# Review of Bachelor's Thesis

**Student:** Štefáček Michal
**Title:** Simple Game Engine (id 25176)
**Reviewer:** Vlnas Michal, Ing., DCGM FIT BUT

## 1. Assignment complexity — **average assignment**

I found the assignment to be moderately difficult.

## 2. Completeness of assignment requirements — **assignment fulfilled**

All the sub-tasks as well as the overall assignment have been fulfilled.

## 3. Length of technical report — **within minimum requirements**

The length of the thesis is around the minimal requirements; however, it is rich in information, as it describes all the important parts. I do not consider the length to be an issue.

## 4. Presentation level of technical report — **90 p. (A)**

The thesis consists of 6 chapters. The thesis has a sensible logical structure, where each chapter is linked to previous parts, which makes it easy to follow. Each main chapter contains a brief summary of the entire chapter, which underlines the statements defined previously. However, a few images could be placed in more logical places in order to prevent standalone lines at the beginning or ending of the page, respectively. Moreover, the author described the basic usage of the engine in detail in the appendix and in the public demo repository.

## 5. Formal aspects of technical report — **95 p. (A)**

The thesis is written in English. The language level is excellent (grammar, vocabulary), it is very pleasant to read. I found no important grammar issues, just a few typographical errors. The typography itself is also excellent, as there are only minor mistakes, for example, in multicitations and a few image alignments. Each figure is properly referenced in the text.

## 6. Literature usage — **90 p. (A)**

The thesis cites 15 different bibliographic sources, of which 10 are from high-impact journals/publishers. References are placed correctly in the text with the proper density.

## 7. Implementation results — **90 p. (A)**

The author implemented a standalone game engine in Java, which is suitable for 2D games. It supports 2D rendering with sprites, font rendering, audio, and several other minor things. The engine is extensible with components and modules. The author also implemented an application that demonstrates the functionality of the engine. Moreover, this application was based on an existing one and the author provided benchmarks to compare the performance, where the results were very promising. The source codes are well-formed with proper code style.

## 8. Utilizability of results

The result is a fully Java-developed independent game engine. It has great potential with respect to the implementation environment.

## 9. Questions for defence

- How difficult would it be to implement a 3D rendering pipeline into the engine?
- What are the key attributes of the planned editor?

## 10. Total assessment — **90 p. excellent (A)**

The student did an excellent job in all aspects. The technical report is written in English with excellent quality. It has a good logical structure, which makes reading very pleasant. The result is a functional standalone game engine with high potential in the future. For these reasons, I propose grade **A** (excellent).

In Brno 19 May 2022

Vlnas Michal, Ing.
reviewer