

**Enterprise Project COMP1640**

**Professor: Hồ Nguyễn Phú Bảo**

# **Enterprise Software Development**

29<sup>th</sup> April 2022

**Demo:** [https://drive.google.com/drive/folders/1c1Q1tu3Ogb22\\_YBs3JZQ899uezAtRBjx?usp=sharing](https://drive.google.com/drive/folders/1c1Q1tu3Ogb22_YBs3JZQ899uezAtRBjx?usp=sharing)

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**BSc Honours in Computer Science**

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# I. Introduction

## 1.1. Background

The objective of this report is to present and illustrate the benefits of teamwork in the workplace. The main goal of the team was to create a secure web-based role-based system for collecting employee input and suggestions for improving the university. In addition, a user-centric design framework that can inspire agile methodologies will be demonstrated. We will proceed to display and document the web-based security role-based solution "Employee Feedback" for this system. This system includes many faculties in the university, such as Science, Technology and Social Sciences, Graphic Design, and business administration. All faculty members are encouraged to write and submit their ideas and views for the school year.

Special roles like QAC Department can receive notifications from staff when they create ideas. Content Ideas can be created, deleted, and edited as well as can be public or anonymous. In this project, QAM is the highest authority similar to the principal at a university, who can take control of the QAC departments. QAM will be created a category and can proceed to delete it if there are no users, they have the right to view the management dashboard by the department and create users for the QAC Department.

## 1.2. Repository and Link for Project

GitHub: <https://github.com/VUONGMYCHAU942?tab=repositories>

Database Credential: [https://cloud.mongodb.com/v2/643d4d60de358e0820\\_b64a78#/clusters](https://cloud.mongodb.com/v2/643d4d60de358e0820_b64a78#/clusters)

Username: [webenterprise2023@gmail.com](mailto:webenterprise2023@gmail.com)

Password: Abc@abc123

Trello Planner: <https://trello.com/b/d6GYRI48/web-enterprise>

### 1.3. Aim and Objective

Employee response indicates that the web application is completely functioning, secure, and meets the University's fundamental standards for all authorized employees to submit ideas for improving their development.

### 1.4. Scope

Time-Processing: 4 Sprint ( 8 weeks)

Resources: 3 members

### 1.5. Team Responsibilities

Role	Member
Scrum Mater	Châu, Tuấn
Front-end	Hà, Tuấn
Back-end	Châu
Database Design	Châu
Web Design	Hà, Tuấn
QA	Hà, Tuấn
Devops	Tuấn
Reporter	Hà, Tuấn, Châu

## II. Requirements

### 2.1. Functional Requirements

Pages	UI Components	Moscow Priority	User-Story	System Scriteria
Authentication	Login Page	Must-have	Each employee has an account, they will use their account to enter the system with a role and corresponding	1. Title: Login 2. File Page: Username and password 3. Sign in/out

			features.	
Idea Page	Idea List View	Must-have	All staff can see the list of ideas of staff in their department	<ol style="list-style-type: none"> <li>1. Title: Idea</li> <li>2. Pagination ( 6 ideas per page)</li> <li>3. Create Idea</li> <li>4. Show details idea: <ul style="list-style-type: none"> <li>Idea name</li> <li>Staff Name</li> <li>Description</li> <li>Like, Dislike number</li> <li>Comment number</li> <li>View Idea.</li> </ul> </li> </ol>
		Must-have	As a staff, you can add, delete, and edit ideas, as well as see a list of all the ideas of the staff through submission.	<ol style="list-style-type: none"> <li>1. Title: Idea List</li> <li>2. Pagination ( 6 ideas per page)</li> <li>2. Create Idea ( Content, Document File, Category, Description, Anonymous Mode).</li> <li>3. Edit Idea with id (Content, Document File, Category, Description, Anonymous Mode).</li> <li>4. Delete Id with Idea Id</li> </ol>
	Idea Detail View	Must-have	As staff, can proceed to see the details of the idea and can Thumb Up or thumbs down, as well as be allowed to comment on that post so other staff can	<ol style="list-style-type: none"> <li>1. Title: Idea Details</li> <li>2. Show information: <ul style="list-style-type: none"> <li>Name Idea</li> <li>Staff Name</li> <li>Description</li> <li>Count Thumb up and Down</li> </ul> </li> <li>3. Create Comments for idea</li> </ol>

				4. Button Thumb up or thumb down.
Category	Category Page	Must Have	As a Manager, they can create a category and have the right to edit as well as see if that category has users.	1. Title: Category 2. CRUD with category 3. If this category didn't use, manager can delete it from the system
Submission	Submission Page	Must-have	As a manager, you can create a submission for all the staff to close their ideas for that year.	1. Title: Submission 2. CRUD with submission 3. If the closure date expires, it will close CRUD Idea and if the Final Closure date expires, it will close the comment feature and thumbs up or thumbs down.
Department	Department Page	Must-have	As a Coordinator can proceed to create a department and they will manage their department similarly to a department at school.	1. Title: Department 2. CRUD with the department.
Dashboard	Dashboard Page	Must-have	As a Coordinator, they will manage the department's dashboard including a list of ideas with high thumbs up and most used categories.	1. View the Dashboard coordinator
		Must-have	As a Manager, they will manage the department's dashboard including the list of the most commented	1. View Dashboard Manager

			departments and the most used categories.	
Account	Account Page	Should-have	Each Manager will have the right to create accounts for Coordinator and Coordinator will have the right to create tk for staff	1. Title: Create Account 2. Cover Information: <ul style="list-style-type: none"> <li>• Username</li> <li>• Email</li> <li>• FullName</li> <li>• Role</li> <li>• Password</li> </ul>

## 2.2. Non-functional Requirements

The user interface must match the needs of many various devices (such as phones, tablets, and PCs) in a variety of resolutions and screen sizes. The application's performance must be stable, and the website must be secure enough for users.

## 2.3. Technology ( Handling Product)

Agile → Back-end ( Express JS) → Front-end ( Template Engine: EJS) → Database → Testcase.

# III. Software Development Methodology

## 3.1. Document Agile

Sprint	Page	UI Component	Role	Feature	Start	Finish
1	Authentication	Login Form	QAM QAC Staff	<ul style="list-style-type: none"> <li>• Username</li> <li>• Password</li> <li>• Login Button</li> </ul>	1/3/2023	15/3/2023
2	Account	Account View	QAM QAC	<ul style="list-style-type: none"> <li>• A list of all employees</li> <li>• Login/ Logout</li> <li>• CRUD Account</li> </ul>	16/3/2023	26/3/2023



				<ul style="list-style-type: none"> <li>• CRUD Category</li> <li>• Dashboard</li> <li>• CRUD Submission</li> </ul>		
3	Idea View	Idea List View	QAM QAC Staff	<ul style="list-style-type: none"> <li>• Create idea</li> <li>• Send email notification</li> <li>• Save media google drive</li> <li>• CRUD Comment</li> <li>• Thumbs Up/ Down</li> </ul>	27/3/2023	10/4/2023
	Comment	Comment View	Staff	<ul style="list-style-type: none"> <li>• CRUD Comment</li> <li>• Anonymous Posts Comment</li> <li>• Nested Comments use the same as posted comments on Facebook.</li> </ul>	11/4/2023	16/4/2023
4	Submission	Submission Page	QAM	<ul style="list-style-type: none"> <li>• CRUD Submission</li> <li>• Course Date will close Idea's CRUD.</li> <li>• Final Course Date will close all idea's function.</li> <li>• After closing the manager, you can proceed to download all files corresponding to the submission folder.</li> </ul>	17/4/2023	23/3/2023
	Dashboard	Popular idea list (most/least popular, most viewed, latest ideas/ comments)	QAM QAC	<ul style="list-style-type: none"> <li>• QAM: list of the most commented departments and the most used categories.</li> <li>• QAC: list of ideas with high thumbs up and most used categories.</li> </ul>	24/4/2023	29/4/2023

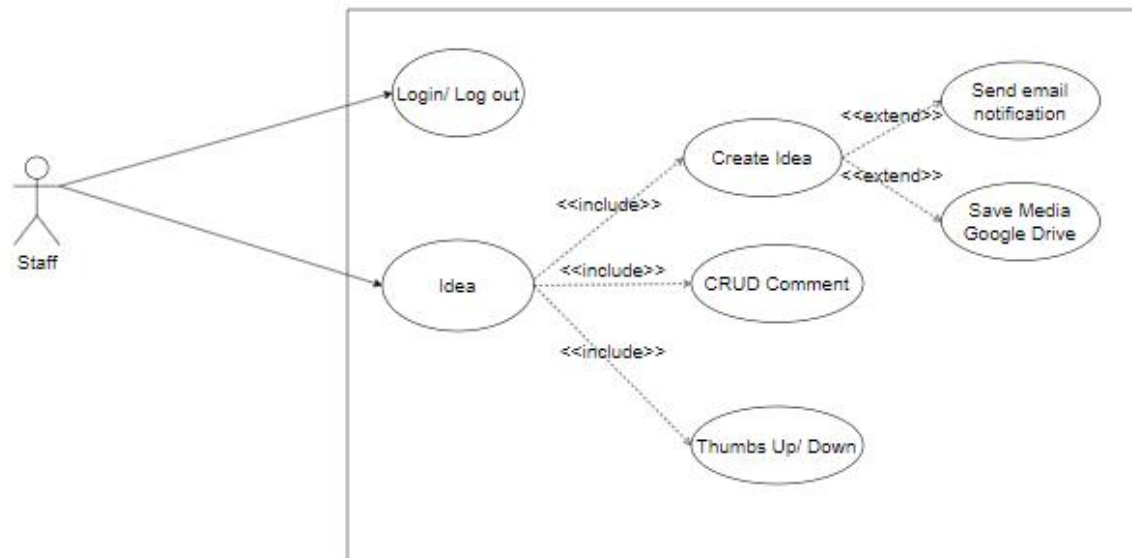
## 3.2. Product Backlog

Reference to section 2.1

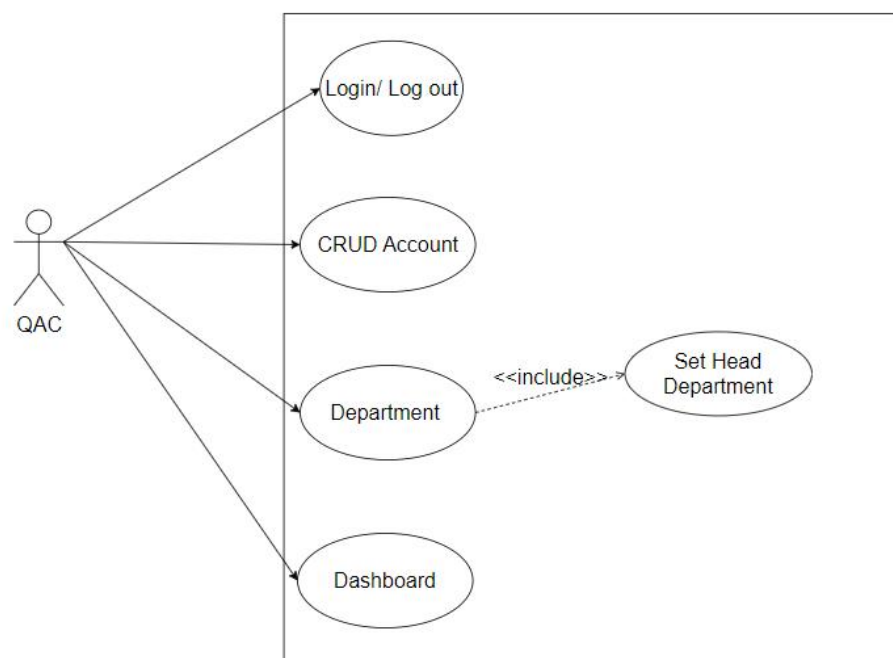
## 3.3. Use-case Diagram



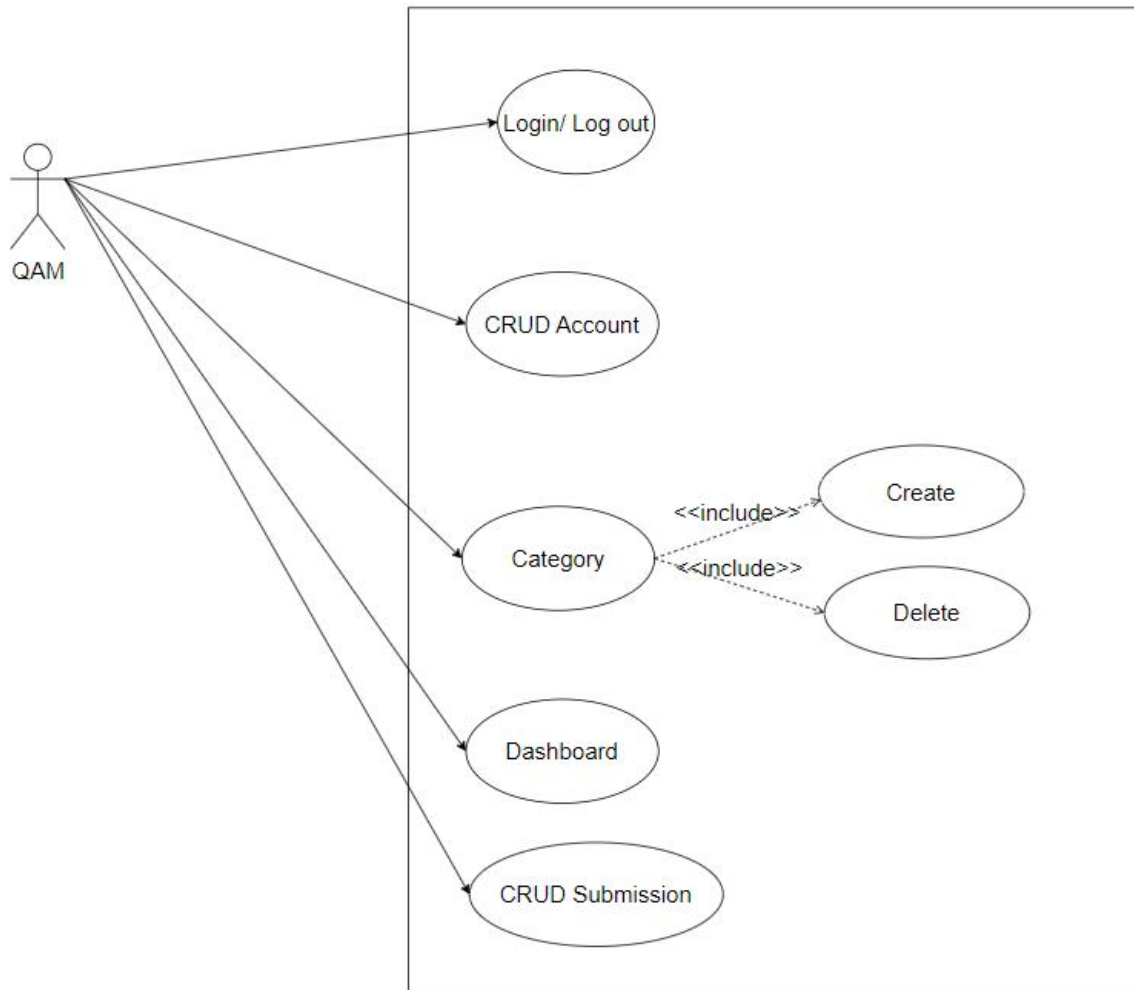
### 3.3.1. Staff



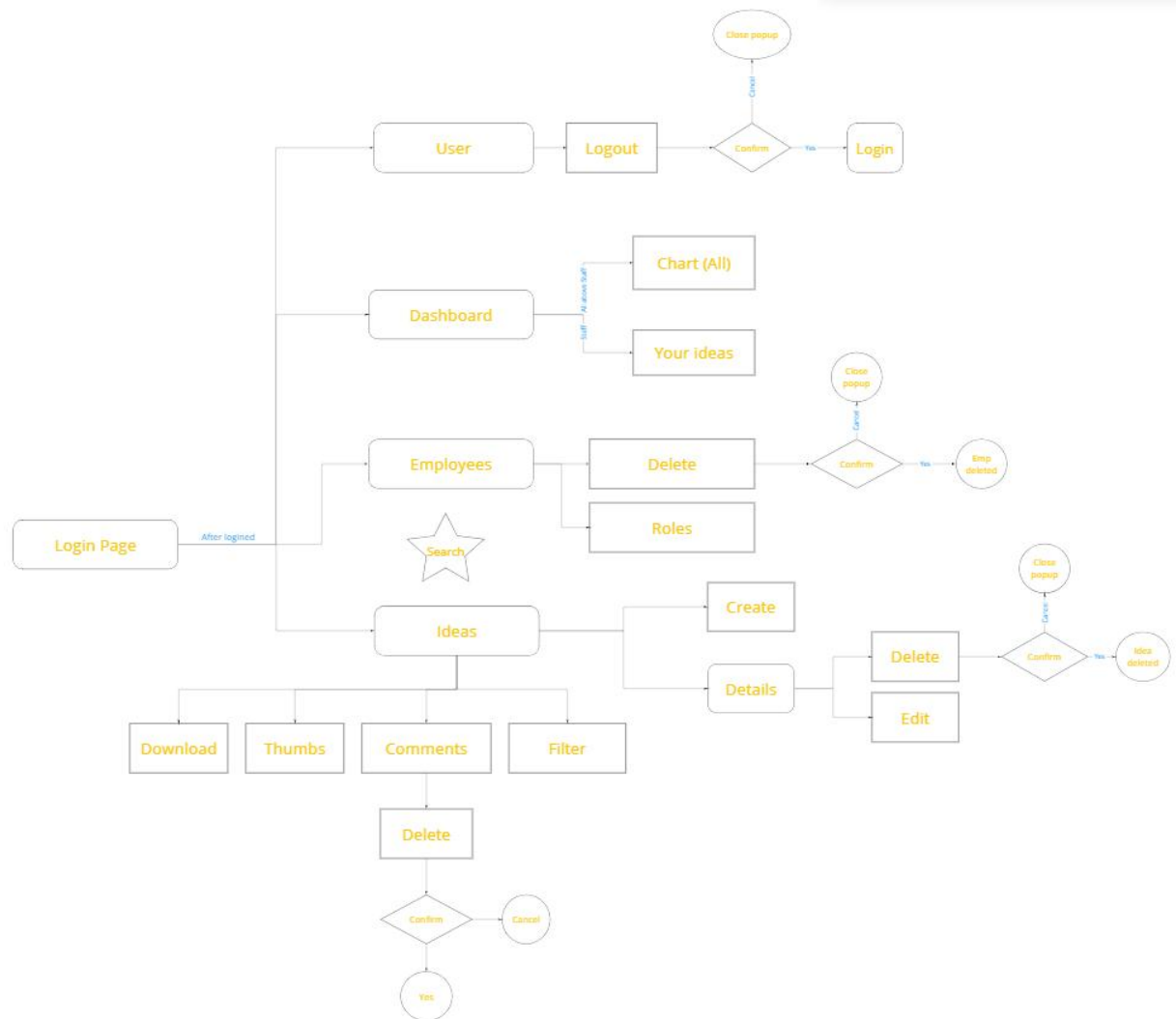
### 3.2.2. QAC ( Quality Assurance Coordinator)



### 3.2.3. QAM ( Quality Assurance Manager)



### 3.4. Activity Diagram



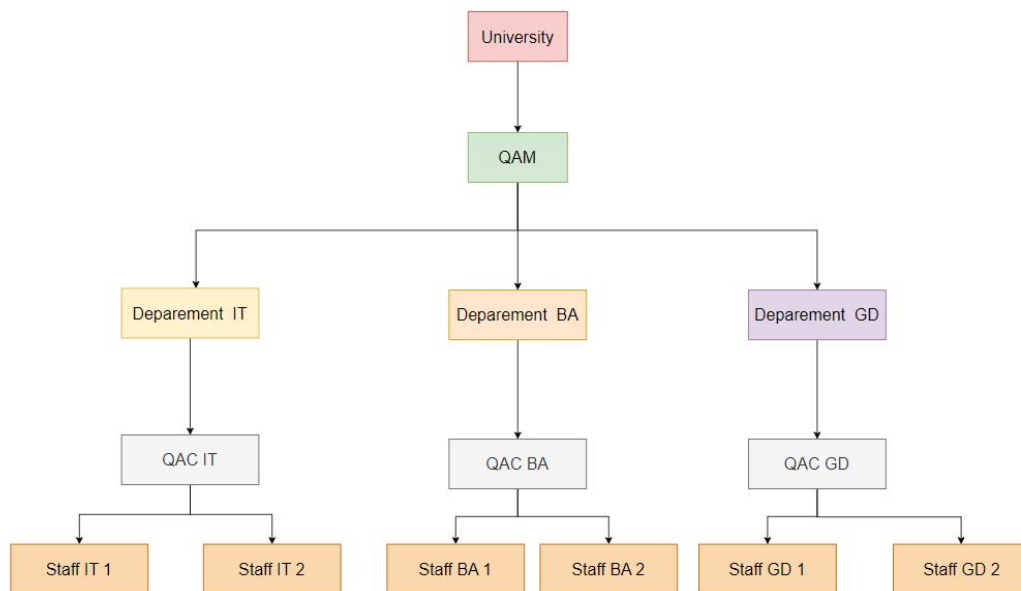
### 3.5. Issues

This is an example of the Issues and Week Report to be managed by Excel.

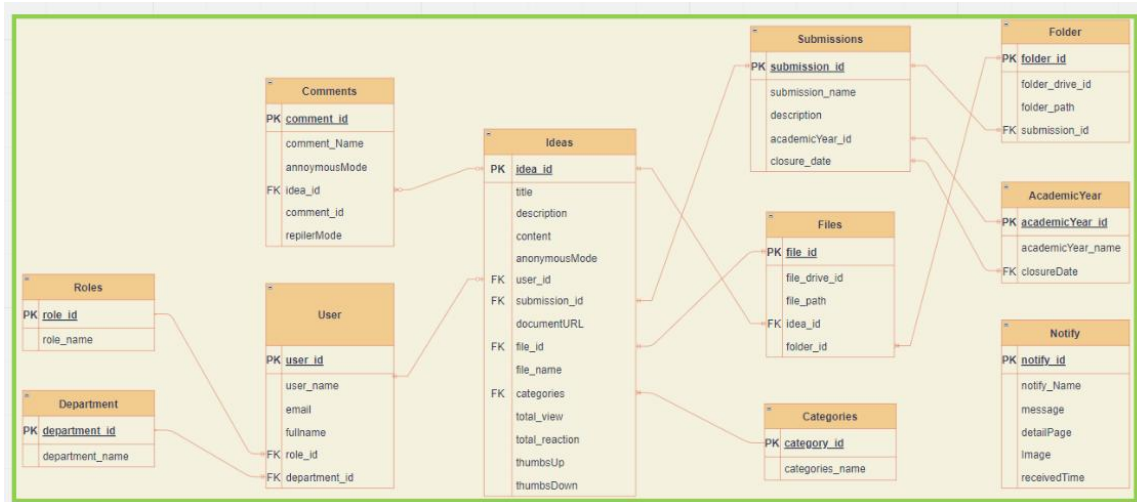
Member	13/02 - 25/02		27/02 - 11/03	
	Task	Difficulty	Task	Difficulty
Vương Mỹ Châu	Get a quest for the Main BackEnd. Learn how BE . works	Try to find documentation about Nodejs and MongoDB for the right lesson, assign two Back End friends to work together	Proceed to make products, create models and connect to database	the neighbors name to him, so i didn't receive it. have not run npm run watch to connect sass to css to edit class. Because i have to find updated libraries, i have to find the latest library to be able to run
Trần Nguyễn Hồng Hà	Get Task on Main FrontEnd-Learn about ReactJS	Having trouble finding ideas for a website?	Making Front End for the website, applying the library to work and getting an error in the process of applying the library to the work	Conflict of opinions with Tuan and could not contact An during the working process. There was a message for An's friend, but An's friend did not reply to the message. Currently, only me and Tun work on the frontend.
Phạm Nguyễn Ngọc Tuấn	Get the quest on FrontEnd. Learn about ReactJS	Having some disagreements with Main FrontEnd, learn more about ReactJS	Add a library to the website	Disagree with Ha because of the method of adding AntD

## IV. Design

### 4.1. User Overview

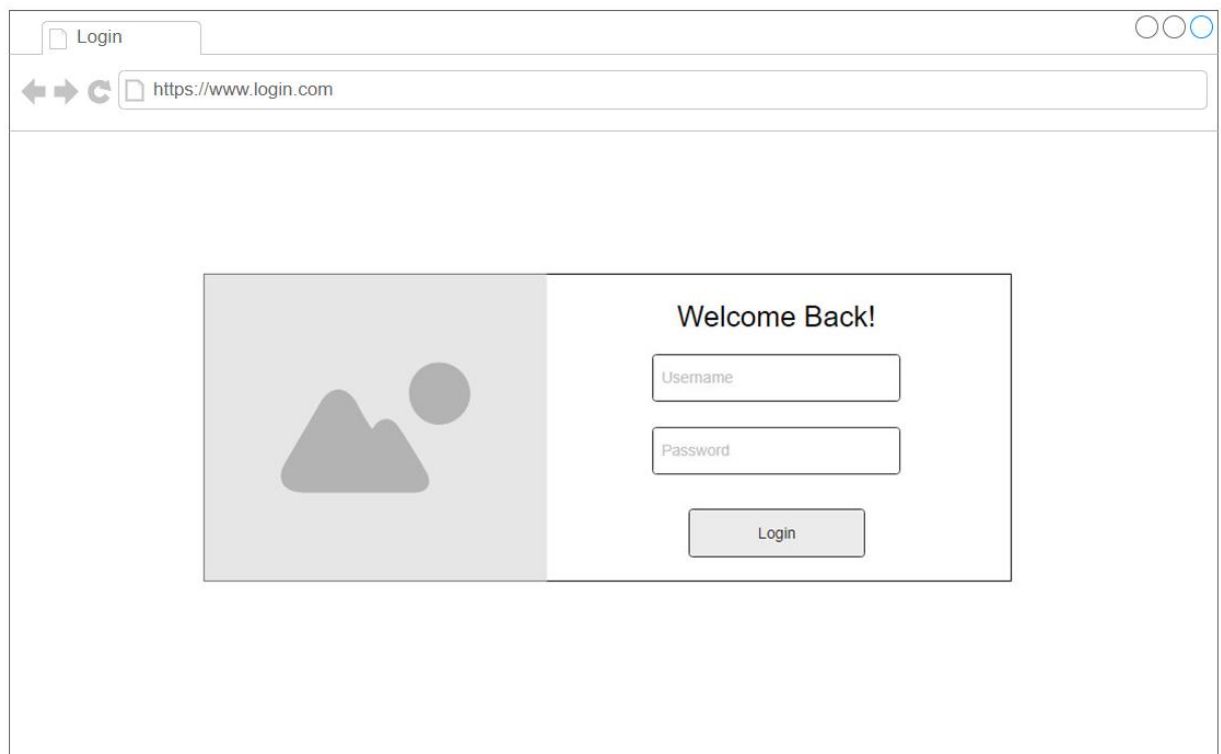


## 4.2. ERD ( Entity Relationship Diagram)

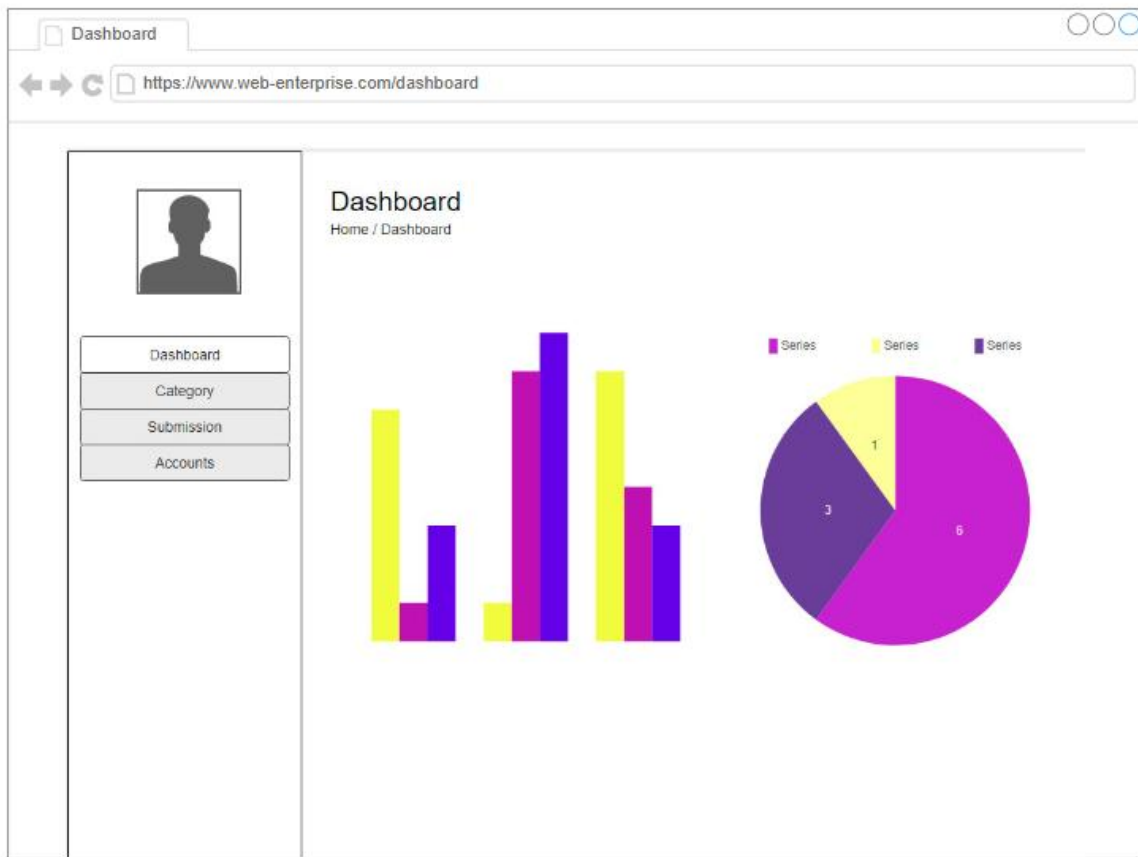


## 4.3. Mockup UI Design

### 4.3.1. Login Page

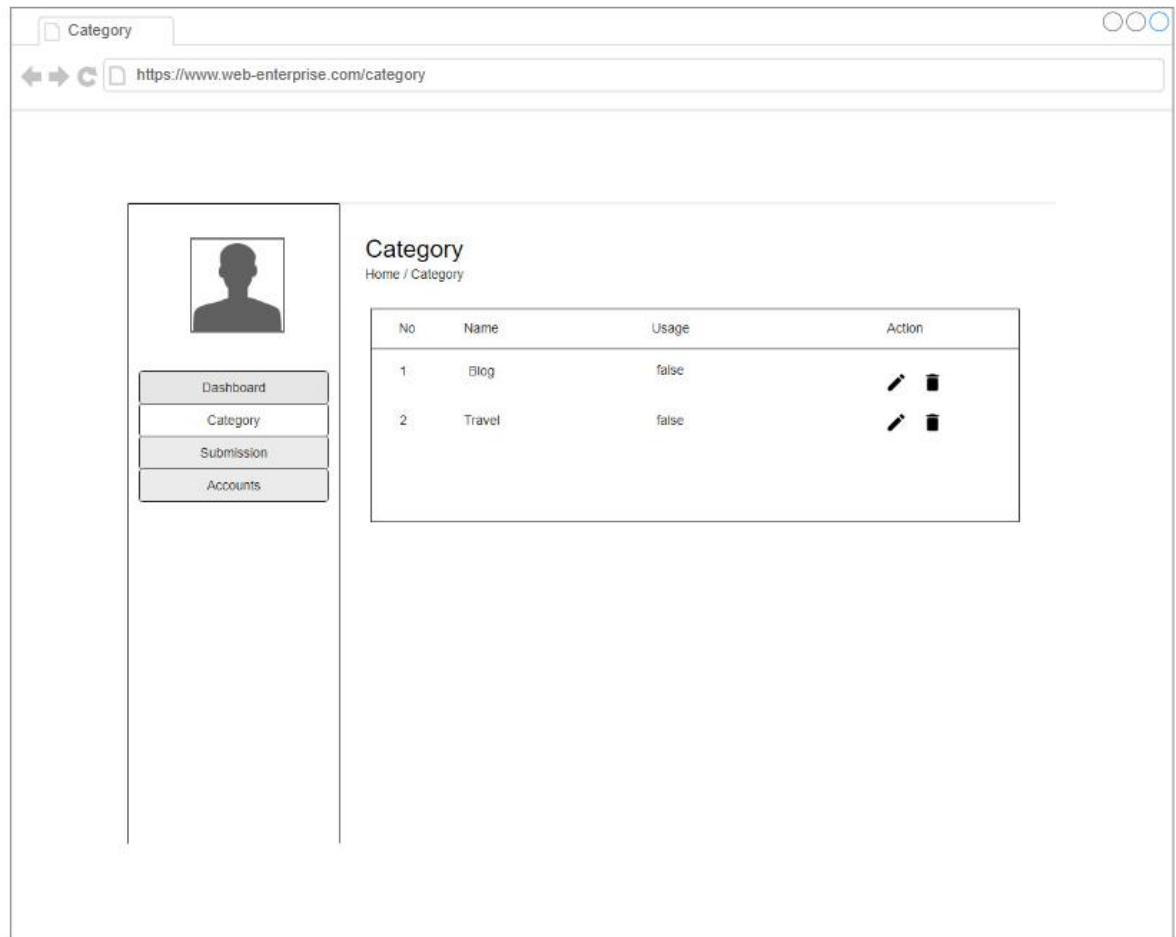


### 4.3.2. Dashboard Page

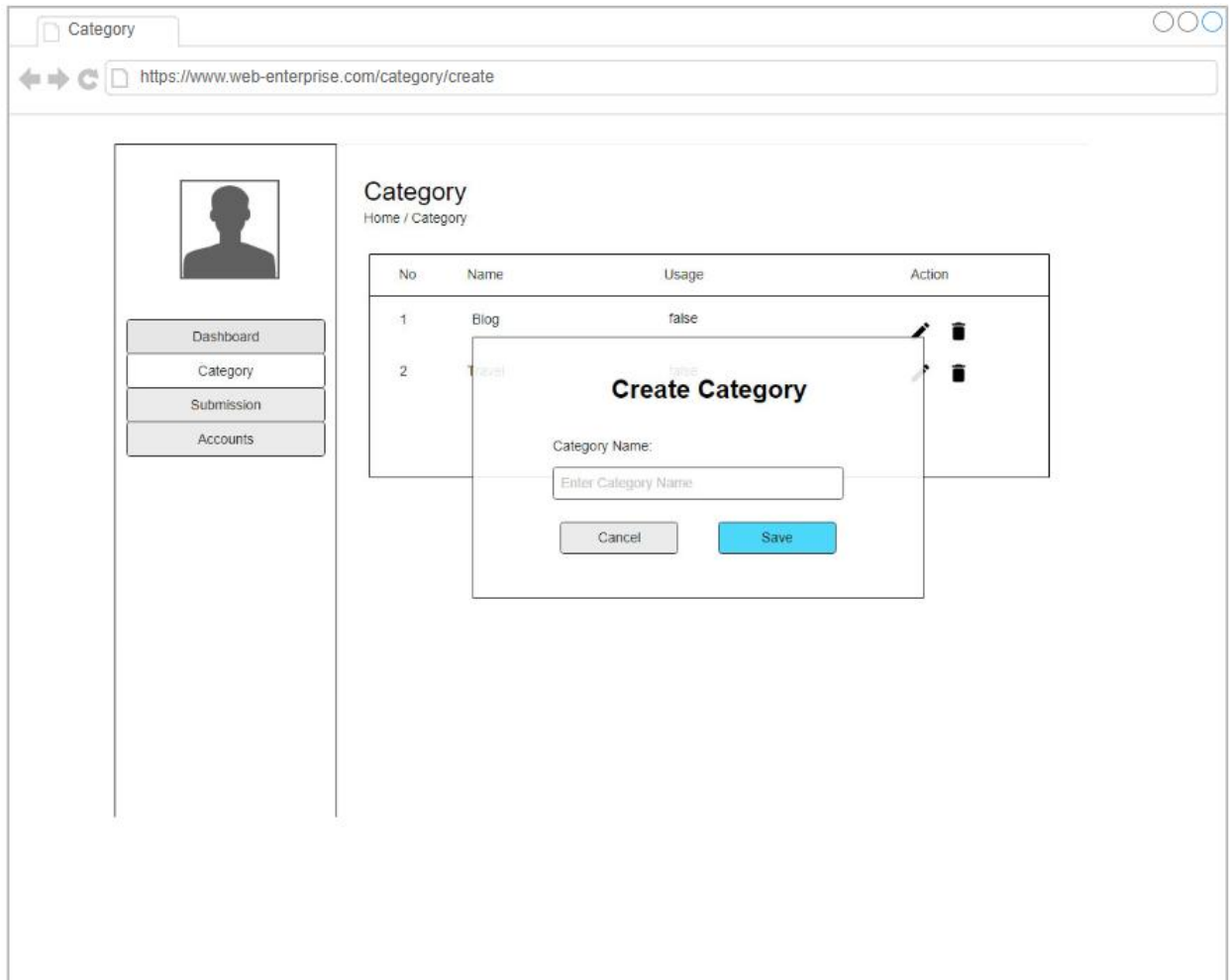




### 4.3.3. Category Page




#### 4.3.4. Create Category Page



#### 4.3.5. Create Submission Page

Submission

https://www.web-enterprise.com/submission/create



Dashboard



Category

Submission

Accounts

### Submission

Home / Submission

No	Topic	Discussions	Closure Date	Final Closure Date	Action
1	Travel 2019	Access Denied		2024/2025, 87.00 Pst	 

Create Submission

Submission Name:

Submission Idea 2023

Description:

Closure Date:

Pick Date

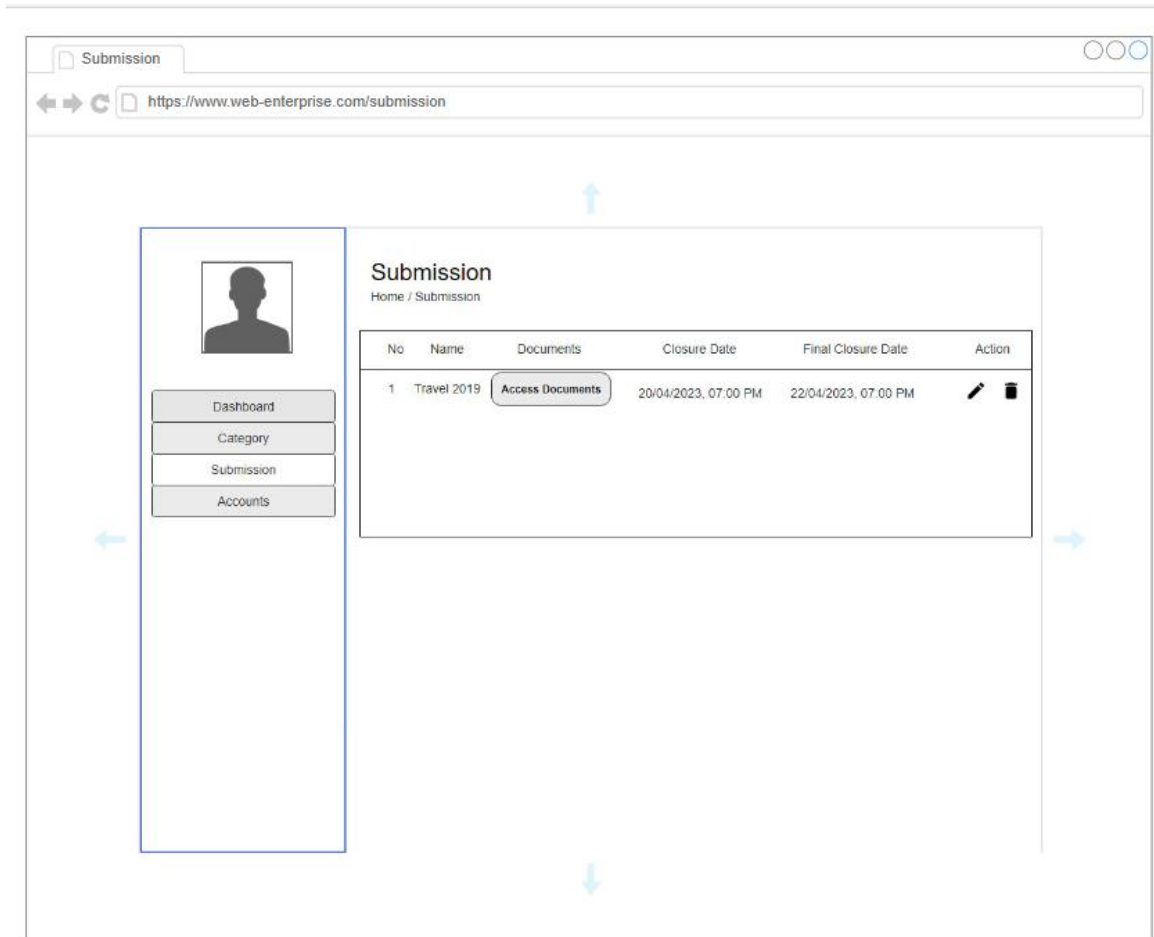
Final Closure Date:

Pick Date

Cancel

Save

#### 4.3.6. Submission List Page



## V. Testing

### 5.1. Test Plan

#### 5.1.1. Strategy for Testing

We will focus on UI testing and API testing using Postman.

#### 5.1.2. Test Environment

- Development Environment.
- Manufacturing Environment.

#### 5.1.3. Test Criteria

- Entry Criteria: The app has been released.

- Exit Criteria: 70% The exit condition is Test Coverage.

#### 5.1.4. Resources for Testing

Testers: Chau, Ha, Tuan

#### 5.1.5. Test Outcomes

- Test Plan.
- Design of Test Cases.

### 5.2. Test Case

## LOGIN PAGE

ID	Brief	Step	Data	Expected Result	Actual Result	Status
1.	Verify successful login for the account of 'Manager'.	<ol style="list-style-type: none"> <li>1. Click to Login Page.</li> <li>2. Enter username and password.</li> <li>3. Click the button "Login".</li> </ol>	username: fxbite pass: greenwichvn@123	Successful login will lead to the 'Dashboard' page of the 'Manager'.	Login successfully.	Passed
2.	Verify the login for the account of the 'Coordinator'.	<ol style="list-style-type: none"> <li>1. Click to Login Page.</li> <li>2. Enter username and password.</li> <li>3. Click button "Login".</li> </ol>	username: tango pass: greenwichvn@123	A successful login will lead to the 'Dashboard' page of the 'Coordinator'.	Login successfully.	Passed
3.	Verify a successful login for your 'Staff' account.	<ol style="list-style-type: none"> <li>1. Click to Login Page.</li> <li>2. Enter username and password.</li> <li>3. Click button "Login".</li> </ol>	username: charlie pass: greenwichvn@123	Successful login will lead to the 'Dashboard' page of the 'Staff'.	Login successfully.	Passed
4.	Does the login missing information report an error and is required to fill it all in for the login?	<ol style="list-style-type: none"> <li>1. Click to Login Page.</li> <li>2. Enter username or password.</li> <li>3. Click button "Login".</li> </ol>	username: charlie pass: greenwichvn@123	The system will report a red error in the box that has not been filled in and the user must fill in the missing information.	Login failed! Lack information!	Passed

## CATEGORY PAGE

ID	Brief	Step	Data	Expected Result	Actual Result	Status
5.	Create a new category.	<ol style="list-style-type: none"> <li>1. Click to "Category".</li> <li>2. Click add new icon.</li> <li>3. Enter name of category.</li> <li>4. Click button "create".</li> </ol>	username: fxbite pass: greenwichvn@123	Create a successful and new "category" file will be added to the list of interface's "Category" Page.	Create successfully.	Passed
6.	Delete any category file in the category list.	<ol style="list-style-type: none"> <li>1. Click to "Category"</li> <li>2. Click to file you want to delete.</li> <li>3. Click icon "delete".</li> </ol>	username: fxbite pass: greenwichvn@123	When deleting is successful, that file will be moved out of the list of the interface's "Category" Page.	Delete failed.	Failed
7.	Edit any category file in the category list.	<ol style="list-style-type: none"> <li>1. Click to "Category"</li> <li>2. Click to file you want to edit.</li> <li>3. Click icon "edit".</li> </ol>	username: fxbite pass: greenwichvn@123	Edit successfully, the file will be changed name and appear new name on the list of interface's "Category" Page.	Edit failed.	Failed

## SUBMISSION PAGE

ID	Brief	Step	Data	Expected Result	Actual Result	Status
----	-------	------	------	-----------------	---------------	--------

8.	Create a new submission.	<ol style="list-style-type: none"> <li>1. Click to "Submission".</li> <li>2. Click add a new icon.</li> <li>3. Enter information for new submissions.</li> <li>4. Click button "save".</li> </ol>	username: fxbite pass: greenwichvn@123	Creating successful and new "submission" files will be added to the list of the interface's "Submission" Page.	Create successfully.	Passed
9.	Delete any submission file in the submission list.	<ol style="list-style-type: none"> <li>1. Click to "Submission"</li> <li>2. Click to file you want to delete.</li> <li>3. Click icon "delete".</li> </ol>	username: fxbite pass: greenwichvn@123	When delete successful, that file will be moved out of the list of interface's "Submission" Page.	Delete successfully.	Passed
10.	Edit any submission file in the submission list.	<ol style="list-style-type: none"> <li>4. Click to "Submission"</li> <li>5. Click to file you want to edit.</li> <li>6. Click icon "edit".</li> </ol>	username: fxbite pass: greenwichvn@123	Edit successfully, the file will be changed name and appear new name on the list of interface's "Submission" Page.	Edit failed.	Failed

## VI. Conclusion

Employee feedback application for university is the result of a process where our team members collaborated and followed the principles of the Agile project management model. We were able to build a fully functional application that met almost all requirements in four sprints. While the application may use some tweaking, it adheres to the Agile model by delivering a minimum viable product at the end of each sprint. In addition, we also perform API testing with PostMan and use FE to test the compatibility between the backend and front end.