



# COMP9900 23T3

## Information Technology Project

### Project Proposal

P23 Web Platform for Connecting Professionals with Projects

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**Submission Date:** 30/09/2023

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## Background

### Introduction

In today's fast transforming global economy, the paradigm of work is shifting away from the conventional model of full-time employment and toward alternative work arrangements that are more flexible, and project based. (Lau, 2021). This transition is primarily motivated by the reciprocal advantages it offers to both businesses and professionals. Many highly skilled individuals are actively seeking opportunities to engage in meaningful and rewarding project work, thereby enhancing their competencies while also generating income. In parallel, businesses are constantly searching for professionals with specialized skill sets capable of executing specific projects with utmost efficiency. Despite the apparent compatibility of needs, a significant challenge persists in the form of a communication gap between these entities (Bragin, 2018). The absence of a robust, user-friendly, and dedicated platform hinders the smooth interaction between companies offering projects and professionals seeking project work. This inefficiency leads to lost opportunities, delayed project executions, and underutilization of skilled resources.

### Relevant Systems

Current systems endeavour to mitigate this communication barrier with various levels of effectiveness. Websites like Upwork and Freelancer serve as platforms where individuals can bid on company posted projects. However, these platforms have their shortcomings which are identified as follow:

#### *Upwork*

- **Competitive Bidding Systems:** Upwork operates on a bidding model, which often results in a race to the bottom where professionals often underbid each other in order to participate in the projects they want to join. This adversely affects the earning potential for professionals and undermines the quality of work on the side of companies.
- **High Fees:** The platform charges a significant portion of the freelancer's earnings as service fees, which diminishes the financial appeal for both the professionals and the companies, making the platform less welcoming for both parties.

#### *Freelancer*

- **Lack of Professional Vetting:** Freelancer's platform does not have a rigorous vetting process or system to validate the qualifications and expertise of individuals profiles. This lax vetting may potentially lead to companies hiring less qualified individuals. Thus, affecting the quality and period of projects being delivered. Moreover, it may also create trust issues between companies and project workers.
- **Generic Project Listings:** Project listings on Freelancer often lack the requisite details, making it a herculean task for professionals to understand the project requirements fully. Similarly, companies find it challenging to attract the right talent due to inadequate project descriptions.

## Problem Statement

This project aims to develop a web-based platform for connecting professionals with real-world projects to address the above identified problems in the existing systems. The proposed platform will focus on creating a streamlined, user-friendly interface where companies can post projects with clear, comprehensive listings, and professionals can showcase their expertise through vetted profiles. By addressing the drawbacks of existing systems, this platform will foster a conductive environment for fruitful collaborations between companies and professionals. Therefore, bridging the existing communication gap in the project-based work domain.

## User Stories and Sprints

### User Types Summary

- **Visitor:** A new user who has never visited the website before and is currently not registered to the website.
- **User:** A current user with different roles who is currently registered to the website. (Admin/Company/Professional)
- **Company User:** Individuals belonging to a company that post projects from their company onto the website to find skilled individuals to join and work on the project.
- **Professional User:** A skilled individual that is looking for projects to join into on the website.
- **Admin User:** Website Administrator that manages and oversees the website.

### Epic Stories

1. Login and registration
2. View/edit profile
3. Feed categorisation and filtering
4. Company project management
5. View/edit individual project
6. Project application
7. Notification
8. Project completion
9. Admin system control

### User Stories

Our application has 9 main functionalities/objectives. Below are user stories mapped to each functionality with the acceptance criteria also outlined under each story. All user stories have been defined in Jira including the priority based on 1 Low, 3 Medium, and 5 High story points.

#### All/Common Users

ID	1
Feature	Login and registration
User Story	As a <b>visitor</b> , I want to be able to view an introduction of the website, so that I can decide if I want to register and explore further.
Acceptance Criteria	Given that I have on the landing page, when I scroll around the page, then I will be able to view descriptions and features provided in the platform.
Priority	High (1 Low, 3 Medium, 5 High)

ID	2
Feature	Login and registration
User Story	As a <b>visitor</b> , I want to be able to choose either a company or professional account, so that I can access the right services from the website.
Acceptance Criteria	Given that I have not registered before, when I am in the process of signing up, then I will have to choose either a company user or a professional user.
Priority	High (1 Low, 3 Medium, 5 High)

ID	3
Feature	Login and registration
User Story	As a <b>visitor</b> , I want to register an account by filling in the required information depending on the user type, so that I can access the website/app and its services
Acceptance Criteria	Given that I am a company user type, when I click the register button, then I will have to fill in a form consisting of username, password, name, address, ABN, industry type, company website, email, phone number, and a brief description.  Given that I am a professional user type, when I click the register button, then I will have to fill in a form consisting of username, password, name, address, email, Date of Birth, phone number, LinkedIn link.
Priority	High (1 Low, 3 Medium, 5 High)

ID	4
Feature	Login and registration
User Story	As a <b>user</b> , I want to login with my credentials, so that I can interact and use the website's services for my own needs.
Acceptance Criteria	Given that I have registered an account, when I visit the application again, then I will have to login to access the application's features and my details.
Priority	High (1 Low, 3 Medium, 5 High)

ID	5
Feature	Login and registration
User Story	As a <b>user</b> , I want to be able to logout, so that I can protect my account from unauthorized access.
Acceptance Criteria	Given that I have logged in my account, when I click the Logout button, then I will no longer be able to access my details and the application's features.
Priority	High (1 Low, 3 Medium, 5 High)

ID	6
Feature	Login and registration
User Story	As a <b>user</b> who forgets their password, I want to receive a temporary password via email, so that I can login into my account again.
Acceptance Criteria	Given that I am trying to login to my account, when I click the forget password button, then I will receive a temporary password.
Priority	Medium (1 Low, 3 Medium, 5 High)

ID	7
Feature	View/edit profile
User Story	As a <b>user</b> , I want to be able to view my profile, so that I can ensure all my information is up-to-date and correct.
Acceptance Criteria	Given that I have logged in to my account, when I click on my profile, then I will be directed to another page with my personal details.
Priority	High (1 Low, 3 Medium, 5 High)

ID	8
Feature	View/edit profile
User Story	As a <b>user</b> , I want to be able to edit my profile, so that I can update my information.
Acceptance Criteria	Given that I am on my profile, when I click the edit button, then I will be able to change my personal details.
Priority	High (1 Low, 3 Medium, 5 High)

ID	9
Feature	View/edit profile
User Story	As a <b>user</b> , I want to be able to change my password, so that I can protect my account.
Acceptance Criteria	Given that I am on my profile, when I click the change password button, then I will be able to change my password.
Priority	Low (1 Low, 3 Medium, 5 High)

ID	10
Feature	Login and registration
User Story	As a <b>visitor</b> , I want to be able to choose relevant industry tags, so that I can get better recommendations.
Acceptance Criteria	Given that I am creating an account, when I have chosen either a company or a professional user, then I will be able to choose tags to specify the industry I am interested in.
Priority	High (1 Low, 3 Medium, 5 High)

*Company Users*

ID	11
Feature	Company project management
User Story	As a <b>company user</b> , I want to be able to create a new project post, so that professionals can apply for my project.
Acceptance Criteria	Given that I have logged in as the company, when I have a new project, then I will create a new project post to publicize it. Project posts may include project title, tags, description, start and end date, number of professionals, expected working hours, skills, experiences, online/offline, price/budget, required criteria/information from professionals when they're applying.
Priority	High (1 Low, 3 Medium, 5 High)

ID	12
Feature	Company project management
User Story	As a <b>company user</b> , I want to be able to view my project lists and its details, so that I can ensure all the information is up-to-date.
Acceptance Criteria	Given that I have logged in, when I click the My Projects button, then I will be directed to another page with all my projects.
Priority	High (1 Low, 3 Medium, 5 High)

ID	13
Feature	Company project management
User Story	As a <b>company user</b> , I want to be able to filter my project lists, so that I can easily find which projects are new, ongoing or completed.
Acceptance Criteria	Given that I have posted projects, when I am at My Projects page, then I can filter my projects using the search box.
Priority	High (1 Low, 3 Medium, 5 High)

ID	14
Feature	Feed categorisation and filtering
User Story	As a <b>company user</b> , I want to be able to view a list of professionals, so that I can invite them to apply for the company's project.
Acceptance Criteria	Given that I am the home page, when I click on the Professional header button, then I will be directed to another page with all the professionals registered in the platform.
Priority	High (1 Low, 3 Medium, 5 High)

ID	15
Feature	View/edit profile
User Story	As a <b>company user</b> , I want to be able to view a professional's profile, so that I can inspect if they are suitable for the company.
Acceptance Criteria	Given that there is a professional card on the page, when I click on it, then I will be directed to another page containing the professional's profile.
Priority	High (1 Low, 3 Medium, 5 High)

ID	16
Feature	Project application
User Story	As a <b>company user</b> , I want to be able to send an invite to a professional, so that they can work on my project.
Acceptance Criteria	Given that I am viewing a professional's profile page, when I think that they would be a good candidate for the project, then I can click a button to send them an invite to join.
Priority	High (1 Low, 3 Medium, 5 High)

ID	17
Feature	Company project management
User Story	As a <b>company user</b> , I want to be able to edit my project lists and its details, so that I can ensure all the information is correct.
Acceptance Criteria	Given that I am at a page with all the details of my project, when I click on the edit button, then I can start editing the project's information.
Priority	High (1 Low, 3 Medium, 5 High)

ID	18
Feature	View/edit individual project
User Story	As a <b>company user</b> , I want to be able to view professionals who have requested to work on my project, so that I can approve or reject them.
Acceptance Criteria	Given that I am at a page with all the details of my project, when I scroll down the page, then I can view all professionals that have applied to work on the project.
Priority	High (1 Low, 3 Medium, 5 High)

ID	19
Feature	View/edit individual project
User Story	As a <b>company user</b> , I want to be able to view the professionals who are approved to join a project, so that I can ensure that the list is correct.
Acceptance Criteria	Given that I am at a page with all the details of my project, when the project has started, then I can view all professionals that have been approved for the project.
Priority	High (1 Low, 3 Medium, 5 High)

ID	20
Feature	Project completion
User Story	As a <b>company user</b> , I want to be able to mark a project as completed, so that I can rate and recognise the professionals involved.
Acceptance Criteria	Given that I am at a page with all the details of my project, when the project has completed, then I can mark it as completed and begin rating the professionals involved.
Priority	High (1 Low, 3 Medium, 5 High)

ID	21
Feature	Project completion
User Story	As a <b>company user</b> , I want to be able to rate the professional users who contributed to the project, so that they can receive recognition for completing the project.
Acceptance Criteria	Given that I am at a page with all the details of my project, when the project has been marked completed, then I can rate each professional involved using a 5 star rating and give some remarks on their contribution.
Priority	Medium (1 Low, 3 Medium, 5 High)

ID	22
Feature	Feed categorisation and filtering
User Story	As a <b>company user</b> , I want to view and filter the available project lists, so that I can find the projects aligned to my enquiry.
Acceptance Criteria	Given that I have logged in. when I am at the home page, then I can view and filter the public projects available.
Priority	High (1 Low, 3 Medium, 5 High)

*Professional Users*

ID	23
Feature	Feed categorisation and filtering
User Story	As a <b>professional user</b> , I want to be able to view all available projects, so that I can start finding projects to apply for.
Acceptance Criteria	Given that I have logged in. when I am at the home page, then I can view all the public projects available.
Priority	High (1 Low, 3 Medium, 5 High)

ID	24
Feature	Feed categorisation and filtering
User Story	As a <b>professional user</b> , I want to be able to search through available projects, so that I can find projects that align with my interests.
Acceptance Criteria	Given that I have logged in. when I am at the home page, then I can filter the projects available based on tags.
Priority	High (1 Low, 3 Medium, 5 High)

ID	25
Feature	View/edit individual project
User Story	As a <b>professional user</b> , I want to be able to select a certain project, so that I can view the full details of the project.
Acceptance Criteria	Given that I am browsing for a project, when I click on a project card, then I will be directed to another page with the project's details.
Priority	High (1 Low, 3 Medium, 5 High)

ID	26
Feature	Project application
User Story	As a <b>professional user</b> , I want to be able to request to join a project, so that I can work on it.
Acceptance Criteria	Given that I am at a project page, when I click the apply button, then I can submit my application to do the project.
Priority	High (1 Low, 3 Medium, 5 High)

ID	27
Feature	Project application
User Story	As a <b>professional user</b> , I want to receive a confirmation of my project request, so that I know the application was sent successfully.
Acceptance Criteria	Given that I have finished filling the project application, when I click the submit button, then I will receive a confirmation saying my application has been sent.
Priority	Low (1 Low, 3 Medium, 5 High)

ID	28
Feature	Notification
User Story	As a <b>professional user</b> , I want to receive a notification if my request has been accepted or rejected, so that I know when to start to work on the project.
Acceptance Criteria	Given that I have applied to work on a project, when the company is going through the project's applications, then I will receive an email based notification system to see the outcome for my application.
Priority	Medium (1 Low, 3 Medium, 5 High)

ID	29
Feature	Project completion
User Story	As a <b>professional user</b> , I want to rate my experience working on the project once it is completed, so that I can provide feedback and insight on the company for other users.
Acceptance Criteria	Given that the company user has marked the project as completed, when I am at the project page, then I can rate my experience by giving a remark and the 5 star rating.
Priority	Medium (1 Low, 3 Medium, 5 High)

ID	30
Feature	Project completion
User Story	As a <b>professional user</b> , I want to be able to receive a certificate of recognition from the company, so that I can build my account and prove that I have completed the project.
Acceptance Criteria	Given that I have contributed to the project, when the company has marked the project as completed, then I will receive a certificate of recognition from the company.
Priority	High (1 Low, 3 Medium, 5 High)

ID	31
Feature	View/edit profile
User Story	As a <b>professional user</b> , I want to be able to view my list of completed projects and reviews, so that I can keep track of my previous works.
Acceptance Criteria	Given that I have worked on projects, when I am at my profile page, then I can view my list of completed projects and reviews at the lower part of the page.
Priority	High (1 Low, 3 Medium, 5 High)

ID	32
Feature	View/edit profile
User Story	As a <b>professional user</b> , I want to be able to have the option to upload supplementary documents such as PDF of my resume, experiences, tags, and a biography, so that I can substantiate my qualifications, skills, and expertise.

Acceptance Criteria	Given that I am at my profile page, when I click the edit button, then I can upload and include more information.
Priority	High (1 Low, 3 Medium, 5 High)

ID	33
Feature	View/edit profile
User Story	As a <b>professional user</b> , I want to be able to view a company's profile, so that I can learn more about the company and view their available projects.
Acceptance Criteria	Given that I have logged in, when I click on a certain company, then I will be directed to its profile page.
Priority	High (1 Low, 3 Medium, 5 High)

*Admin Users*

ID	34
Feature	Admin system control
User Story	As an <b>admin</b> , I want to have full privilege of the system, so that I can manage and oversee the platform.
Acceptance Criteria	Given that I have the admin role, when I enter in my correct account credentials, then I can log in to the platform.
Priority	High (1 Low, 3 Medium, 5 High)

ID	35
Feature	Admin system control
User Story	As an <b>admin</b> , I want to be able to see overall statistics, so that I can observe the platform's performance.
Acceptance Criteria	Given that I have logged in, when I am at the home page, then I can observe the overall statistics of the application. Statistics include number of ongoing projects per year, number of completed projects per year, number of professional users, number of company users, number of total projects per year.
Priority	High (1 Low, 3 Medium, 5 High)

## Backlog

All of the user stories were added into the backlog section in Jira before moving them into each sprint.

Backlog (35 issues)		159	0	0	Create sprint
SCRUM-1 As a visitor, I want to be able to view an introduction of the website, so that I can decide if I want to register and explore further.	LOGIN AND REGISTRATION	TO DO	5	ST	
SCRUM-11 As a visitor, I want to be able to choose either a company or professional account, so that I can access the right services from the website.	LOGIN AND REGISTRATION	TO DO	5	ST	
SCRUM-12 As a visitor, I want to register an account by filling in the required information depending on the user type, so that I can access the website/...	LOGIN AND REGISTRATION	TO DO	5	ST	
SCRUM-13 As a user, I want to login with my credentials, so that I can interact and use the website's services for my own needs.	LOGIN AND REGISTRATION	TO DO	5	ST	
SCRUM-14 As a user, I want to be able to logout, so that I can protect my account from unauthorized access.	LOGIN AND REGISTRATION	TO DO	5	ST	
SCRUM-15 As a user who forgets their password, I want to receive a temporary password via email, so that I can login into my account again.	LOGIN AND REGISTRATION	TO DO	3	ST	
SCRUM-16 As a user, I want to be able to view my profile, so that I can ensure all my information is up-to-date and correct.	VIEW/EDIT PROFILE	TO DO	5	ST	
SCRUM-17 As a user, I want to be able to edit my profile, so that I can update my information.	VIEW/EDIT PROFILE	TO DO	5	ST	
SCRUM-18 As a user, I want to be able to change my password, so that I can protect my account.	VIEW/EDIT PROFILE	TO DO	1	ST	
SCRUM-19 As a visitor, I want to be able to choose relevant industry tags, so that I can get better recommendations.	LOGIN AND REGISTRATION	TO DO	5	ST	
SCRUM-20 As a company user, I want to be able to create a new project post, so that professionals can apply for my project.	COMPANY PROJECT MANAGEM...	TO DO	5	ST	
SCRUM-21 As a company user, I want to be able to view my project lists and its details, so that I can ensure all the information is up-to-date.	COMPANY PROJECT MANAGEM...	TO DO	5	ST	
SCRUM-22 As a company user, I want to be able to filter my project lists, so that I can easily find which projects are new, ongoing or completed.	COMPANY PROJECT MANAGEM...	TO DO	5	ST	
SCRUM-23 As a company user, I want to be able to view a list of professionals, so that I can invite them to apply for the company's project.	FEED CATEGORISATION AND FIL...	TO DO	5	ST	
SCRUM-24 As a company user, I want to be able to view a professional's profile, so that I can inspect if they are suitable for the company.	VIEW/EDIT PROFILE	TO DO	5	ST	
SCRUM-25 As a company user, I want to be able to send an invite to a professional, so that they can work on my project.	PROJECT APPLICATION	TO DO	5	ST	
SCRUM-26 As a company user, I want to be able to edit my project lists and its details, so that I can ensure all the information is correct.	COMPANY PROJECT MANAGEM...	TO DO	5	ST	
SCRUM-27 As a company user, I want to be able to view professionals who have requested to work on my project, so that I can approve or reject t...	VIEW/EDIT INDIVIDUAL PROJECT	TO DO	5	ST	
SCRUM-28 As a company user, I want to be able to view the professionals who are approved to join a project, so that I can ensure that the list is c...	VIEW/EDIT INDIVIDUAL PROJECT	TO DO	5	ST	
SCRUM-29 As a company user, I want to be able to mark a project as completed, so that I can rate and recognise the professionals involved.	PROJECT COMPLETION	TO DO	5	ST	
SCRUM-30 As a company user, I want to be able to rate the professional users who contributed to the project, so that they can receive recognition for co...	PROJECT COMPLETION	TO DO	3	ST	
SCRUM-31 As a company user, I want to view and filter the available project lists, so that I can find the projects aligned to my enquiry.	FEED CATEGORISATION AND FIL...	TO DO	5	ST	
SCRUM-32 As a professional user, I want to be able to view all available projects, so that I can start finding projects to apply for.	FEED CATEGORISATION AND FIL...	TO DO	5	ST	
SCRUM-33 As a professional user, I want to be able to search through available projects, so that I can find projects that align with my interests.	FEED CATEGORISATION AND FIL...	TO DO	5	ST	
SCRUM-34 As a professional user, I want to be able to select a certain project, so that I can view the full details of the project.	VIEW/EDIT INDIVIDUAL PROJECT	TO DO	5	ST	
SCRUM-35 As a professional user, I want to be able to request to join a project, so that I can work on it.	PROJECT APPLICATION	TO DO	5	ST	
SCRUM-36 As a professional user, I want to receive a confirmation of my project request, so that I know the application was sent successfully.	PROJECT APPLICATION	TO DO	1	ST	
SCRUM-37 As a professional user, I want to receive a notification if my request has been accepted or rejected, so that I know when to start work on the project.	NOTIFICATION	TO DO	3	ST	
SCRUM-38 As a professional user, I want to rate my experience working on the project once it is completed, so that I can provide feedback and insight on ...	PROJECT COMPLETION	TO DO	3	ST	
SCRUM-39 As a professional user, I want to be able to receive a certificate of recognition from the company, so that I can build my account and prove that...	PROJECT COMPLETION	TO DO	5	ST	
SCRUM-40 As a professional user, I want to be able to view my list of completed projects and reviews, so that I can keep track of my previous works.	VIEW/EDIT PROFILE	TO DO	5	ST	
SCRUM-41 As a professional user, I want to be able to have the option to upload supplementary documents such as PDF of my resume, experiences, tags, an...	VIEW/EDIT PROFILE	TO DO	5	ST	
SCRUM-42 As a professional user, I want to be able to view a company's profile, so that I can learn more about the company and view their available projects.	VIEW/EDIT PROFILE	TO DO	5	ST	
SCRUM-43 As an admin, I want to have full privilege of the system, so that I can manage and oversee the platform.	ADMIN SYSTEM CONTROL	TO DO	5	ST	
SCRUM-44 As an admin, I want to be able to see overall statistics, so that I can observe the platform's performance.	ADMIN SYSTEM CONTROL	TO DO	5	ST	

## Sprint Planning

SCRUM Sprints	Duration	Date
Sprint 1	Week 3 lab - Week 5 lab	25 Sep - 9 Oct
Sprint 2	Week 5 lab - Week 8 lab	9 Oct - 23 Oct
Sprint 3	Week 8 lab - Week 10 lab	23 Oct - 6 Nov

## First Sprint - Jira

The screenshot shows a Jira board with the following structure:

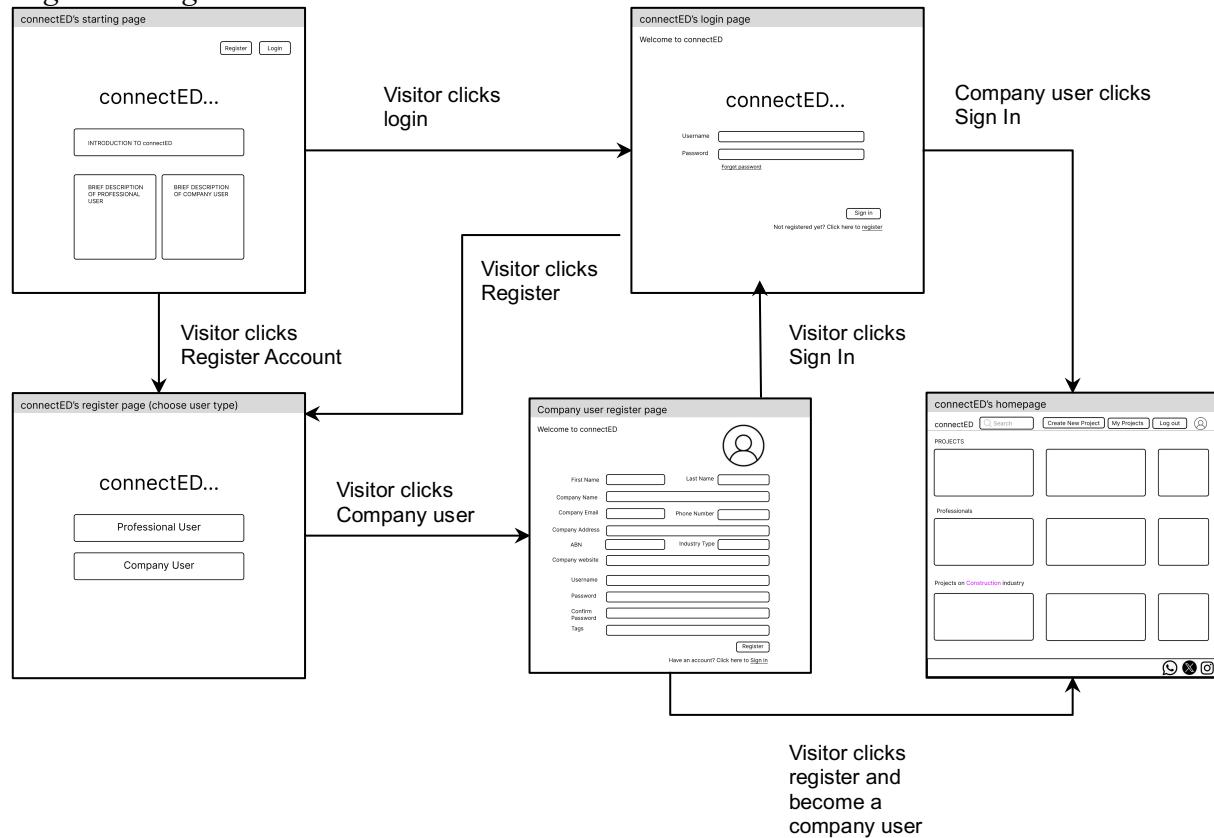
- Columns:** LOGIN AND REGISTRATION, COMPANY PROJECT MANAGEMENT..., FEED CATEGORISATION AND FIL..., and VIEW/EDIT PROFILE.
- Tasks:**
  - SCRM-1 As a visitor, I want to be able to view an introduction of the website, so that I can decide if I want to register and explore further.
  - SCRM-11 As a visitor, I want to be able to choose either a company or professional account, so that I can access the right services from the website.
  - SCRM-12 As a visitor, I want to register an account by filling in the required information depending on the user type, so that I can access the website/...
  - SCRM-13 As a user, I want to login with my credentials, so that I can interact and use the website's services for my own needs.
  - SCRM-14 As a user, I want to be able to logout, so that I can protect my account from unauthorized access.
  - SCRM-16 As a user, I want to be able to view my profile, so that I can ensure all my information is up-to-date and correct.
  - SCRM-19 As a visitor, I want to be able to choose relevant industry tags, so that I can get better recommendations.
  - SCRM-20 As a company user, I want to be able to create a new project post, so that professionals can apply for my project.
  - SCRM-21 As a company user, I want to be able to view my project lists and its details, so that I can ensure all the information is up-to-date.
  - SCRM-23 As a company user, I want to be able to view a list of professionals, so that I can invite them to apply for the company's project.
  - SCRM-24 As a company user, I want to be able to view a professional's profile, so that I can inspect if they are suitable for the company.
  - SCRM-32 As a professional user, I want to be able to view all available projects, so that I can start finding projects to apply for.
- Buttons:** Start sprint, ...

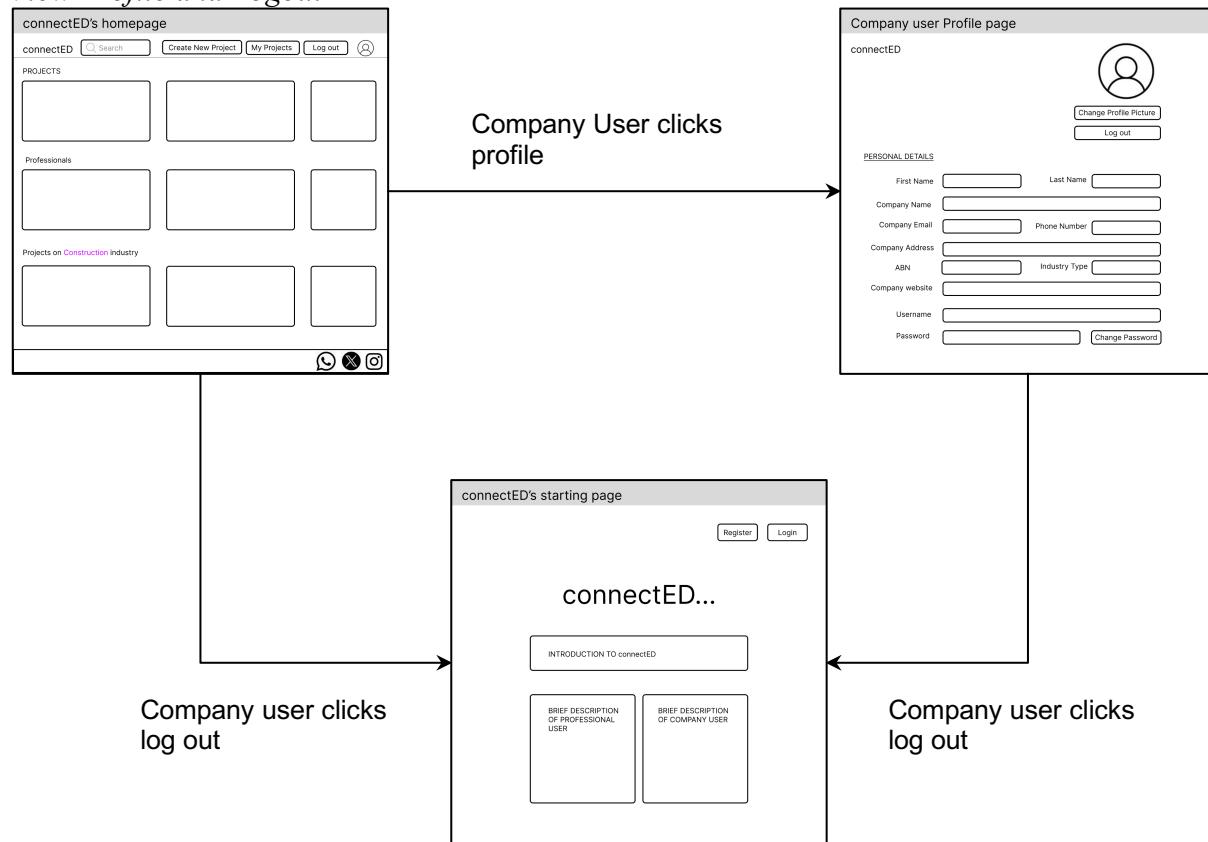
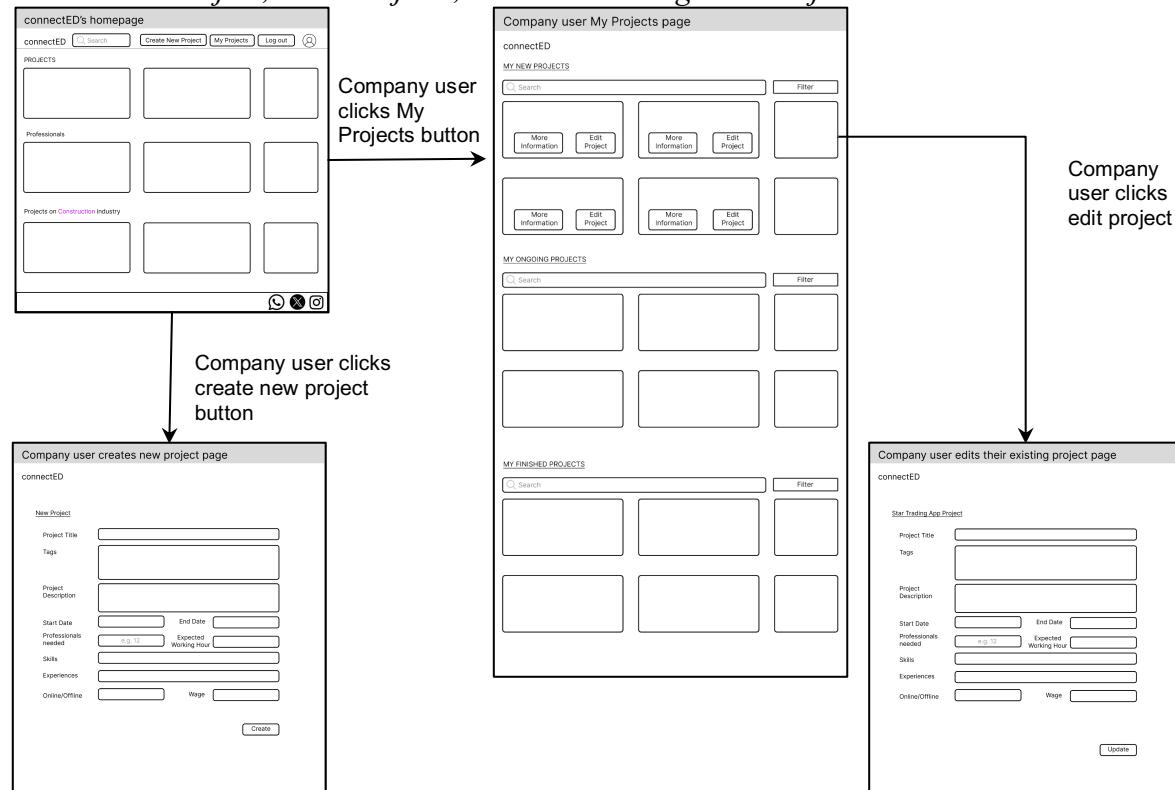
## Storyboards

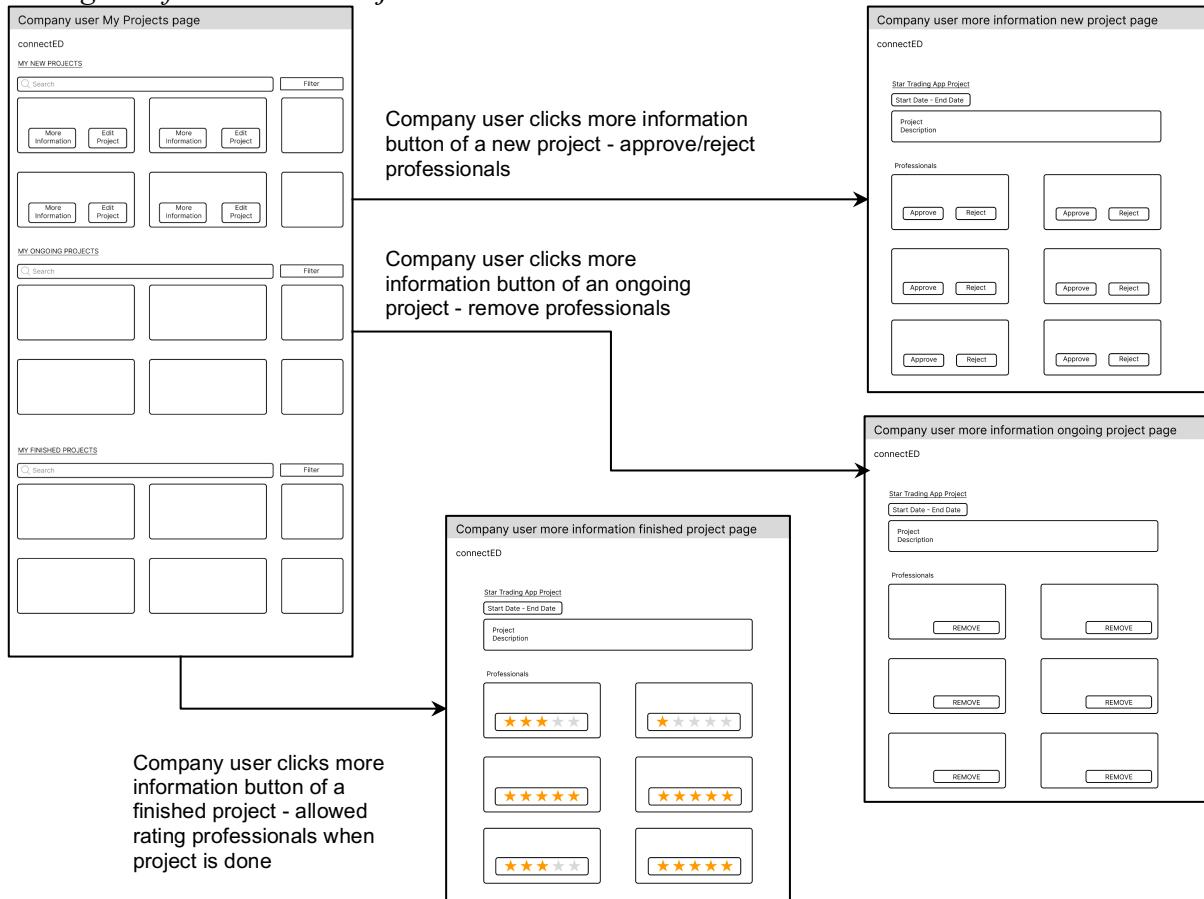
Figma and Google services were used to create storyboards of the application features and functionalities, based on the epic stories. [Figma link](#).

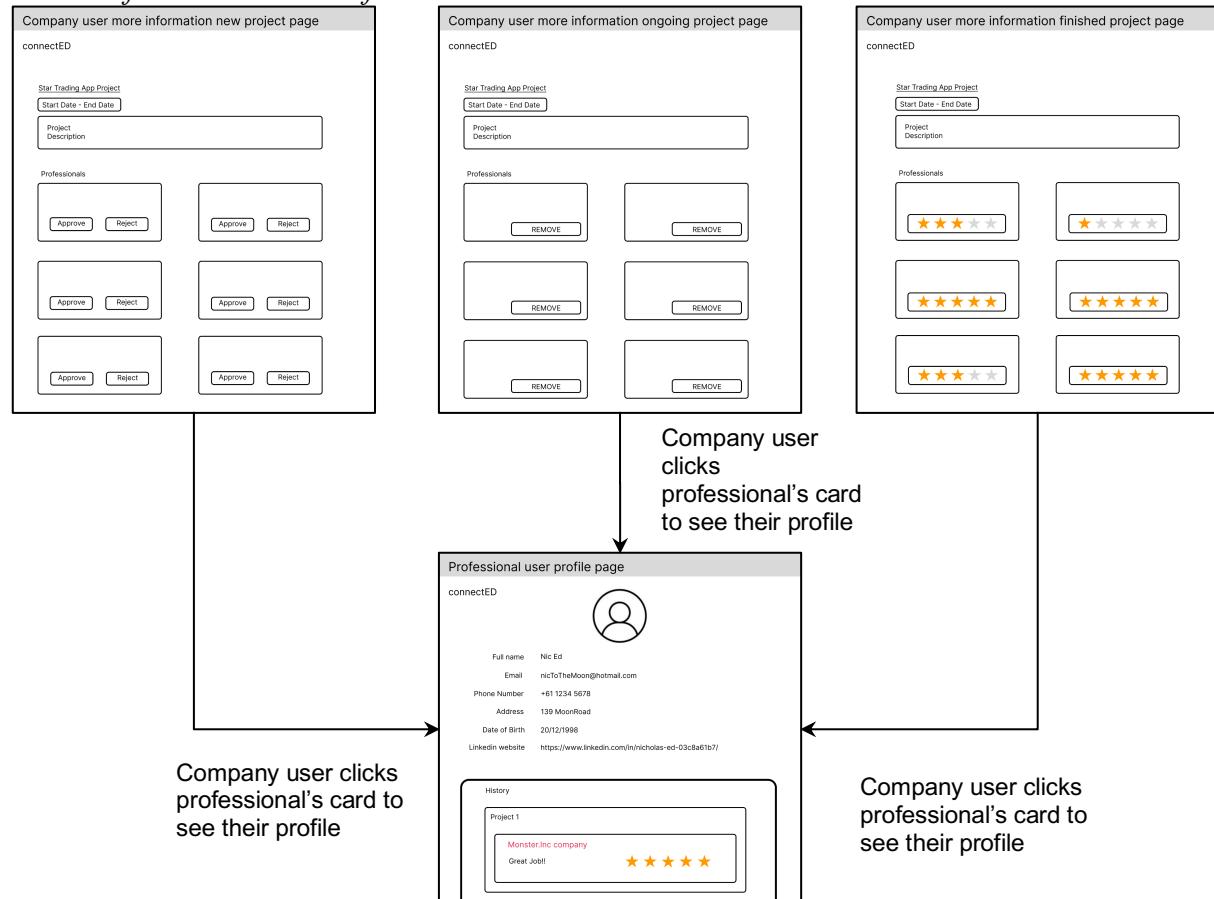
### Company Storyboard

#### Login and Register



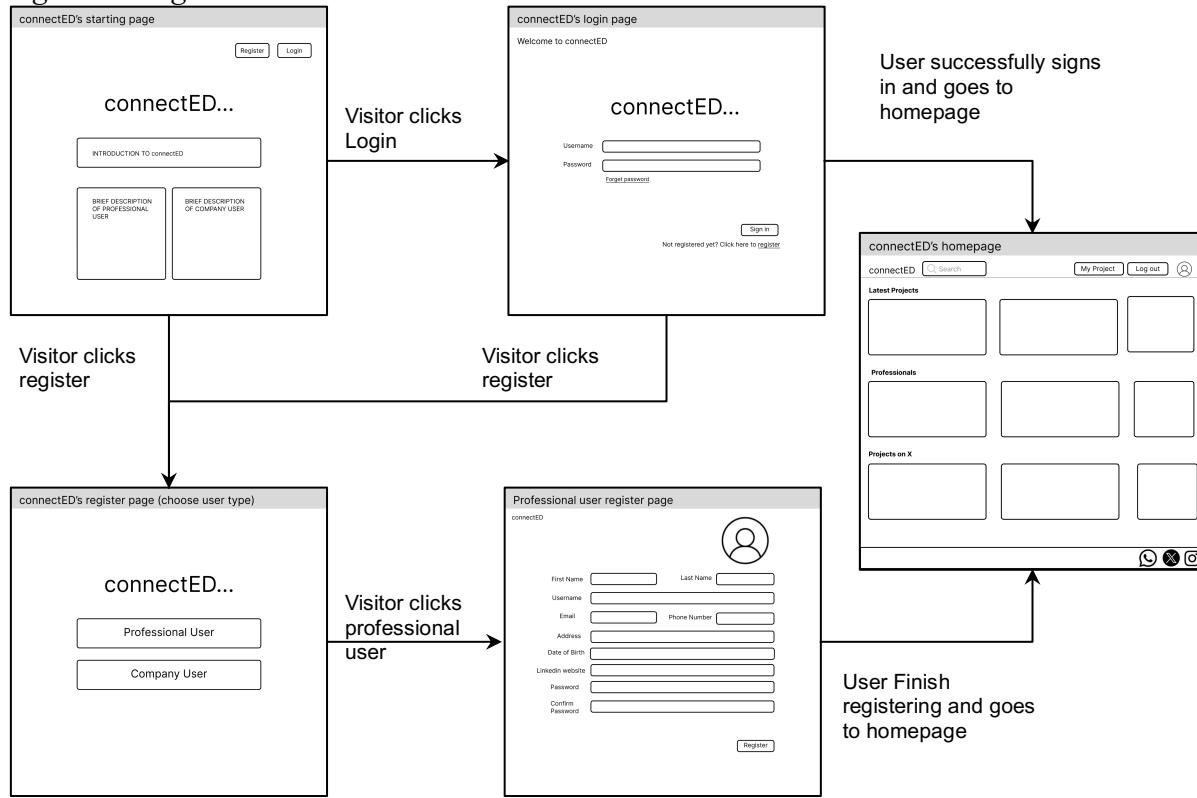
*View Profile and Logout**Create New Project, View Projects, and Edit Existing New Project*

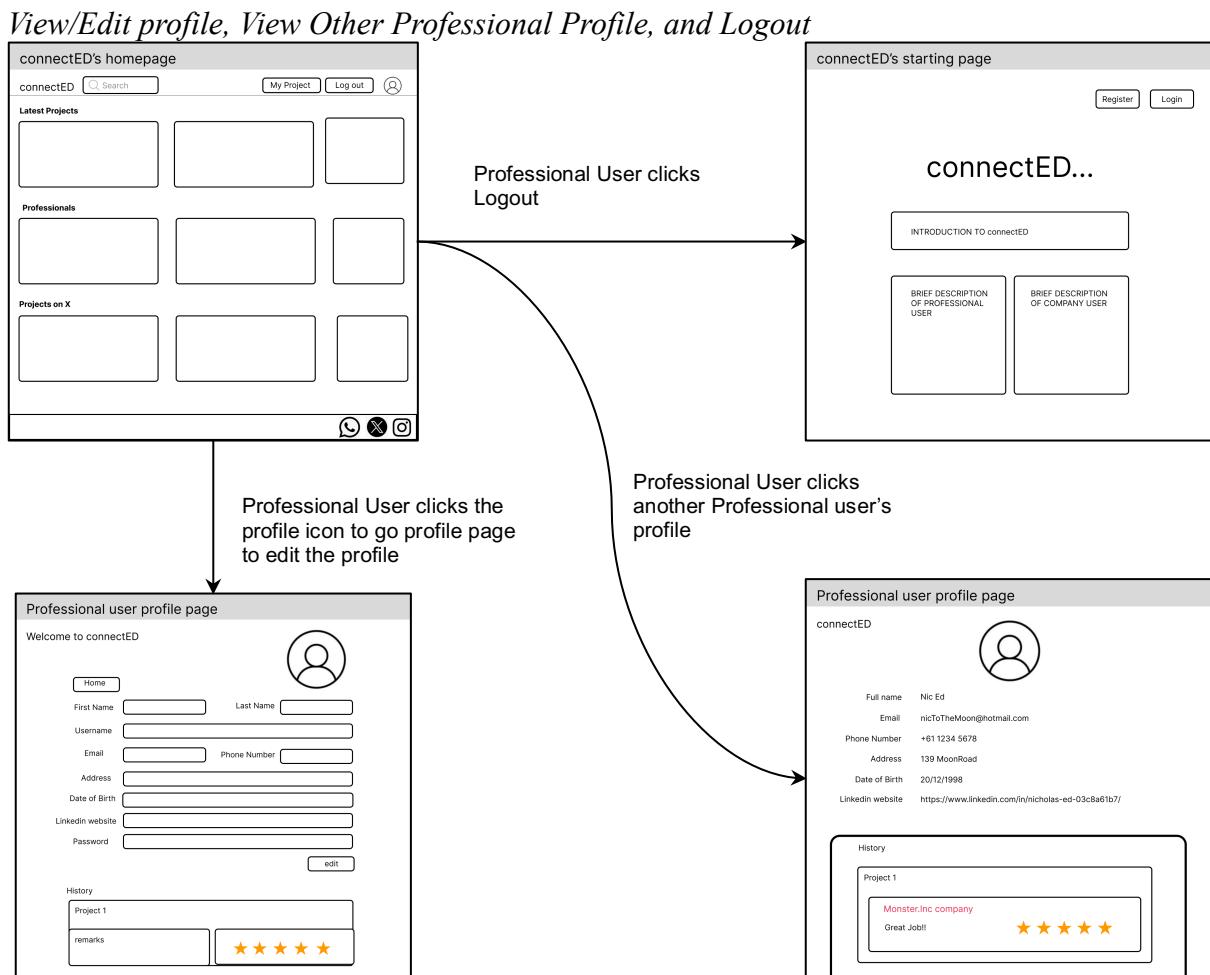
*Manage Professionals in Projects*

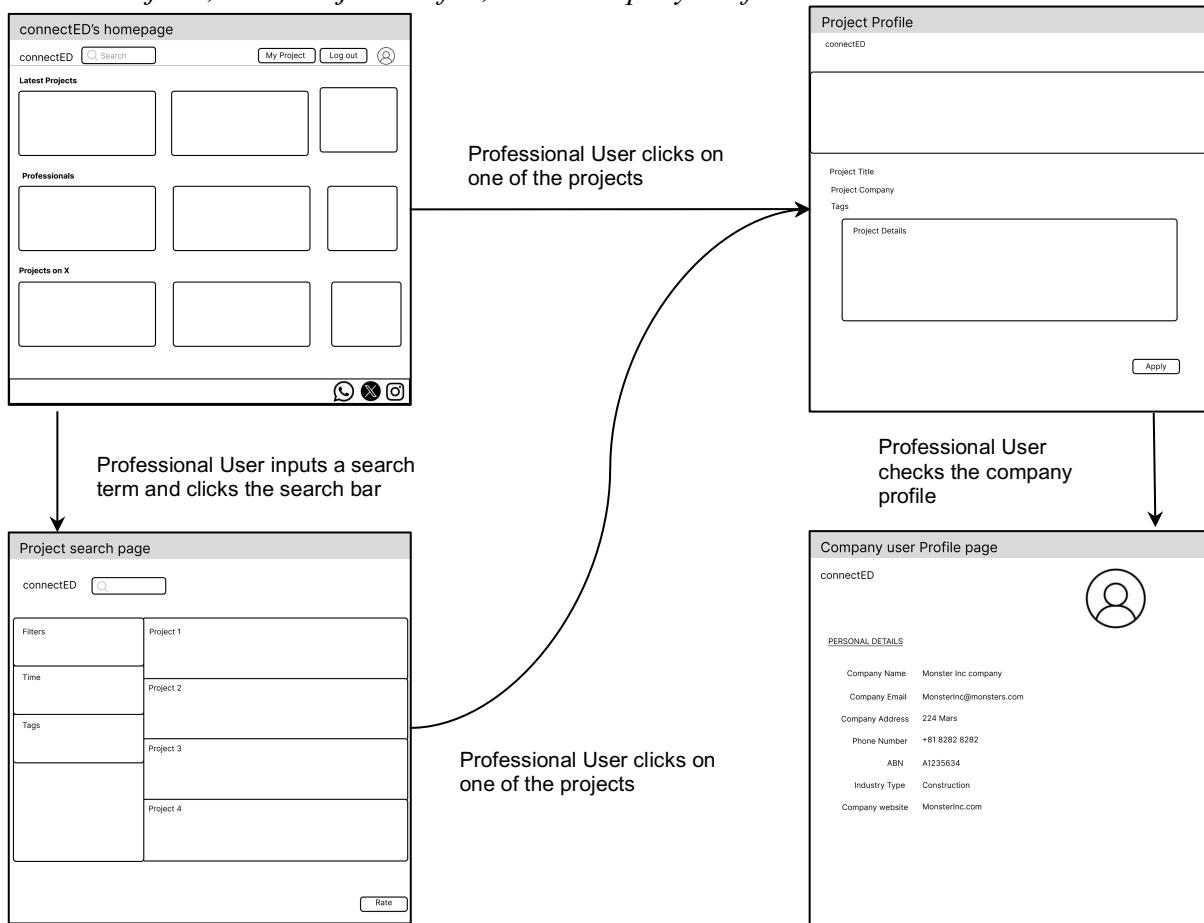
*View Professional User Profile*

## Professional Storyboard

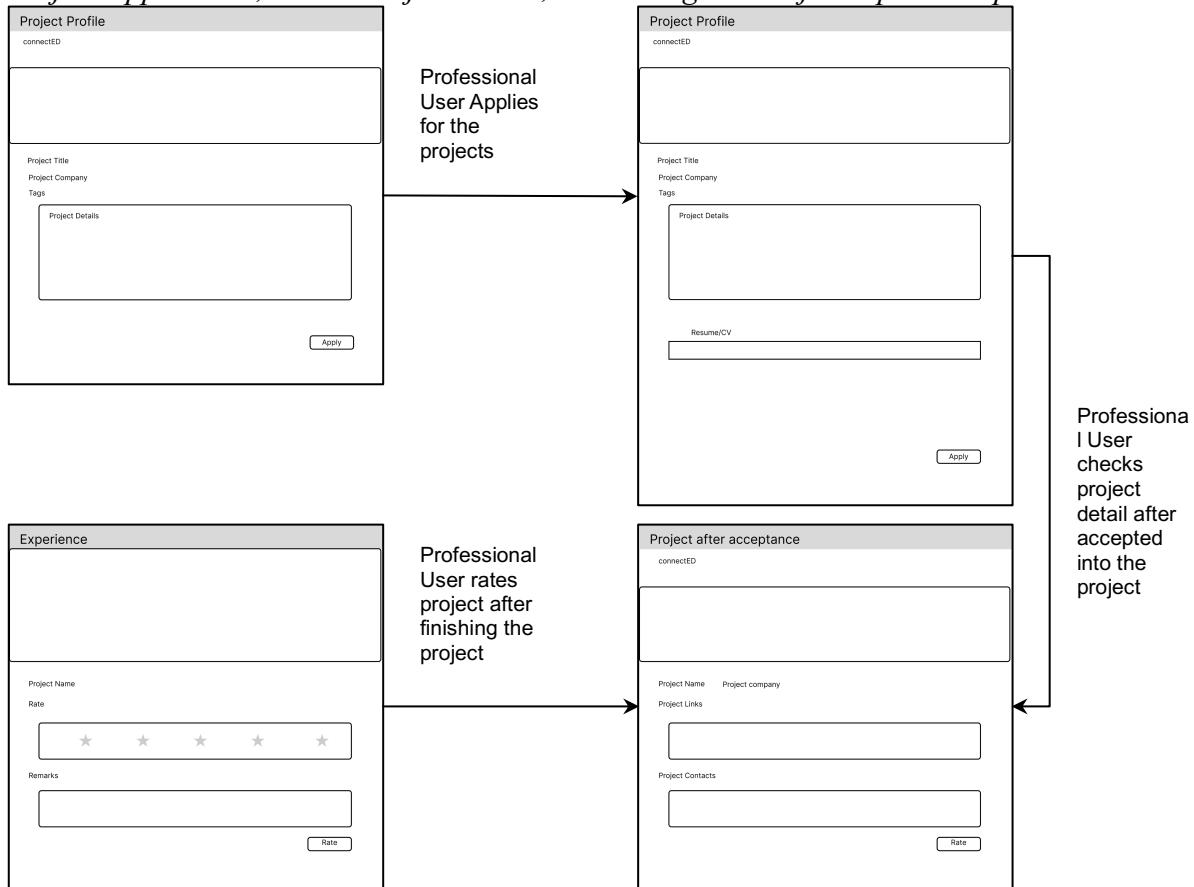
### *Login and Register*





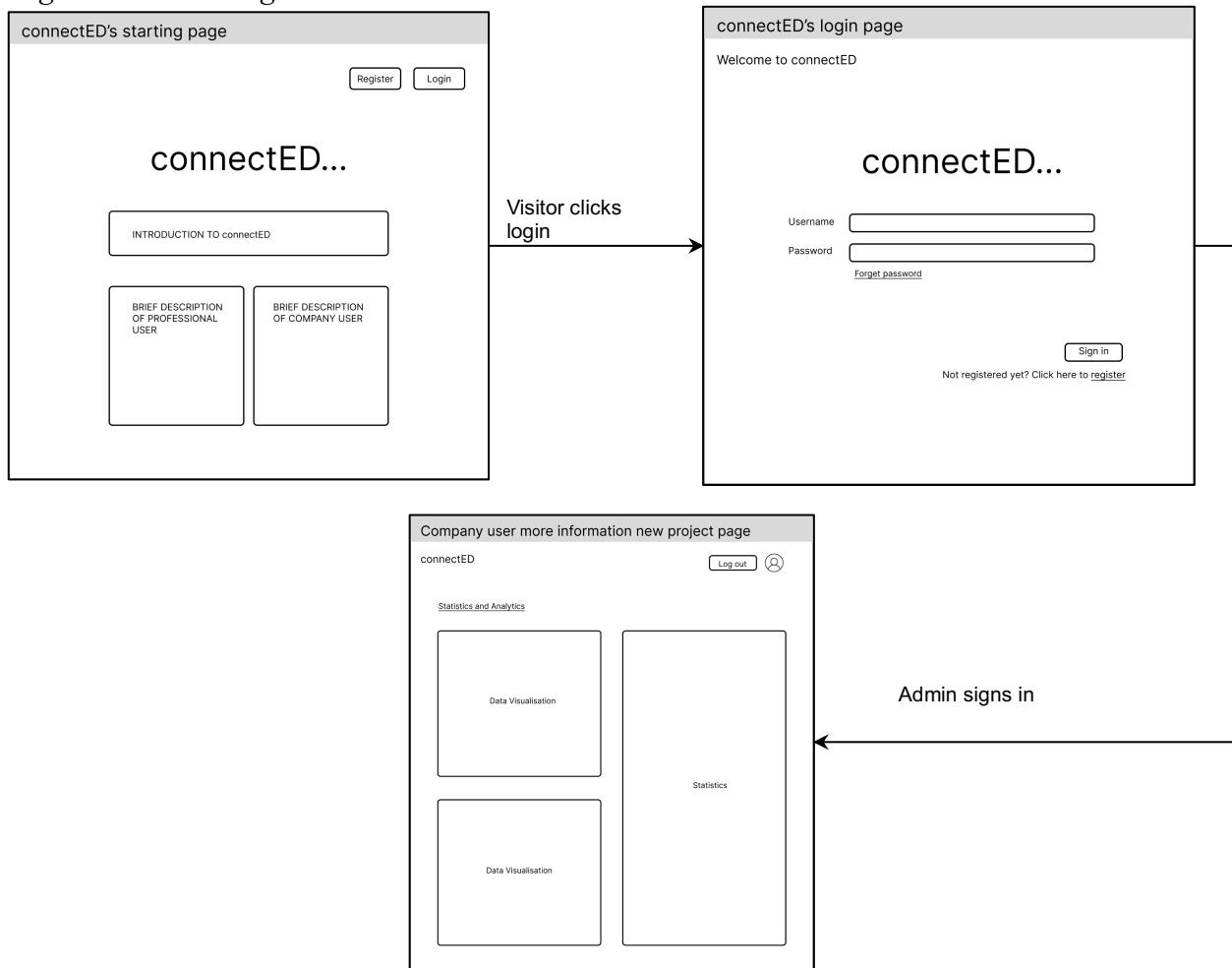
*Search Projects, View Project Profile, View Company Profile*

*Project Application, Check Project Detail, and Rating the Project Upon Completion*

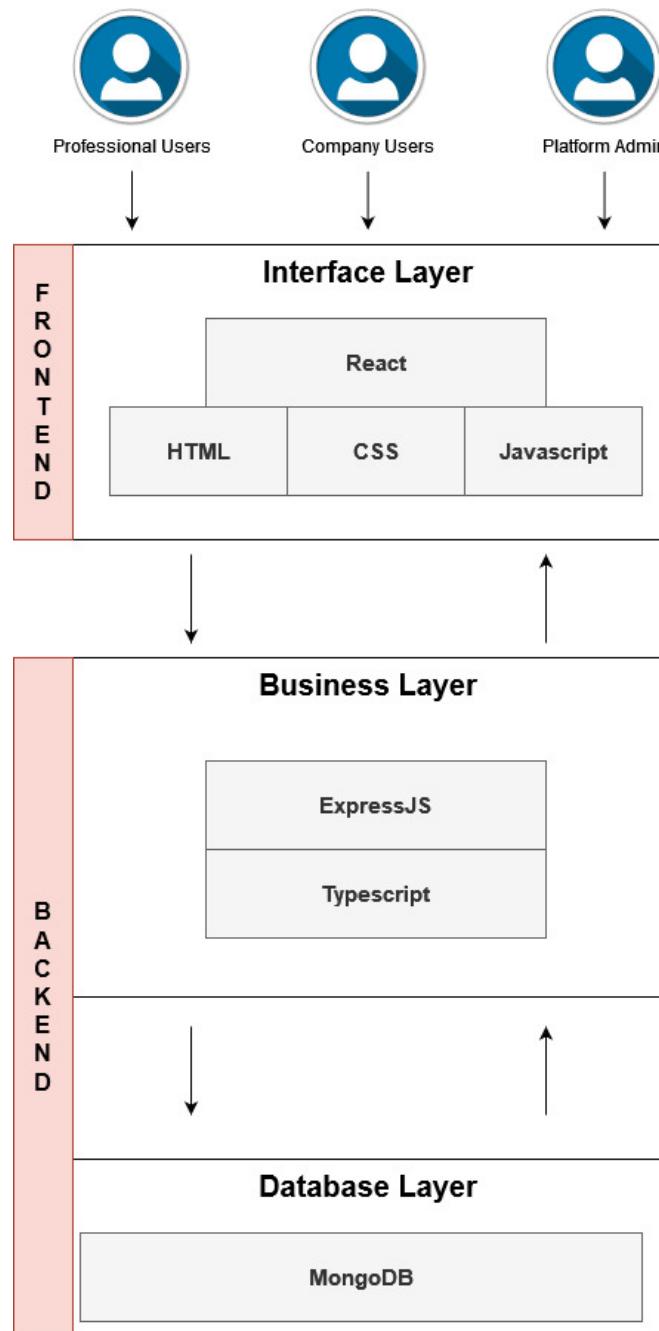


## Admin Storyboard

### Login and Home Page



## System Architecture



The external actors in the proposed system along with technologies/languages that will be used to develop the proposed system can be seen in the system diagram above and will be further explained in the next subsections.

## User Types (External Actors)

### *Professional Users*

- Skilled Individuals or Professionals that are registered to the platform in order to search and join projects that are posted by companies in the platform.
- Only interacts with the system through the Frontend component in which the Frontend component will fetch or make changes to the data in the backend component based on the user action.

### *Company Users*

- Individuals from a company who use the platform to post their projects in order to find skilled individuals who are suited and willing to work on their projects.
- Similar to the Professional Users, the company users also only interact with the system through the Frontend component where data will be fetched or changed in the backend component through the frontend component based on the user action.

### *Platform Admin*

- The platform administrator who is responsible for managing and overseeing the platform.
- Similar to the other two types of users, the platform administrator will interact with the system through the frontend component only.
- Unlike the other two users, the administrator will have a higher editing/manipulating power on the data in the backend system.

## System Architecture Layers

### *Interface Layer*

The interface layer or the frontend component is the front-facing part of our platform where the user can view and interact with the platform directly. The interface layer will be presented in the form of a website that will consist of multiple pages. The development of the website will be done using Frontend development languages such as HTML, JavaScript, and CSS along with the use of external libraries like React. The React library provides developers with inbuilt functionalities that allows developers to high quality user interfaces more efficiently.

### *Business Layer*

The business layer is the layer that is responsible for handling all the business logic or functionalities that are needed by the platform such as the signup, edit profile functionality, and much more. Additionally, the business layer also functions as an intermediary between the frontend layer and the database layer as it is responsible for fetching data from the database layer for the frontend layer and modifying data on the database layer based on the request of the frontend layer.

The business layer will be APIs that are developed using the Express web framework along with TypeScript as its development language. We decided to use Express as Express provides various HTTP Utility methods and middleware out of the box, thus allowing us to develop the APIs more efficiently. Additionally, we also decided to use Typescript as it has more features and type safety compared to JavaScript, thus allowing our code to be less prone to errors.

*Database Layer*

This layer is responsible for storing all the data for the proposed platform. For this project, we will be using the MongoDB NoSQL database. The MongoDB database will be responsible for creating, updating, and fetching data for the business layer based on the queries or commands provided by the business layer. Besides storing text-based data, the database will also store file-based data such as pdfs or images.

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