Software Engineering

Restaurant Management System Testing

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Restaurant Management Test Plan

1.0 Test Plan Identifier

Restaurant Management System Testing TestPlan_1.0

2.0 Introduction

We have a restaurant management system under review, for which we are drafting this test plan to have:

1. Clear testing objectives,
2. Ensure all requirements are met, and
3. Keep the project's work to the point, that is, avoid working on things that are not required.
4. Defined the working of the testing environment

The features included in our management system are many, including adding new customers to the system, assigning a table to the customer, assigning a customer to a waiting list, informing the customer when his turn comes, generating bills to the customer, and letting the customer pay through the system electronically and also request for any manual help.

In this test plan we will look into the validation testing of the system. More will be explained in the related sections of this document.

3.0 Test Items

The systems to be tested include the system user interface that restaurant staff interact with, the system backend (automatic and on-demand tasks) and database integration.

The systems should be tested on both a Windows and Android devices . The systems should also be tested if they can take the load of a great use during peak hours at the said restaurant -- stress testing.

4.0 Test Strategy

1. Scope
    a. The components that are in scope of our testing plan includes software.

    b. The components that are out of scope of our testing plan include hardware and middleware.
    Note: Please read the “Features To Be Tested” & “Features Not To Be Tested” for more details related to the scope of this test plan.

2. Problem Scenario
    a. We do not have enough time and resources to test all the use cases of the Restaurant Management System, and so, as instructed in the assignment, only the three mentioned use cases will be tested for functionality. That is, functional testing, which is a part of the acceptance/validation testing aim of the test plan.
3. Testing Type
    a. Acceptance/Validation Testing will be used for our three selected use cases in this test plan.
    b. This testing will use a blackbox testing strategy.
    c. This will mainly constitute of usability tests, stress tests, and documentation tests.
4. Risk Scenarios and Mitigation
    a. Employee does not know how to operate the system: Set up training courses.
    b. The time for development is too tight: set priorities and deliver the most important parts first.
    c. Wrong budget estimate: Redo the scope of the project to help make a better budget estimate.
5. Who Will Test?
    a. The tests will be performed by the developer, the chefs, the receptionists, the waiters, and system administrators depending on the use case and the particular type of the acceptance/validation testing.
    b. This will be a beta testing procedure, since the consumer is involved.
6. Testing Objectives
    a. To make sure all intended features work as planned.
    b. To test with the customer (end user) to confirm all needs are met before the final delivery of the product.

5.0 Features To Be Tested

Features to be tested include the following:

- As a receptionist, logging into the system as a user
- As a receptionist, searching through customer database
- As a receptionist, adding a new customer to system database
- As a receptionist, assigning an ID to the new customer and add it to the customer's record
- As a receptionist, searching for available tables & tables based on the customer’s needs
- As a receptionist, assign a table to the customer if a table is available
- As a receptionist, put the customer to the waiting list if no table is currently available
- As a customer, placing an order through the system
- As a customer, submitting feedback

- As a customer, making a request
- As a chef, completing an order

6.0 Features Not To Be Tested

In this test plan, we do not test features outside the scope of validation testing and those that have not been implemented yet. Some of such cases include:

- Testing system generated reports
- Testing admin‘s functions such as searching employee records
- Testing cleaner’s functions
- Etcetera.

7.0 Approach

Our testing approach consists of 4 key sequential steps:

1. **Develop Tests**
    a. Analyse the requirements - making sure we have collected all the necessary requirements from the customer and test them accordingly
    b. Develop scenarios - based on our Use Case document, we determine under which cases & scenarios the system can be used
    c. Determine Acceptance Criteria - we should develop a certain criteria to make pass/fail/suspension decisions (more on these below)
    d. Construct test cases - we will create test cases for each use case our system has
2. **Prepare to Test -** this is a rather short and transitory step, in which we ensure the environment (testing team, software, processes) is ready and test inputs/data for test cases are developed
3. **Run Tests**
    a. Run the tests using input and expected results from the test cases
    b. Recording the obtained results
4. **Review Test Results -** after all previous steps have been completed, we have to assess the acceptability of the system. If there are incidents, where our system failed, we have to estimate the impact of those. Most importantly, we have to make sure to check the test results in relation to scenarios and system requirements.

8.0 Entry & Exit Criteria

Entry Criteria:

- All test hardware & software platforms have been successfully identified, installed, configured, and are functioning as expected
- Test data required for the testing process is available
- Testing environment (lab, hardware, software) is ready
- The testing team have completely understood the requirements

- The testing team understand the functionality and expected behavior of the system

Exit Criteria:

- Key requirements have been satisfactorily covered
- There are no unresolved critical or severe defects
- All edge cases and high-risk areas have been explored and fully tested
- Budget allocated for the testing has been fully utilized

9.0 Pass/Fail Criteria

Test case is masked as a pass when system behaves as expected and all the associated requirements are satisfied

- No more than 5% (95% pass rate in other words) of all test cases should fail for the use case to be marked as a pass overall
- No failed cases should be critical to the user's ability to use the system

10.0 Suspension Criteria

We will suspend the testing cycle immediately if any basic functionality (user login to the system) or a feature that is prerequisite to another feature to be tested fails.

Specifically, we will suspend all or part of the testing if one of the following happens:

- Many serious defects are detected and they limit any further testing progress
- Client suggests significant changes in the requirements
- External dependent systems, resources assigned to the testing or required software & hardware is not available
- All or part of the testing team are on leave (e.g. holiday)

11.0 Resumption Criteria

- Serious defects are fixed and they do not limit the flow & progress of the testing plan
- Newly introduced client requirements are implemented
- External dependent systems, required software & hardware and all other resources assigned to the testing are now available
- Team needed to carry out the testing is available

12.0 Test Deliverables

After each iteration, test results are saved in a log file. At the end of the testing process, a report will be generated summarizing the test results.

13.0 Testing Tasks

Activities to be completed:

- Preparing the test plan
- Functional requirements and specifications are communicated to the testing team
- Testing environment is ready
- Tests are performed
- Summary report is generated and delivered to stakeholders

14.0 Environmental Needs

The testing procedure shall be accompanied by data-collecting mechanisms that will ensure a stable and reliable data collection with appropriate nomenclature to enhance usability of the data collected during this testing.

15.0 Responsibilities

It is the responsibility of the Test Manager to appropriate the particular parts of the Test Plan to the right actors.

16.0 Staffing And Training Needs

The testing needs to be performed with receptionists, waiters, chefs, sysadmins, and the developers. The basic needs include:

1. An understanding of the use cases of the particular part of the software an actor is dealing with.
2. A high-level understanding of how the software interacts with other parts of the system.
3. A training in best practices pertaining to the software that the actor is using and is testing.

17.0 Schedule

The following table illustrates the schedule of the testing process, which comprises of usability tests (high priority) for each use case. To provide the customer with best quality system, we also decided to conduct stress tests (medium priority) for each use case.

Test Case ID	**Test Case Type**	**Test Priority**	**Test Executed By**	**Test Execution Date**
1	Usability Testing	High	Reception Staff	11 December, 2019
2	Stress Testing	Medium	Maximum Number of Reception Staff	11 December, 2019
3	Usability Testing	High	Receptionist	11 December, 2019
4	Stress Testing	Medium	Maximum number of customers	12 December, 2019
5	Usability Testing	High	System and Test Manager	12 December, 2019
6	Stress Testing	Medium	System and Test Manager	12 December, 2019

18.0 Risks And Contingencies

a. Employee does not know how to operate the system: Set up training courses.
b. The time for development is too tight: set priorities and deliver the most important parts first.
c. Wrong budget estimate: Redo the scope of the project to help make a better budget estimate.

19.0 Approvals

The project manager and the testing manager should both agree on the testing type, persons included, and the schedule of the Test Plan.

20.0 References:

1. https://docs.google.com/document/d/1F1TUX5BkviRbw8auI2Xq2K2wyGTS-Ag14DRymiELmzc/edit?fbclid=IwAR0FE1v24TAI_OPhdWGJOm7oP-WH_H-ge9NeJzInJPZRz-A2wDiRfEPU8yo
2. https://strongqa.com/uploads/document/doc/61/test-plan-template-05.pdf
3. https://www.coleyconsulting.co.uk/testing-process.htm
4. https://www.guru99.com/what-everybody-ought-to-know-about-test-planing.html