Requirements & Design Deliverables

This project is designed for students, lecturers and tutors in the university. Specifically, the students can utilize this platform to manage their project source code during the development process, which involves the management of repositories and issues. At the same time, students, lecturers and tutors can review the project submitted and give their comments, which provides the function of comment management. Besides, when the project is finalized, the lecturers can also assess them using marks. However, the project is focused on solving the source code management requests.

Since our group is scheduled to specialize in the user interface design, this deliverable report is specially prepared to handle the UI design problems.

Features

Code management is the core function of this project and its major features are listed as below:

- View / Create repositories
- Commit files/ Undo commit files/ View commit history
- Branching/ Merge branches
- Create / Assign issues
- Make commons / Edit comments/ Delete comments

System Architecture

To implement all the features above, the code management platform is designed as demonstrated below:
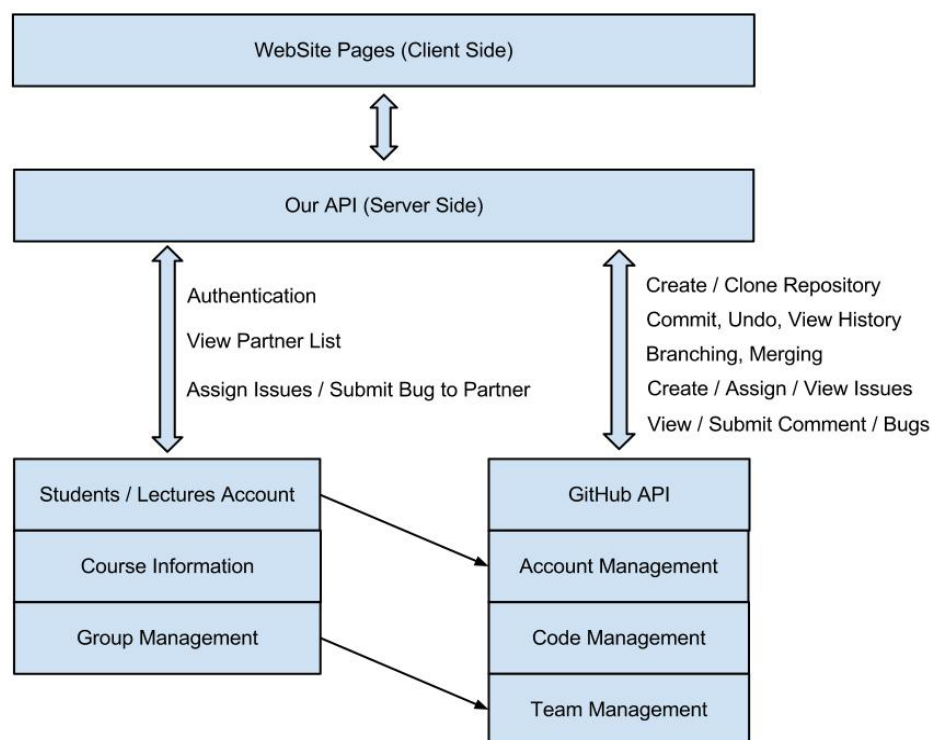
Use Cases

The top level use cases can be divided into three main parts, namely Repository Management, Comment Management and Issue Management. Admittedly, Repository

Management is the key use cases package because it deals with most of the work concerning source code management functions.

Code Management System

Repository Management

Comment Management

Issue Management

Lecturer

Student

Tutor
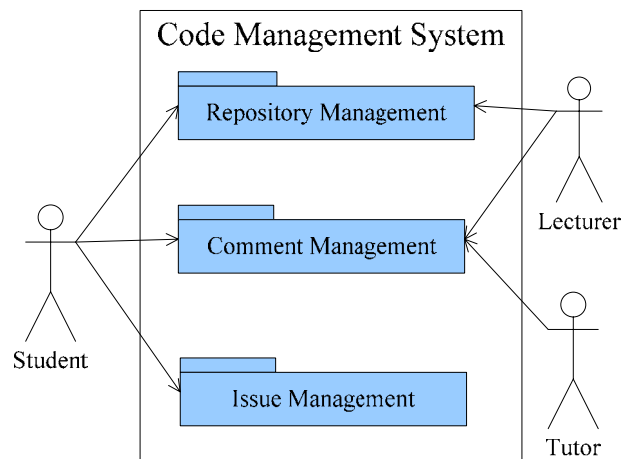
The Repository Management includes all the operations on the repositories, which deals with the creation, review of repositories and braches as well as the commitment of files. When the students login successfully, they can choose to create their own repositories as well as the branches of the repository.

1. Create Repository

    It requires the student to login and then they can choose to create their own repository.

2. View Repository

    After the student login successfully, they can choose to review the details of a repository from the repository list presented, which includes viewing the branches and files under the repository.

3. Create Branch

    In the repository details page, the student can review the branches list and at the same time, they can also create new branch.

4. Merge Branches

    In the repository details page, the student can review the branches list and they can merge branch to trunk.

5. Commit Files

    When the students are ready to commit their work, they can navigate to the commit page to submit the file.

6. Undo Commit Files

    In the commit page, the student can choose to undo the last commit if they find something goes wrong with the last commit operation.

The Issue Management is designed for students to report and track problems found during the project development. There are five kinds of issues, namely bug, duplicate, enhancement, invalid and question. Moreover, one issue can have multiple type labels, which may enhance the accuracy in describing a problem encountered. However, another special kind of issue named wontfix is designed to handle those issues that need no fix.

1. Create Issue

    It requires the students to login and then they can navigate to the issue page and create a specific kind (or kinds) of issue with description. Besides, during this

process, the student can also choose to assign this issue to some collaborators.

2.   Assign Issue

When a student is creating an issue, the student can assign this issue to his collaborators. However, since the collaborator can be left blank by default in the create process. This function provides a complementary method afterwards.

The Comment Management is designed for students, lecturers and tutors. They can give their comments on the source code during the assessment. Specifically, each line of the source code is subject to be commented.

1.   Create Comment

Not only students within the same group, lecturers and tutors are eligible to make comment on the repositories of their students. And when they login successfully, a list of the repositories is presented. When they click on one repository, the branches and source code are subject to be reviewed. If necessary, they can make a comment on any line of the source code.

2.   Edit Comment

In the source code review page, students, lecturers and tutors can edit the existing comments if necessary.

3.   Delete Comment

Still in the source code review page, students, lecturers and tutors can delete the existing comments if necessary.

Pages Overview

The pages provide user interfaces for students, lecturers and tutors to interact with the backend system in managing the source code. The following pages are created to cover those interaction functions:

1.   view repositories page
2.   view repositories page
3.   add repositories page
4.   view repository detail page
5.   view commit history page
6.   view commit details page
7.   view branches page
8.   view branch detail page
9.   create branch page
10.   view issues page
11.   create issue page
12.   assign issue page
13.   create review page

Page Flows
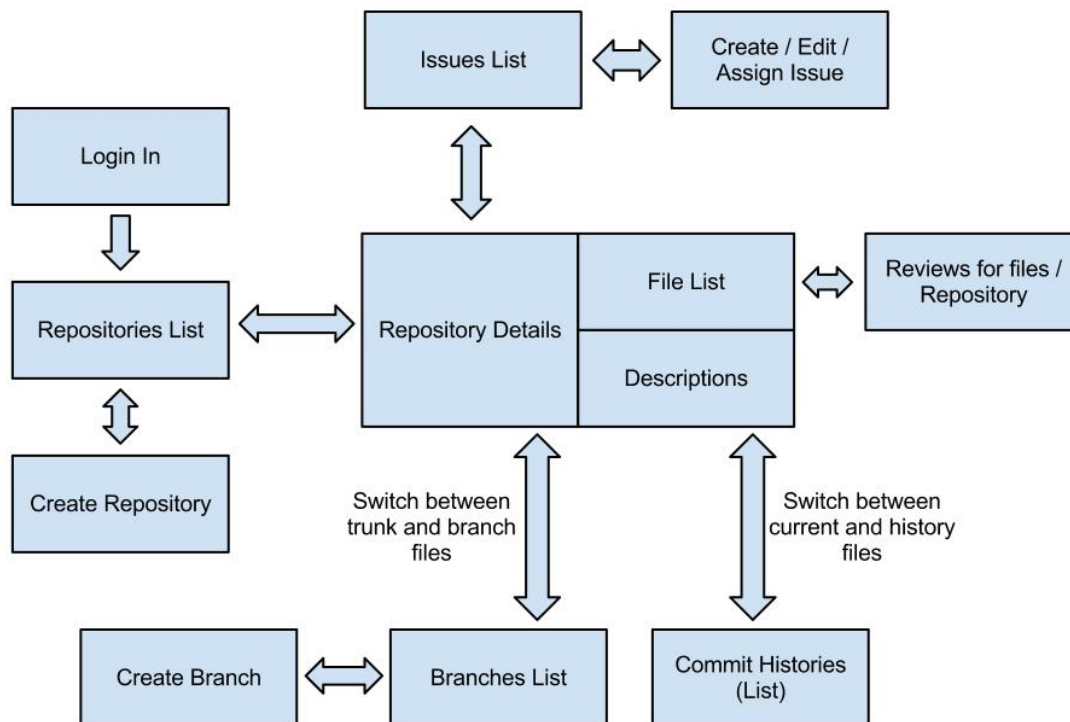
Page Definition (Layout)

View Repositories Page
When student login successfully, he can see a list of all his ongoing assignment projects by clicking his own account.

Add Repository Page

Student can create a new repository by clicking the button **New repository.**

Repository Detail Page

Click the assignment title and enter the detail page with file list and a description.

View Commit history Page

This page lists all history changes

All the history changes

View Commit Detail Page

This page show the details of the particular commit.

View Branches Page

Here is a branch list. View branch files by click switch button.

View Branch Detail Page / Merge Branch

Users can view a repository with branch and trunk files.

View Issues Page

Student can view issues by selecting **Issues**.
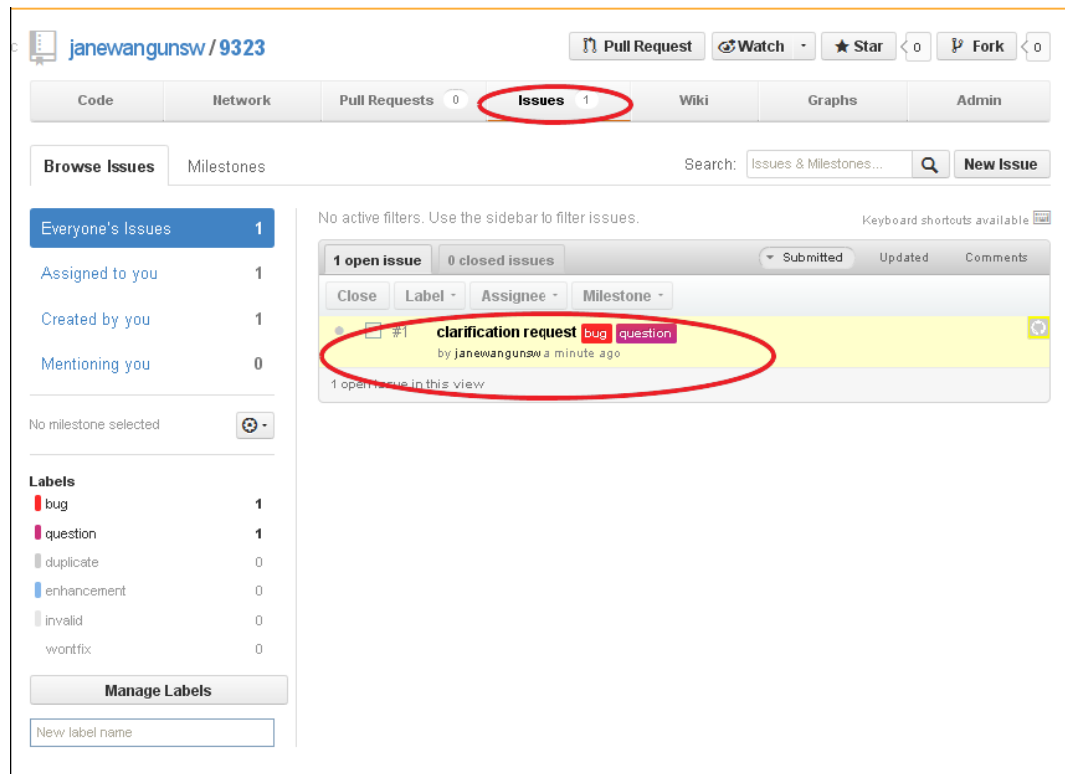
Create Issues page

Student can view issues by selecting **Issues** and the button of **New Issue.**
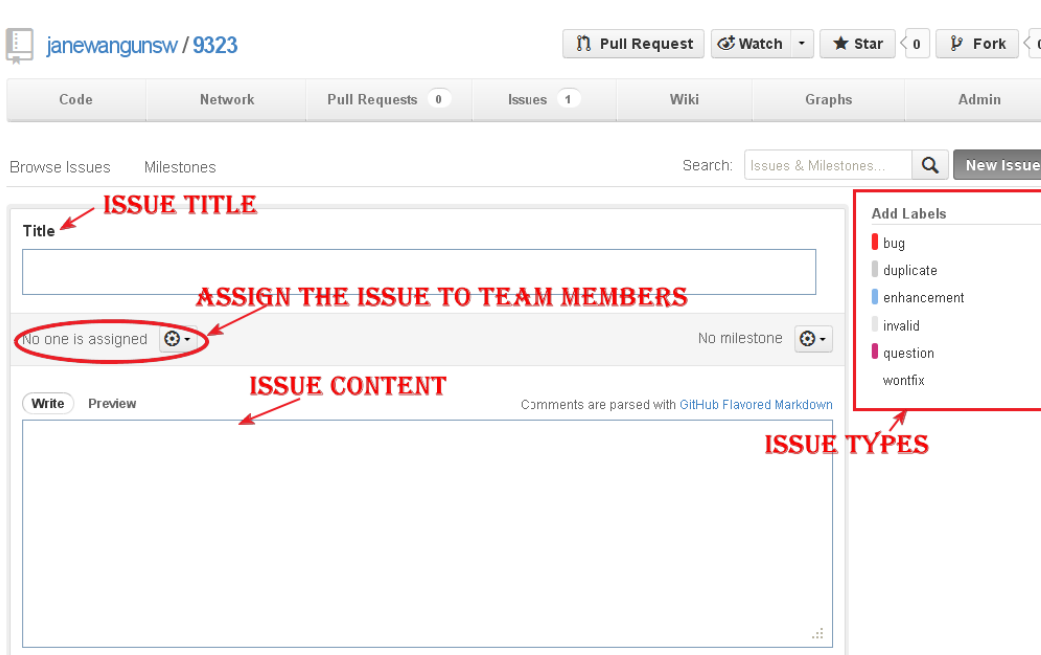
Assign issues

Student can assign issues by selecting **Assign someone to this issue**.

Create Review Page

This page is to create comment.