

**COMP3900**  
**COMPUTER SCIENCE PROJECT**



**PROJECT 23**

Web Platform for Connecting Professionals with Projects  
2023 T3

3900F11ABLIW

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# Background

## Goals and problems

### Goals

The goal of this project is to design and develop a Web platform that connects companies offering projects with potentially interested individuals who are willing to carry on project work.

### Problems specification

To be specific, our objective entails the creation of a website designed to accommodate two distinct user categories: company users and professional users. These individuals will have the capability to both register and log in. Company users will possess the ability to publicly post projects for the purpose of recruiting professionals. Additionally, they will have the autonomy to make modifications, updates, and manage their projects as necessary. Conversely, professional users will have the option to join projects listed by companies. This process will encompass numerous features, including but not limited to project rating after completion, advanced project filtering, and comprehensive profile editing functionalities, among others.

## Existing related systems

### Introduction

There are two highly related websites that existed on the internet:

**Fiverr:** Fiverr is an online marketplace that connects businesses and individuals with a wide range of freelance professionals who offer various services and expertise. These services cover diverse categories such as graphic design, writing, web development, digital marketing, and more. Fiverr acts as a platform for freelancers, allowing them to showcase their skills and offer their services to clients seeking specific projects or tasks to be completed. Clients can browse and hire freelancers from Fiverr's global talent pool, making it a convenient and efficient platform for outsourcing various professional tasks and projects.

**Freelancer:** Freelancer is an established online platform connecting businesses and freelancers worldwide. It offers a diverse range of digital services, enabling freelancers to showcase their skills and clients to post projects. Freelancers bid on these projects, making it a convenient hub for accessing freelance talent.

**Forage:** Forage is a website primarily designed for students who have recently graduated or are in their graduation year. It offers a platform where these students can explore virtual job and internship opportunities offered by a wide range of companies. These opportunities are structured to closely resemble real-life industry experiences.

## Drawbacks

Both Fiverr and Freelancer that have been mentioned have three major issues, they are

- **Project scalability:** Both Fiverr and Freelancer's projects typically involve single professionals, which can pose challenges for larger projects due to time constraints and the potential mismatch between a professional's skills and the project's full requirements.
- **Competitive Pricing Pressure:** Some professionals may offer services at very low prices, creating a competitive environment that can undervalue the work of skilled professionals.
- **Project Management:** Fiverr and Freelancer do not offer extensive project management tools, so clients may need to manage projects themselves, which can be a drawback for complex or long-term projects.

## Project solutions for drawbacks of related systems

### **Project scalability**

This project can effectively address this issue since our system allows multiple professionals to collaborate and work together on a single project.

### **Competitive Pricing Pressure**

The pricing pressure can be alleviated by our system, as the company will determine and display the prices, rather than leaving it for professionals to bid. Forage perfectly solves this issue as all the professionals are students who are mainly focused on the experience rather than the price, therefore most of the internships and job opportunities are unpaid which avoids the issue of competitive pricing pressure.

### **Project Management:**

Project management entails a substantial workload. Our system will empower project owners to efficiently edit and update project statuses, while additional advanced features will be implemented as time permits.

# User Stories and Sprints

## User Stories

All user stories that have been defined are included in this section. A detailed description describing the functionality to be delivered, along with the acceptance criteria are included. A screenshot of all the user stories can be found in *Figure 1* at the end of this section.

### Admin User Register/Login (BLIW-28)

#### Description

As an admin user, I would like to register and log in to an account so that I can do system maintenance work to keep the system operating well.

#### Acceptance Criteria

- ☐ For signup, Admin user needs to type name, email, password, a confirmation of the password.
- ☐ For signup, the admin user also needs a referral code which will be provided beforehand.
- ☐ For login, an email address and password are needed.

### Admin User panel information (BLIW-31)

#### Description

As an admin user, I would like to check key information of the system so that I can ensure the system is in good status and monitor all activities.

#### Acceptance Criteria

- ☐ Panel shows number of professionals, number of companies
- ☐ Panel has a member management sub-section that can remove users(except admin users) from the system.

### Company Registration (BLIW-3)

#### Description

As a company user, I would like to be able to create an account so that I can post jobs and look for professionals.

### Acceptance Criteria

- ☐ For signup, Company users need to enter their names, ABN, an unregistered email address, and a password
- ☐ If the entered email is already in use then the professional is informed and registration remains unsuccessful
- ☐ After successfully signing up, a unique user\_id is generated, and a type related to user\_id indicates the user is a company user.

### **Company User Login (BLIW-20)**

#### Description

As a company user, after successfully registering, I would like to be able to log in to my account so that I can post jobs and look for professionals.

#### Acceptance Criteria

- ☐ An email and password are needed for the company user to log in.
- ☐ A proper error message is returned when the entered email does not exist.
- ☐ A proper error message is returned when the password does not match the entered email address

### **Company account information editing/adding (BLIW-21)**

#### Description

As a company user, I would like to be able to edit my basic account information so that professionals can view and get to know the company.

#### Acceptance Criteria

- ☐ Company users are allowed to change the password, ABN, and company name
- ☐ Company users are allowed to change or add a short description of the company
- ☐ Company users are allowed to add a profile picture

### **Company User Project Creation (BLIW-22)**

#### Description

As a company user, I would like to be able to create a project and provide project information so that I can list the project requirements and hire professionals who are willing to help me with the project.

#### Acceptance Criteria

- ☐ Company users have the option to create the project
- ☐ Company users need to add a name to the project
- ☐ Company users need a description of the project
- ☐ Company users can set the profit(pricing) of the project
- ☐ Company users can set a limitation on the number of professionals

### **Company User Project List View (BLIW-23)**

#### Description

As a company user, I would like to view all the projects that I've created so that I can have a general idea of what I've done so far to see if further action is needed.

#### Acceptance Criteria

- ☐ Company users can access a list of the projects that have been created by themselves.
- ☐ Each project in the list needs to contain several pieces of information
  - The title
  - number of people
  - complete or ongoing

### **Company User Project List Filter (BLIW-26)**

#### Description

As a company user, I would like to search for my project from the list using a filter so that I can make my search easier to get what I specifically want.

#### Acceptance Criteria

- ☐ The panel of the project list will provide a filter that can filter important information and features of the project. Including features will be
  - complete/ongoing
  - number of project members
  - name/title
  - listed price

## **Company User Project Detail View/Edit (BLIW-25)**

### Description

As a company user, I would like to be able to view all the details of a project that I've created and be able to edit some of them so that I will know the overall progress of the project and take relevant actions.

### Acceptance Criteria

- ☐ Company users can view a specific project from the project list by clicking on the title.
- ☐ Company users can edit some of the details on the detail page, including
  - end date of the project
  - project description
  - project price

## **Company User Approve Professionals (BLIW-40)**

### Description

As a company, I would like to have the ability to approve individuals who have requested to join a project, ensuring that only suitable professionals are working on my project.

### Acceptance Criteria

- ☐ Company can view a list of professionals who have requested to join a project.
- ☐ Company can review the profile and relevant information of each professional.
- ☐ Company can approve each professional's request.
- ☐ If approved, the professional receives a notification and gains access to the project page.

## **Company User Reject Professionals (BLIW-41)**

### Description

As a company, I would like to have the ability to reject individuals who have requested to join a project, ensuring that only suitable professionals are working on my project.

### Acceptance Criteria

- ☐ Company can view a list of professionals who have requested to join a project.
- ☐ Company can review the profile and relevant information of each professional.



- ☐ Company can reject each professional's request.
- ☐ If rejected, the professional is informed of the decision through a notification.

### **Company User Edit Professionals List (BLIW-42)**

#### Description

As a company, I would like to be able to view and edit the list of professionals who are approved to join a project, to maintain an organized and updated project team.

#### Acceptance Criteria

- ☐ Company can view a list of all professionals approved for a project.
- ☐ Company can edit the list by adding or removing professionals.
- ☐ Company can notify professionals of any changes made to the project team.

### **Company User View All Projects (BLIW-43)**

#### Description

As a company, I want to view a list of all available projects and filter through them to find specific projects easily.

#### Acceptance Criteria

- ☐ Company can view a list of all available projects.
- ☐ Each project in the list displays essential details such as title, description, and owner.
- ☐ Company can filter the project list based on criteria like project owner, start and end dates, and specialization tags.
- ☐ Company can select any project from the list to view its full details.

### **Company User Rate Participants (BLIW-44)**

#### Description

As a company, after the completion of a project, I would like to rate the participants who have contributed to the project, to appreciate their effort and provide feedback.

#### Acceptance Criteria

- ☐ Company can view a list of all professionals who participated in a completed project.
- ☐ Company can rate each participant based on their performance and contribution.
- ☐ Participants receive notifications of their ratings.

## **Company User Recognize Participants (BLIW-45)**

### Description

As a company, after the completion of a project, I would like to recognize the participants who have contributed to the project by providing recognition certificates.

### Acceptance Criteria

- ☐ Company can view a list of all professionals who participated in a completed project.
- ☐ Company can provide recognition certificates to participants who have successfully completed the project.
- ☐ Participants receive notifications of any recognition awarded.

## **Professional User Registration (BLIW-4)**

### Description

As a working professional, I would like to register/create an account so that I can join the website which will allow me to find potential projects that interest me.

### Acceptance Criteria

- ☐ Professional can enter their name and an unused email address
- ☐ If the entered email is already in use then the professional is informed and registration remains unsuccessful.
- ☐ Professional can enter a STRONG password that is at least 8 characters and contains at least three of the following:
  - lowercase letters
  - uppercase letters
  - numbers
  - special characters (!, @, #, \$, %, ^, &, \*)
- ☐ If the entered password does not meet the requirements then the professional is informed and registration remains unsuccessful
- ☐ Upon successful registration, the professional is logged in

## **Professional User Login (BLIW-5)**

### Description

As a professional, I would like to login to my account so that I can view and find available projects.

### Acceptance Criteria

- ☐ Professional can enter an email and password
- ☐ If the entered email does not exist in the database or the password does not match the email entered, then a warning is displayed to the professional
- ☐ Upon successful login, the professional is logged in to their account and redirected to their feed, where they can view available projects.

### **Professional User Site Welcome (BLIW-47)**

#### Description

As a professional, I would like to add personal and professional information upon first login so that I can personalise my account and stand out from other accounts.

#### Acceptance Criteria

- ☐ Upon first login, the professional is given the opportunity to add their
  - Job title
  - Professional biography
  - Experience
  - Qualifications
  - Keywords/tags of areas they are open to working on
- ☐ There will be an option to skip adding such information (skip all and skip individual information).
- ☐ Professional can update their information at any time on their users page after submitting their personal and professional details upon this first login.

### **Professional User Account Edit (BLIW-10)**

#### Description

As a professional, I would like to be able to edit my account so that I can update any outdated information.

#### Acceptance Criteria

- ☐ Professional has the option to edit their personal details on the website via a “My Accounts” page.
- ☐ Professional can edit personal details such as:
  - Name
  - Email address
  - Password
  - Website
  - Job Title
  - Professional biography

- Experience
  - Qualifications
  - Keywords/tags of areas they are open to working on
- ☐ Professional can edit the visibility (available for public view, available for company view, only visible to self) of any of their personal details, along with the visibility of previous projects completed and personal reviews (from companies that have provided a project for the professional)

### **Professional User Project Edit (BLIW-11)**

#### Description

As a professional, I would like to be able to edit a project so that I can add my contributions and results to it.

#### Acceptance Criteria

- ☐ Professional can comment on the project to provide progress updates.
- ☐ Professional can upload files to the project as submissions.

### **Professional User Project Feed (BLIW-6)**

#### Description

As a professional, I would like to browse available projects that I can join so that I can see which projects are of interest to me.

#### Acceptance Criteria

- ☐ The professional can see all projects via a feed, where each project includes:
  - A title
  - A brief description
  - The project owner (company)
  - Project start and end dates
  - Tags detailing specialisation

### **Professional User Project Seek (BLIW-7)**

#### Description

As a professional, I would like to refine the list of projects so that I can more easily find the projects which are relevant and of interest to me.

#### Acceptance Criteria

- ☐ Professional can use a search functionality, which allows users to search for specific projects by title
- ☐ Projects whose titles' include the searched for words are shown upon searching
- ☐ If there exists no projects with the searched for words, then the professional user is informed
- ☐ Professional can filter for specific projects based on tags
- ☐ If there exists no projects with the filtered tags, then the professional user is informed

### **Professional User Project View (BLIW-8)**

#### Description

As a professional, I would like to view the specific details of a project so that I can determine if I want to contribute to the project.

#### Acceptance Criteria

- ☐ The professional can click on a project to view its full listing which includes:
  - A title
  - A detailed description
  - The project owner (company)
  - Project start and end dates
  - Application button
  - Project contact details
- ☐ The professional can click on a project in their feed, their search results and their filter results

### **Professional User Joined Projects List (BLIW-48)**

#### Description

As a professional, I would like the option to view all the projects that I have joined so that I know what I am currently working on and what I have previously completed.

#### Acceptance Criteria

- ☐ Professional can view a list of all projects that they have joined on a separate webpage
- ☐ Projects are split into current projects and completed projects
- ☐ Professional can filter projects by keywords/tags
- ☐ Professional has the option to leave a project using this webpage
- ☐ If there are no projects, then the professional is informed

## **Professional User Project Application (BLIW-9)**

### Description

As a professional, I would like to apply for projects so that I can potentially join a project which interests me.

### Acceptance Criteria

- ☐ Clicking on the application button in the full listing of a project will lead to a new page where the professional can
  - Submit their resume
  - Answer any preliminary application questions asked by the project
- ☐ Professional can save their application which will save all currently entered information
- ☐ Professional can submit their application via a button
- ☐ If not all required information is submitted by the professional, the application will not go through and the professional will be informed
- ☐ Upon successful application, the professional is notified and is redirected to their feed

## **Project Collaboration (BLIW-49)**

### Description

As a professional, I would like to be able to collaborate with other professionals so that I can work on large-scale projects reasonably.

### Acceptance Criteria

- ☐ Multiple professionals can communicate on a specific project channel if they are working on a project together
- ☐ Professional can update each other on what they are currently working on or have recently worked on (similar to Jira tickets)
- ☐ Professional can raise blocking issues so that other professionals are aware
- ☐ Professional can review each other's work

## **Project Pricing (BLIW-50)**

### Description

As a company, I would like to provide the price that I am willing to pay for a project so that professionals know a rough estimate of the time and quality required, as well as ensure that the professional's work is not undervalued.

### Acceptance Criteria

- ☐ Company MUST provide a price for each project
- ☐ Company can provide a rough estimate of time required for the project

### **Project Management Tools (BLIW-51)**

#### Description

As a company, I would like to efficiently manage large scale projects so that professionals can focus more time on working on the project and less time on communicating with the client.

#### Acceptance Criteria

- ☐ Company user can edit description and timeline of project at any time
- ☐ Company user can provide updates to status of the project

### **Professional User Makes Request (BLIW-13)**

#### Description

As a user I want to be notified that I have requested to join a project so that I can be sure my request has been sent.

#### Acceptance Criteria

- ☐ User receives an email which says the following: "Dear User, You have sent a request to join Company X's project. You will be notified when the company has reviewed and responded to your request".
- ☐ If the user uses the mobile app they should receive a notification to their phone that they have requested to join a project.
- ☐ While the user waits for the outcome the job posting should have pending status.

### **Professional Request Outcome (BLIW-14)**

#### Description

As a professional I want to know the outcome of my request to join a project so I can start the project.

#### Acceptance Criteria:

- ☐ If the professional is accepted into the project they should receive an email saying: "Dear X, Company A would like to invite you to participate in Project X. Click here to view the project. If you would like to decline the offer please click here".

- ☐ Professionals receive push notification if they are using the mobile app with the same notification.
- ☐ If the company declined the professionals request to join a project then they should receive a notification either by email or mobile notification: "Dear X, Company A unfortunately will not invite you to join Project X."
- ☐ Professional User has been granted permission to the project page.

### **Professional Rating Project (BLIW-15)**

#### Description

As a professional I want to rate my experiences completing a project so that I can give meaningful feedback to the company and to help give other professionals insight into working with that company.

#### Acceptance Criteria:

- ☐ Professionals should be able to rate the company out of five on the following: communication, description of project matches the work required, responsiveness, resources availability, fair remuneration.
- ☐ Section for optional review and comments.
- ☐ Only available once a project has successfully been completed
- ☐ Once the professional has submitted the review it should appear on the company's profile page under the review section.

### **Professional Completion of Project Certificate (BLIW-18)**

#### Description

As a professional I want to receive recognition that I have successfully completed a project so that I can have a record of my achievement.

#### Acceptance Criteria:

- ☐ Certificate states that the professional successfully completed the X project of company A.
- ☐ Certificate includes start and end of project date.
- ☐ Certificate includes a brief description.
- ☐ Certificates are emailed to the user or can be downloaded from their profile.



## **Professional's ratings and reviews page (BLIW-19)**

### Description

As a professional I want to be able to see my ratings from previous projects so that I can use the feedback to improve and to give my profile credibility to future companies.

### Acceptance Criteria:

- ☐ Ratings and reviews section on professionals profile page.
- ☐ At the top of the page includes an average score of past reviews.
- ☐ Reviews are broken down by company in reverse chronological order.

▼ <b>Sprint One</b> 29 Sep – 13 Oct (11 issues)				23	0	0	Start sprint	...
BLIW-4 Professional User Registration	PROFESSIONAL	TO DO ▼	2					
BLIW-5 Professional User Login	PROFESSIONAL	TO DO ▼	1					
BLIW-20 Company User Login	COMPANY	TO DO ▼	1					
BLIW-10 Professional User Account Edit	PROFESSIONAL	TO DO ▼	3					
BLIW-47 Professional User Site Welcome	PROFESSIONAL	TO DO ▼	3					
BLIW-21 Company account information editing/adding	COMPANY	TO DO ▼	2					
BLIW-28 Admin User Register/Login	ADMIN	TO DO ▼	2					
BLIW-3 Company Registration	COMPANY	TO DO ▼	2					
BLIW-22 Company User Project Creation	COMPANY	TO DO ▼	2					
BLIW-23 Company User Project List View	COMPANY	TO DO ▼	2					
BLIW-6 Professional User Project Feed	PROFESSIONAL	TO DO ▼	3					
+ Create issue								



▼ <b>Backlog</b> (22 issues)				60	0	0	Create sprint	
BLIW-11 Professional User Project Edit	PROFESSIONAL	TO DO ▼	3					
BLIW-7 Professional User Project Seek	PROFESSIONAL	TO DO ▼	3					
BLIW-8 Professional User Project View	PROFESSIONAL	TO DO ▼	2					
BLIW-9 Professional User Project Application	PROFESSIONAL	TO DO ▼	3					
BLIW-13 Professional User makes request	PROFESSIONAL	TO DO ▼	2					
BLIW-14 Professional Request Outcome	PROFESSIONAL	TO DO ▼	3					
BLIW-15 Professional Rating Project	PROFESSIONAL	TO DO ▼	2					
BLIW-18 Professional Completion of Project Certificate	PROFESSIONAL	TO DO ▼	1					
BLIW-19 Professional's ratings and reviews page	PROFESSIONAL	TO DO ▼	2					
BLIW-26 Company User Project List Filter	COMPANY	TO DO ▼	1					
BLIW-25 Company User Project Detail View/Edit	COMPANY	TO DO ▼	2					
BLIW-40 Company User Approve Professionals	COMPANY	TO DO ▼	4					
BLIW-41 Company User Reject Professionals	COMPANY	TO DO ▼	4					
BLIW-42 Company User Edit Professionals List	COMPANY	TO DO ▼	3					
BLIW-43 Company User View All Projects	COMPANY	TO DO ▼	3					
BLIW-44 Company User Rate Participants	COMPANY	TO DO ▼	3					
BLIW-45 Company User Recognize Participants	COMPANY	TO DO ▼	3					
BLIW-31 Admin User panel information	ADMIN	TO DO ▼	2					
BLIW-48 Professional User Joined Projects List	PROFESSIONAL	TO DO ▼	4					
BLIW-49 Project Collaboration	PROFESSIONAL	TO DO ▼	5					
BLIW-50 Project Pricing	COMPANY	TO DO ▼	1					
BLIW-51 Project Management Tools	COMPANY	TO DO ▼	4					
+ Create issue								

Figure 1: Screenshot of All User Stories on Jira

# Sprints

## Sprint Structure

We will be adopting a 3-sprint structure for this project with the following start and end dates:

- Sprint One: 29/09/2023 - 13/10/2023
  - 2 weeks; starting Friday Week 3 and ending Friday Week 5
- Sprint Two: 13/10/2023 - 03/11/2023
  - 3 weeks; starting Friday Week 5 and ending Friday Week 8
- Sprint Three: 03/11/2023 - 17/11/2023
  - 2 weeks; starting Friday Week 8 and ending Friday Week 10

## Scope of First Sprint

The first sprint shall contain the following 11 user stories:

- Professional User Registration
- Professional User Login
- Company User Login
- Professional User Account Edit
- Professional User Site Welcome
- Company Account Information Adding/Editing
- Admin User Register/Login
- Company Registration
- Company User Project Creation
- Company User Project List View
- Professional User Project Feed

▼ Sprint One

29 Sep – 13 Oct (11 issues)

23

0

0

Start sprint

...

BLIW-4 Professional User Registration

PROFESSIONAL

TO DO ▼

2

BLIW-5 Professional User Login

PROFESSIONAL

TO DO ▼

1

BLIW-20 Company User Login

COMPANY

TO DO ▼

1

BLIW-10 Professional User Account Edit

PROFESSIONAL

TO DO ▼

3

BLIW-47 Professional User Site Welcome

PROFESSIONAL

TO DO ▼

3

BLIW-21 Company account information editing/adding

COMPANY

TO DO ▼

2

BLIW-28 Admin User Register/Login

ADMIN

TO DO ▼

2

BLIW-3 Company Registration

COMPANY

TO DO ▼

2

BLIW-22 Company User Project Creation

COMPANY

TO DO ▼

2

BLIW-23 Company User Project List View

COMPANY

TO DO ▼

2

BLIW-6 Professional User Project Feed

PROFESSIONAL

TO DO ▼

3

+ Create issue

Figure 2: Screenshot of Sprint One Plan on Jira

## Satisfying Project Objectives

There are three types of users - administrators who run the website, company users who can post projects and professional users who can join projects. Each type of user has specific objectives that must be satisfied. The project objectives which must be satisfied, along with the user stories which satisfy these objectives can be found in *Table 1* on the following page. Some user stories will span across multiple project objectives.

*Table 1: Project Objectives and Corresponding User Stories*

<b>Project Objective</b>	<b>User Stories which satisfies project objective</b>
Administrator users have the full privilege in the system and should be able to manage and oversee the platform.	<ul style="list-style-type: none"> <li>• Admin User Panel Information</li> </ul>
Users with different roles and responsibilities can create their account, login and operate the system based on their roles and responsibilities.	<ul style="list-style-type: none"> <li>• Admin Registration/Login</li> <li>• Admin User Panel Information</li> <li>• Company Registration</li> <li>• Company User Login</li> <li>• Company User Project Creation</li> <li>• Company Project Detail Edit</li> <li>• Company User Approve Professional Users</li> <li>• Company User Reject Professional Users</li> <li>• Company User Edit Professionals List</li> <li>• Company User Rate Participants</li> <li>• Company User Recognize Participants</li> <li>• Professional User Registration</li> <li>• Professional User Login</li> <li>• Professional User Application</li> <li>• Professional User Project Edit</li> <li>• Professional Rating Project</li> </ul>
Users can edit/maintain their profiles.	<ul style="list-style-type: none"> <li>• Professional User Account Edit</li> <li>• Company User Account Edit</li> </ul>
A company can create/register their account and login.	<ul style="list-style-type: none"> <li>• Company Registration</li> <li>• Company User Login</li> </ul>
A company can edit their account by updating basic account information.	<ul style="list-style-type: none"> <li>• Company Account Information Editing/Adding</li> </ul>
A company can create a new project by providing project information.	<ul style="list-style-type: none"> <li>• Company User Project Creation</li> </ul>
A company can view their project lists and its details (and filter it) and can edit any project information.	<ul style="list-style-type: none"> <li>• Company Project List View</li> <li>• Company Project List Filter</li> <li>• Company Project Detail View</li> <li>• Company Project Detail Edit</li> </ul>
A company can approve/reject individuals requested to join the project.	<ul style="list-style-type: none"> <li>• Company User Approve Professional Users</li> <li>• Company User Reject Professional Users</li> </ul>

A company can view/edit the list of professionals who are approved to join a project.	<ul style="list-style-type: none"> <li>• Company User Edit Professionals List</li> </ul>
A company can view list of all available projects (project lists) and can choose to see the details of any project with filters.	<ul style="list-style-type: none"> <li>• Company User View All Projects</li> </ul>
A company can rate and recognize the participants who contributed to their projects at the end of the project.	<ul style="list-style-type: none"> <li>• Company User Rate Participants</li> <li>• Company User Recognize Participants</li> </ul>
A professional (individual looking to join projects) can create/register their account and login.	<ul style="list-style-type: none"> <li>• Professional User Registration</li> <li>• Professional User Login</li> </ul>
A professional can edit and update their account/project.	<ul style="list-style-type: none"> <li>• Professional User Account Edit</li> <li>• Professional User Project Edit</li> </ul>
A professional can search and browse list of available projects and refine the results with search filters.	<ul style="list-style-type: none"> <li>• Professional User Project Feed</li> <li>• Professional User Project Seek</li> </ul>
A professional can select to view the full details of any project from the search results.	<ul style="list-style-type: none"> <li>• Professional User Project View</li> </ul>
A professional can request to join/apply for a project of interest (this includes sharing relevant information from their profile)	<ul style="list-style-type: none"> <li>• Professional User Application</li> </ul>
A professional receive a notification of their request to join a project.	<ul style="list-style-type: none"> <li>• Professional Request Outcome</li> </ul>
A profession can see the project page if they are approved by a company.	<ul style="list-style-type: none"> <li>• Professional Request Outcome</li> </ul>
A professional can rate their experience with the project when the project is completed.	<ul style="list-style-type: none"> <li>• Professional Rating Project</li> </ul>
Upon successful completion, a professional can obtain certificate of recognition from the company offering the project.	<ul style="list-style-type: none"> <li>• Professional Completion of Project Certificate</li> </ul>
Professional can browse list of achievements (completed projects and reviews).	<ul style="list-style-type: none"> <li>• Professional's ratings and reviews page</li> </ul>

## Novel Features

Conex shall introduce novel features to combat the drawbacks of industry leaders which were mentioned in the background. The three main drawbacks of current industry leaders are:

1. Project scalability
2. Competitive pricing pressure
3. Project management

Currently, industry leaders are facing challenges in delivering large and medium scale projects as there is no capability for collaboration between multiple professionals. This results in the majority of projects being provisioned at a smaller scale, which does not align with working in the real world. Conex will allow for the collaboration between multiple professionals on a single project by providing a space for collaboration. Professionals will be able to contact each other directly or using the project collaboration tool provided. Using the collaboration tool, the professionals will be able to update each other on their progress, raise blocking issues and review each other's work, along with other features if time permits. Project scalability will be addressed in the *Project Collaboration* user story.

Existing freelancing platforms such as Fiverr or Freelancer have a system where professionals can bid and offer prices for a project. Some professionals may offer their services for low extraordinarily low prices, creating a competitive environment which undervalues the work of skilled professionals. To combat this, Conex will not allow for price bidding by the professionals, but rather, have the prices set by the company offering the project. This transparency will hopefully result in professionals being paid a more competitive amount that accurately reflects the quality of work that they are producing. This competitive pricing pressure shall be addressed in the *Project Pricing* user story.

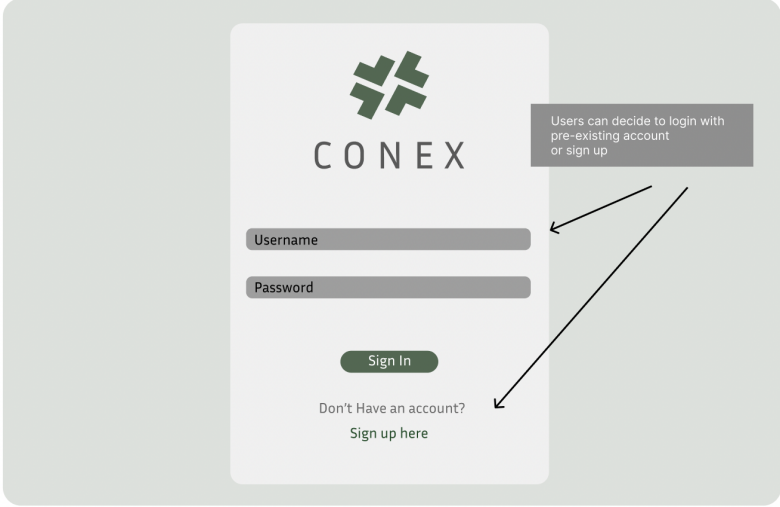
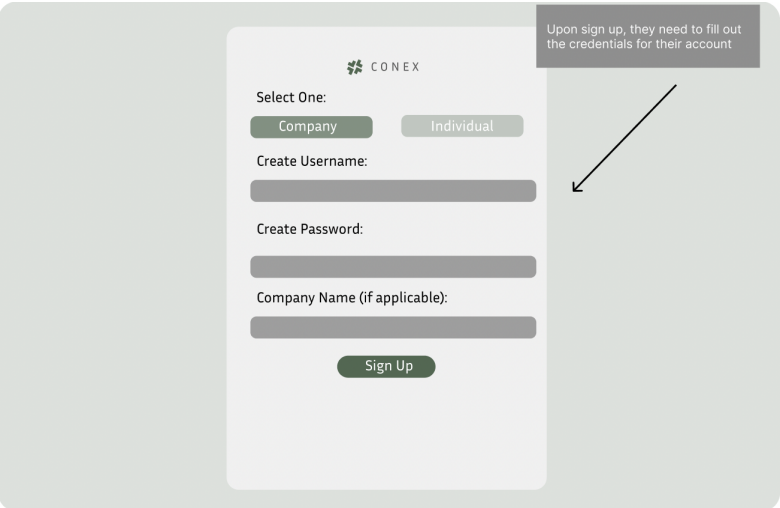
Lastly, as industry leaders mostly offer smaller scale projects, these industry leaders do not offer extensive project management tools. Project owners must manage the projects themselves, which can be a drawback for complex and/or large and medium scale projects. As Conex will allow project owners to provide larger scale projects, there must exist project management tools that allow project owners to efficiently edit and update project statuses. This drawback will be addressed in the *Project Management Tools* user story.

A summary of the novel features and their corresponding user stories which will implement these features can be found in *Table 2* below.

<i>Table 2: User Stories which Correspond with the Novel Features</i>	
<b>Novel Feature</b>	<b>User Story</b>
Project scalability	<ul style="list-style-type: none"><li>• Project Collaboration</li></ul>
Competitive pricing pressure	<ul style="list-style-type: none"><li>• Project Pricing</li></ul>
Project management	<ul style="list-style-type: none"><li>• Project Management Tools</li></ul>

# Technical Details

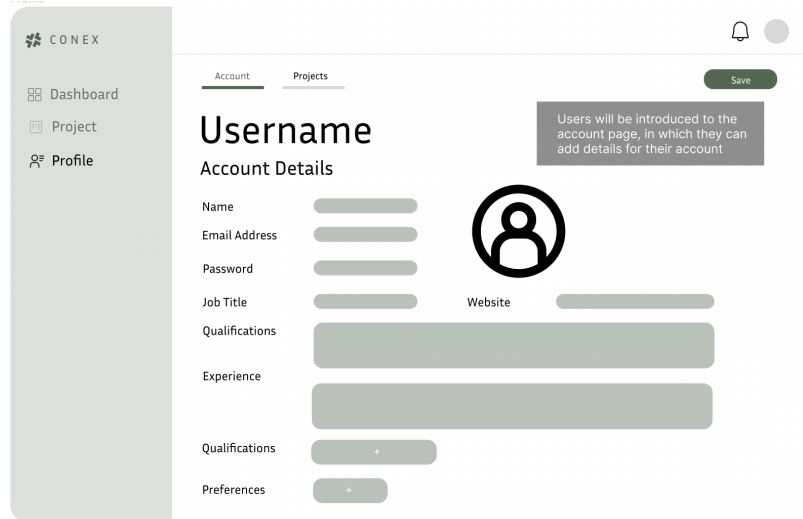
## Storyboard for user stories

Targeted Objective and User Stories	Storyboards
<ul style="list-style-type: none"> <li>• Company Registration (BLIW-3)</li> <li>• Company User Login (BLIW-20)</li> <li>• Professional User Registration (BLIW-4)</li> <li>• Professional User Login (BLIW-5)</li> </ul>	<p>Login:</p>  <p><i>Figure 3: User Login</i></p> <p>Registration:</p>  <p><i>Figure 4: Registration</i></p>



- Professional User Site Welcome (BLIW-47)
- Professional User Account Edit (BLIW-10)
- Company Account Information Editing/Adding (BLIW-21)

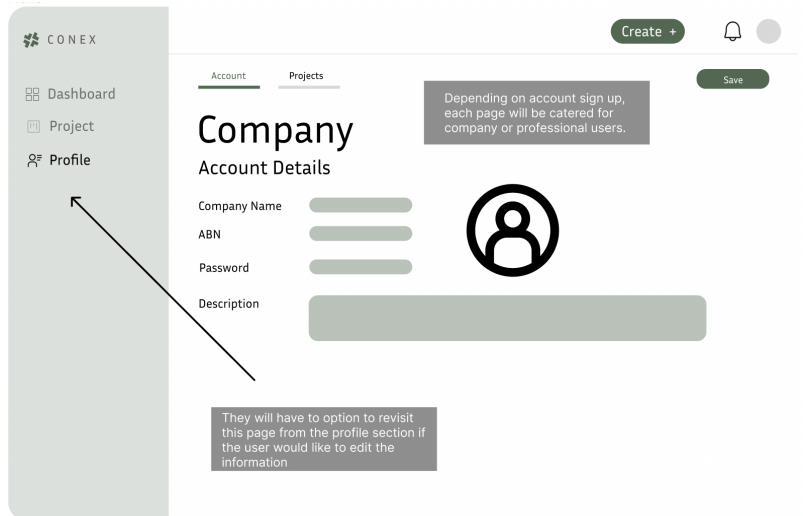
#### Professional:



The Professional User Account Page features a sidebar with 'CONEX' branding and navigation links for Dashboard, Project, and Profile. The main content area has tabs for 'Account' and 'Projects', with a 'Save' button in the top right. The 'Account' tab is active, showing a 'Username' section with a callout: 'Users will be introduced to the account page, in which they can add details for their account'. Below this is the 'Account Details' form, which includes fields for Name, Email Address, Password, Job Title, Website, Qualifications, Experience, and Preferences. A profile icon is positioned to the right of the form fields.

Figure 5: Professional User Account Page

#### Company:



The Company User Account Page features a sidebar with 'CONEX' branding and navigation links for Dashboard, Project, and Profile. The main content area has tabs for 'Account' and 'Projects', with a 'Create +' button and a 'Save' button in the top right. The 'Account' tab is active, showing a 'Company' section with a callout: 'Depending on account sign up, each page will be catered for company or professional users.' Below this is the 'Account Details' form, which includes fields for Company Name, ABN, Password, and Description. A profile icon is positioned to the right of the form fields. An arrow points from the 'Profile' link in the sidebar to the 'Account Details' form, with a callout: 'They will have to option to revisit this page from the profile section if the user would like to edit the information'.

Figure 6: Company User Account Page

- Company User Project List View (BLIW-23)
- Company User Project List Filter (BLIW-26)
- Company User View All Projects (BLIW-43)
- Professional User Project Feed (BLIW-6)
- Professional User Project Seek (BLIW-7)

## Dashboard:

The screenshot shows the CONEX dashboard with a sidebar containing 'Dashboard', 'Profile', and 'Project'. The main content area is titled 'Projects > All' and includes a search bar, an 'Assignee' filter, and a '+ Add Filter' button. A table displays project data with columns for Name, Status, Role, Lead, and Capacity. The table contains four rows of project data. A callout box points to the search bar, stating: 'They are thus able to filter out and search certain projects using keywords.' Another callout box points to the table, stating: 'All users are able to view all projects that are within the system.'

Name	Status	Role	Lead	Capacity
Project Name	In Progress	UX/UI		3 people
Project Name	In Progress	Business Analyst		3 people
Project Name	Complete	Product Management		3 people
Project Name	Complete	Testing		3 people

Figure 7: User Feed

## Informed if no results:

The screenshot shows the CONEX dashboard with the same sidebar as Figure 7. The main content area is titled 'Projects > All' and includes a search bar, an 'Assignee' filter, and a '+ Add Filter' button. Below the filters, a message states: 'Sorry, results were not found.' A callout box points to this message, stating: 'If no results are found, the user will be notified.'

Figure 8: User Search Functionality

- Professional User Project View (BLIW-8)
- Professional User Project Application (BLIW-9)
- Professional User makes request (BLIW-13)

Inspect Project:

CONEX

Dashboard

Profile

Project

Projects > All > Project Name

Project Name

Description

Attachments

Sub Tasks

Contacts

Users are able to view the details of the project. They also have the choice to apply.

Apply

Properties

Created:Date

Status:Open

Project Owner:

Company:

Roles:UX/UI

Due Date:Date

Figure 9: Project Details Page

Applications:

CONEX

Dashboard

Profile

Project

Projects > All > Project Name

Project Name

Attach Resume here

Attach Cover Letter here

Preliminary Application Question 1

Preliminary Application Question 2

Preliminary Application Question 3

Submit

After clicking apply, they are given a page to add their resume, and to fill out preliminary questions for the project.

Create +

Properties

Created:Date

Status:In Progress

Project Owner:

Company:

Roles:UX/UI

Due Date:Date

Figure 10: Professional User Project Application

- Professional User  
Joined Projects List  
(BLIW-48)
- Professional User  
Project Edit (BLIW- 11)
- Project Collaboartion  
(BLIW-49)
- Project Management  
Tools (BLIW-51)
- Professional Rating  
Project (BLIW-15)

### Joined Projects:

CONEX

Dashboard Profile Project

Create +

Username

Current Projects

Name	Status	Role	Lead	Experience
Project Name	In Progress	UX/UI		
Project Name	In Progress	Product Management		
Project Name	In Progress	Testing		

Finished Projects

Name	Status	Role	Lead	Experience
Project Name	Completed	Business Analyst		
Project Name	Complete	Product Management		
Project Name	Complete	Testing		

Users are able to view their current or finished projects in the project tab.

They are able to click into each project and also add their experience.

Figure 11: Professional User Joined Projects

### Edit/Submission Projects:

CONEX

Dashboard Profile Project

Create +

Projects > All > Project Name

Project Name

Enrolled

Description

Add Comments

Activity

Properties

Created: Date

Status: In Progress

Project Owner:

Company:

Roles: UX/UI

Due Date: Date

Upon opening a project, it will display the details, and the user will be able to add comments in the textbox and view recent activity.

Figure 12: Project collaboration and management

- Company User Rate Participants (BLIW-44)
- Company User Recognize Participants (BLIW-45)

#### User Rating:

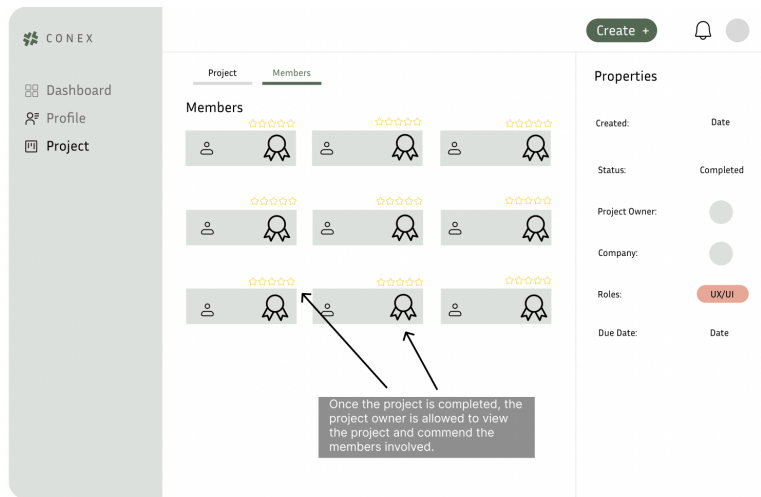


Figure 13: Company Rating System

- Company User Project Creation (BLIW-22)

#### Create Project:

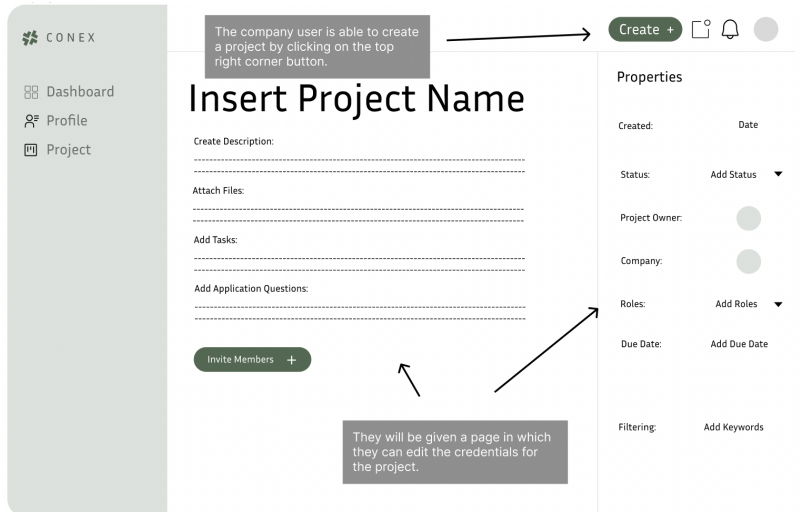


Figure 14: Company User Creates Project

- Company User Reject Professionals (BLIW-41)
- Company User Approve Professionals (BLIW-40)

## Members:

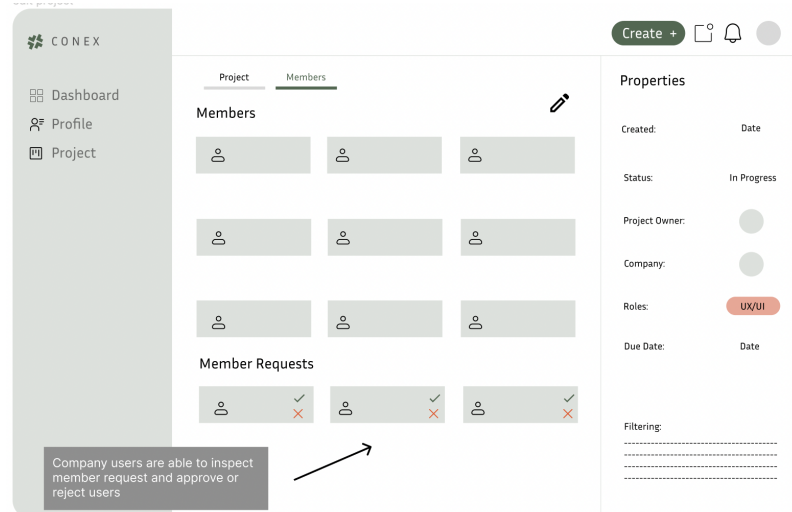


Figure 15: Company member project approval

## Member Edit:

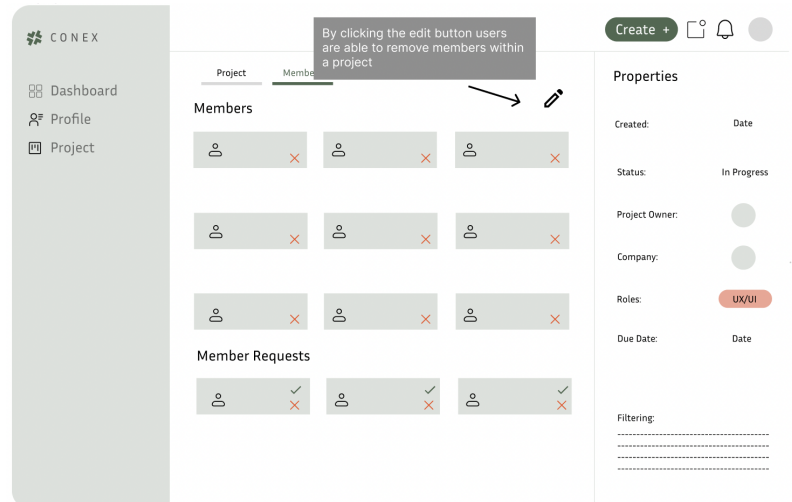


Figure 16: Company Edit Member Page

# System Architecture

## Interface Layer:

The frontend will be responsible for providing a user-friendly interface for professionals to interact with the platform. By using our expertise we have comprised with,

- *ReactJS* which will handle the dynamic behaviour of the application,
- *HTML* and *CSS* will be used for structuring and styling the user interface,
- *Bootstrap* to create the UI and responsive components.

## Business Layer:

The interface layer will consume the API served by the business layer. Using *FastAPI*, a modern python framework, it will create a convenient communication between the frontend and backend. Due to this API ease of use, speed and robustness it will make our tech stack more compatible and overall simpler. From the API, the backend will be written in *Python* and serve as the business logic layer of the application. We decided on Python since it is well-suited for handling projects matching, user authentication and other core functionalities.

## Database:

By considering the storage of user profiles, project data and other relevant information, *SQLAlchemy* will be used as the object-relational mapping tool for interacting with the database and “give the full power and flexibility of SQL” (2023, Python). This database provides a pythonic way to work with databases making it compatible with our current management system. Also, it can be integrated with FastAPI for data retrieval operations.

## Infrastructure:

From these layers, we are hoping to host the server in which the platform will be *UNIX* and *Windows* compatible. Having both a multitasking and multi-user operating system, we can develop numerous applications in a standalone workstation.

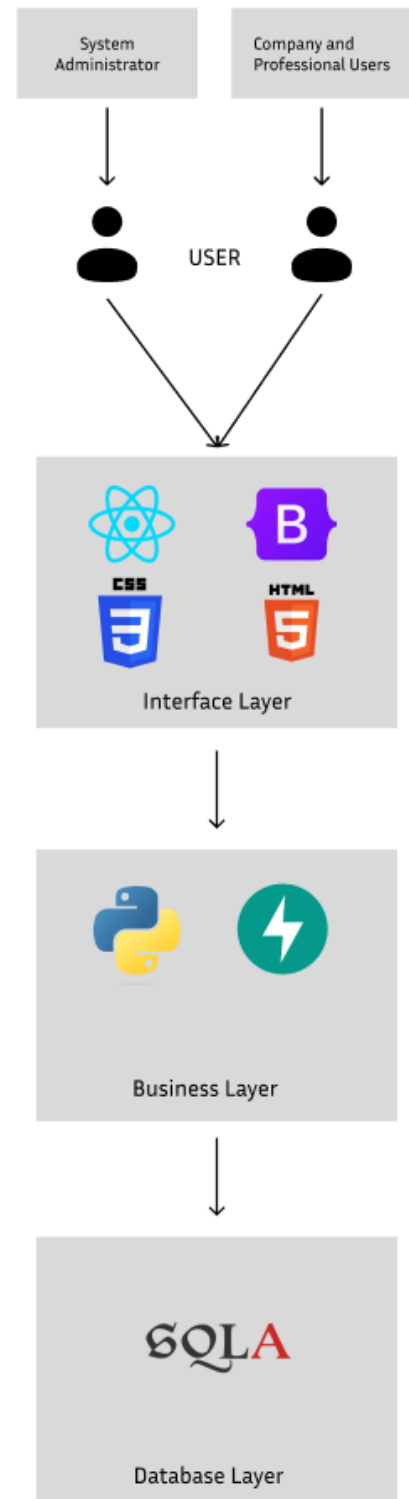


Figure 17: System Architecture Diagram

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