Chapter No. 05

Testing

Essential part of the application development is testing before release it in the public. These are the following subject of testing, we used after the development of an android based application called Faisalabad Services Portal (FSP).

Functional Testing

In this subject, we test the application according to does its meet the exact need, what it’s supposed to do? The application main objective and all functional requirements are fulfilled after this testing.

Performance Testing

In this subject, we test the efficiency and quickness of the application. After the testing process, we conclude the overall efficiency and timely response of the application is very good.

Compatibility Testing

In this subject, we test the compatibility of the application on android based smartphones currently available in the market. The result is positive and also work well on the application programming interface level.

Testing Methodology

For android based application called Faisalabad Services Portal (FSP), we used the instrumented testing methodology as post-development. According to this methodology, the application is run on an android device either physical or emulated as test application. We launched an application and interact with it for user interface testing and also testing the logical operations are working well. Furthermore, we also used unit, integration and end-to-end testing methodologies under development or sometime at post-development phases (when more features are integrated).

Test Cases

In software engineering, a test case is a specification of the inputs, execution conditions, testing procedure, and expected results that define a single test to be executed to achieve a particular [software testing](https://en.wikipedia.org/wiki/Software_testing) objective, such as to exercise a particular program path or to verify compliance with a specific requirement. [1] These are the following test cases given below to test the functional working of the application.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Signup Test Case | | | | | |
| Name | Signup | | | | |
| ID | TC-01 | | | | |
| Use Case Reference | UC-01 | | | | |
| Objective | Check signup module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on signup panel. | | | | |
| Pre-Requisite | The user download and open the application. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Press signup button | N/A | Input required | Input required |
| Invalid syntax | Enter credential with valid syntax | Enter credential with valid syntax |
| Valid input | Home screen | Home screen |
| 02 | Press signup with Google | No Google account login in device | Redirect to the Google account login page | Redirect to the Google account login page |
| Google account already login in device | Home Screen | Home Screen |
| Status | Approved | | | | |

Table 01: Signup Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Login Test Case | | | | | |
| Name | Login | | | | |
| ID | TC-02 | | | | |
| Use Case Reference | UC-02 | | | | |
| Objective | Check login module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on login panel. | | | | |
| Pre-Requisite | The user must be registered already. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Press login button | N/A | Input required | Input required |
| Invalid syntax | Enter credential with valid syntax | Enter credential with valid syntax |
| Invalid Input | Email or password invalid | Email or password invalid |
| Valid input | Home screen | Home screen |
| 02 | Press login with Google | No Google account login in device | Redirect to the Google account login page | Redirect to the Google account login page |
| Google account already login in device | Home Screen | Home Screen |
| Status | Approved | | | | |

Table 02: Login Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Forgot Password Test Case | | | | | |
| Name | Forgot Password | | | | |
| ID | TC-03 | | | | |
| Use Case Reference | UC-03 | | | | |
| Objective | Check forgot password module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on forgot password panel. | | | | |
| Pre-Requisite | The user must be registered already. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Press next button | N/A | Input required | Input required |
| Invalid syntax | Enter credential with valid syntax | Enter credential with valid syntax |
| Valid input | Enter new password screen | Enter new password screen |
| 02 | Press done button | N/A | Input required | Input required |
| Valid input | Home Screen | Home Screen |
| Status | Approved | | | | |

Table 03: Forgot Password Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Register Service Test Case | | | | | |
| Name | Register Service | | | | |
| ID | TC-04 | | | | |
| Use Case Reference | UC-04 | | | | |
| Objective | Check register service module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on services form. | | | | |
| Pre-Requisite | The user must have a registered account already. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Press submit button | N/A | Input required | Input required |
| Invalid syntax | Enter credential with valid syntax | Enter credential with valid syntax |
| Valid input | Service submitted and show in the pending tab | Service submitted and show in the pending tab |
| Status | Approved | | | | |

Table 04: Register Service Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Update Service Test Case | | | | | |
| Name | Update Service | | | | |
| ID | TC-05 | | | | |
| Use Case Reference | UC-05 | | | | |
| Objective | Check update service module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on update service form. | | | | |
| Pre-Requisite | The user must have a registered and verified service. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Press update button | Invalid syntax | Enter credential with valid syntax | Enter credential with valid syntax |
| Valid input | Credentials updated successfully | Credentials updated  successfully |
| Status | Approved | | | | |

Table 05: Update Service Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Delete Service Test Case | | | | | |
| Name | Delete Service | | | | |
| ID | TC-06 | | | | |
| Use Case Reference | UC-06 | | | | |
| Objective | Check delete service module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user open manage service panel. | | | | |
| Pre-Requisite | The user must have a registered and verified service. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Long press the service card | Yes | Service deleted successfully | Service deleted  successfully |
| No | Cancel | Cancel |
| Status | Approved | | | | |

Table 06: Delete Service Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Verified or Pending Service Test Case | | | | | |
| Name | Verified or Pending Service | | | | |
| ID | TC-07 | | | | |
| Use Case Reference | UC-07 | | | | |
| Objective | Check verified or pending service module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on manage service panel. | | | | |
| Pre-Requisite | The user must submit the service. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Click on the verified tab | None | Show verified service | Show verified service |
| 02 | Click on the pending tab | None | Show pending service | Show pending service |
| Status | Approved | | | | |

Table 07: Verified or Pending Service Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| View Service Test Case | | | | | |
| Name | View Service | | | | |
| ID | TC-08 | | | | |
| Use Case Reference | UC-08 | | | | |
| Objective | Check view service module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on the home screen. | | | | |
| Pre-Requisite | The user must have a registered account already. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Open the home screen | None | Show the services | Show the services |
| Status | Approved | | | | |

Table 08: View Service Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Search Service Test Case | | | | | |
| Name | Search Service | | | | |
| ID | TC-09 | | | | |
| Use Case Reference | UC-09 | | | | |
| Objective | Check search service module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on the home screen. | | | | |
| Pre-Requisite | The user must be registered already. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Press on the search | N/A | Input required | Input required |
| Invalid input | Relevant service is not available | Relevant service is not available |
| Valid input | Service is shown | Service is shown |
| Status | Approved | | | | |

Table 09: Search Service Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Recommended Service Test Case | | | | | |
| Name | Recommended Service | | | | |
| ID | TC-10 | | | | |
| Use Case Reference | UC-10 | | | | |
| Objective | Check recommended service module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on the home screen. | | | | |
| Pre-Requisite | The user must be registered already. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Open the home screen | None | Show the recommended service according to the algorithm | Show the recommended service according to the algorithm |
| Status | Approved | | | | |

Table 10: Recommended Service Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Chat Bridge Test Case | | | | | |
| Name | Chat Bridge | | | | |
| ID | TC-11 | | | | |
| Use Case Reference | UC-11 | | | | |
| Objective | Check chat bridge module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The user is on the required service portfolio. | | | | |
| Pre-Requisite | The user must be registered already. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Press on the chat button | None | Open message panel | Open message panel |
| 02 | Click on the send message button | N/A | Text required | Text required |
| Input text or emoji | Message is send successfully | Message is send successfully |
| 03 | Single tick on the sent message | None | Message is sent successfully but not received by the required service provider | Message is sent successfully but not received by the required service provider |
| 04 | Double tick on the sent message | None | Message is received by the required service provider | Message is received by the required service provider |
| 05 | Double blue tick on the sent message | None | Message is seen by the required service provider | Message is seen by the required service provider |
| Status | Approved | | | | |

Table 11: Chat Bridge Test Case

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Admin Panel Test Case | | | | | |
| Name | Admin Panel | | | | |
| ID | TC-12 | | | | |
| Use Case Reference | UC-12 | | | | |
| Objective | Check admin panel module is working properly. | | | | |
| Environment | Android Device | | | | |
| Assumption | The owners are on the admin panel. | | | | |
| Pre-Requisite | The owners must be login into the admin panel and some services are submit for verification or verified. | | | | |
| Test Procedure | Steps | Action | Input | Expected Result | Actual Result |
| 01 | Open the admin panel home screen | None | All the information is show | All the Information is show |
| 02 | Click on the verify service button | Verify service button clicked | Service is verified and shown in the user verified tab. | Service is verified and shown in the user verified tab |
| 03 | Click on the delete service button | Delete service button clicked | Service is deleted successfully | Service is deleted successfully |
| Status | Approved | | | | |

Table 12: Admin Panel Test Case

Summary

This chapter discussed the testing with its subjects as well as testing methodologies used in the testing of an application. Furthermore, we talk about the test cases and portray each of the test case in the form of table according to the functionality.