**Testing Scope**

1. In Scope

Functional Testing for the following modules are in Scope of Testing.

* Genetic Algorithms
* Simulated Annealing Algorithms
* Genetic Algorithms and Simulated Annealing Algorithms

b) Out of Scope

Performance Testing was not done for this application.

**Testing Approach**

Testing that verifies the implementation of software elements in isolation.

* Manual testing
  + - Black box testing - [Acceptance Testing](http://softwaretestingfundamentals.com/acceptance-testing/) and [System Testing](http://softwaretestingfundamentals.com/system-testing/)
    - White box testing – Unit Testing and Integration Testing.

**Unit testing**

We have created the manual test cases and proceed with the test steps.

Test case: eg

| **Test Case ID** | **Test Case** | **Description** | **Expected Outcome** | **Status** |
| --- | --- | --- | --- | --- |
| TC\_001 | Click on "Load Dataset' button in Automated Project Allocation System window. | System will show Button call "Load Dataset" with text field next to it. | Once you click on the button, System pop out the open dialog window. Go to the specific location and Search the correct tsv file and open it. Then in the text field it will show the data set file path and name under of it. After successfully load the correct tsv file, system will pop up a new window and it will show the message "Data set successfully loaded" and "Please select an algorithm for solution." | Pass |

For more please refer the test case document

Defect Analysis

Defect tracking: eg:

| Defect ID | Defect Description | Out Come | Priority | Issue Raised By | Assigned User | Status |
| --- | --- | --- | --- | --- | --- | --- |
| PA005 | Re-repeating students names in GA search. | Duplicating students names after execute the GA flow. And it will be missing some student information. | High | Namal | Tharkana | Fixed |

For more please refer the test case document and go to the defect tracking sheet.

**Code Efficiency**

Analyze coding standards and verify whether the classes have properly implemented.

**Types of testing performed**

1. Smoke Testing

This testing was done whenever a Build is received (deployed into Test Environment) for Testing to make sure the major functionalities are working fine, Build can be accepted and Testing can start.

1. System Integration Testing

This is the Testing performed on the Application under test, to verify the entire application works as per the requirements.

1. Regression Testing

This testing ensures that existing functionalities works fine after defect fix and new enhancements are added to the existing application.

**Lessons Learnt**

Issue: Smoke testing test cases required to be executed manually each time.

Solution: Smoke test cases were automated and the scripts were run, which ran fast and saved time.

**Conclusion**

There's a lot more that we could say about our project, issues we faced and also how we managed them, but we believe this short report will give you a good understanding about ours project.