Vilnius University
FACULTY OF MATHEMATICS AND INFORMATICS
INSTITUTE OF COMPUTER SCIENCE
INFORMATION TECHNOLOGIES STUDY PROGRAM

SOFTWARE ENGINEERING PROJECT
Requirements specification (Area 4)

Group Name: **Vierchatūra**

Team members: **Oskaras Žukauskas, Arnas Černiauskas, Edvinas Raveikis, Laurynas Velička, Dovydas Martynėnas**

Team Leader: **Oskaras Žukauskas**

Supervisors: **Virgilijus Krinickij Gediminas Rimša**

Vilnius 2022

Purpose and overview

Audience and use of this document:

This document will be available for the whole 3rd group and lecturers of the Software Engineering course. It will allow our supervisors to follow what state our project is in at any given time and give the chance to propose ideas on what could be improved and which aspects need more polishing.

Product scope:

Main goal of our team is to extract certain data from an XML file. Data requirements will be provided to us by the 2nd area team, great communication between both first and second team will be the key to success of this project. In the end, the 3D model of the roof only will be generated, so team of the area No. 2 can better orientate in the provided data collection.

Our risks and complications:

1. Lack of communication with the area No.2. Possible that Area No.2 won't be responding to any messages and area No.1 won't have any information what data has to be provided for the project to go fluently.
2. Lack of skill in programming. Some team members of area No.1 don't have any prior experience with python and at the moment everyone are working on their skills.
3. Provided data is not suitable for area No. 2 team. Possible scenario: Area No.2 gave us information on what data they need, but in reality they/we mixed something up, and wrong data was provided.
4. Problems with our chosen algorithm. In some unique cases wrong data is assigned to variables and importation of the 3D model has some inaccuracies.

Specific requirements

Functional requirements:

- A software that receives and understands a 3D model of any roof variation.
- Efficient extraction of all the necessary data from the 3D model.
- Fast and quality delivery of the extracted information for following calculations.

Quality attributes

Universality - in the future software is expected to work with any kind of 3D model file.

Security - no third parties can access sensitive data without administrator's permissions.

Compatibility - all the code is expected to work with the software of team No. 2.

Usability - software will be easy to use, won't have any complex functionalities. Additional instructions on how to use the program will be provided.

Availability - software will be able to be executed at any given time without any delays or other problems.

Reliability - program will prompt warnings if wrong data is provided, should not break if user provided data is as expected.

Implementation

Plan of action:

1. Analyze and understand the examples of the given 3D models.
2. Communicate with Team No. 2 about the needed information for following calculations.
3. Create an algorithm that extracts all the necessary data for Team No. 2 to continuation of the calculations.
4. Request a review of the provided data from Team No. 2 for possible corrections of the algorithm including effectiveness and compatibility.
5. If there any remarks, upgrade the algorithm. Repeat step 4. (pataisykit jei klystu)

Job distribution:

All the upcoming problems/questions will be discussed with all the team members for the best possible solution. In this way everyone will be involved and the overall outcome will be best for us and for the product. Expected workload for each team member is expected to be 20%.