TEST PLAN

for

Medical Shop Automation (MSA)

Version 1.0

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1 TEST PLAN IDENTIFIER

MSA_1.0

2 REFERENCES

SRS Document for MSA

3 INTRODUCTION

This document presents the test plan for the software MSA, as specified in the SRS. It includes all the possible tests needed to be done to ensure the correctness and reliability of the software, which should thereby pass all the tests before it can be delivered. The primary focus of this plan is to ensure that the MSA application provides all the information of the shop's inventory and its daily transactions, thereby providing for improvements and increasing data acquisition and the level of details available.

This project will have two levels of testing- Unit testing and GUI testing/ System testing. The details are elaborated further in the future sections.

4 TEST ITEMS (FUNCTIONS)

The items to be tested are as follows:

i) User
- Proper registration and Log-in of the user by entering his personal details and also setting up a password.
- The change_password() function

ii) Supply
- print_cheque()
  - This function is used to print a cheque after receiving supply of medicines from a vendor
- find_newmed()
  - This find is used to find new medicines from the supply and store their data in the database

iii) Order
- print_cash_receipt()
  - Function to print a cash receipt for the customer when he buys some item from the shop

iv) Medicine
- generate_code()

    - Function to generate a unique code for newly arrived medicines
- give_details()
    - Function to get the details of a medicine

Hence, the final list of items to be tested, by their version and release are as follows:

A. Medicine Package, Version 1.0
B. Medicine Inventory Package, Version 1.0
C. Vendor Package, Version 1.0
D. Customer Transaction Package, Version 1.0
E. Expired Medicines Package, Version 1.0
F. Medicine Shop Automation Software, with the initial version to be Version 1.0

A detailed listing of programs, databases, screens and reports will be provided in the system, along with the detailed design documents.

5 SOFTWARE RISK ISSUES

There are several parts of the project that are not within the control of the Medical Shop Automation software but have direct impacts on the process and must be checked as well.

i) Login authentication must be secured properly. A strong password must be entered and it should not be leaked.
ii) The database must be kept safe and no external agent should be allowed to make changes to it, as this will corrupt the entire data.
iii) Sudden block on internet service or closing of the application during an ongoing process or storage of data may cause issues and must be taken proper care of. The ability to restart the application in the middle of a process is a critical factor to application reliability.

6 FEATURES TO BE TESTED

The features on which we will mainly focus during the testing of our application are as follows:

A. Log-in and Registration

B. Printing of cash receipt

C. Supply of new medicines

D. Calculation of average sales in a week

E. Storage of New Medicines in the database

F. Calculation of threshold

G. Generation of items to be ordered

H. Generation of a list of expired items

I. Adding new vendor process

J. Calculation of revenue and profit for a period

K. Printing the vendor-wise payments for that period

7 FEATURES NOT TO BE TESTED

This section consists of the list of those features which will not be explicitly addressed. The testing of most of these features will occur indirectly as a result of the other tests done for features mentioned in the above section.

A. Revenue
   This feature will automatically get tested while testing of the feature 'Average'. The average will be calculated by dividing the revenue over a period of time by the number of days.

B. Sell
   The 'Sell' feature gets tested while testing of the feature 'Print cash receipt'.

C. Required and Expired
   These two features are quite trivial as they just involve the iteration and comparison of data.

D. Search
   This is a simple feature whose algorithm is very standard and it also doesn't affect the overall performance of our software to much extent.

8 APPROACH (STRATEGY)

1. Testing levels:

For the testing of Medical Shop Automation software, we will use the following levels of testing:

- Unit Testing

Unit testing will involve all the relevant functions as section 4 and section 6. We divide all the functions according to some class and provide relevant inputs all possible cases

2. Testing tools:

The testing tools used are-

(i) Python (with required libraries like Django, SQLite) - All the tests are to be conducted using python itself.

(ii) Manual Testing - This is to be done for the frontend part.

9 ITEM PASS/FAIL CRITERIA

The test process will be completed once all the functionalities of the software are verified and tested. The test is considered to be approved if the software produces the correct output as per client demand.

At the unit test level, the item is considered to pass the level if it passes all the test cases. If the item fails even a single test case, then it is considered that it has failed unit test level.

For the System Testing, the item must pass at least 80% of the test cases to pass this level. If the item is unable to do so then it is considered that it has failed this level of test.

Code coverage of nearly 70-80% is a reasonable goal for system tests of most projects with most coverage metrics.

10 SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS

i) Testing of the Average feature should be discontinued if the revenue feature shows error.

ii) Feature testing should not be done if no medicines are stored or no sale has occurred as of now.

iii) The Log-in and Register features are most basic and should be tested at the very beginning.

Apart from these, the test is considered suspended if:

1. The software crashes

2. Incorrect output is produced by the software

3. The software takes too much time to give the output

4. If the number of test cases failed is more than 20%

11 TEST DELIVERABLES

As a part of the test plan, the followings are to be delivered:

1. Unit Test Plan

2. System Test Plan

3. Test Suite (with test cases corresponding to the test plan and respective outputs)

4. Problem reports and corrective actions

One thing that is not a test deliverable is the software itself that is listed under test items and is delivered by development.

12 REMAINING TEST TASKS

None as such

13 ENVIRONMENTAL NEEDS

1. The recommended operating system is Windows 10/Linux/MacOS. And, the recommended python version is 3.7 or more with required libraries, like SQLite and Django.

2. Test Data to be provided from database for backend testing and as manual inputs for User Interface testing

14 STAFFING AND TRAINING NEEDS

In order to provide complete and proper testing the following areas need to be addressed in terms of training:

A) The developers and tester(s) will need to be trained on the basic operations of the GUI interface. Prior to the final acceptance of the project, the shop owner or the operations staff will also require complete training of the system and the process.
B) At least one developer and operations staff member/ the owner need to be trained on the installation and control of the application.
C) At least 2 persons from the project are needed to present the test cases and to discuss the software's output; one to coordinate and the other to assist the display of cases.

15 PLANNING RISKS AND CONTINGENCIES

If any feature is not passing the tests even after significant effort, it could be dropped if it is not a major feature or if it is in particular hampering the functioning of the other features.

16 GLOSSARY

1) MSA – Medicine Shop Automation

2) SRS – Software Requirements Specifications

3) GUI – Graphical User Interface