Assignment no. 4

**Title:** Test tool selection and testing of various test

cases for the project performed and generate various testing result charts,

graphs etc. including reliability testing.

A web application is - a client-server application where the client - is a browser and the server - web server. Web application testing determines its functionality, usability and content. In fact, site testing shows how successfully completed all the work on the creation of a web resource.

For testing our project, we have used Manual Testing as a tool for testing all the functionalities and various test cases which might arise for our functioning of the project.

Manual testing is a software testing process in which test cases are executed manually without using any automated tool. All test cases executed by the tester manually according to the end user's perspective. It ensures whether the application is working, as mentioned in the requirement document or not. Test cases are planned and implemented to complete almost 100 percent of the software application.

For Functional Testing, we have checked:

* That external links have correct ways
* Properly working internal links
* Whether there are links that lead to the same pages
* References of URLs, which are used to send emails to administrators of the site
* Identify pages that don't have links to them
* Determination of broken links

For Testing Forms like registration form we have checked:

* The validity of the input data
* Valid values for the input data fields
* Invalid values for the input data fields
* Forms' options which may be deleted, or any other data modification

For Testing CSS/JSPs, we have checked:

* The syntax errors.
* whether the site is available for search engines

For Database Testing, we have checked:

* for errors during editing, deletion, modification, that are associated with the operation of the database.
* Verify that all database queries work correctly.

For Usability Testing, we have checked:

* how easy for user to navigate through the site
* whether the buttons, forms and fields are comfortable to be used
* whether there is correct menu and headings
* whether a user can easily navigate through the site in general
* whether there is optimal color palette of the site, font size and things that are related to the design
* for grammatical errors
* whether content is informative, clear, structured and logically connected with each other
* nstructions are clear and contain the correct information

For Security Testing, we have checked:

* Access control which determines the problems associated with accessing unauthorized users to information and functions depending on the roles provided.
* Authentication which allows to make sure that there is no possibility to bypass the registration and authorization procedure, verifying the correctness of the user data control, excluding the possibility of receiving information about the registered users and their credentials
* Mechanisms for error handling which includes checking system application errors that there are no facts of disclosure of internal security mechanisms

For Performance Testing, we have checked:

Before deploying the system software on production, the speed, stability and scalability under various load conditions should be checked. Performance testing involves a number of different tests that allow to make the analysis of different system aspects of the system. Therefore, since it is one of the most important testing of the lot, we have taken various test cases in mind to see how the model works under different parameters and whether it can give fairly accurate predictions or not.

For example, we have multiple users having different parameters like:

* The students who have great academic scores, but have not done well in the tests we have provided like the aptitude, programming skills and have not been placed.
* The students who have great academic scores, but have not done well in the tests we have provided like the aptitude, programming skills but still have been placed.
* The students who do not have good academic scores, but have done well in the aptitude, programming and other tests provided by us and have been placed.
* The students who do not have good academic scores, but have done well in the aptitude, programming and other tests provided by us but are not placed.
* The students who have great academic scores, and performed well in the tests provided by us like aptitude, programming skills etc and have been placed.
* The students who have great academic scores, and performed well in the tests provided by us like aptitude, programming skills etc but still have been placed.
* The students who neither have good academic scores, nor have scored well in the tests provided by us and have not been placed.
* The various admin users who have tried to log in and accessed student records.
* The various company users who have checked out the student profile of the students they want to search.
* The students who want information about a company and have succeeded in doing so.
* The students who want information about a company and have not succeeded in doing so.