**TEST PLAN**

Application “Flight Booking App”

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Flight Booking App

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# **1. INTRODUCTION**

The customer expects to receive a web application with which will be possible to book flights. Target audience – the people from 25 years. On average the web application will be used by 21 000 users. Mainly will be used on mobile browsers. The application should be the same in all browsers with the same set of features.

A test plan was created for the improvement of communication between team members. Also, it describes approaches and methodologies that will apply to the types of testing – unit, integration, and system testing of web applications. Additionally, the document included the next scope, schedule, test responsibilities, and entry and exit criteria. The document includes also what should be tested and what can be excluded from testing.

# **2. TEST STRATEGY**

## **2.1. Test Objectives**

The objective of the test is to functionality verify of the web application “Flight Booking”. The end product should work according to the customer’s requirements. During testing will execute and verify the test scripts, define, fix and retest all defects with high and medium severity. The final product of the test should be ready for use and have the set of tests that can be reused for functional and UAT testing.

## **2.2. Test Assumptions**

General:

* QA team have to check requiremtns for web application;
* QA will prepare RTM matrix for ensure that all features were covered by tests;
* QA team will provide execution test have necessary experience in testing;
* QA team expects that all needed information will be given and supported by developers;
* All the defects would come along movie or pictures;
* Test case design will be developed by QA team;
* All defined defects will be reported per Jira;
* Project manager will check all results and define priority for all defined defects;
* The project should provide test design, test planning and performing of testing;
* QA team together with project management will manage by testing process;
* Test result have to be updated in documentation;
* The results of testing will be presented to customer by project manager;

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* Web application will be tested like black box;
* Web application will test by a few cycles till the goals in acceptance criteria will be achieved.

Functional testing

* For functional testing will be used preloaded data which is available on system at the time of performing testing.
* QA team will execute functional testing only for Web application.

User acceptance testing

* User acceptance testing will be executed by customer.
* QA team will provide support during testing and report of result of testing.

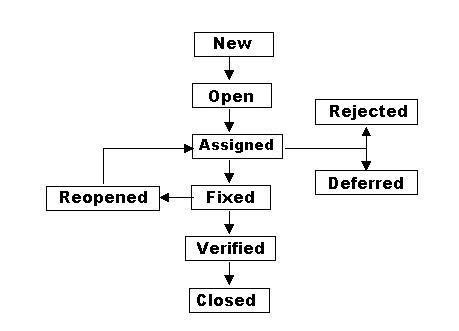
## **2.3. Test Principles**

* Testing will be continued till the target of project will be achieved.
* The process of testing will be defined but can be changed if needed.
* All test activities will be based on the result of previous testing to avoid excessive testing.
* For testing will be used data that as soon as closer are to data in real using of web application.
* Testing will be divided to a few phases where each of them will have own goals.
* There are exist a list of procedure for participants of testing that supporting of testing process.
* Test environment will be maximal emulated to real production environment.
* There will be entry and exit criteria.

**2.4. Bug Life Cycle**

All defects were found will be reported in Jira.

The bugs will have next status in life cycle:



### **2.4.1. Testing types**

Black box testing:

It is some time called behavioural testing or Partition testing. This kind of testing focuses on the functional requirements of the software. It enables one to derive sets of input conditions that that will fully exercise all functional requirements for a program.

GUI Testing:

GUI testing will includes testing the UI part of report. It covers users Report format, look and feel, error messages, spelling mistakes, GUI guideline violations.

Integration Testing:

Integration testing is systematic technique for constructing the program structure while conducting test to uncover errors associated with interacting. In Report, integration testing includes the testing Report from respective location(s).

Functional Testing:

Functional testing is carried out in order to find out the unexpected behaviour of the report. The characteristic of functional testing are to provide correctness, reliability, testability and accuracy of the report output/data.

System Testing:

System testing of software is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements.

Performance Testing:

* Check the optimal time the page is loaded
* Check the operation of the system under load of some quantity of users.

User acceptance testing:

The purpose behind user acceptance testing is to conform that system is developed according to the specified user requirements and is ready for operational use. Acceptance testing is carried out at two levels - Alpha and Beta Testing. User acceptance testing (UAT) will be done at the customer.

## **2.5** **Bug Severity and Priority Definition**

Severity and Priority are very important in software developing. The levels we will use for evaluation are below. All bugs will have severity level. On the meeting with QA Lead, Developer lead project manager will define the severity level. Responsible for assign of correct level is project manager.

Severity list:

|  |  |  |
| --- | --- | --- |
| **ID** | **Severity** | **Description** |
| 1 | **CRITICAL** | These bugs might cause the complete shutdown of the system. Or affect the application in a way that the user cannot proceed to the next task. Such bugs need immediate attention. |
| 2 | **MAJOR** | These bugs too do not collapse the whole system. None less hamper major parts of it. Thus, disrupting the basic functions of the system. |
| 3 | **MINOR** | These bugs do affect the system in a certain manner. However, do not restrict its functioning in any way. The system might behave in an undesirable manner but does not stop the functioning of the system. |
| 4 | LOW | As the name suggests, these bugs do not harm the system in any critical way. Although they are harmless, yet valid and need to be removed. |

Priority list:

|  |  |  |
| --- | --- | --- |
| **ID** | **Priority** | **Description** |
| 1 | HIGH | The defect must be resolved as soon as possible as it affects the system severely and cannot be used until it is fixed |
| 2 | MEDIUM | During the normal course of the development activities defect should be resolved. It can wait until a new version is created |
| 3 | LOW | The Defect is an irritant but repair can be done once the more serious Defect has been fixed |

# **3. TEST ITEMS**

The environment for testing has to be checked before starting of testing. Before the testing developers have to provide access to web application that ready for testing.

During testing QA team will test web application by next types of testing:

* functional testing;
* usability testing;
* user interface testing;
* compatibility testing;
* performance testing;

For functional will be tested:

* choose necessary flight;
* choose necessary date of flight;
* choose needed quantity of passengers;
* choose class of flight;
* search of flight based of selected options;
* booking of flight.

For usability testing will test if web application is user friendly and easy understandable for end user.

User interface test will check GUI, error messages, grammar, scroll bar.

Compatibility test will check web application in different versions of browsers on mobile and notebook.

During performance testing will be evaluated the speed of web applications on different platforms, stability of work and behaviour under workload with average quantities of users on 21000.

# **4. FEATURES TO BE TESTED**

Based on current features of web applications will be tested next:

* choose flight “From”;
* choose flight “To”;
* chose the date of flight;
* chose the date of return;
* choose the quantity of adult passengers;
* choose the number of kids;
* choose the quantity of elder’s passengers;
* choose the class of flight;
* check search flight by selected options;
* check the price for each flight in case of more than 1 passenger;
* check the choosing of necessary flight;
* check the correction of information for booking;
* check the possibility of booking of flight.

# **5. APPROACH**

In the project of development of web application is used Scrum methodology. Testing will be executed after each release of new version. Each phase will be documented, including requirement to testing, test scenarios and the result of testing. For testing will be used techniques of test design. Testing will be executed on different levels, included modular, integrative and system testing.

The test results will be documented in test report which will have information about executed tests, detected problems, the priority and status of fixing. For bug tracking will be used Jira. All detected defects will be described in detail with steps to reproduce, necessary data and expected results.

For testing process will be needed resources for execution tests including equipment, software, test data and personal.

# **6. ENTRY AND EXIT CRITERIA**

## **6.1 Entry Criteria**

* Prepared test scenarios, test cases and RTM.
* All necessary design and requirement have to be available.
* Test team have a good knowledge of functionality.
* Test team have completely understood the requirements.
* All hardware environment is ready for testing.
* The software and additional tools for testing are installed.
* Correct test data is available.

## **6.2 Exit Criteria**

* All identified functional requirements have been tested.
* All identified non-functional requirements have been tested.
* All critical defects have been identified, reported, and resolved.
* High and medium-priority defects have been resolved or have an approved plan for fixing.
* Testing activities have been completed within the planned schedule.
* The stakeholders have reviewed and approved the test results.

# **7. SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS**

## **7.1 Suspension criteria**

* If a critical defect is identified during testing that considerably impacts the system's functionality, stability, or security, testing may be suspended until the issue is resolved.
* A considerable change in the requirements proposed by the customer.

## **7.2 Resumption criteria**

Resumption will be after the criteria that caused suspension will be solved.

# **8. TEST DELIVERABLES**

With this plan will be delivered:

* Test plan;
* Test cases;
* Test data;
* Test summary report;
* Defects reports;
* Test Incident reports.

# **9. ENVIRONMENT NEEDS**

## **9.1. Testing tools**

|  |  |
| --- | --- |
| **PROCESS** | **TOOL** |
| Test case creation | TestRail |
| Test case tracking | TestRail |
| Test case execution | Manual |
| Test case management | TestRail |
| Defect management | Jira |
| Test Reporting | Microsoft Excel |
| Checklist creating | Microsoft Excel |

## **9.2. Test Environment**

Support level 1(browsers):

* Android 12: Google Chrome (version 113.0.5672.76), Google Chrome (version 114.0.5735.53), Samsung Internet Browser (version 21.0.0.41), Samsung Internet Browser (version 20.0.6.5).
* Android 13: Google Chrome (version 113.0.5672.76), Google Chrome (version 114.0.5735.53), Samsung Internet Browser (version 21.0.0.41), Samsung Internet Browser (version 20.0.6.5).

Support level 1(devices):

Samsung Galaxy S23 Ultra, Xiaomi Redmi Note 11, Google Pixel 7.

# **10. RESPONSIBILITIES**

|  |  |
| --- | --- |
| **ROLE** | **RESPONSIBILITIES** |
| PM | 1. Responsible for the giving of severity and priority to each defined defect.  2. Responsible for creation and tracking of Project schedule.  3. The main contact person for QA team. |
| QA Lead | 1. Responsible for creation and update of test plan.  2. Coordinate and organization of the testing process.  3. Tracking of testing progress and creation report.  4. Participation in designated of severity and priority to all defects. |
| QA engineer | 1. Understand requirements  2. Writing and executing Test cases  3. Preparing RTM  4. Reviewing Test cases, RTM  5. Defect reporting and tracking  6. Retesting and regression testing, smoke testing  7. Bug Review meeting  8. Preparation of Test Data  9. Coordinate with QA Lead for any issues or problems  encountered during test preparation/execution/defect  handling. |

# **10. TEST SCHEDULE**

|  |  |  |  |
| --- | --- | --- | --- |
| **TASK** | **Need Days** | **START DATE** | **FINISH DATE** |
| Prototype Test planning | 3 days | 01.06.23 | 05.06.23 |
| Prototype Test design | 5 days | 06.06.23 | 12.06.23 |
| Prototype Test development | 5 days | 13.06.23 | 19.06.23 |
| Prototype Test execution | 4 days | 20.06.23 | 23.06.23 |
| Prototype Test evaluation | 1 day | 26.06.23 | 26.06.23 |

# **11. RISKS AND CONTINGENCIES**

|  |  |
| --- | --- |
| **RISK** | **CONTINGENCY PLAN** |
| Schedule.  The prototype for testing was given with delay from development side. | Including of reserve time in schedule of testing.  Communication with development team. |
| Resources.  Not enough resources for test execution. | Creation of schedule taking into consideration holidays and vacation. |
| Product.  No information about ready for testing the functions of products and as a result a lot of defined defects should be reported. | Communicate with Development Lead regarding readiness functions for testing. |
| Product Requirements.  Considerably change of requirements from the customer side. | Stop all test activities.  Update of schedule taking into consideration the change of requirements. |
| Data.  Loss of testing data: test cases, bug reports. | Creation of reserve data copies every 3 days. |

# **12. APPROVALS**

The Names and Titles of all persons who must approve this plan.

|  |  |  |
| --- | --- | --- |
|  | **Project Manager** | **QA Lead** |
| *Name* |  |  |
| *Date* |  |  |
| *Signature* |  |  |