



VILNIUS UNIVERSITY
FACULTY OF MATHEMATICS AND INFORMATICS
INSTITUTE OF COMPUTER SCIENCE
INFORMATION TECHNOLOGIES STUDY PROGRAM

SOFTWARE ENGINEERING PROJECT

Requirements specification
Area 5

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1 Introduction

Project name: Integration and visualisation.

Team Distribution:

Team Leader	Daria Tovstohan
Developer	Olesia Loniuk
Developer	Domas Boruta
Developer	Sandra Čiuladaitė

2 Purpose

The main purpose of our team is to create the Solar Panel Placement Tool (SPPT) which will tie each area's part of work together into a single working desktop application that takes a 3D model file along with any user input needed, creates a 3D model of the roof face with solar panels and then produces the documents that can be sent for approval.

3 Functional Requirements

1. Overview of the whole system(All roof faces on all buildings, All fire ventilation setbacks and pathways All solar panels).
2. Verify in which wind pressure zones the solar panels will be mounted.
3. Display for each solar pannel:
 - Roof face, with edge type printed next to each edge.
 - All solar panels on this roof face (so it would be visible which solar panels fall into which wind pressure zone).
 - Wind pressure zones.
4. Create a 3D model of the system.

4 Non-functional Requirements

- Usability: The functionality of the system will be user friendly, so that everything will be capable of being found on intuitive level, thus there will be added guidance tips.
- Availability: The system will be available in one of the pages of desktop application dedicated specifically to visualisation of the whole project.
- Reliability: The functionality ensures that the software tool, produced documents and visual representations will be working as intended and, if needed, prompt a warning in case an incorrect input was provided.
- Compatibility: The user interface for the software will be compatible with MS SQL by which users can access to the system.

5 Implementation plan

1. Version 1: Create a draft of the project using Balsamiq. Include the main menu window skeleton and 'Upload a File', 'Place Solar Panels' and 'Calculate Wind Pressure Zones' windows' skeletons.
2. Version 2: Create a draft of the system using Tkinter.
3. Version 3: Add details to the interface and description of the system.
4. Version 4: Update the functionality and make buttons clickable.
5. Version 5: Add resources from other teams.
6. Version 6: Make the visualisation of 3D models.
7. Version 7: Connect 3D models with the desktop app.
8. Version 8: Testing and bug reviews.