

Course: ProCP

Date: 06 September 2019

# PROJECT PLAN

AIRPORT LUGGAGE SIMULATION



Group: 3

Tutor: Chung Kuah

Students: Nadya Cheperkova

Subhi Hamidi

Mohammad Baghban Haghighi

Dimitar Parpulov

Himanshu Kotai

Gael Shema



# CONTENT

- CONTENT ..... 2
- PROJECT STATEMENT..... 3
  - Formal Client ..... 3
  - Project leader ..... 3
  - Project Roles and responsibilities ..... 4
  - Current Situation ..... 4
  - Problem Description ..... 4
  - Project Goal ..... 5
  - Project Deliverables and Non-deliverables ..... 6
  - Project Constraints..... 6
  - Project Risks ..... 7
- PHASING..... 8
  - Phase 1: Kick-off phase..... 9
  - Phase 2: Initiation ..... 10
  - Phase 3: Iteration 1; Phase 4: Iteration 2; Phase 5: Iteration 3; ..... 11
  - Phase 7: Closure ..... 12
- PROJECT MANAGEMENT APPROACH ..... 13



## PROJECT STATEMENT

The purpose of this document is to describe the process of creating an Airport Luggage Simulation. Firstly, the formal client for whom this simulation is implementing is described. Secondly, the people involved in the project are introduced and their roles and responsibilities regarding the final product. Moreover, the project is well described by clearly defining the current situation, the problem description, and the goal. The deliverables that the team is going to provide at the end of the project are presented as well as the non-deliverables. Additionally, the project constraints and risks are determined and well explained. Finally, the phasing of the project is illustrated with the needed explanation and the working approach of the team.

### Formal Client

SIM Software Inc. is a fast-growing company aiming at innovative solutions for simulation problems. Chung Kuah who represents the board of management from SIM Software Inc., is going to monitor the whole working process.

#### Contact information

**Chung Kuah**

Phone: +31885074156

Email: c.kuah@fontys.nl

### Project leader

The team leader is Mohammad Baghban Haghighi who has experience in software development and project management.

#### Contact Information:

**Mohammad Reza Baghban**

Phone number: +(31) 68526426

Email: Mrbhmr@gmail.com



## Project Roles and responsibilities

**Chung Kuah** – Product Owner

**Mohammad Baghban Haghighi** – Team Leader/Developer

**Nadya Cheperkova** – Usability Expert/Developer

**Subhi Hamidi** - Tester/Developer

**Dimitar Parpulov** – Business analytics/Developer

**Himanshu Kotai** - Quality Assurance/Developer

**Gael Shema** - Researcher/Developer

## Current Situation

In the last few years, SIM Software Inc. has focused on traffic simulation software, but the company would like to extend its expertise to cover a broader area of simulation software. Hence, the enterprise asks for other project proposals in the area of simulation software. Our group of young innovative software professionals is requested to create an application in the form of Airport Luggage Simulation.

## Problem Description

Connecting flights, departures, arrivals, customs, security checks are only several of the processes that very commercial airports use to regulate “traffic”, yet the most careful and tedious process is that of the luggage transportation. A number of faults or complaints about airports have come from the fact that people have either lost their luggage due to a very inconsistent luggage transport system or they have problems with the security checks. Moreover, waiting for a bag is also a big issue especially when people are in a hurry.



## Project Goal

The purpose of this Airport Luggage Simulation is to provide SIM Software Inc. with more insights into how luggage is handled for both arrivals and departures. In order to test the flexibility of such a simulation, the process will be introduced to external events to provide different results completely randomized. Processing an extreme amount of luggage over a short amount of time is a top priority for the simulation. When it comes to luggage, the application will record possible data such as:

- Luggage weight
- Destination information(gate,terminal,etc)
- Arrival/Departure
- Luggage activity
- Delayed/Cancelled

In case of a suspicious activity being recorded, luggage may be removed from a conveyor belt. In such situations, a real-time location of the luggage will be implemented, so as to alert the security officer and in turn brief the passenger on the status of his/her luggage. The luggage will be transported to a security area for further investigation (not part of the simulation). In various points of the simulation, luggage will be introduced to checkpoints. Checkpoints can include, security check, tag scanners, storages, and the end point.

**Statistic panels** will be used to visualize output that will act as information to determine areas for improvement. Such information includes the number of simulations performed per minute, number of bags processed over the course of an hour, number of faults caused by external events, and a number of successful simulations performed in a minute.

**Configuration Panels** will serve the purpose of adding external events to the simulation, employment, and carts addition, baggage claim additions, and checkpoint additions mainly to determine a difference in luggage regulation.

**Simulation filters** will be used to find luggage currently in the simulation that are under the chosen filters.

**Luggage information pop-ups** will be opened upon viewing a luggage to view its details.

**Save/Load simulations** will be a feature to save previous simulations for further investigation.



## Project Deliverables and Non-deliverables

### Deliverables:

- Proposal for the simulation application
- Project plan
- URS document
- Design document
- Process report
- Work division report
- Proof of concept and its source code
- Prototype and its source code
- Final product and its source code

### Non-deliverables

- Manual on how the program should work
- The communication proof of team members.
- Maintenance after the final evaluation

## Project Constraints

### Constraint 1: Time

The project must be completed within 20 weeks.

### Constraint 2: Scope

The final product will be a simulation but not an actual working system.

### Constraint 3: Programming Language

The programming language that is going to be used is C# and WPF framework for the front-end.

#### Constraint 4: Language

English will be the main language.

#### Constraint 5: Operating system

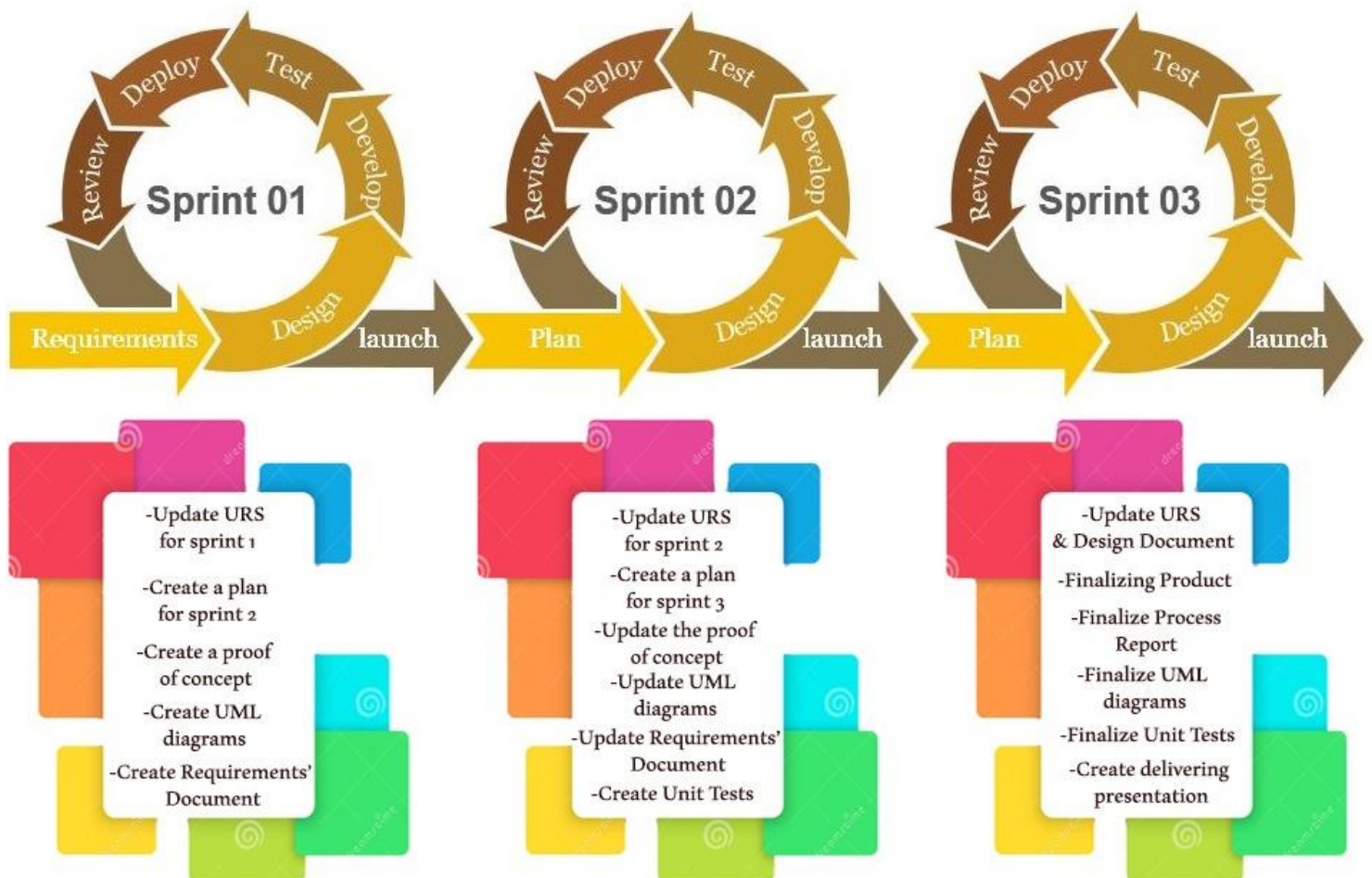
The application will be working only on Windows.

### Project Risks

Risk	Probability	Impact	Mitigation
Incapability to finish on time.	Low	Medium	Carefully plan what functionalities we will develop for each iteration and have a MoSCoW table. Negotiate with the client to reduce the requirements
The client asks for changes in the project requirements.	Medium	Medium	Create a list of functional requirements and non-functional requirements and get the client to agree upon it.
The program has minor bugs that affect the operation of the simulation.	Medium	Low	Minimize the effect of the bug as much as possible.
A team member is unable to continue the work with the team.	Low	High	If it happens, redo the work division to match with the current resources.

## PHASING

### Project Phasing graph using the agile methodology





## Phase 1: Kick-off phase

During this first phase, the project objectives are identified.

### Activity: Proposal for an application

Tasks for the activity are:

- Form the group and meet the tutor
- Choose a Project Leader
- Schedule time for group meetings
- Evaluate the provided information of the project
- Think of an idea for a simulation
- Research algorithms/methods/frameworks that can be used in the application
- Create a short presentation to present the idea

Estimated working hours: 6 hours

### Activity: Create a Project Plan

Tasks for the activity are:

- Divide the tasks among the team members
- Define the current situation, the problem description, and the desired result
- Identify the deliverables and non-deliverables
- Determine the risks and the project constraints
- Illustrate the phasing with the needed explanation
- Agree upon the working methodology

Estimated working hours: 10 hours

### Activity: Create a concept version of URS

Tasks for the activity are:

- Determine predefined rules
- Create basic use cases



Estimated working hours: 8 hours

Estimated duration is from 07-09-2019 until 16-09-2019

**Deliverables for Milestone 1:**

- Simulation proposal
- Final version of a Project Plan
- Concept version of URS

## Phase 2: Initiation

During this second phase, the requirements need to be determined

Activity: Discuss Project Plan with the tutor

Tasks for the activity are:

- Receive a feedback
- Improve upon the feedback
- Brainstorm new ideas


Estimated working hours: 2 hours

Activity: Create a plan for iteration 1

Tasks for the activity are:

- Discuss the activities for iteration 1
- Create the layout and structure of the plan
- Divide the tasks
- Schedule meetings

Estimated working hours: 8 hours



#### Activity: Update URS

Tasks for the activity are:

- Receive a feedback and improve upon it
- Prioritize requirements
- Improve use cases and create new ones if needed

Estimated working hours: 4 hours

#### Activity: Create a work division report

Tasks for the activity are:

- Create roles and responsibilities
- Update contribution
- Determine the workflow

Estimated working hours: 2 hours

**Estimated duration is from 16-09-2019 until 30-09-2019**

#### **Deliverables for Milestone 2:**

- Final version of plan for iteration 1
- Updated version of URS
- Work division report

### **Phase 3: Iteration 1; Phase 4: Iteration 2; Phase 5: Iteration 3;**

Since the Agile approach is going to be used, it is impossible to determine the activities that will take place because each phase is dependent on the preceding one. The graph above illustrates the three iterations



## Phase 7: Closure

Activity: Finalize the product

Tasks for the activity are:

- Finalize and hand in all deliverables

Activity: Present the final product in the form of a demo

Tasks for the activity are:

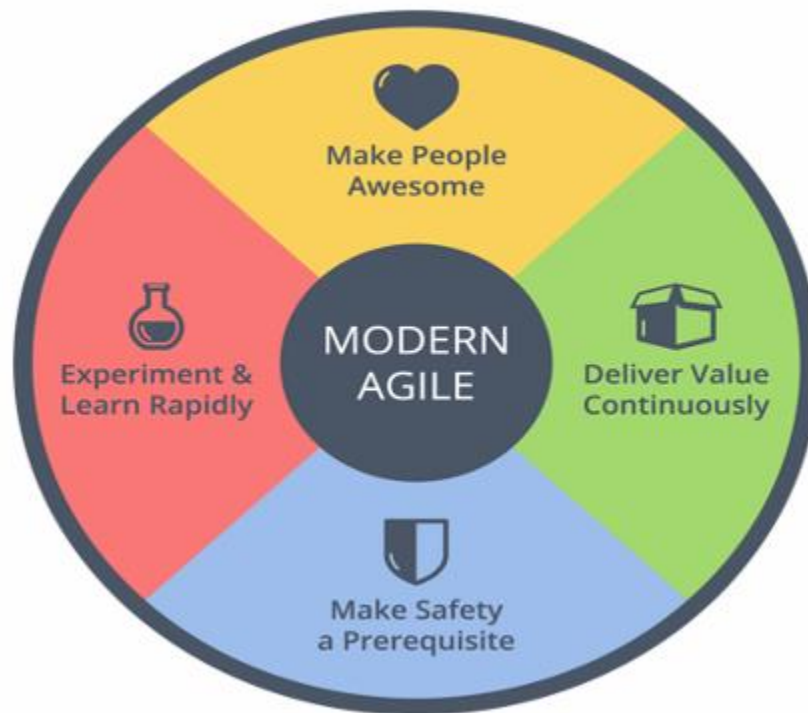
- Create a presentation

Estimated duration is from 20-01-2020 until 01-02-2020

Deliverables for Milestone 6:

- All deliverables
- Final presentation

## PROJECT MANAGEMENT APPROACH



**The methodology** that is going to be used is Agile. Agile is a process by which the team can manage the project by breaking it up into several stages and involving continuous improvement and iteration at every stage. The purpose of using Agile methodology is to give a proper structure to the development process of our simulation product. The reason behind this is to preserve from Agile core values. Especially, incremental progress because Agile methodology embraces features within the sprint.

Moreover, **JIRA** is going to be used as our monitoring tool for observing our progress within the project by using its extensive tools for organizing backlog and managing our sprints.