MÄLARDALENS HÖGSKOLA
ESKILSTUNA VÄSTERÅS

Project Plan Document

Mälardalen University
Academy of Innovation, Design and Engineering
Project name: Graphical Project Portfolio Management Web Application
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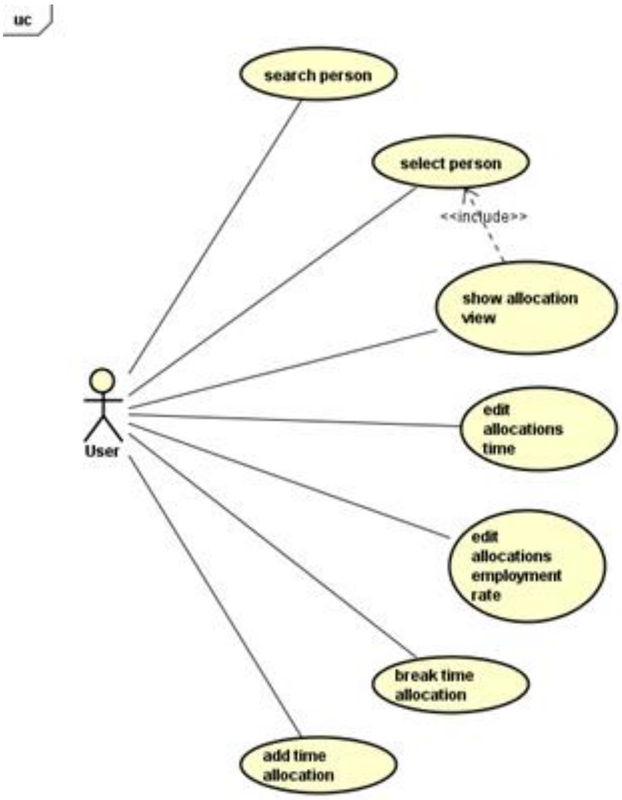
1. PROJECT INTRODUCTION

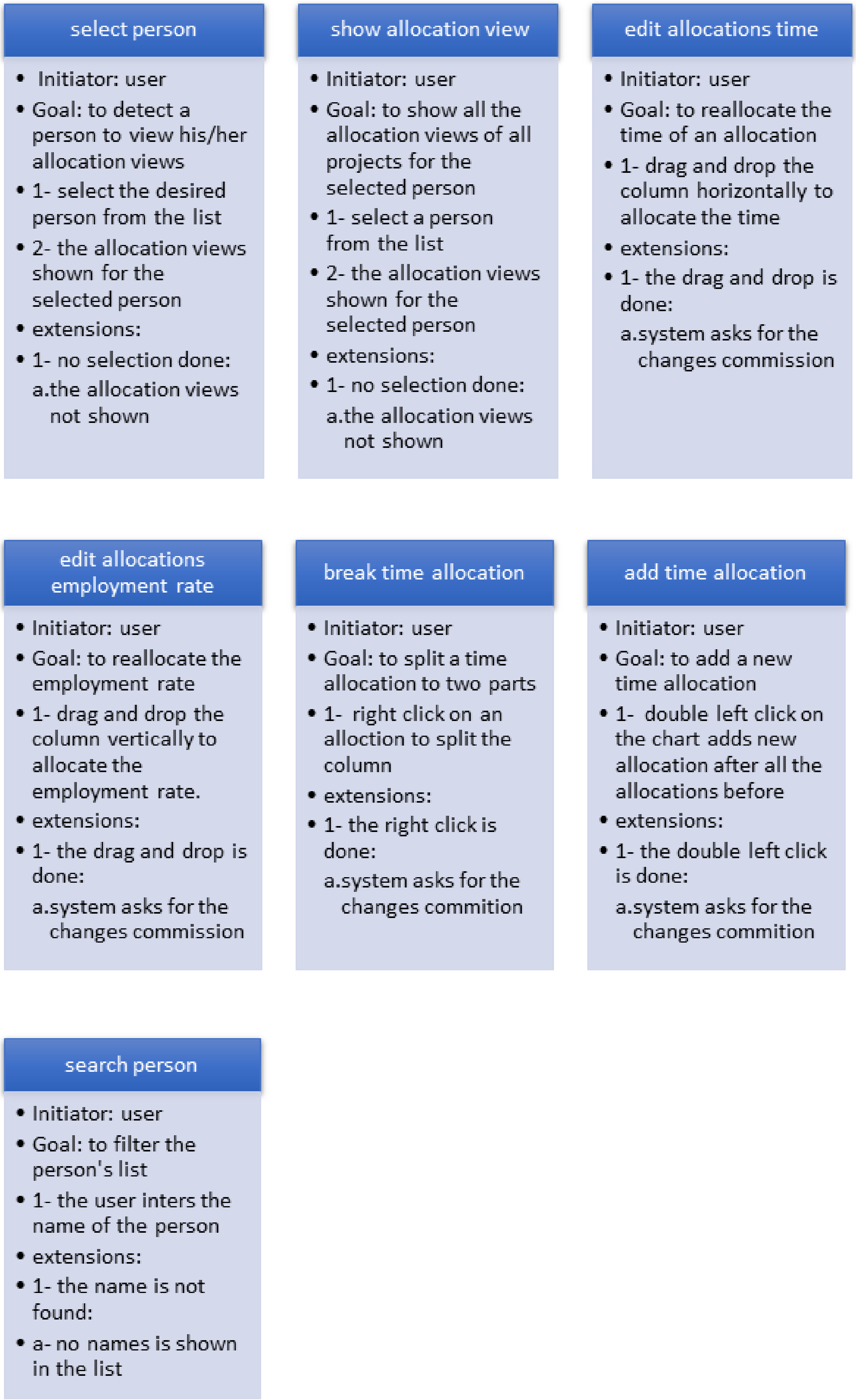
The aim of the entire project is to create a web-application which goal is to make it easier for our client to manage their staffing. Our client Daniel Sundmark is working with different projects at Mälardalen University. One of the projects is to allocate staff between different projects. By 'manage their staffing' our client wants to be able to set an individual duration of time on a project but also set how much percentage of their time this person is to spend on the project. Therefore, this software will be a helpful tool to the client. The program already exists in a windows application. However, the client would prefer having a web-application with a more usable interface. Therefore, we are to create an application which in a more graphical appealing but also understandable way manage both duration and percentage. From the client we received an already existing database and the code for the windows application.

1.1 Use Case Diagram

To illustrate what our client wants from the web application we created a use case diagram using the tool Astah. In the diagram it is plausible to see all the functionalities that the user can access in the system.



Picture 1. Use Case Diagram



select person

- Initiator: user
- Goal: to detect a person to view his/her allocation views
- 1- select the desired person from the list
- 2- the allocation views shown for the selected person
- extensions:
- 1- no selection done:

  a.the allocation views not shown

show allocation view

- Initiator: user
- Goal: to show all the allocation views of all projects for the selected person
- 1- select a person from the list
- 2- the allocation views shown for the selected person
- extensions:
- 1- no selection done:

  a.the allocation views not shown

edit allocations time

- Initiator: user
- Goal: to reallocate the time of an allocation
- 1- drag and drop the column horizontally to allocate the time
- extensions:
- 1- the drag and drop is done:

  a.system asks for the changes commission

edit allocations employment rate

- Initiator: user
- Goal: to reallocate the employment rate
- 1- drag and drop the column vertically to allocate the employment rate.
- extensions:
- 1- the drag and drop is done:

  a.system asks for the changes commission

break time allocation

- Initiator: user
- Goal: to split a time allocation to two parts
- 1- right click on an allocation to split the column
- extensions:
- 1- the right click is done:

  a.system asks for the changes commition

add time allocation

- Initiator: user
- Goal: to add a new time allocation
- 1- double left click on the chart adds new allocation after all the allocations before
- extensions:
- 1- the double left click is done:

  a.system asks for the changes commition

search person

- Initiator: user
- Goal: to filter the person's list
- 1- the user inters the name of the person
- extensions:
- 1- the name is not found:
- a- no names is shown in the list

Picture 2. Further Explanations of Use Case Diagram

1.2 System Users

From client request, they will be the only user of the system. It might be in need for further development to include other users as well. Our client, which for now, is also the main user of the web application, will be responsible for managing project staffing. They will be able to access all the cases found in the use case in *Picture 1*.

1.3 Constraints and Non-Functional Requirements

This project is by client request, free from constraints. The only thing that could be seen, as a somewhat constraint is that the web application should be suitable for the Google Chrome-browser. However, there are a few non-functional requirements. The main goal of the project is to make the web application easy to use and therefore, us as group need to put a lot of focus on the usability. The application should be easy to understand and work with. We will also aim for adaptability since we assume that the system will be developed further in the future. Therefore, we focus on a good structure on the code – doing refactoring each sprint.

1.4 User Requirements (initial backlog)

The main focus of the project is the functionality in the *allocation view*, i.e. when a system user has selected a person in the allocations tab. The allocation view is the view where a system user can manipulate the allocations of time (both in number of days and percentage of employment rate) for all the projects a person is working on. The requirements elicited so far is shown in *table 1*:

ID	Description	Importance
1	One must be able to select a person from a list of persons to display that's person's allocation view	100
4	One must be able to double click on a person's allocation view to initially allocate some amount of time	90
5	One must be able to click and drag the allocation horizontally to allocate time	90
6	One must be able to click and drag the allocation vertically to allocate the employment rate	90
7	One must be able to break an existing allocation to specify different employment rates for different time periods	90
8	The allocation view must contain all the projects that the user is currently working on	85
10	The allocation view must contain a total timeline that displays the summation of all the separate allocations	85
3	The allocation view must contain some calendar or timeline in the background for the individual projects	80
9	The allocation view should only contain projects with active allocations	80
11	The allocations should be snapped automatically to end of each month	80
12	The allocations view should be zoomable to facilitate the allocations and overview for a specific project	70

13	The system must ensure that a system user can’t allocate time that exceeds the projects end date	70
14	The system must ensure that a system user can’t allocate an employment rate that exceed full time	70
2	One must be able to search for a user in the persons list	40
15	The system should be able to generate a report over a person’s allocations that a system user can save in a certain file format	20
16	A view over a specific project that displays all the persons and their allocations would be a nice feature to have	20

Table 1. Initial user requirements

2. PROJECT MEMEBERS AND ROLES

The project group consists of the following members including their roles and initial responsibilities:

Zaid Abed Jaser, Bachelors Programme in Computer Science, Mälardalen University.
Role: Developer.
Responsibilities: Back-end. Documation Creator

Filip Andersson, Bachelors Programme in Computer Science, Mälardalen University.
Role: Developer.
Responsibilities: Front-end, PowerPoint creator – i.e. creating templates for presentations and meetings, making sure that they are up to date.

Matko Butkovic, Masters Programme in Software Engineering, Mälardalen University.
Role: Developer.
Responsibilities: Back-end development.

Osamah Al-Braichi, Bachelors Programme in Computer Science, Mälardalen University.
Role: Developer
Responsibilities: Back-End, Documation creator.

Christoffer Parkkila, Bachelors Programme in Computer Science, Mälardalen University.
Role: Developer.
Responsibilities: Partly responsible for the front-end development and to read up upon GIT and GitHub to be able to help with potential questions or issues. Also responsible for making sure people do their time report every week.

Mohammed Abusamaan, Masters Programme in Software Engineering, Mälardalen University.
Role: Developer
Responsibilities: Back-End & validation and verification – i.e. making sure we got solid test cases at the end of every sprint.

Sai Vijay Vemasani, Masters Programme in Software Engineering, Mälardalen University.
Role: Developer.
Responsibilities: Partly responsible for the front-end development and taking notes in the meetings and uploading them to OneDrive.

Erika Weilander, Bachelors Programme in Computer Science, Mälardalen University.
Role: Project Manager, client contact & developer.
Responsibilities: Keeping contact with client and steering group. Making sure that contact is stable and regular with client but also within the group. Mainly focusing on the UX and Front-End part of the development. Also, in control of the Trello board, making sure cards are up-to date and that everyone uses their cards in the most efficient way.

3. WORK PHILOSOPHY

Since this is a large project, we need a solid work philosophy. This consisting of regular meetings and a structured communication between group members. Without this, there would not be a foundation to start the project.

3.1 Meetings

We have a regular set-up with Monday meetings every week. Mondays will consist of three different meetings. First meeting is with the group where we discuss what has been done and what is to do for the following week. In addition to this, we set responsibilities for upcoming week. The second meeting is with the steering group where we present what has been done and where we are at. Lastly, we have an afternoon meeting with our client at the end of every Monday on the client request. During these meetings we present what has been done and what could be improved until next week.

3.2 Communication and Synchronization

To communicate among the group, we use Messenger chat via Facebook. Since everyone is on Facebook it is a very useful tool for communication. Another benefit is that is possible to see who is reading and keeping themselves up to date on the project.

3.3 Software Utilities for Activity Planning

Since we are eight people, it is hard to keep track on what everyone is doing. However, we have decided to work Agile and in sprints. Therefore, we use Trello – a canvas tool to show what to be done, what is in making and what is done. In Trello everyone is responsible for their own cards making sure they are up to date. By using this we can get an overview of how the sprints is going.

3.4 Configuration Management

For configuration management, we have decided to use the code repository GitHub for different group members to be able to work on different parts of the project simultaneously and merge the progress. When a part of the project has been developed, it will be pushed to a branch in the repository for testing before being merged to the master branch.

3.5 Verification and Validation

Whilst doing documentation, us as team members will make important bullet notes in a document. When we feel like we have covered everything, one or two will get the responsibility to write a coherent text. When eight people edit different parts, the language and structure will not be coherent and therefore, more difficult to read. When the writing is done, all group members must read the document and leave comments and feedback – which will be adjusted accordingly.

When it comes to testing, everyone in the group are responsible for continuous testing of their own code snippets while developing. However, at end of sprint the group get together and we test everything that has been done the past week and how the system interacts with each other. To reduce the bias, front-end developers will also test the back-end and vice versa. One group member will also be responsible for making sure we got test cases every week.

3.3 Time Reporting

The individual time all project members have worked and what was done during that time is recorded in an excel file. It is the individual's responsibility to update the file when work has been done. If they choose not to report their time, it will look like they have done less work. When adding time to the document, one is also responsible to leave a comment on what they have done.

All the activities to be done will also be given an estimated effort value, so the activities can be evenly distributed among the members of the group. The estimated effort value is decided by the group when the activity is derived.

4. DELIVERABLES AND DEADLINES

Since it is very early on in the project it is hard to determine all the deliverables. The ones that we got so far are listed in *Table 2* below. However, we find it of highest importance to mention that we will have deliverables at the end of the sprint every week. Some will be in the form of documentation but most of the weeks we will deliver a working piece of software. By every week we should have extended the functionalities of the software.

DELIVERABLE	FIRST DRAFT	DEADLINE
Project plan		2018-11-22
Detailed design document	2018-12-06	2019-01-17
Detailed design slides	2018-12-06	2019-01-17
Project report document		2019-01-17
Project report slides		
Final software product		2019-01-17

Table 2. Deliverables