V3 - 26-02-19

FONTYS UNIVERSITY OF APPLIED SCIENCE –EINDHOVEN

2018/2019 PRO - CP

Simulation Software

Group Members

- Aktar, Dohlon   3047040
- Alex Kersjes   3361616
- GANG FERDINAND DINGA   3216861
- Fahim   2936968
- Alessandro Sandor   2879964

Project Plan

Group Name :   Diligent
Department :   ICT and Engineering
Supervisor   :   Mikaeil Shagelani

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Project Statement

SIM Software Inc is one of the leading software companies in the Netherland with it headquarters In Eindhoven.

This company is much concern with road traffic simulation softwares .The company director and his team decided to extend their interest to cover other areas of software simulation software like

-city traffic simulation applications.

-Fire escape simulation applications.

-Air port luggage simulation application.

-Shop distribution simulation applications.

However our team will be working on the City traffic simulation application with c# as our main programming language. That is an application that can configure the the roads of a city to simulate traffic and pedestrian flow .

Formal Client:

The formal client Mr. Schouwenaars, Basjan B.T.J.C. is the owner of the company SIM Software Inc. SIM Software Inc. is a leading simulation company that operates with innovative solutions for simulation problems. The company itself is located in Eindhoven, Netherlands.

Contact Information Of The Formal Client

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Project Leader:

Name: Kersjes,Alex A.G.

Email Address: a.kersjes@student.fontys.nl

Phone Number: 0618550152

Working days: Monday, Tuesday, Wednesday, Thursday, Friday

Time: From 8:45am – 4:00pm

Current Situation :

Mr. Schouwenaars, Basjan B.T.J.C. is the owner of SIM Software Inc. A company that is concerned with innovative solutions for simulation problems. He needs a simulation software that provides the means to optimize the configuration of roads, crossings and traffic lights via statistics related to how the traffic resolves. Our team(Diligent)has introduced a concept of applying simulation application in different Software Sim Company and showed a good performance with company desire problems.They have a great experience in design and desktop application.

Problem Description :

Traffic congestion can be a major problem for cities. It frustrates citizens, causes excessive air pollution. Properly planning the connections (roads) between different city zones can reduce the burden on certain road segments.

SIM Software company wants to expand into new products. Because the company SIM Software is fast growing, the current staff is strained, while the owner of the company Mr Schouwenaars wants to stock up on products. He and his company members decided to commission our company to build software to evaluate city plans.

Project Goal :

Our goal is to develop / create a software solution for SIM Software Inc. This software package should be able to

1. Configure the roads and crossings in a city to simulate traffic and pedestrian flow.

2. The simulation provides the means to optimize the configuration of roads, crossings and traffic lights via statistics related to how the traffic resolves.

3. 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.

Project Deliverables and Non Deliverables

The Deliverables will be:
● A working application (simulation software) in accordance with the project goals

● Documents that contains information about the requirements, the design of the system and the process.

1. Project Plan

2. URS
3. UML Class Diagrams
4. Sequence Diagrams
5. Work division report

The non-deliverables will be:
● The source codes for the applications

● Hardware

Project Constraints :

Programming :

● The application should be able to run on Windows operating system.

● In case a Database is necessary, it will be implemented by either Oracle or MS access

● The application will be written using C# programming language.

Time :

● The project will last for 20 weeks. This is the time period in which all the things described should be completely done.

Language :

● The project and everything related to it - documentation, communication, code will be done in English.

Project Risk :

· Misunderstanding and lack of communication among the group members.

Impact: medium.

Resolve: listen carefully to each other and be open minded.

· The applications crash down and error during the running time

Impact: low

Resolve: create milestone to test the application with the client

- Delay in project timeline

Impact: high

Resolve: determine the Consequences and discuss it with development team, create a critical path and deliver it on the time

Management

Project members:

- Aktar, Dohlon   3047040

- Alex Kersjes   3361616

- Gang Ferdinand Dinga   3216861

- Fahim Mahmud   2936968

- Alessandro Sandor   2879964

Success Requirements:

We can only consider this project as successful or complete if the following deliverables are delivered.

Simulation Applications:

- A working application (simulation software) that can perform the following:

1. Configure the roads and crossings in a city to simulate traffic and pedestrian flow during rush hour.

2. The simulation provides the means to optimize the configuration of roads, crossings and traffic lights via statistics related to how the traffic resolves.

3. 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.

Client Information:

The client is able to use this application to simulate and configure traffic flow and road crossing by pedestrians in a given city

Skill Requirements :

Positions	Responsibilities
APPLICATION	
Application designer	visual design
Application developer	C#, Windows Forms
Application Tester	Following test plans.

Phasing:

 The method of working is going to be determined tomorrow by the project team members.

Agile will be the most preferable method.

Phase description :

TODO: put in a chart here

1 week is 5 * 10 man-hours

Feature	Time allocated	Criticality	Comments
Kick Off	**100 h**		3 Feb - 16 Feb
Planning and design	50 h	Critical	
Meetings	25 h	Critical	
Project plan	25 h	Critical	
Initial Phase	**100 h**		17 Feb - 2 Mar
URS	70 h	Critical	
Work division report	10 h		Document where everyone tracks work done, updated through project
Planning next phase	20 h	Critical	
Iteration 1	**200 h**		10 Mar - 30 Mar
Updated URS	25 h		
Working Cars/Roads/Nodes	100 h	Critical	
Working save feature for the design (no load)	75 h	Critical	
Implementing first steps for loading	30 h	Non-critical	
Calibration Session	**50 h**		14 Apr - 20 Apr
Present proof of concept/design document	50 h	Critical	
Iteration 2	**150 h**		21 Apr - 11 May
Update URS/Design Document	25 h	Non-critical	
Working loading	50 h	Critical	

feature			
Update save feature	20 h	Critical	
Basic feature in-app design creation	20 h	Critical	
Working Pedestrian/cyclists systems	35 h	Critical	
Iteration 3	**150 h**		12 May - Jun 1
Final URS/Design Document	25 h	Critical	
Drag-and-drop design creation complete	50 h	Divorcable	
Unit tests/Polish	60 h	Critical	
Manual + additional documentation + presentation preparation	15 h	Critical	
End Phase	**50 h**		Jun 2 - Jun 15
Deliver all remaining deliverables + End Report	40 h	Critical	
Presentation	10 h	Critical	

Phase 1: The kick of phase (From week 1 until week 2)

The discovery phase of the project. Here we decide our subject and ideate.

- Interview client
- Discuss current situation, problems, desired and situation
- Set the project goal together with the client
- Organize resources
- Making the project plan

Deliverables:

- Proposal for an application
- Concept version of project plan

Phase 2: Phase - Initiation and planning (From week 3 until week 4)

The initialization phase. We make concrete plans on what we are going to do. We make documentation to guide us and stick to a common goal.

Activity: Project Plan

- URS
- Work division report
- Plan for iteration 1.

Deliverables:

- Concept version of URS
- Final version of project plan

Iteration 1 (From week 5 until week 10) 10 March - 13 April

The first building phase. Here we will work on the solution for the first time, and build the first features.

Deliverables:

- Updated URS
- Working application(s) + source code
- Updated work division report
- Plan for iteration 2.

Calibration Session (Week 11) 21 April - 28 April

Here we refocus ourselves and evaluate the direction of the project.

Activities:

- Present proof of concept to board of tutors
- Calibration session about how to proceed
- Update URS

- Create design document

Deliverable:

- Updated URS

Iteration 2 (From week 12 until week 14)

The second iteration. We build additional features critical to the program. We hope to finalize the simulation process by the end of this phase.

Deliverables:

- Updated URS
- Updated design document
- Updated working application(s) + source code + unit tests
- Updated work division report
- Plan for iteration 3.

Iteration 3 (From week 15 until week 17)

The final iteration. Here we build features that improve the user experience.

Deliverables:

- Final URS & design document
- Source code of final product
- Unit tests of final product
- Final product
- Final version of work division report
- Process report (including work division)

End phase (From week 18 until week 19)

The final re-evaluation stage. Marks are received.

Activities:

- Process report
- Presentation

- Final meeting about marks