Testing report GRYBB team 4

Types of testing techniques	Used?
Unit tests	Yes
Integration tests	Yes
User tests	Yes

Unit tests

Unit tests to cover the most important aspects of the web application were written. In our project we mainly have two junit test classes.

The TreeQueriesTest class tests the functions such as delete trees, edit trees' information, get a specific tree by searching its id, and also the filter functions. All of those functions are used in the web application. We test them with some scenarios which might happen when users use this application. Since for the testing we still use the database which is for the web application, after we test delete trees and edit information function we set them *@Ignore*, so that it will note be executed every time. In order to preserve the integrity of the original data, we restored these pieces of data in the database.

The UserDaoTest class tests functions such as login and register. We test the login with a test login account and test register with an account for testing register. Since the issue of using the same database table, after testing we set the testRegister *@Ignore* but didn't delete this account in the database.

Integration tests

For integration testing we had used Selenium IDE, an extension that will record every interaction on the browser with websites, where we could test the front-end of a website by being the user itself. We have made 3 Tests for the most essential aspects of our web application namely homepage, routing and login. Selenium IDE records multiple locators for each element it interacts with. If one locator fails during playback, the others will be tried until one is successful. For each test, we started the Selenium IDE and started recording before performing the set of actions to execute the feature that we are testing. For login , after getting to the login page, the test makes sure that only the correct credentials are accepted and after a successful login attempt, the user is redirected to the homepage of the website. For the routing test , the test makes sure that a user is able to create the routes on the map after the user has selected the trees he or she wants to get the route of. Finally, for the homepage test, the test makes sure that a map is always displayed on the homepage and the user is able to interact with the trees displayed on the map. These test recordings can be found in our github repository and we tested these features extensively because they are the most important ones and are the basic functional requirements of our web application.

Instructions: When running the 3 tests, you should first of all, change the speed of Test execution speed between fast and slow otherwise, it doesn't work. Second, Only when running

the Test ‘login’ first, you can do the other 2 tests, otherwise you are not logged in and will be redirected to the login page. Lastly, after loading the site, make the page full screen, such that it can see all the elements on the page.

User tests

For user testing we had one of our group member’s mom use the web application and she does not have a lot of technical knowledge which was ideal for us since this web application is to be used by gardeners as said by the product owner who also doesn't have a lot of technical knowledge. The group member’s mom had absolutely no problem in using the web application and tested out all the features including routing and filtering of the trees. However, we received feedback that the button to filter the trees should be made a bit bigger. The button initially was very small which was overlooked by all of us unfortunately but after receiving the feedback, we made the button bigger and sent the application for feedback again, the button was deemed to be sufficiently big and the problem was fixed. The testing was also done by one of our group members’ friends and no problem was reported to us regarding the usage of the web application at all. We received good feedback from the user.