



# PROJECT PLAN

Driessen

Langen, Tim

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## Version History

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## Distribution

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0.1	2024/09/10	Chua, Jessie; Langen, Tim

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# 1. Project assignment

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## 1.1 Context

Driessen, an employment agency for the government, education, and other meaningful sectors, has been working exclusively for vital sectors for over 30 years, and they are now one of the largest employment agencies in the Netherlands.

However, Driessen has a lot of home workers and office workers who share an office with limited space. Therefore, the team has been assigned the project to develop a system where users can reserve a table as an individual or a team; users can see who in their team is coming into the office or staying home; and users can see the availability of seats in the office space.

## 1.2 Goal of the project

This project's main goal is to develop a full-stack application that optimizes workspace usage and facilitates flexible work arrangements for users. By implementing key features such as scheduling, team management, room management, and room reservations, the system will allow the organization to efficiently manage their workspaces and teams. The system will enable users to:

- Reserve a workspace for the team or themselves.
- Schedule their work hours, including flexible and part-time arrangements, with the ability to mark remote or in-office days.
- Manage team memberships and roles to ensure proper collaboration and oversight.
- Enable administrators to oversee and configure users, teams, and room resources with ease.

## 1.3 Scope and preconditions

### 1.3.1 Scope

Inside scope	Outside scope
Log In	SSO (Single Sign-On)
Role Management	
Room Management	
Room Overview	
Team Management	
Team Overview	
Home/Office Overview	
Scheduling	
Reservation Management	
Notification System	
Recurring Reservation System	
Reservation Waiting List	
User Management	

## 1.4 Strategy

Scrum, a core component of agile methodology, divides software development into iterative cycles known as sprints, typically lasting between one to four weeks. In Scrum, teams engage in collaborative planning during sprint planning, conduct daily stand-up meetings to track progress, and review and adapt during sprint reviews and retrospectives.

The project adopts Scrum as its framework, leveraging its adaptability, collaboration, and emphasis on delivering value in short cycles. With sprint duration set at three weeks, the team strike a balance between rapid iteration and meaningful progress, enabling continuous improvement and timely delivery of value to stakeholders.

## 1.5 End products

Besides the requirements that has been handed to the team by the client, the curriculum of the Bachelor: ICT Software & Engineering establishes the end products in the deliverables of each sprint on Canvas. The following are the end products of the project.

### 1.5.1 Full-stack application

The team must submit a full-stack application with Minimum Viable Product (MVP) features implemented. Furthermore, the full-stack application must contain the requirements that the client has established, which are listed below:

- Login
  - Username/password
- System
  - Role management
- Room
  - Room management
  - Room Overview
- Teams
  - Team management
- User
  - Schedule
- Reservation system
  - Notification System
  - Recurring reservation system
- Admin
  - Create users
  - Link any user to any team

### 1.5.2 Documentation

The team must document various components of the project. The documentation that is expected to be delivered has been established in the curriculum, and the required documentation is listed below:

- Project plan
- Applied research document proposal
- Cultural awareness
- Final applied research document

## 2. Project organisation

### 2.1 Stakeholders and team members

#### 2.1.1 Stakeholders

Name	Abbreviation	Role and function	Availability
Langen, Tim <a href="mailto:Tim.Langen@driessen.nl">Tim.Langen@driessen.nl</a>	-	Client	Tim Langen can be contacted

			throughout the week via e-mail, except for Fridays to Sunday
Chua, Jessie <a href="mailto:j.chua@fontys.nl">j.chua@fontys.nl</a>	CHUJ01	Semester Coach	Jessie Chua will be present in class on Monday and Tuesday from 9:00 a.m. to 12:00 p.m. Otherwise, Jessie can be contacted through e-mail or Microsoft Teams

### 2.1.2 Team members

Name	Abbreviation	Role and function	Availability
<b>Sanchez, Francisco</b> <a href="mailto:f.sanchez@student.fontys.nl">f.sanchez@student.fontys.nl</a>	FAS	Product Owner, Software Developer	Francisco Sanchez can be contacted throughout the week, except for the weekends
<b>Thomas, Gilton</b> <a href="mailto:g.thomas@student.fontys.nl">g.thomas@student.fontys.nl</a>	GT	Scrum Master, Software Developer	Gilton Thomas can be contacted throughout the week, except for Saturdays
<b>Goncalves Pestana, Jose Cristiano</b> <a href="mailto:j.goncalvespestana@student.fontys.nl">j.goncalvespestana@student.fontys.nl</a>	JCGP	Software Developer	Jose Cristiano Goncalves Pestana can be contacted on Monday, Tuesday, and Thursday after 5:00 p.m., and he can be contacted on Wednesdays and Fridays
<b>Werneck Roale, Miguel</b> <a href="mailto:m.werneckroale@student.fontys.nl">m.werneckroale@student.fontys.nl</a>	MWR	Software Developer	Miguel Werneck Roale can be contacted on Monday, Tuesday, and Thursday after 5:00 p.m., and he can be contacted on Wednesday except for the timeframe from 10:00 a.m. to 11:30 a.m.

Le, Minh <a href="mailto:minh.le@student.fontys.nl">minh.le@student.fontys.nl</a>	HNM	Project Manager, Software Developer	Le Minh can be contacted throughout the week, except for Saturday, and Wednesday between 4:00 p.m. to 7 p.m.
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## 2.2 Communication

### 2.2.1 Microsoft Teams

The team has been encouraged to contact the semester coach on Microsoft Teams whenever the team members have a question for the semester coach and cannot locate her on campus at Fontys. Moreover, whenever a team member cannot be present in class due to unforeseen circumstances, the team member must contact the semester coach to inform her of their absence.

### 2.2.2 E-mail

The client, Tim Langen, is available through e-mail. An agreement has been reached with the semester coach to inform the client of our progress on the product backlog, sprint backlog, and project plan. Moreover, the team can contact the client to ask for information. However, the client has requested to be contacted solely by the product owner who will represent the team.

### 2.2.3 Discord

Collectively, the team had decided that Discord would be the medium for communication. Discord is an instant messaging and VoIP social platform which allows communication through voice calls, video calls, text messaging, and media and files.

The team has reached the decision to use Discord on Wednesdays due to the following: most of the team actively use Discord; Discord has the functionality to create servers where you can separate channels; and Discord has the functionality of voice channels where someone can enter a voice channel and wait for others to join instead of initiating the call until everyone picks up.

### 2.2.4 On-campus

Even though the team meet on Wednesday on Discord, the team can be found Mondays and Tuesdays on campus. Moreover, the team has the guidance of the semester coach on Mondays and Tuesdays, hence, the importance that the entire team is present on those days.

Furthermore, the team will submit tri-weekly sprints that contains the deliverables of defined sprint on JIRA. Jessie Chua will revise these deliverables, and she will hold a feedback session with the team.

Finally, the client, Tim Langen, has formally agreed to attend a meeting triweekly. When the client attends the meeting, the team will present the progress of the project, and receive input on the deliverables.

## 3. Activities and time plan

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### 3.1 Phases of the project

As the team has decided to follow the Scrum framework, the team will consider these common Scrum phases for the project:

- Initiation
- Planning and estimation
- Implementation
- Reviewing
- Releasing

### 3.2 Time plan and milestones

As the team is in the first phase of the project, the sprint backlogs and the deliverables have not been defined, except for, what is defined in the curriculum of the semester. The project plan is a living document, and the team will ensure that the project plan has been updated to contain the time plan and milestones before the updated project plan must be completed.

#### 3.2.1 Sprint A

- Acceptance criteria met for the project's architecture, e.g., the team has discussed with the client the architectural choices the team has made for the product
- First draft of the project plan complete and reviewed by semester coach
- The online agile management environment is ready for sprint B and the proper stakeholders have access.
- The product backlog has sufficient tasks and/or user stories (US) ready for the next sprint, reviewed, estimated and accepted by the product owner
- The team has a proposal of tasks/US for sprint B based on the results from their discussions with the client and the team's Planning poker session.

## 4. Testing strategy and configuration management

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### 4.1 Testing strategy

To ensure that the full-stack application is functioning properly, the team intends to implement the testing that has been established in the curriculum. The testing strategies are listed below:

- Unit testing
- Integration testing
- End-to-end testing
- Acceptance testing

### 4.2 Test environment and required resources

A CI/CD pipeline will be initialized in GitLab. Moreover, the team will incorporate SonarQube into the CI/CD pipeline, which enriches the testing environment by providing static code analysis and code quality metrics. SonarQube helps identify and mitigate code smells, bugs, and security vulnerabilities early in the development process.



By integrating SonarQube into the pipeline, it ensures that the code meets high-quality standards and is more resilient to potential issues, enhancing the overall reliability and maintainability of the full-stack application.

### 4.3 Configuration management

GitLab, a foundational tool in higher-level configuration management, will be used for the project. The software solution must be uploaded onto GitLab, where stakeholders can clone the repository.

The team must commit each feature of the software solution onto GitLab, but these changes must be committed in their appropriate branch. Only when these branches are completed can they be merged into a branch where these changes in code will be tested.

Finally, when the code has been tested, it will be merged into the main branch of the GitLab repository. This will ensure that the main branch will remain bug-free. Moreover, it will result in a clear overview of the changes made throughout the project, with each feature having a timestamp of when it was committed.

## 5. Risk

### 5.1 Risk and mitigation

The risks that could affect the project throughout its duration have been investigated and identified. To prevent the risk from being actualized, the prevention activities have been defined. Moreover, in case the risk eventuates, the mitigation activities have been defined. The following is a list of identified risks alongside the prevention activities and mitigation activities.

Risk	Prevention activities	Mitigation activities
1. The project team added their own product features that are not in requirements or change request	The requirements given by the client will be placed higher in priority than the features of the team	The project manager, product owner, and scrum master will investigate the cause to prevent it from occurring once more, and henceforth, the team must follow the prevention activities
2. Estimates are inaccurate	Prioritizing the functionalities will help in identifying the tasks that should be completed first	The product owner and the scrum master must enter discussion to re-evaluate the estimates
3. User Interface does not allow users to complete tasks	End-to-end tests will be conducted to ensure that the application functions as intended	Tasks that cannot be completed must be revised and fixed or placed on higher priority in the consequent sprint
4. Inputs from stakeholders that are low quality	The product owner will communicate with the client to elaborate on certain aspects of the project	The product owner can contact the client whenever uncertainties arise, and the team members require a higher quality input to continue with their tasks
5. Project team misunderstand requirements	Throughout the semester, at the end of each sprint, a sprint review is held where a	The product owner must contact the client to receive

	clarification can be given on the unclear requirements. Frequently, stand-up meetings will be held to ensure that team members do not face uncertainties in their tasks	a clarification on the unclear requirements
6. Under communication within the team	The scrum master has been tasked with holding stand-up meeting to keep the team members informed of all occurrences in the project	The project manager has been tasked with ensuring that the scrum master and product owner are executing their tasks
7. Impacted individuals are not kept informed	The product owner has the responsibility to keep impacted individuals informed on the progress of the project	The team members must confront the product owner who has failed to perform his responsibilities. Moreover, a choice could be made to remove the role from the team member
8. Learning curves lead to delays	The team member should contact the team to request help with their task. Tasks can be exchanged within the group if it does not lead to delays	Delays must be kept into consideration during the planning of a sprint
9. Team members who perform below expectations	Stand-up meetings will be held frequently to inform team members on the progress of the tasks	The team will confront the team member to resolve the conflict internally. If the conflict could not be resolved internally, then the semester coach will be informed about the situation
10. The team lacks motivation	The team has come to an agreement that their motivation dims at the end of the semester, therefore, the workload at the semester will be larger to reduce the workload at the end of the semester	The project manager, product owner, and scrum master must ensure that the workload has been completed at the end of each sprint
11. Technology components have security vulnerabilities	The top 10 list of OWASP informs software developers of the most critical security risks to web applications, and it provides preventative activities along with each item on the list	The team will refer to the top 10 list of OWASP to follow the preventative activities. Furthermore, the team must conduct research on the security vulnerabilities to understand the problem that must be solved