

SOFTENG754 ASSIGNMENT 3

Background

In Assignment 2, you have finished the user requirements analysis and identified a set of user stories/application features. Now, it is the time to implement the identified functionality of the application. You can use existing machine learning libraries – suggestions will be provided in the next lecture.

Tasks

You are required to use the Test-Driven Development (TDD) method to implement the application. Given the time limit, just the **backend** part of a subset of the application features generated in Assignment 2 are selected for the TDD implementation. Note that some functionality has been slightly modified from the previous assignments to reduce complexity. For example, you are not required to provide single sign on using existing accounts. Therefore, you will need to allow users to register.

Selected Feature List

1. Support two types of users: administrator and developer
2. User registration
3. User log in and off
4. Group similar forum questions using machine learning algorithms (e.g., clustering). You should store the following details for each cluster:
 - a. Title
 - b. Related forum posts
5. Store issue details. Each issue detail is a summary of multiple similar original forum questions (generated from the clustering). You should store the following information for each issue:
 - a. Summary of the issue (external text summarisation algorithms might be required)
 - b. Number of related posts
 - c. Number of users (total across all posts)
 - d. Cause of issue (context). Note that each related question may have a different context, so you should also use clustering techniques on the context to group these within each problem cluster. For each context, show its summary and the number of users reporting this context.
 - e. Assignee(s).
 - f. Current status.
6. Sort issues. Sort categories by priority (based on the number of forum posts related to the issue).
7. An administrator can add a forum post to a cluster.
8. An administrator can remove forum post from a cluster.
9. An administrator can delete a cluster – all related forum posts should be put into single question clusters.
10. An administrator can assign an issue to a developer
11. An administrator can unassign a developer from an issue
12. A developer can mark an issue as resolved
13. Data should be stored in database

Submission

You will submit a report which includes:

- a link to the GitHub repo with your code,
- a matrix which links each implemented requirement to its associated test, and
- a brief discussion on your experiences using TDD and CI.

Your team will be required to present a demo of your implementation and discuss your experiences in using TDD and CI. Each group will present for 15 minutes, and all team members must take part in the presentation.

You should submit all documents before 11:59PM on the required date. All documents should have a title page which has on it the course number and name, the title of your project; the name of your group, a list of members indicating who was responsible for which parts, and the date. All submissions should be done via Canvas.