**Project Plan**

***Cupid***

*Fontys Hogeschool*

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# Project assignment

## Context

"Cupid" is an innovative online platform designed for individuals seeking meaningful connections and relationships. It's a space where people can explore potential romantic interests, engage with others, and foster meaningful connections. Within this dynamic community, individuals can come together to interact, share their interests, offer support, and serve as a source of encouragement.

## Problem statement

In the current digital landscape, individuals looking for genuine connections often face challenges in finding a suitable platform to showcase their personality, interests, and preferences. Likewise, connecting with like-minded individuals and understanding their unique qualities can be a struggle. This gap hinders the realization of meaningful connections and restricts the potential for genuine relationships to blossom.

"Cupid" aims to address these issues by providing a dedicated platform where individuals can freely express themselves, discover potential partners, and connect with others based on shared interests and compatibility. Through the app, users can engage, inspire, and form genuine connections, ultimately filling the void that currently exists for individuals seeking authentic relationships.

## Goal of the project

At the core of the "Cupid" dating app project lies a fundamental objective: to simplify the journey for individuals in search of meaningful connections. Our primary goal is to create an avenue that facilitates the process of finding someone who not only aligns with an individual's interests but also resonates with their unique personality and preferences.

In today's complex and fast-paced world, forming authentic relationships can be challenging. "Cupid" aims to address this by providing a dedicated platform where users can seamlessly express themselves and discover potential partners who genuinely share their passions and interests.

## Scope and preconditions

|  |  |
| --- | --- |
| **Inside scope:** | **Outside scope:** |
| 1. Development of the online platform | 1. AI integration |
| 1. Profile setup | 1. Hardware Development |
| 1. User Analytics | 1. Content Creation |
| 1. Integration of Core Features | 1. Advertisement by User Analytics |
| 1. Real-time Chat Feature | 1. Manual |

*Preconditions:*

***Technology Stack:*** *Fontys Hogeschool teachers suggested to use a technology stack that includes:*

* *Programming Language: Java*
* *Back-End Framework:**Spring Boot*
* *Build Tool: Gradle*
* *Database: MySQL*
* *Front-End Library: React*
* *Additional Framework (for java): Lombok*

The project will build upon these technology choices.

## Strategy

*The "Cupid" dating app project will follow an Agile approach, specifically employing the Scrum framework. Agile methodology has been chosen due to its efficiency, flexibility, and collaborative nature, which align seamlessly with the project’s goals and requirements.*

* ***Rationale for Choosing Agile Methodology:***

*Flexibility and Adaptability: Agile methodology, particularly Scrum, allows for frequent reassessment and adaptation of project goals, priorities, and features. This flexibility is crucial for a project involving creative aspects and evolving user needs, ensuring the app remains aligned with user expectations and industry trends.*

* ***Incremental Development and Continuous Improvement:*** *Agile, by breaking down the project into smaller, manageable parts (sprints), enables incremental development and continuous improvement. This approach aligns well with the creative process, allowing for iterative enhancements based on user feedback, emerging technologies, and changing market demands.*
* ***Collaboration and Team Involvement:*** *Agile fosters collaboration and encourages regular communication and involvement from all stakeholders, despite this being a one-person project. In a solo development scenario, this ensures that feedback from potential users or stakeholders can be considered in real-time, enhancing the app's quality and relevance.*
* ***Early Deliveries and Value Addition:*** *Agile practices emphasize delivering functional and potentially shippable product increments in short iterations. This enables early releases, giving users the opportunity to experience and provide feedback on the app's functionality and features sooner, leading to more value-added improvements.*
* ***Risk Mitigation and Transparency:*** *Agile provides a transparent view of project progress and challenges. By conducting regular sprint reviews and retrospectives, risks can be identified and addressed early, enhancing project predictability and reducing potential negative impacts.*

## End products

***A - Documentation***

***A1 - User Stories***

*Create a backlog to break down tasks into manageable pieces, enabling better project management and a clear overview of progress.*

***A2 - User Stories***

*Create a backlog to break down tasks into manageable pieces, enabling better project management and a clear overview of progress.*

***A3 - Test Plan and Test Cases***

*Develop a comprehensive test plan outlining testing strategies and methodologies.*

*Define detailed test cases specifying scenarios and expected outcomes for quality assurance.*

***A4 - UML Class Diagram***

*Create a UML class diagram to visualize the structure and relationships of the software application.*

***B - Software Application***

***B1 – Front-end***

***B1.1 – Application***

***B1.1.1 – Design sketches***

***B1.1.2 – Design implementation***

***B2 – Back-end***

***B2.1 – Application***

***B2.1.1 - User Authentication & Registration System***

*Implement a secure user authentication and registration system to ensure account security and provide a personalized experience.*

***B2.1.2 - Content Discovery***

*Develop a content discovery system, including a "For You" page or recommendations based on user preferences.*

***B2.1.3 - User Profile Pages***

*Create user profile pages similar to portfolios, allowing individuals to showcase their interests, provide a brief bio, express themselves.*

***B2.1.4 - Content Upload and Sharing***

*Implement the ability for users to upload and share their creative content, including images and text.*

***B2.1.5 - Messaging and Collaboration***

*Develop features for private messaging and collaboration among users to foster creative partnerships.*

***B2.2 - Database***

# Project organisation

## Stakeholders and team members

*For the incoming 18-week individual project, I have two key stakeholders who play two important roles in grading and providing valuable feedback throughout the project duration.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Abbreviation** | **Role and functions** | **Availability** |
| *Alpay Demirci* | *A.D.* | *Student, Project Leader*  *Is responsible for creating the individual project.* | *Work hours, remote or office* |
| *Bart Rabeling* | *B.T.* | *Stakeholder*  *Is responsible for assessing my progress, providing constructive feedback, and assigning grades based on my work.* | *Monday and/or Wednesday* |
| *Erik van der Schriek* | *H.J.D.* | *Stakeholder*  *Is responsible for assessing my progress, providing constructive feedback, and assigning grades based on my work.* | *Wednesday and Friday* |

## Communication

Communication within this project will primarily flow through identified stakeholders and their respective availability. We will ensure effective communication channels, whether through teams, in-person interactions, or virtual means. Weekly feedback loops will be established to gather updates, address concerns, and maintain alignment with project objectives. Additionally, during sprint cycles, on-site contact will be prioritized to enhance collaboration and facilitate immediate decision-making and issue resolution.

# Activities and time plan

## Phases of the project

1. **Phase 1: Inception and Planning**

Ideation, Project Plan, and Sprint 1 Planning

1. **Sprint 1: Project Kickoff and Setup**

Documentation and Setup

1. **Sprint 2: Backend Foundations**

Basic Backend Setup and Database Layout

1. **Sprint 3: Building Core Functionality**

Backend Development and Frontend Interface Initiation

1. **Sprint 4: Refinement and User Stories**

User Stories Update and UI/UX Refinement

1. **Sprint 5: Advanced Development and Testing Strategies**

Advanced Backend and Frontend Development, Testing Strategy Implementation

1. **Sprint 6: Finalization and Delivery**

Final Development Touches, User Acceptance Testing, and Sprint Review

1. **Phase 7: Evaluation and Iteration**

User Feedback Integration, Iterations, and Final Deployment

# Testing strategy and configuration management

## Testing strategy

*Unit testing (backend)*

***Objective:*** *Ensuring that individual components and functions in the backend work as expected. By creating true statements but also false statements to make more clarity.*

***Automation:*** *Unit tests are typically automated and run frequently during development (continuous integration).*

***Tools:*** *Junit for java-based unit testing.*

*Integration Testing(Backend and Frontend)*

***Objective:*** *Test the interactions between different layers, including the integration of the backend with the frontend.*

***Automation:*** *Automated tests can be created by using Spring Boot tools.*

***Tools:*** *Spring Boot provides tools for integration testing the backend.*

*System Testing (End-to-End)*

***Objective:*** *Validate the entire system’s functionality.*

***Automation:*** *Cypress.*

***Tools:*** *Cypress for end-to-end testing.*

## Test environment and required resources

*n.v.t.*

## Configuration management

*In this project, GitLab will be the chosen configuration management tool. GitLab offers substantial benefits, such as robust version control and the ability to mitigate data loss through efficient branch management.*

*Throughout the project's duration, a branching strategy will be employed. New features or modifications will be worked on within dedicated branches. The main branch will function as the stable foundation, housing all completed and verified work.*

# Risk

## Project budget

## Risk and mitigation

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| --- | --- | --- |
| **Risk** | **Prevention activities** | **Mitigation activities** |
| 1. Technical Challenges | Extra research before starting development. | If I encounter technical difficulties, making room for extra time to troubleshoot and seek for assistance from teachers. |
| 1. Teacher Unavailability | Maintain regular communication with teachers regarding project progress. | In case of teacher unavailability, reach out for other assistance by colleagues etc. |
| 1. Personal health issues | Maintain a healthy work-life balance. | If I fall ill, inform my teachers promptly and discuss potential adjustments to project deadlines. |
| 1. Data loss | Implement regular data backups (git lab). To prevent data loss. | In case of data loss, restore form backups to minimize damage.  (Push every day to git) |