# ProCp project plan

## Airport Luggage Simulation

**Airport Solutions**

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# Project Statement

In this document we provide information regarding the motives for creating such project and the goals for achieving it. The following subjects will be described in the subsequent pages: formal client, the project leader, project scope, current situation, the goal of our project, the deliverables and non-deliverables, the constraints, the risks and the phasing parts of the project.

# Formal Client and Mentor

Name: Emin Thaqi
Email: e.thaqi@fontys.nl

# Project Team

| Member | Student Number | Email |
| --- | --- | --- |
| Yanis Dimov | 3258033 | y.dimov@student.fontys.nl (Project leader) |
| Kaloyan Dragiev | 3214311 | k.dragiev@student.fontys.nl |
| Rosen Panayotov | 3334643 | r.panayotov@student.fontys.nl |
| Nikolay Kolev | 3235106 | n.kolev@student.fontys.nl |
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# Current Situation

We represent a company called Airline Solutions. We are asked by our client SIM Software Inc., to provide a software which is expertise to cover a simulation about the airport luggage transportation. An application will be needed to provide randomizations that stimulate certain external events.

# Problem Description

Our client needs fully system software application to handle the airport luggage simulations. The company has not used software solution for this issue and our aim is to come up with a proposal. An automated app would be very beneficial to the client as it offers real life cases where the actual situation, determined by the user, occurs and represents the consequences virtually. The application itself will consist a lot of algorithms which will be implemented. Target users can perform different scenarios on the simulation and based on the outcomes, a real life decision can be made. The client needs working application and a

database from which he/she can store simulations models and respectively load previously stored models.

# Project Scope

## Project Goal

Our goal is to create an application for the company SIM Software Inc.. This application will be able to simulate airport luggage transportation based on given real world objects. Our team aims to implement real life conditions virtually. For example, customer will be able to change the weather, intensity of the planes landing and departing, changing the speed of the simulation and save, open or load simulations. Last but not least, statistics about the simulation itself will be present such as planes moving, delivered baggage and current speed. Further features may be added if required.

## Target Group

All the people involved in the SIM Software Inc. using the simulation software provided by Airplane Solutions. Moreover, our application will be very simple and easy to use in order to make it effortlessly to interact with even for unqualified IT employees.

## Stakeholders

- The project team, all members of the team.
- The formal client Mr. Emin Thaqi.
- The company SIM Software Inc.

## Deliverables and Non-Deliverables

The project deliverables are listed in order below:
- A project plan
- User Requirements Specifications containing both functional and non-functional requirements
- Design Document containing UML class diagrams and UML sequence diagrams and description
- An application implemented in C#, which will be able to simulate airport luggage transportation based on real world data. For example, user will

determine the weather: cloudy, sunny, snowing. In addition, the intensity of planes landed can be changed by the user as well. Simulation should be able to be paused, saved, resumed and even open previous ones.
- A database used to store and load data for the simulations
- A presentation about the project

The project non-deliverables are:
- Computers
- User Manual

# Project Constraints

**Constraint 1**: **Time**
The project must be completed within 6 months.
**Constraint 2**: **Resources**
Resources(Funds/Employees) may be insufficient.
**Constraint 3**: **Tutor Satisfaction**
Using tutor's feedback to improve constantly our duration of the project.
**Constraint 4**: **Scope**
Determine what are the deliverables and non-deliverables at the beginning of the project.

# Risks

Risk Analysis:
In terms of risk management, the document refers to the fact that each risk needs to be understood, analyzed and prevented in order to have a successful outcome. The main purpose for risk prevention is to prevent the project from fail.
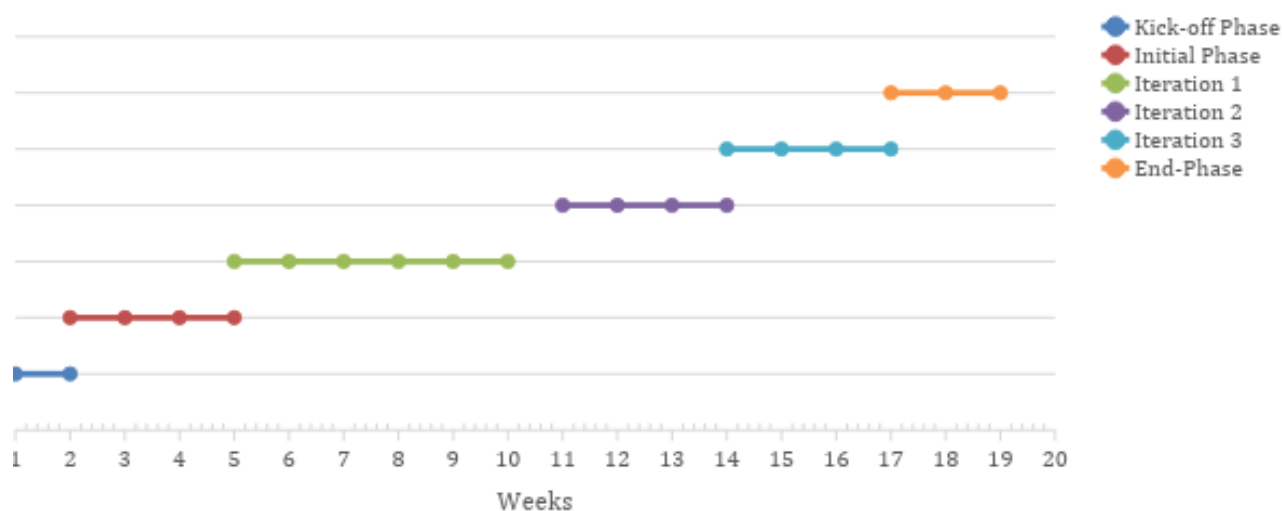- Initial Risk Log
- High - Medium – Low

| Risk ID | Description | Impact H/M/L | Prob. H/M/L | Control measurement |
|---|---|---|---|---|
| 1 | Bad interpretation of assignment | H | M | Review the documentation and ask questions on time. |
| 2 | Team members' illness and absence. | M | M | Revise tasks, split them differently and assign everyone to a task. Keep informed all members and tutor about attendance. |
| 3 | Deadlines are not met | M | L | Regular meeting with client and team meetings to analyze what is done and assign task to each member. |
| 4 | Data loss | M | L | When you do changes always push them to git repository. |
| 5 | A lot of exception and bugs in the app | H | M | During second period focus on coding and improving the app constantly. Try to prevent exceptions from occurring. Perform numerous unit tests. |
| 6 | Bad documentation | H | L | Use tutor's feedback to improve your documentation on time. Have regular team meeting. |

# Project Phasing

Below are described the phases of our project, with the activities and milestones. This is a visual overview of the tasks their dependencies and milestones. The project will take 20 weeks to be completed.

## Project Phasing



| Phase | Week number | Actions | Deliverables | Work distribution | Meetings |
|---|---|---|---|---|---|
| | 1 | Form a group, work on conceptual project plan, make proposal for application | project plan v1, proposal for application | Logo – Nikolay Kolev Project Plan- Yanis Dimov Proposal for application- Rosen Panayotov, Kaloyan Dragiev, Nikolay Nikolaev | Group meeting |
| | 2 | Update Project Plan ( include phasing part) , start working on URS v1, | Project plan updated version, URS v1, Progress Report | Project Plan( phasing part) – Rosen Panayotov URS- Yanis Dimov, Kaloyan Dragiev, Nikolay Nikolaev, Proposal- Nikolay Kolev | Tutor meeting Group meeting |
| | 3 | Create conceptual version of iteration 1, update the initial URS, discussing Project Plan | URS v2, initial version of iteration 1 | URS, iteration 1- all members | Group meeting, Tutor meeting |
| *Kick-off and initial phase* | 4 | Discuss and update Iteration 1 and URS, update Progress Report | Updated version of iteration 1 and URS, updated Progress Report and work division, | Iteration 1- Kaloyan Dragiev, Yanis Dimov, URS- Nikolay Kolev, Nikolay Nikolav Progress Report - | Tutor meeting Group meeting |

| | | | | Rosen |
|---|---|---|---|---|

| | # | | | | |
|---|---|---|---|---|---|
| *Iteration 1* | 5 | Receiving feedback from tutor about URS, make changes according to the tutor's opinion to the URS | Final update of URS, proof of iteration 1 | URS- all members | Client meeting Tutor meeting Group meeting |
| | 6 | Start coding and creating plan for iteration 2 | Conceptual plan for iteration 2 | Iteration 2 plan- all members | Group meeting, Tutor meeting |
| | 7 | Create UML class diagram, continue coding | Final version of iteration 1, proof of concept | UML class diagram- all members | Group meeting Tutor meeting |
| | 8 | EXAM WEEK | - | - | - |
| | 9 | EXAM WEEK | - | - | - |
| | 10 | Hand in the deliverables for block 1. | Agenda's and minutes of every meeting- summarized UML class diagram, non-trivial sequence diagrams and all documents prepared during first block revised. | - | Group meeting (?) |
| *Iteration 2* | 11 | Create design document, present proof of concept | Updated URS, Design document, test plan for iteration 2 | Iteration 2 plan- Rosen Panayotov, Yanis Dimov, Kaloyan Dragiev, URS- Nikolay Kolev, Nikolay Nikolaev | Group meeting, Tutor meeting |
| | 12 | Continue coding and testing the simulation app. Update URS and iteration 2 plan | Updated iteration 2 plan, Improved application | Working on the application- all members | Group meeting, Tutor meeting, Client meeting |
| | 13 | Working on test | Prototype of the | Prototyping- all | Group |

| | | | | |
|---|---|---|---|---|
| | report of iteration 2, source code of prototype, prototyping | app, test report of iteration 2, Prototype | members, Iteration 2 Report- all members | meeting, Tutor meeting |
| 14 | Finalizing URS, working on final version of iteration 3 plan, unit testing of prototype | improved URS, Final version of iteration 3 plan, source code, | URS- Kaloyan Dragiev, Rosen Panayotov, Yanis Dimov, Iteration 3 plan- Nikolay Kolev, Nikolay Nikolaev | Group meeting, Tutor meeting, Client meeting |
| 15 | Finalizing the URS, completing Progress Report | Complete URS, Progress report | Progress Report- Rosen Panayotov, Kaloyan Dragiev, URS- Nikolay Kolev, Nikolay Nikolaev, Yanis Dimov | Group meeting, Tutor meeting, Client meeting |
| 16 | Finalizing design document, make test report for iteration 3 | Design Document, test report for iteration 3 | Design Document- Rosen Panayotov, Nikolay Nikolaev, Iteration 3 Report- Kaloyan Dragiev, Yanis Dimov, Nikolay Kolev | Group meeting, Tutor meeting, Client meeting |
| 17 | Finalizing the product, Unit testing the final version of product, | Final product without bugs, successful unit tests, source code | Unit testing the app- all members | Tutor meeting Group meeting |
| 18 | - | - | - | - |
| 19 | Present the whole project in a presentation to the client (either week 18 or 19) | Presentation about the project | Presentation- all members | Tutor and client presentation |
| 20 | - | - | - | - |

*Iteration 3* (rows 14–18) and *End-Phase* (rows 19–20) are labeled in the leftmost column.

# Phase 1: Kick-off Phase

During the first phase of the project our team will come up with a proposal for application, schedule our meeting both with group members and tutor or client. During this phase some research has to be made. For instance, what algorithms can be implemented in the application. In addition, our team must decide on the design of the application. Think of functionalities that may improve customer and organizer's experience. During this stage of

the project our team will also prepare a proposal for the client and dependant on his response decide on several design/performance solutions.

**Tasks for the activity:**
- Create a project plan.
- Create concept version of URS
- Discuss how each part of the application should work
- Discuss (non-)functional requirements
- Research the to-be implemented algorithm/application
- Keep track of team's progress (process report)

**Deliverables for this phase:**
- Project plan
- Concept version of URS

**Estimated duration**: 2 weeks

# Phase 2: Initial Phase

During the second phase we will focus on improving and finalizing the Project Plan and how the duration of the whole project should go. In addition, tutor will give us his opinion on our team's URS and we will get a better view of how it should be designed and modelled. Moreover, our team will have a discussion about the plan for iteration 1 and the outcome should be a report about it. Improving the design of the documents is also part of this phase.

**Tasks for the activity:**
- Create a plan for iteration 1
- Update URS
- Discuss Project Plan and improve it
- Include work division part in Progress Report

**Deliverables for this phase:**
- Final version for iteration 1
- Updated URS
- Progress Report including work division

**Estimated duration**: 2 weeks

# Phase 3: Iteration 1

During this phase, we should show the final version of URS for iteration 1 to the tutor and start discussing the plan for iteration 2. UML-class diagram(s) and sequence diagram(s) are necessary in order to get a better picture of how the whole application should work. That step is compulsory, before proceeding to coding. If we manage to achieve precise UML-class diagram(s) and tutor agrees on our proof of concept, we can start coding in order to have spare time if bugs occur in the long term. Lastly, this is the last phase for the first part of the project and we should send all the documents developed through the phase to the tutor for feedback.

**Tasks for the activity:**
- Update URS
- Create concept version of iteration 2 plan
- Create UML-class diagram(s)

- Start designing sequence diagram(s)
- Start coding

**Deliverables for this phase:**
- Concept version of iteration 2 plan
- Updated URS
- Proof of concept
- Final URS for iteration 1
- Source code
- UML-class diagram(s)
- Final version for iteration 2 plan
- Non-trivial Sequence diagram(s)

**Estimated duration**: 4-5 weeks

# Phase 4: Iteration 2

During iteration 2 phase, we should show the final version of URS for iteration 2 to the tutor and start discussing the plan for iteration 3. This phase is the first for the second part of the project and we should be focused more on the app rather than the documents. We should arrange regular weekly meeting with the tutor in order to show him our prototype and keep track of our progress. Moreover, if we happen to bump into a trouble we can ask for his help. First weeks we should finalize our iteration 2 report and start working on the conceptual 3rd part of iteration. Unit testing is needed as well in this phase.

**Tasks for the activity:**
- Update URS
- Continue coding
- Create plan for iteration 3
- Unit testing the application
- Prototyping
- Create Test Report for iteration 2

**Deliverables for this phase:**
- Concept version of iteration 3 plan
- Source code of Prototype
- Prototype
- Test report for iteration 2
- Final version for iteration 3 plan

**Estimated duration**: 2-3 weeks

# Phase 4: Iteration 3

This phase is one of the last steps before submitting the overall project. If we have changed something in the design of the application itself we should update the documents. During the first week, we should have the test report for iteration 3 ready. Progress report must be updated and outline our activities during the whole course. Last week, our product has to be ready and all the unit testing finished.

**Tasks for the activity:**
- Update URS

- Finish coding
- Improving the final product
- Unit testing the application
- Prototyping
- Create Test Report for iteration 3

**Deliverables for this phase:**
- Report of iteration 3
- Source code of final product
- Progress Report
- Final product

**Estimated duration**: 2-3 weeks

# Phase 5: End-Phase

This phase is taking place in week 18 or 19 and we should have handed in all the document and the final product to the tutor. A presentation has to be made in order to give a brief description of what we did, what we learned and how we managed to accomplish our goal during the whole duration of the course. Lastly but not least, tutor and client will give us their opinion on how we did and individual reflections on all the members.

**Tasks for the activity:**
- Hand in all deliverables for the course
- Prepare presentation
- Show demo of the working application

**Deliverables for this phase:**
- All documents and app sent to tutor
- Presentation

**Estimated duration**: 1 week