SIT707 Software Quality and Testing

Pass Task: Test driven development (TDD) and CI

Overview

OnTrack is a web platform where you view and submit tasks and communicate with tutors. Assume that you are developing OnTrack. Consider any function of OnTrack that you are going to develop. You can ignore the graphical interface and rather consider OnTrack as a set of functions it can perform. For example, "task inbox" can be a function which shows list of submitted tasks for a given student ID and as you can click on a task from the inbox, "view inbox task" can be another function which shows feedback status of the task and a list of chat messages communicated between a student and tutor. You will need to develop a simplified OnTrack function of choice and to start with that you will need to prepare a short story as a requirement description and follow TDD as a development strategy. You summarise the process and submit it as a report. **In addition**, you will need to configure your code repository for continuous integration (CI) so all unit tests are run, project artifacts are built, and you receive build status once you commit and push your local changes to the repository.

Submission details

Submit a report as a pdf file combining below items -

- The Requirement section describes the function you are developing. Present the requirement as a simple story from client's point of view.
- Screenshots of your development steps with TDD strategy.
- Screenshots of CI setup you have done and email as proof of build notification you received from code repository.
- Source and test codes.
- A screenshot of your GitHub page where your latest project folder is pushed.

You want to focus on the following key ideas, and make sure you can explain them in relation to your submission.

- TDD strategy and its pros and cons.

Instructions

For this task, you will need to

1. Critically observe OnTrack functions to understand the input and output of a function would plan to develop.

2. Prepare a short story as a customer requirement for the function – why it is needed and how it should behave.
3. Start developing the function following TDD development strategy.
4. You should configure your code repository for continuous integration in the first place.
5. You can commit and push your code and due to unit test failures, your build will fail, and you should receive a build failure notification. Take a screenshot of this failure email to submit as proof.
6. Once all unit tests are passed, commit and push your code and you should receive a successful build notification which you need to screenshot for submission.
7. Prepare a report and submit the task.

Submit your work

When you are ready, login to OnTrack and submit your pdf which consolidates all the items mentioned in the submission detail section above. Remember to save and backup your work.

Complete your work

After your submission, your OnTrack reviewer (tutor) will review your submission and give you feedback in about 5 business days. Your reviewer may further ask you some questions on the weekly topics and/or about your submissions. You are required to address your OnTrack reviewer's questions as a form of task discussions. Please frequently login to OnTrack for the task *Discuss/Demonstrate* or *Resubmit* equivalent to fix your work (if needed) based on the feedback to get your task signed as *Complete*.