**City Simulator**

**ProCP Project**

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# **1** **Introduction**

## **1.1** **Purpose of the Plan**

The CitySimulator Project Plan will provide a definition of the project, including the project’s goals and objectives. Additionally, the Plan will serve as an agreement between the following parties: Client and Project Team.

# **2** **Project Statement**

*( In this chapter are stated the reasons for starting the project and a brief information about it.)*

The company called SIM Software Inc. with representative Mr. Johnson from the management board, whose job is to decide whether the proposal will be accepted, needs to be changed or rejected.

### **2.1.1** **Formal Client**

Company name: SIM Software Inc.

Company representative: Mr. Joe Johnson

City: Eindhoven

Country: Netherlands

Postal code: 5652JN

Telephone: 0648989389

Email: joejohnson@simsoft.com

### **2.1.2** **Project Team**

*(This chapter contains basic information for the company- contractor of the project.)*

Company name: Open source

Company address: 18 Marconilaan

City: Eindhoven

Telephone: 0639746893

Project Leader: Dimo Popov

Project members: Nikolay Kolev

Petar Hadzhiev

Dimitar Matev

Xiangkuan Peng

Zhicheng Yu

Team information:

We are doing Information and Communication Technology with Software in Fontys University. We are motivated team and will try to do our best in this project.

### **2.1.3** **Current situation**

*(This chapter contains the description of the current situation.)*

The current situation is that, Sim Software Inc asks for a project proposal in the area of simulation software and we as a group of young innovative software professionals are requested to come up with a proposal for an application in the area of simulation software. They are looking to optimise the infrastructure of cities, so that traffic is evenly distributed in such a way, that traffic jams are eliminated, or at least brought to a minimum. This includes planning of routes for points of interest at different times of day, accounting for rush hours and possibly weekends.

The application will be developed so the user could predict possible problems in the road logistics and avoid them in a virtual city with a simulated traffic as well as some other additional features.

The application will focus on the simulation of construction and management of a city and his traffic. For the construction means you would be able place building, roads, and different objects which are commonly found in the urban area. What is more we would try to make it as realistic as possible so interaction between the objects will be present. Our main goal is to simulate a traffic which could occurs under certain circumstances. If we achieve that goal we would like to include additions like electricity, water supply etc. That kind of simulator will let you plan the creation of the infrastructure of a new city or simulating an existing one and improving it.

**2.1.4 Problem description**

A company called SIM Software Inc. would like to extend their field of expertise with new ideas for simulations. So they ask for a proposal and development of such.

### **2.1.5** **Project goal**

*(This chapter is about the final project goal.)*

Our goal is to deliver a proposal as well as finished working product . Secondly, fulfill all requirement given by the client and create application, which is easy to use and maintain.

### **2.1.6** **Deliverables**

*(This chapter focuses on the deliverables.)*

* Аpplication that will focus on the simulation of construction and management of a city and its traffic.
* Documents: Project plan, URS, design document & test report for iteration 1,2 and 3
* Source code of proof of concept
* Proof of concept
* Source code of final product
* Process report
* Presentation

### **2.1.7** **Project constraints**

* Project should be finished in 19 weeks.
* GUI should be in English.
* Application should run on Windows or Mac.
* Should run on mediocre hardware.
* It should be possible to store simulation models and results in a file or database, and load previously stored models and results from that file or database.
* In the design of the application, the most important OO concepts are needed, like classes, objects, properties, interfaces, inheritance and events.
* The application will be implemented in an object-oriented language like C# or Java.
* With your application it should be possible to perform certain simulations.

## **2.1.8 Risks**

(This chapter is about the risks that may occur during the project development.)

* **Risk:** Time.
  + **Description:** Not enough time for finishing all the tasks.
  + **Probability:** Low
  + **Impact:** High
  + Lack of time would impact the final result.
  + **Solutions:**
    - Collaborate more, both with the client and the team.
    - Time management. Set tasks and certain deadline.
* **Risk:**Design.
  + **Description:** Design is not fit for purpose .
  + **Probability:** Low
  + **Impact:** Medium
  + The mediocre design would impact the quality of the product as well as
  + **Solutions:**
    - Research and discussing.
    - Multiple tests.
    - Planning beforehand.
* **Risk:** User interface
  + **Description:** User interface is low quality
  + **Probability:** Low
  + **Impact:** Low
  + Would impact the result.
  + **Solutions:**
    - Surveys.
* **Risk:** Software
  + **Description:** Software is lacking stability.
  + **Probability:** Medium
  + **Impact:** Medium
  + Lack of stability would impact the final result as well as the whole process of development of the project.
  + **Solutions:**
    - Collaborate more with the team.
    - Code management and quality control.

# **Project Phasing**

**Kick-off phase**

Week 1: 1. Prepare questions for the interview with the formal client.

2. Come up with a proposal for the application.

3. Create a draft project plan.

Week 2: 1. Update the project plan.

2. Divide the task.

3. Interview with the formal client.

4. Create a concept version of URS.

**Initial phase**

Week 3: 1. Finish the project plan.

2. Create the concept version of iteration one.

3. Update the URS.

**Iteration one**

Week 4: 1. Update the URS.

2. Create a work division report.

3. Finish the plan for iteration one.

Week 5: 1. Code the application for iteration one.

2. Create a test plan for iteration one.

3. Create a concept document for design document.

Week 6: 1. Starting coding by using the class diagram and use cases from the design document.

2. Update the design document and test plan.

3. Create a concept version of a plan for iteration two.

Week 7: 1. Add unit testing to the application and create a test plan.

2. Finish the coding for iteration one.

3. Finalize the URS, design document and test report for iteration one.

4. Finish the plan for iteration one.

**Iteration two**

Week 8 to week 11: 1. Coding the application.

2. Update URS, design document and test report for iteration two.

3. Create the final version of plan for iteration three.

4. Create the prototype and share the source code.

**Iteration three**

Week 12 to week 14: 1. Create a process report document.

2. Update URS, design document and test report for iteration three.

**End phase**

Week 15 to week 16: 1. Prepare the presentation and demo of the application.

2. Present the presentation.