

Review of Bachelor's Thesis

Student: Cuadrado Jorge
Title: Automatic Thermometer (id 19034)
Reviewer: Křivka Zbyněk, Ing., Ph.D., UIFS FIT VUT

- 1. Assignment complexity** **average assignment**
The thesis specification is quite open with average level of difficulty. The student had to solve both hardware and software issues. More specifically, the challenge was the implementing software in Linux-based operating system while keeping the power consumption of the given hardware as minimal as possible.
- 2. Completeness of assignment requirements** **acceptable under serious reservation**
As a major reservation to the specification, there is almost no text concerning the testing of the application under various conditions. Obviously, only some user testing was held and there is no record about it as well. On contrary, it is no problem that the student tried and was not successful in his effort to implement the automatic wake-up due to some hardware issues.
- 3. Length of technical report** **in usual extent**
All chapters are relevant to the subject. But some claims in the text are not specific enough. For example, in Section 4.3.1, it is claimed that dynamic web server is slower than static but there is no reference or experiment that supports this claim.
- 4. Presentation level of technical report** **70 p. (C)**
Since all development phases (analysis, design, implementation) are mixed together, the structure of the text is quite untraditional.
- 5. Formal aspects of technical report** **60 p. (D)**
The work has average typographical quality, but the language quality is pure. Especially, there are plenty of typos and grammar errors.
- 6. Literature usage** **65 p. (D)**
The sources are mostly from the web and quite recent, but URLs are missing in the online sources. All the sources are properly cited in the text, but in case of some figures, the source specification is missing (see Fig. 2.3-2.5). In addition, some figures are not referenced in the text although they are described somehow (see Fig. 4.1, 4.2, 5.1, and 5.2).
- 7. Implementation results** **80 p. (B)**
Apart the third power safe mode (should support sleeping of the device), the whole system is working properly as described in the text and as required in the specification. The source code is well documented.
- 8. Utilizability of results**
The work just explores the possibility of Raspberry Pi to be used as an embedded system and shows a lot of problems, so it is not probable that the application will be used widely. It can be used as a tutoring tool to show the basic control of used hardware modules.
- 9. Questions for defence**
 - You claim in the text that disabling other USB ports improve security. Is there an attack when I can use USB port occupied by Wi-Fi USB module when I can access the port physically?
 - When the IP address and domain name of the web server is changed, your implementation regenerates all web pages from some template. Why is it not enough to use relative links everywhere in the static pages so the regeneration is not necessary?
- 10. Total assessment** **68 p. satisfactory (D)**
Student has explored the use of Raspberry Pi board together with temperature sensor and created working application with the sensor and simple web server. Since the testing is not documented in the text and the text is mostly hard to read, I propose D mark for this work.

In Brno 31. May 2016

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