**Test Plan**

**Analyzing application**,(in real time requirement and wireframe is the base for analyzing the application) following are the conclusion derived in selecting tools and types of testing to be done

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| Parameters | Name | Reason |
| Tool | Selenium webdriver | >Cross Browser Testing with its Compatibility.  >Supports different Testing Frameworks.  >Easy to Integrate with a different programming language  >Selenium is open source |
| Design Pattern | POM | >makes ease in maintaining the code,one place change for any changes in web locator  >Makes code readable |
| Framework | TestNG and Data Driven | >The testing framework can be easily integrated with tools like Maven, Jenkins, etc.  >Annotations used in the testing are very easy to understand ex: @BeforeMethod, @AfterMethod, @BeforeTest, @AfterTest |
| Reporting | Extent | >It provides dashboard for the entire test run.  >Responsive and aesthetically pleasing User Interface. |

Test types:

1. Integration Tests
2. System Tests

**Scenarios Observed:**

Scenarios1:New User who is trying to book flight ticket via registering

Scenario 2:Existing customer who is trying to book flight ticket via signing in

Scenario 3:booking flight ticket for type one way and round trip and validating details on submit

Scenario 4:booking flight ticket for different combinations of departing from and Arriving in values

Scenario 5:booking flight ticket for one or more than one passenger and validating there bill summary details on continue

Scenario 6:booking flight ticket different type of classes and prefrences

Scenario 7:Validating Credit Card information,billing address details,delivery address details

In the above scenario prerequisite is user should be either register and sign in to book a flight or he should be exisiting customer with valid credentials,There are several combinations available in booking ticket for example we can book one way ticket and round trip,single passenger ,multiple passenger,prefrences,class this combinations acts as data and performs single action called booking ticket, assertions are important on checking whether departing and arriving place are proper and same as selected and billing details for different types of airlines and for number of passengers selected

1.Lets start by creating utilties such as **basePage** for writing reusable methods related to webdrivers actions such as

waiting for an element,selecting dropdown entries,initialising browser on different platform based on config and **javaUtils** for reading excel,reading property file etc.,

1. For each actions such as register,sign in and flight ticket booking we will create pages where we store all locator and write all possible actions related to that page for example for register we can write actions such as registering with valid data,registering with duplicate username
2. For Each pages we create corresponding test class where we specify which workbook and sheetname to refer and initiate necessary function
3. Flowmapper is needed,where flowmapper tells which test case to execute next as per the sequence mentioned in the sheet,Flowmapper we can achieve different combination off test for particular scenario
4. Screenshot for failure cases
5. Extent reporting

**Summary:**

1. By this Data Driven TestnG framework we can achieve end to end testing with different combinations of inputs therefore it covers ,unit,integration and System testing,
2. Changes can be incorporated quickly and flowmapper tells what other userstories are impacted due to the changes, if new feature is added we just have to add 2 classes one page class and test.
3. Using ini property file in framework allows you to run application on different server. <filename>.xml file helps us to group test cases and regression,sanity,smoke test
4. TestNG Assertion used in framework.Covered assertions on valid user logged in or not and assertion on dynamically changing booked flight price
5. Screenshot on Failure of test Cases
6. Through Out framework nothing is hardcoded,everything is read from excel and allows us to add more combination of data which in turn helps in achieving test Coverage
7. Framework provides flexibility of selecting particular scenario or particular testcases to run or not just by changing yes/no under Execution mode parameter
8. There is two way of reporting available in this framework

>TestnG built in Html report

>Extent Reporting