Fontys University of Applied Sciences
Eindhoven, The Netherlands

PROEP 2020

Project Plan

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Date: 08-10-2020

Project Group
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Management Summary

This document describes the project plan for Student Networking App which will be developed in the coming five months. Students with personal projects often find it challenging to find adequate group members who have the knowledge and/or experience required for the project. To solve this problem, the team has thought about a solution to connect the students.

The team will be developing an application for TU/e and Fontys students where they can create projects and recruit project members. By the end of the project, the team will deliver a distributed system including a database, web application, and service API. The service API acts as the hub to distribute the data through multiple platforms.

The biggest constraint of the project is that the system needs to be finished within five months (±20 weeks). One of the biggest risks of the project is that the team lacks sufficient knowledge and skills to realize the project. To uphold good quality the team has set up some rules. The project is going to be developed using the Scrum framework. The team has divided the entire project into four phases: initialization, research and design, implementation and testing, and finalization.

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Fontys University of Applied Sciences
Eindhoven, The Netherlands

1. Introduction

This is the project plan for the Student Networking App that will be developed. The main goal of the project is to develop a distributed system for students so that they can create personal projects and recruit team members that meet the required criteria (e.g. skills, experience, etc.)
This document defines the client, project leader, current situation, problem description, and the goal of the project. Moreover, the documents will look into the (non-)deliverables, project constraints and risks, the project phasing, and finally the management plan of the project.

2. Project Statement

This chapter will provide a quick overview of the project. Besides the project leader and the formal client, this chapter goes into the current situation and problem, the goal of the project, and the deliverables/non-deliverables. Other subjects that will be discussed include the project constraints, project risks, and project priorities.

2.1. Formal Client

The formal client of this project is Mariëlle Fransen, a teacher at Fontys University of Applied Sciences.

Contact information
Name: Mariëlle Fransen
Address: Rachelsmolen 1, 5612 MA Eindhoven
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Phone: +318 8507 2270

2.2. Project Leader and Team

Project leader
The project leader is Anh Le, a software engineering student from the ICT department, Fontys University of Applied Sciences, Eindhoven.

Name: Anh Le
Email address: ha.le@student.fontys.nl

Project team
The project will be conducted by a team of 6 software engineering students from ICT department. Working along with Anh Le are Rahul Annadurai, Barra Abd Al Fattah, Nguyen Bao Quoc, Lauren van Loo, Minh Hoang Nguyen.

2.3. Current Situation

Students often come up with their own projects that they would like to work on with other students besides school. Through these projects, students can gain experience and work on topics they are interested in or want to broaden their knowledge about. Students often also seek people from other departments who can contribute to the project with their specific set of skills and knowledge. For instance, an IT project could need a student from a business-related study

program to take care of the project's financial and marketing aspects. However, it is often quite difficult to find the right group members and students from other departments.

2.4. Problem Description

Students find it challenging to find adequate group members who have the knowledge and/or experience required for the project. To make this task easier the client would like to make an application to connect students. This application should allow students to create projects and recruit other students based on certain criteria. The application will target both Fontys and TU/e students from all departments, enabling students to work in an interdisciplinary team. Each student has a profile that contains the experience and skills, like a resume. Unfortunately, the client has neither the expertise, time nor the resources to develop such a system.

2.5. Project Goal

The main goal is to deliver a distributed system in which TU/e and Fontys students can create their personal projects and recruit members for those projects.

2.6. Deliverables and Non-deliverables

To achieve the project goal, the team would deliver:

- A distributed system including a database and a web application. The web app retrieves data from the database through a service API. This service API serves as the hub to distribute data through multiple platforms.
- The Project Plan
- The Design Document containing Wireframes, Class Diagrams and Database Structure
- The process report consisting of the work progress and deliverables

The team will not deliver:

- The hardware to run the application
- The server storing the database

2.7. Project Constraints

➢ ***Time***

- The project must be completed in 5 months, approximately 20 weeks of working. The final deliverables (The distributed system and report) must be accomplished and handed in by the end of January, 2021.

➢ ***Programming Language***

- The web application consists of the front-end which will be implemented in **React** - and Javascript library for building user interfaces and the back-end developed in **Laravel** - a PHP web framework.

➢ ***Database***

- The database to store data is PHPmyAdmin.

➢ ***Search service***

- Microsoft Azure Cognitive Search.

➢ ***Application Language***

- The application content is only available in English.

➢ ***Cooperating Environment***

- The Git version control serves as the cooperation environment for storing and keeping track of the source code flow.
- The documentation is contributed in Google Drive docs.

2.8. Project Risks

The table below describes the highest risks in the project, how high the impact will be and which steps should be taken to prevent these risks from happening.

Risk	Probability	Impact on the project	Steps to prevent
If the project team does not have sufficient coding skills, the functions can not be implemented.	High	High	Investigate the required technologies: React and Laravel. Conduct the small prototypes to get familiar with the use of technologies.
If the project team does not gather the correct requirement specifications, the design may have the wrong assumptions and decisions causing a delay on even the wrong products.	Medium	High	Interview the stakeholders to gather the requirements and acquire their opinions on the design.
If the project team lacks the skills of using and structuring the database, it is impossible for team members to connect	Medium	High	Conduct the research and investigate the use of the database and the connection between the service API and

the service API with the database, the requirements can not be fulfilled.			the database.
If the project team does not own enough knowledge of service API, the connection between API and database, API and web app can not be implemented.	High	High	Make research on how service API works and integrates inside the system.
If the team confronts communication issues such as misunderstanding, conflicts, the work progress can be delayed.	Medium	High	Solve the conflicts or misunderstanding by organizing the meetings, expressing personal opinions and being willing to welcome the new ideas.
If the project team fails to follow the project phasing, the certain functionalities can not be completed.	High	High	Follow the project plan strictly. In case the project can not follow the defined phasing, inform the adjustments in plan to the stakeholder.

2.9. Priorities

In the table below the project requirements are prioritized using the MoSCoW method.

Requirements	Must	Should	Could
A web application	x		
A web API application	x		
Database	x		
Search service index		x	
Log in/Register an account	x		
Create the project	x		
Delete the project	x		

Join the project	x		
Update the project	x		
Update the student account	x		
Delete the student account	x		
Reset password	x		
Search for projects, students		x	
Filter for projects, students		x	
A mobile application		x	
Administration overview		x	
Discussion network			x
Autocomplete/ Suggestion for projects		x	
Email verification		x	
Email notification for matching projects			x

3. Project Phasing

This section will describe the phasing of the project. The team has decided to follow the Waterfall model combining with SCRUM framework in development. With the waterfall model, this project will be divided into 4 phases. The phases include Initialization, Research and Design, Implementation and Testing, Finalization. SCRUM framework will be applied in the implementation phase. Each phase will be specified in detail later in the document. The following Gantt chart visualises the process.

3.1. Initialization

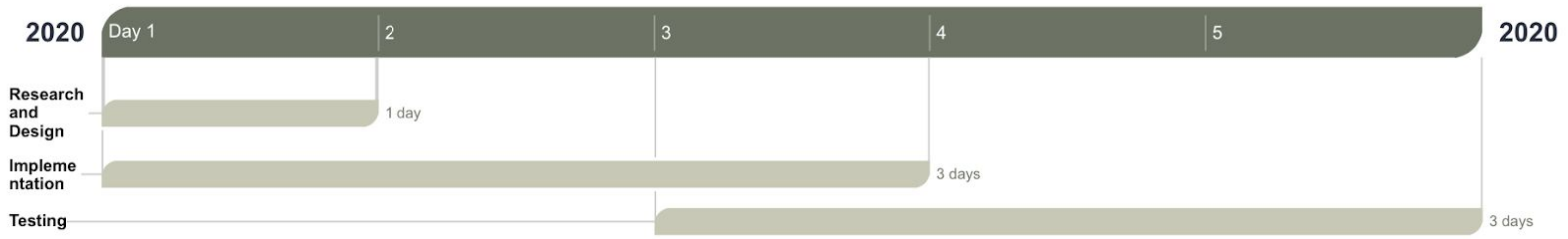
The first phase of the project is the Initialization phase. During this phase the team comes up with the project plan, the goal of the project, and discusses details about the application. This phase will last for two weeks.

3.2. Research and Design

This phase will last for four weeks. During the Research and Design phase the team will work on doing framework research, designing the database, designing the applications and any other research and design related tasks. At each SCRUM meeting, the design will be shown to the client for feedback so that the design can be improved and fulfill clients' requirements. The activities of researching and design are operated in each week. The figure below provides the Gantt chart for this each week:

3.3. Implementation and Testing

A Scrum sprint for this project will last for two weeks. Prioritized features will be implemented first. On weekly Friday there will be a SCRUM meeting to summarize the work progress and create specific plans for the upcoming sprint. The client also participates in those meetings to update the new functionalities and propose her opinions so that the team can enhance the implementation. This phase of the project will last for 10 weeks. During this phase in each sprint the team will be doing a mini research, design, but will majorly be working on implementing the application. After the implementation of certain functionalities, the testing will be conducted to fix the bugs and make sure that the functionalities work correctly. The Figure below represents this phase of the project.



3.4. Finalization

This is the final phase of the project in which we will finalize the application, documentation and prepare the final presentation.

4. Management Plan

4.1. Project Budget

The finances incurred in the project are accumulated in five months. During these five months, the team has to use the personal laptops for conducting the project. Due to the COVID-19, the team mainly cooperates in the online platforms, mentioning Microsoft teams. There is no budget for this project, therefore the team will only be using open-source and other free resources during the project.

4.2. Skills

The skills required to finalize the project are as follows:

- Advance programming in PHP framework Laravel
- Programming in JavaScript framework React
- Knowledge of application programming interface (API)
- Code management in Git
- Knowledge of standard web languages (HTML/CSS/JS/PHP)
- Project management
- Time management

4.3. Quality

To make sure that the project's quality is good for the client, some rules should be followed:

❖ **Documentation**

The documentation must be done and reviewed by all members. Once all members are satisfied with the documents' quality, the documents will be reviewed by the mentor.

❖ **Application**

The final applications must fulfill the following standards:

- On-time delivery
- Meeting the user requirement specifications
- The application must be maintainable, extensible and reusable and written in object-oriented languages
- The mentor will have access to source code on Git in order to see the code quality and give feedback when necessary

4.4. Time

Activities	Time
Project Plan	2 weeks
Setting up environment/getting used to framework, Designing	4 week
Core functionalities and Testing	6 weeks
Additional features and Testing	4 weeks
Finalization	1 weeks

4.5. Communication

Internal Communication
The team will hold their internal meeting on Thursday afternoon and Friday afternoon. Additional meetings for emergency situations will be scheduled according to the schedule of the members. At the end of each sprint, there will also be meeting to determine the result and plan for the next sprint

External Communication
Due to Covid situation, the meeting with mentor will be held online through Microsoft team
This meeting will be scheduled every Friday.

Role	Organization	Purpose of communication	Mean of communication
Mariëlle Fransen	Fontys	Feedback on project plan, progress report, update work progress	Microsoft team, email

Also, the meeting with clients happens in every SCRUM meeting on Friday through the Microsoft team. The goal is to keep the client updated on the work progress of the project team.

4.6. Organization

The specific roles inside the project is specified as follows:

Member	Role
Anh	Team manager, Front-end developer
Barra	Back-end developer
Lauren	Front-end developer, editor
Hoang	Back-end developer
Rahul	Front-end developer
Quoc	Back-end developer

5. General Data Protection Regulation

In our software application, personal data from users is stored and collected from user input. By gathering user data, the application can verify users' identity and enable users to take action and interact when using the application. To prevent data from leaking out, the project team came up with certain rules. Firstly, the team guarantees that the data is not used for other purposes. Secondly, security is taken into account from the first steps in software development up to delivery and even during operation of the software so that the risk of security incidents in the software product will be minimized. Data Processing Agreement is attached below as an official agreement on the responsibility of stakeholders on protecting the data.

Appendix

Fontys University of Applied Sciences
Eindhoven, The Netherlands

This Data Processing Agreement ("**Agreement**") forms part of the Contract for Services ("**Principal Agreement**") between

Proep 2020 - group 8

(the "**Company**")

and

Azure Cognitive Search Service
Proep 2020 - group 8

(the "**Data Processor**")

(together as the "**Parties**")

WHEREAS

(A) The Company acts as a Data Controller.
(B) The Company wishes to subcontract certain Services, which imply the processing of personal data, to the Data Processor.
(C) The Parties seek to implement a data processing agreement that complies with the requirements of the current legal framework in relation to data processing and with the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).
(D) The Parties wish to lay down their rights and obligations.

IT IS AGREED AS FOLLOWS:

1. Definitions and Interpretation

1.1 Unless otherwise defined herein, capitalized terms and expressions used in this Agreement shall have the following meaning:

1.1.1 "**Agreement**" means this Data Processing Agreement and all Schedules;

1.1.2 "**Company Personal Data**" means any Personal Data Processed by a Contracted Processor on behalf of Company pursuant to or in connection with the Principal Agreement;

1.1.3 "**Contracted Processor**" means a Subprocessor;

1.1.4 "**Data Protection Laws**" means EU Data Protection Laws and, to the extent applicable, the data protection or privacy laws of any other country;

1.1.5 "**EEA**" means the European Economic Area;

1.1.6 "**EU Data Protection Laws**" means EU Directive 95/46/EC, as transposed into domestic legislation of each Member State and as amended, replaced or superseded from time to time, including by the GDPR and laws implementing or supplementing the GDPR;

1.1.7 "**GDPR**" means EU General Data Protection Regulation 2016/679;

1.1.8 "**Data Transfer**" means:

1.1.8.1 a transfer of Company Personal Data from the Company to a Contracted Processor; or

1.1.8.2 an onward transfer of Company Personal Data from a Contracted Processor to a Subcontracted Processor, or between two establishments of a Contracted Processor,

in each case, where such transfer would be prohibited by Data Protection Laws (or by the terms of data transfer agreements put in place to address the data transfer restrictions of Data Protection Laws);

1.1.9 "**Services**" means the _____ services the Company provides.

1.1.10 "**Subprocessor**" means any person appointed by or on behalf of Processor to process Personal Data on behalf of the Company in connection with the Agreement.

1.2 The terms, "**Commission**", "**Controller**", "**Data Subject**", "**Member State**", "**Personal Data**", "**Personal Data Breach**", "**Processing**" and "**Supervisory Authority**" shall have the same meaning as in the GDPR, and their cognate terms shall be construed accordingly.

2. Processing of Company Personal Data

2.1 Processor shall:

2.1.1 comply with all applicable Data Protection Laws in the Processing of Company Personal Data; and

2.1.2 not Process Company Personal Data other than on the relevant Company's documented instructions.

2.2 The Company instructs Processor to process Company Personal Data.

3. Processor Personnel

Processor shall take reasonable steps to ensure the reliability of any employee, agent or contractor of any Contracted Processor who may have access to the Company Personal Data, ensuring in each case that access is strictly limited to those individuals who need to know / access the relevant Company Personal Data, as strictly necessary for the purposes of the Principal Agreement, and to comply with Applicable Laws in the context of that individual's duties to the Contracted Processor, ensuring that all such individuals are subject to confidentiality undertakings or professional or statutory obligations of confidentiality.

4. Security

4.1 Taking into account the state of the art, the costs of implementation and the nature, scope, context and purposes of Processing as well as the risk of varying likelihood and severity for the rights and freedoms of natural persons, Processor shall in relation to the Company Personal Data implement appropriate technical and organizational measures to ensure a level of security appropriate to that risk, including, as appropriate, the measures referred to in Article 32(1) of the GDPR.

4.2 In assessing the appropriate level of security, Processor shall take account in particular of the risks that are presented by Processing, in particular from a Personal Data Breach.

5. **Subprocessing**

5.1 Processor shall not appoint (or disclose any Company Personal Data to) any Subprocessor unless required or authorized by the Company.

6. Data Subject Rights

6.1 Taking into account the nature of the Processing, Processor shall assist the Company by implementing appropriate technical and organisational measures, insofar as this is possible, for the fulfilment of the Company obligations, as reasonably understood by Company, to respond to requests to exercise Data Subject rights under the Data Protection Laws.

6.2 Processor shall:

6.2.1 promptly notify Company if it receives a request from a Data Subject under any Data Protection Law in respect of Company Personal Data; and

6.2.2 ensure that it does not respond to that request except on the documented instructions of Company or as required by Applicable Laws to which the Processor is subject, in which case Processor shall to the extent permitted by Applicable Laws

inform Company of that legal requirement before the Contracted Processor responds to the request.

7. **Personal Data Breach**

7.1 Processor shall notify Company without undue delay upon Processor becoming aware of a Personal Data Breach affecting Company Personal Data, providing Company with sufficient information to allow the Company to meet any obligations to report or inform Data Subjects of the Personal Data Breach under the Data Protection Laws.

7.2 Processor shall co-operate with the Company and take reasonable commercial steps as are directed by Company to assist in the investigation, mitigation and remediation of each such Personal Data Breach.

8. Data Protection Impact Assessment and Prior Consultation

Processor shall provide reasonable assistance to the Company with any data protection impact assessments, and prior consultations with Supervising Authorities or other competent data privacy authorities, which Company reasonably considers to be required by article 35 or 36 of the GDPR or equivalent provisions of any other Data Protection Law, in each case solely in relation to Processing of Company Personal Data by, and taking into account the nature of the Processing and information available to, the Contracted Processors.

9. Deletion or return of Company Personal Data

9.1 Subject to this section 9 Processor shall promptly and in any event within 10 business days of the date of cessation of any Services involving the Processing of Company Personal Data (the "**Cessation Date**"), delete and procure the deletion of all copies of those Company Personal Data.

9.2 Processor shall provide written certification to Company that it has fully complied with this section 9 within 10 business days of the Cessation Date.

10. Audit rights

10.1 Subject to this section 10, Processor shall make available to the Company on request all information necessary to demonstrate compliance with this Agreement, and shall allow for and contribute to audits, including inspections, by the Company or an auditor mandated by the Company in relation to the Processing of the Company Personal Data by the Contracted Processors.

10.2 Information and audit rights of the Company only arise under section 10.1 to the extent that the Agreement does not otherwise give them information and audit rights meeting the relevant requirements of Data Protection Law.

11. Data Transfer

11.1 The Processor may not transfer or authorize the transfer of Data to countries outside the EU and/or the European Economic Area (EEA) without the prior written consent of the Company. If personal data processed under this Agreement is transferred from a country within the European Economic Area to a country outside the European Economic Area, the Parties shall ensure that the personal data are adequately protected. To achieve this, the Parties shall, unless agreed otherwise, rely on EU approved standard contractual clauses for the transfer of personal data.

12. General Terms

12.1 **Confidentiality.** Each Party must keep this Agreement and information it receives about the other Party and its business in connection with this Agreement ("**Confidential Information**") confidential and must not use or disclose that Confidential Information without the prior written consent of the other Party except to the extent that:

(a) disclosure is required by law;

(b) the relevant information is already in the public domain.

12.2 **Notices.** All notices and communications given under this Agreement must be in writing and will be delivered personally, sent by post or sent by email to the address or email address set out in the heading of this Agreement at such other address as notified from time to time by the Parties changing address.

Fontys University of Applied Sciences
Eindhoven, The Netherlands

13. Governing Law and Jurisdiction

13.1 This Agreement is governed by the laws of _____.

13.2 Any dispute arising in connection with this Agreement, which the Parties will not be able to resolve amicably, will be submitted to the exclusive jurisdiction of the courts of _____, subject to possible appeal to _____.

IN WITNESS WHEREOF, this Agreement is entered into with effect from the date first set out below.

Your Company

Signature Group 8

Name: Proep 2020 - group 8

Title: Data Processing Agreement

Date Signed: 24/09/2020

Processor Company

Signature Search Service

Name Azure Cognitive Search Service

Title Data Processing Agreement

Date Signed 24/09/2020

Fontys University of Applied Sciences
Eindhoven, The Netherlands

Revision History

Revised on	Version	Description	Approved by
18/9/2020	1.0	Project Plan	Mrs. Fransen
25/09/2020	2.0	Project Plan	