John clicks on each one of them and reads some basic details, satisfied that he found something that might suit him he puts the website into his bookmarks and leaves the decision where to go for later.

A.1.2 Au-pair in Canada

Merry is very smart, ingenious and hardworking girl that knows what she wants from life. She would like to go abroad, therefore she finds out all her exam dates, how much money she has left on her account, how much her parents would be willing to lend her and also

does some research on what job would suit her the most. Results are as follows: She has 15 weeks off starting on June 28th, her budget for summer is one thousand pounds and thanks to many tests she did online and what other people told her she should do, an au-pair seems like the best choice for her future job.

GapPacker is well known for her already, because she came across it while she was doing her online research about all programs and opportunities abroad and she decides to use it to find her desired program. Right at the top of the home page, there is a search form that looks like a good start for her, she fills in "aupair" since that is what she would like to do. After clicking search button, she is presented with a list of programs and articles connected to au-pair and one item that says au-pair category, so she clicks that. She is taken to a list of all au-pair programs and a sidebar on the right that seems to offer more filters, therefore she immediately uses budget and duration filters. After clicking on the search button the list gets reloaded and she is presented with around fifteen au-pair programs from different companies. She is more interested in ratings than price, since all the programs cost more or less the same, so she clicks on sort by rating and programs get reordered. Step by step clicking on each of program that has rating above 4 stars she opens multiple new browser tabs with each program.

She takes her time to read every one of them carefully. Clicking on the company name on program page she gets to different page describing all programs that the specific company offers and presents some short company bio, contact details and other useful information. Back on the program page, Merry also discovers that there are more tabs with Details, Reviews, Questions & Answers, Articles and others.

After spending some time and reading about things she should do before and after she registers for the program and choosing the best one, she goes and tells her parents, that she found a job for herself and asks for their opinion.

A.1.3 I am going

Some while ago, John did a research on opportunities for working abroad. After making a short list of 3 programs he liked the most, reading reviews, talking to his friends, who had been to similar programs and finally asking his parents, he decided to go for program by Big World agency – Canada Hotel Management Internship(CHMI).

During three months John will work in a hotel located near Vancouver, where he will help current employees on different positions to understand how such a hotel works and to get the big picture of complete hotel economics, habits, employees and it's visitors. For the first week, he will help in the kitchen, to feel how hard it is to "work by hands" and to see how busy everybody gets when it comes to feeding all the hotel's visitors. From there he will move to front-desk to see how reservations and talking to clients works. After he understands all the parts that make a hotel hotel, he will gradually move to upper positions, where at the end, he will spend two weeks with the top hotel management in order to learn how to manage such a big group of employees, pay them, keep the bills paid and still be in black numbers and earn some money.

Since John studies economics, he thinks this will be a great experience for him and that his chance to get a job after he graduates university with this experience in CV will be even greater. On top of that, it is a paid internship. John's salary will cover all program expenses and he will be left with few dollars to spend on travelling. His parents also think it is a good way of spending summer and give John full support in this cause.

John goes onto GapPacker website, finds CHMI program and clicks register. First of all, he is offered with a guide how to register for this program in PDF and then he is taken to a Big World website, straight to the registration form. He fills in basic information about

70

him, his school, previous working experience and continues to next part of registration, which is visa and travelling. He is asked for some details about his passport, bank account number and some other stuff and he gets bit unsure, if he is doing everything right. Therefore he opens the PDF he got before getting to registration. Reads some detailed information and satisfied continues with registration on Big World's website.

After successful registration, he gets email from Big World, that all his information was processed and they will contact him with details soon. He also gets email from GapPacker asking if everything went well, if the registration was easy and if he found everything he needed in the registration guide provided. If there is anything he feels that should be added to the guide for future participants, he is kindly asked to reply to this email with any recommendations or tips.

A.1.4 Home Sweet Home

Merry had a great time working as au-pair in Canada. She worked in a family that lives in Quebec city in the eastern part of Canada. Father of family is a construction worker aged 38 and mum is a lawyer, 35. They have two kids, girl, who is 18 and a boy, who is 12. Since both parents work long hours they needed an au-pair.

Merry had her own room and although the house the family lived in was quite modest, it was very comfortable and nice. Her job was to help getting their younger son from school, driving him to his football training and helping both kids with homework, going shopping and some other routine stuff. Sometimes she was asked to cook when parents knew they would not make it for dinner in time. She always had one day off during her week, mostly on Sundays, so she had some time to explore city and it's surroundings. The family also took her to a Saturday's trips from time to time, once they even took her for an ice-hockey match to Montreal. Although she doesn't like sports much, she enjoyed the atmosphere there, cause she has never been on such a place surrounded by twenty thousands cheering fans.

Those two kids were quite nice, younger boy was bit wild sometimes, but nothing that Merry could not handle, so she enjoyed her work a lot and took it as a good practice for her future career as a teacher. What more, everyone in the family spoke French, so she could also practice speaking other language than English, which will for sure be a benefit for her. She did not earn a fortune, but it was enough for a week trip to see Canadian nature, Great Lakes and some of Canadian cities like Ottawa, Montreal and Toronto. She met many interesting people during her stay in Quebec and then during her journeys and got back home very excited.

A week after she has been back home she received an email from GapPacker asking for a review of program she just finished. Email says it will take her only five minutes and she will get a badge of a participant for filling it, so she says why not and clicks on a link provided.

First of all she is asked to log in, so she does it as always through her Facebook account and is taken straight to a form pre-filled with her program and providing company name, asking only for a short text summary within 500 characters of her experience. She is not sure what exactly to write, but there are some recent reviews from other users on the right side, which give her some idea how to formulate and summarize her 3 months stay in Canada. Right under the text field there are few questions that can be answered by choosing rating between 0 and 5 stars and that is it. She submits her review and immediately sees that her avatar received a small badge saying successful participant.

A.1.5 Let's Go for a Trip

Frank has been working hard in his hotel in Canada and finally a calm week, when there are not that many people checked in, has come. He is supposed to have a day of on Sunday, but since he has done an amazing job in past weeks, his boss told him to get a whole weekend of. Frank is excited and starts to plan what to do with two days off in a row.

After doing some research on Tripadvisor and getting one of his friends from hotel on board of his trip, they make a plan to get a car and spend one day exploring nature and second one in nearby city. But since they are both in Canada for the first time they do not have a clue how to rent a car. Also they are not sure if it is possible to camp just anywhere they like and if it is not too dangerous because of Canada's rich wildlife.

Franks remembers that there is a travel guide section on GapPacker and he was offered a "Canada's 101 tips" guide when he signed up for the program, but he ignored it at that moment. So he goes back on the site to travel guide & article section and searches for Canada. He gets few results, each some kind of guide focusing on different activity and problem, so he chooses "Canada travel tips". The guide has few chapters, first of them is about accommodation, which also states few facts about camping at the end. After skipping some other chapters Frank gets finally to renting a car, where he finds some links to verified car rental companies and other useful information. There is option to download the guide in PDF and EPUB, which is great, because his friend has an e-book reader, so they can have the guide with them.

They immediately go to one of the websites recommended in the guide and rent a 4x4 Subaru for their trip. They were assured by the guide that the place they want to go camping is safe, so they stop in Walmart in the evening to buy sleeping bags and tent, they can then return and get their money back as a smart hint advised them to do and in the morning they go for their deserved trip.

A.1.6 On the Road

It has been already four weeks since Frank has started working in the hotel and whilst from outside it may seem like every day in the hotel is just the same, reality is different. Frank has already met with so many people from different countries and was amazed by differences in cultures all around the globe. However it is not only the hotel's staff that is interesting, because you would never believe what a weirdos some guests can be. Once there was a guy who told his wife he will go for a massages and spent hours in casino instead, then the other day you meet an elderly woman booking a president's room just so she can be there with all of her ten cats.

Unfortunately, Frank works so many hours that he is too tired when he gets back to his room to chat with all his family members and friends, but he would really love to let them all know what an adventurous summer he is having. Especially his mother is getting angry at him, because he does not tell her all the details she would like to know and Frank usually falls asleep while chatting with her on Messenger.

Therefore he decided, that it might be a good idea to just write a diary of what happened to him and let everyone else read it, so he does not have to retell his stories to his friends one by one. Since Frank grew up with the Internet, he knows all about the big boom of blogs and vlogs that is happening recently. He is too shy to create a video blog, even thought it would be the quickest way how to put down his memories and experience, so he decides to go for a written blog. Before he went to Canada he was looking for some blogs of people who already had some experience with similar program in Canada and he found a lot of them on GapPacker. So he goes there and tries to create his own one.

In his profile menu, there is an item saying "My Blog", when clicked on, it takes him to a welcoming page of his, so far empty, blog. It is a simple page with only one button, saying "Write your first article". He clicks on it and gets to another simple looking page called "Create article". Here he is asked to fill in title, short article description, create new or choose from existing categories, choose or create some tags describing the article and then there is space to write the actual article's content and add some photos or videos if he wants. At the most bottom of the page, there is an option to connect article with certain program from GapPacker. He connects it with the one he is on and clicks on "Publish article" button. He is taken to his newly created blog article, which he immediately shares with his friends and mum through Facebook.

When he goes back to blog page via menu, he sees that his new article appeared in a list under create new article button with options to edit, delete or hide it. He is very happy to see his article is now published and is already thinking about what will be the topic of article number two.

A.1.7 New Business on GapPacker

Chris discovered GapPacker few weeks ago and finally has some time to set up his company profile on it and add the two programs his agency offers. He does not hesitate anymore and goes to section "For companies" where he is introduced with short text about how GapPacker works, what can it do and how much it costs. Since the registration is free, he goes for the free version at first. After he gets to form for creating company, he is asked to fill in company name, short company introduction, date when the company was founded and some contact details. The process is very short and since Chris's company has its own website, he just reuses some already existing company description and makes it shorter to fit as description for GapPacker. After he has everything in place, there is only one click to actually having the profile ready.

Creating program is very similar to creating company, just the needed information differs a bit. It is necessary to fill in program name, destination, basic price and some other details. After creation Chris can always go to his company's profile and edit all the information.

Back in his company profile, it is possible to add email addresses to each program, which will result in sending a request for a review to participant that already finished the programs, so the program is not without a review for a long time. Some time has passed and Chris can see that his programs are viewed quite a lot in his profile stats. Since he is using the free version, there is no book button on the program page and he wants to change it, therefore he purchases the paid version and gets the book button immediately on each of program pages he has, together with some new more features as more detailed stats in his profile.
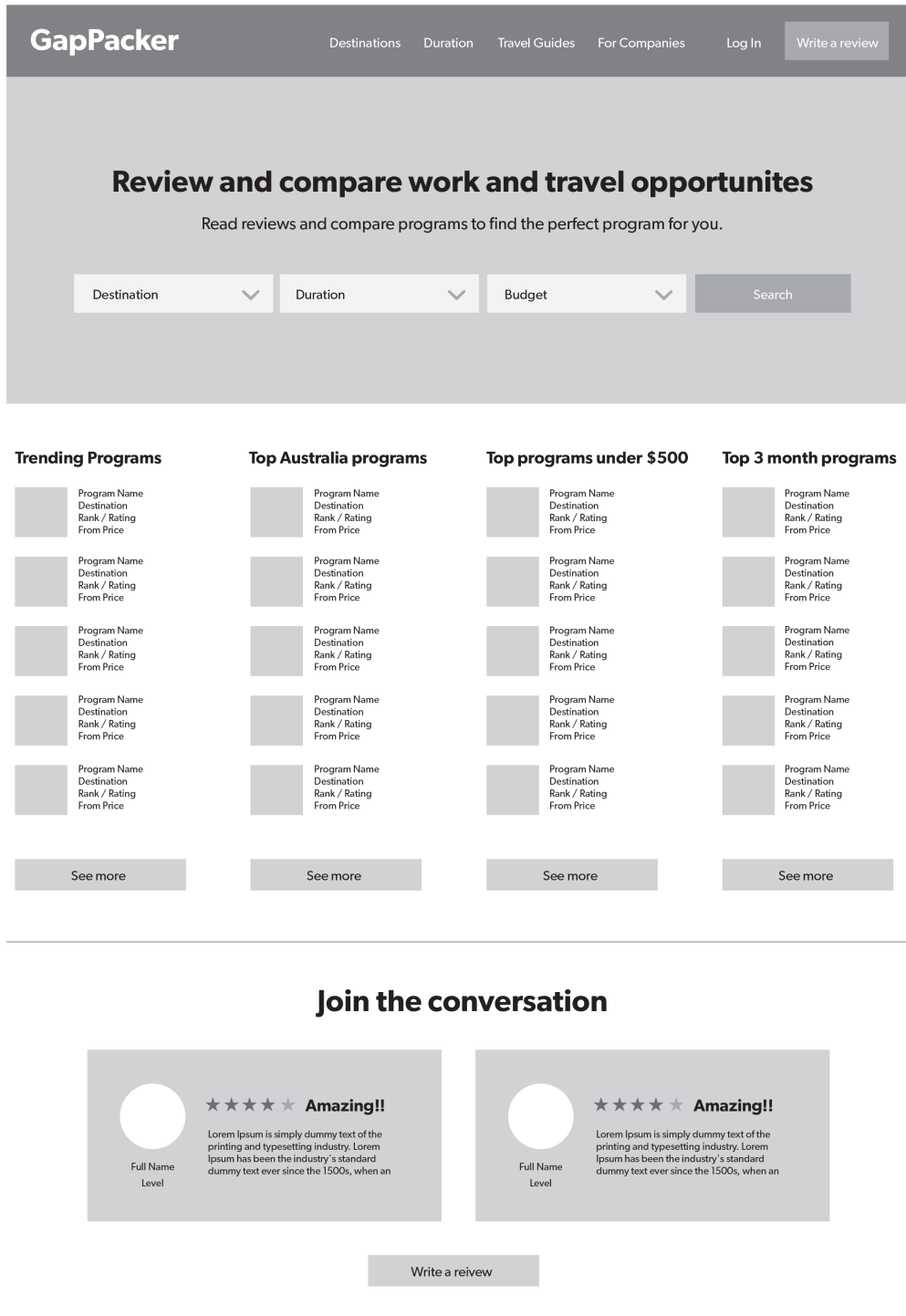
A.2 Wireframes

A.2.1 Homepage

Figure A.1: Homepage template

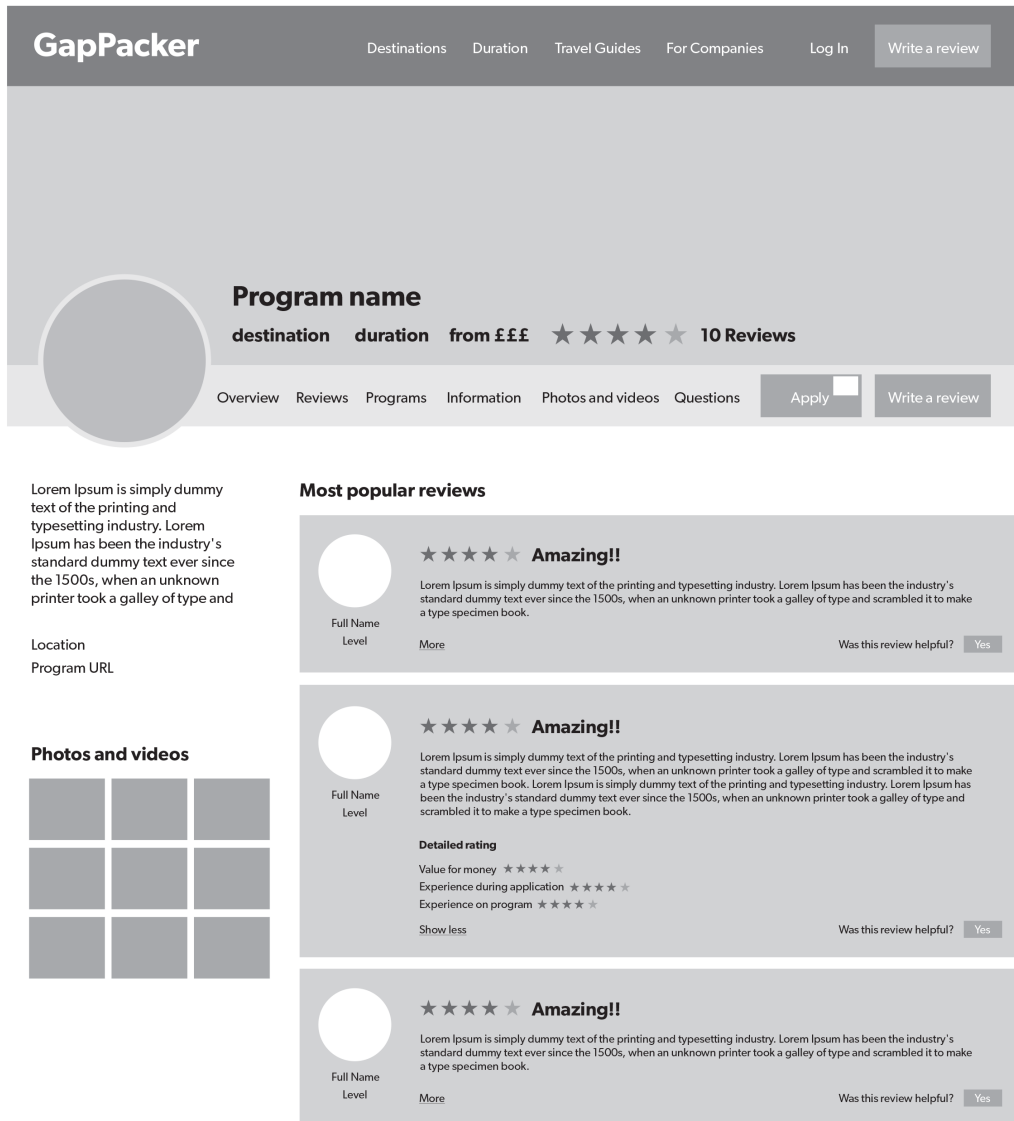## A.2.2 Program page

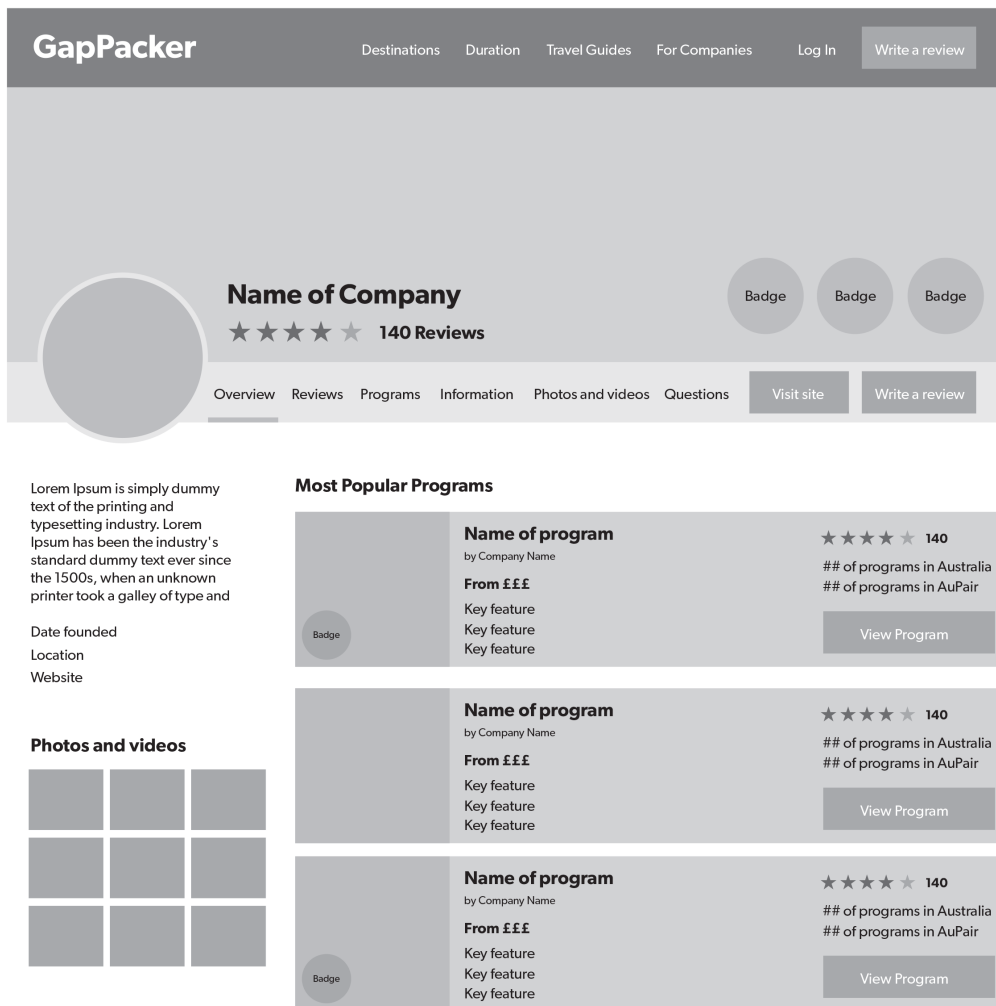Figure A.2: Program template

A.2.3 Company page

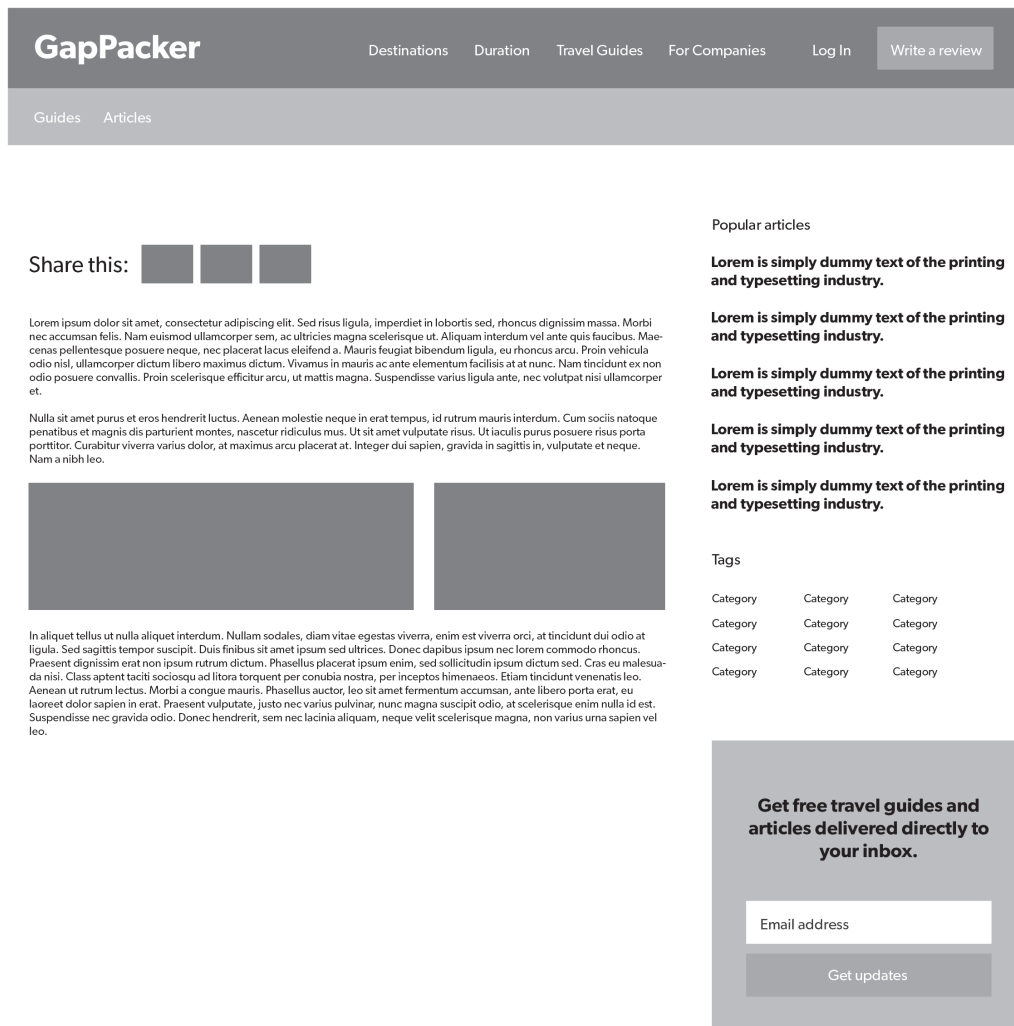Figure A.3: Company template

A.2.4 Article page

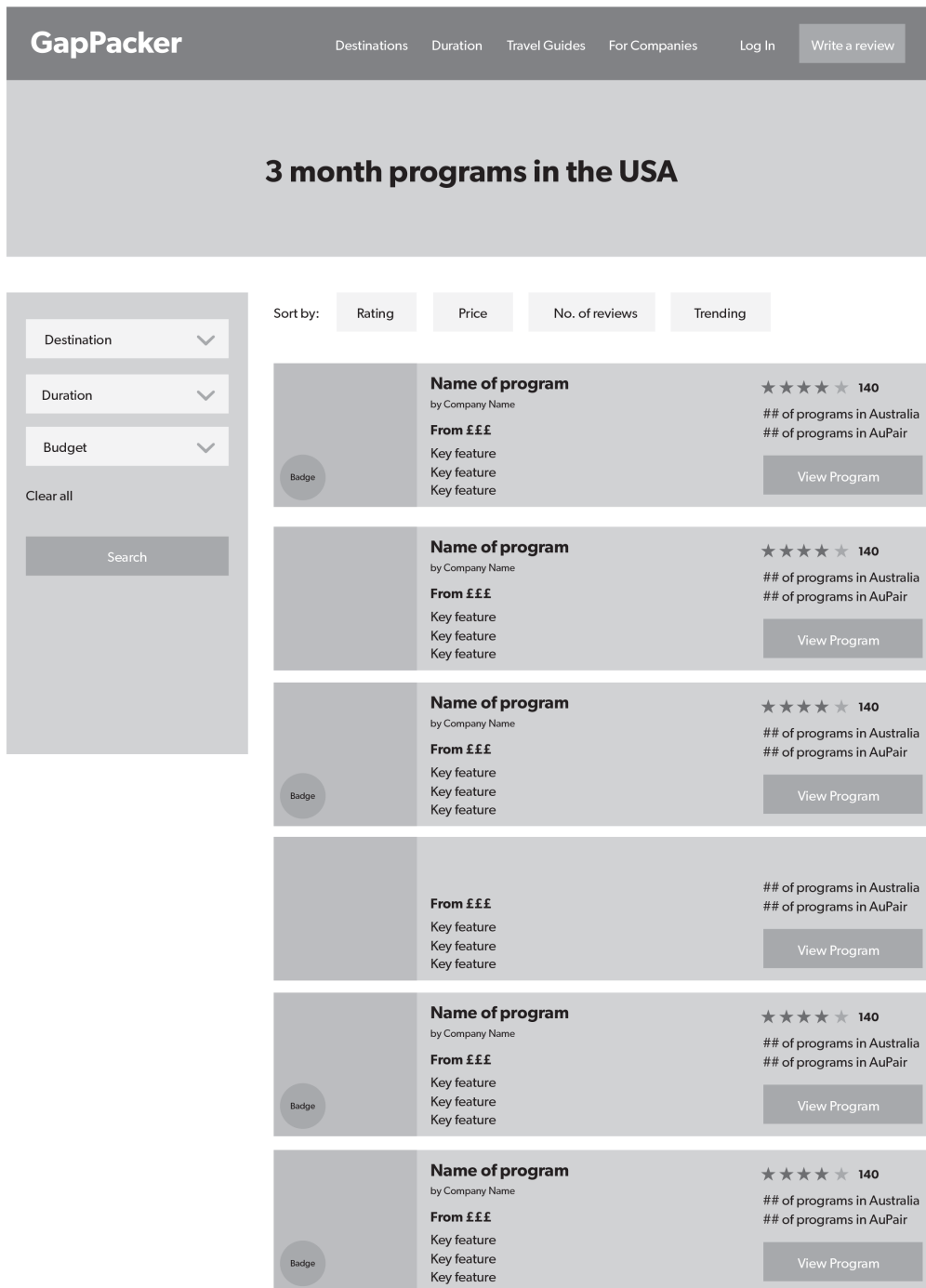Figure A.4: Article template

A.2.5 Programs index page

Figure A.5: Program index template

A.2.6 Articles index page

Figure A.6: Article index template
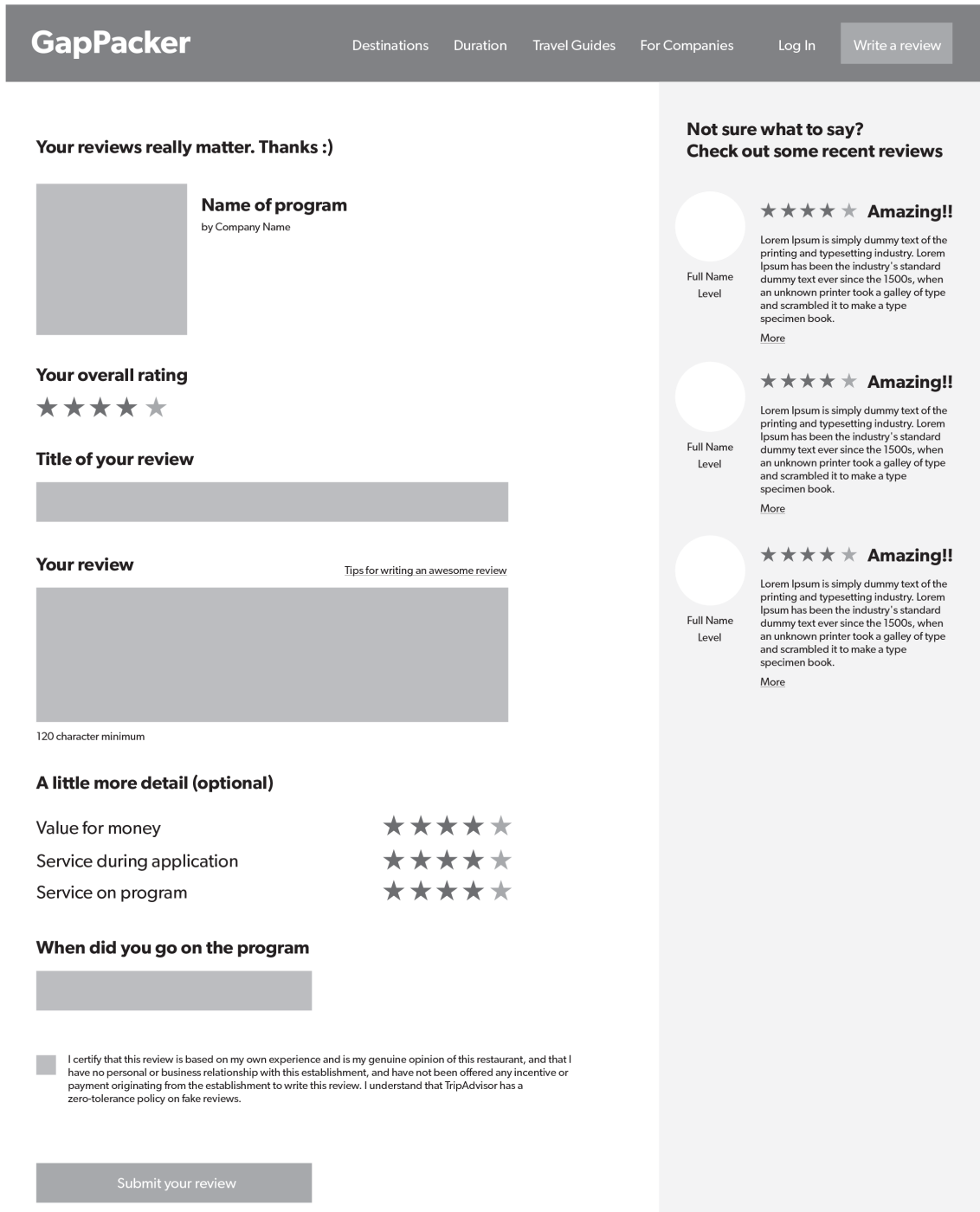
A.2.7 New Review page

Figure A.7: New review template

A.3 Guides for User Testing Tasks

A.3.1 Process of looking for a job

1. Find all programs in the USA taking no longer than 3 months sorted by price

     (a) display search page with filter for USA and 3 months duration

     (b) sort programs by price

2. Find out details about the cheapest program

     (a) display program page

     (b) go to information tab

3. Find out what other people say about program, what is the best review and worst review

     (a) go to reviews tab and reads reviews

     (b) find the best and the worst rated review

4. Find out what company offers the program and read about it

     (a) go to company page

     (b) click on information tab

5. Find out about other programs offered by the same company

     (a) click on programs tab

A.3.2 Reviewing program

1. Sign in

     (a) click login in main menu

     (b) click sign in with Facebook

2. Find Campeladers program

     (a) use search to find results for Campleaders

     (b) go to Campleaders program page

3. Read other people's reviews, find the best and worst

     (a) go to reviews tab

     (b) read other reviews

     (c) find the best and worst one

4. Write your own review

     (a) click "Write a review" button

     (b) fill in review title, text, rating and other fields

     (c) click submit review

A.3.3 Creating a blog and writing an article

1. Create new article

     (a) click on My Blog in profile menu

     (b) click on create new article

     (c) select personal blog as category

     (d) publish the article

2. Share article on social network

     (a) use one of the social icons to share the article on Facebook/Twitter

A.3.4 Asking and answering questions

1. Open program page

     (a) open program page of Campleaders

2. Browse already asked question

     (a) Go to Q&A tab and see all the questions

3. Ask a question

     (a) ask a question about flight ticket

4. Answer question

    (a) answer question about amount of kids in a camp

A.3.5 Reading up on program information and concerning details

1. Find Campleaders program
   (a) use search to find Campleaders program
   (b) go to Campleaders program page
2. Find program information and pricing
   (a) find how much program costs
   (b) find out what is included in price and what is not
   (c) find out if there are any 3rd party fees
3. Read reviews
   (a) go to reviews tab
   (b) read other people's reviews
4. Find visa information
   (a) click on articles & guides in main menu
   (b) find article about visa process for going to the USA

A.3.6 Creating new company and program

1. Create a company profile
   (a) click on Login in main menu
   (b) click Sign in as company and then on create new company profile
   (c) go to administration through link in profile menu
2. Create new company
   (a) click on Create new company
   (b) fill in information about company and upload images
3. Create new program
   (a) click on Create new program
   (b) fill in information about it and upload images

A.3.7 Answering reviews and questions

1. Answering to review
   (a) go to administration and find reviews
   (b) answer to the bad review and say that you are sorry
2. Answering to question
   (a) still in administration find questions
   (b) reply to question asking about visa price
3. Editing program information
   (a) in administration, find program GoCamp and edit it
   (b) add line about visa price to administration

A.3.8 Events

1. Create event
   (a) in administration find events tab and click on create new event
   (b) fill in all information and link to Facebook
2. Share event
   (a) click share on Facebook on article page