

American International University-Bangladesh (AIUB) Department of Computer Science

Faculty of Science &Technology (FST)

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Section A

Software Quality Assurance and Testing

Developing Test Plan for Banking System Using AI

A Report submitted

By

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Software Test Plan

For

Banking System Using AI

Version 1.0.0 approved

Prepared by

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**Revision History**

| Revision | Date | Updated by | Update Comments |
| --- | --- | --- | --- |
| 0.1 | 2021.04.19 | Hasan, Md. Pial | First Draft |
| 0.2 | 2021.04.22 | Rabbi, Md. Fajlay | Second Draft |
| 0.3 | 2021.04.25 | Abdullah Al Fahad | Third Draft |
| 0.4 | 2021.04.29 | Mahamud, Niber | Fourth Draft |

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**1. TEST PLAN IDENTIFIER:RS-MTP01.3**

Banking System Using AI

**2. REFERENCES**

• Software Requirement Specification (SRS) of the system

• Technical Specification

• Rules of User Interface Design Content

• Requirement Specification

• https://www.ijettcs.org/Volume4Issue5(2)/IJETTCS-2015-10-09-16.pdf • https://media.neliti.com/media/publications/263023-banking-bot-17957862.pdf

**3. INTRODUCTION**

**Background to the Problem**

• Company has to make an Banking System Using AI where user can easily get help for bank related issues without any real bank assistant.

• Banking has become the part and parcel of everyone’s life. Almost everyone uses the banking sector to perform their tasks. Most of the tasks are been carried out manually. Now the use of mobile and internet banking facility has reached greater heights. Chat bots is becoming trending today. They are computer programs that interact with users using natural languages. So, people nowadays are looking for these kinds of bots for banking site.

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**Solution to the Problem**

In this project we are trying to perform few of the basic banking operations via chat bots. Now bots in banking sectors are only used to give guidelines but, in this bot, we perform banking operations for a list of few banks.

**4. REQUEIREMNT SPECIFICATION**

**4.1 System Features**

1. System Login

Functional Requirements

1.1 The software shall allow users to login with their given username and password 1.2 If the username and/or password has been inserted wrong for more than three times, the random verification code will be generated by the system to retry login. 1.3 If the number of login attempt exceed its limit (5 times), the system shall block the user account login for one hour

Priority Level: High

Precondition: user have valid user id and password

2. User Registration

Functional Requirements

2.1 The software will allow user to register for the system.

2.2 User ID will be auto generated after registration and OTP and User ID will be sent to email automatically.

Priority Level: Medium

Precondition: User will need National ID, passport size jpg photo, Mobile number, email ID, must to register for the system.

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3. BOT Chat

Functional Requirements

3.1 This is an AI based chatting with system where reply for the user will be created depending on users last messages.

Priority Level: High

Precondition: User should use special keyword to get better and most related reply.

4. Bank Branch Finder

Functional Requirements

4.1 User can find branch details by entering his/ her area

Priority Level: Medium

Precondition: User current area

5. Bank ATM Finder

Functional Requirements

5.1 User can find ATM location by entering his/ her area

Priority Level: Medium

Precondition: User current area

6. Feedback

Functional Requirements

6.1 User can give feedback or complain through the function

Priority Level: Medium

Precondition: User Bank account no.

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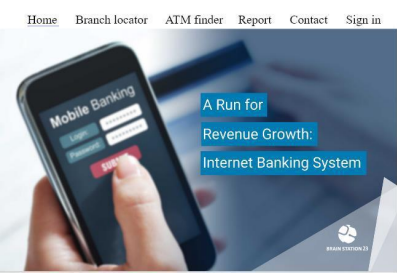
**4.2 System Quality Attributes**

o **Usability**: A trained user shall be able to register into the system and login Readability: A trained user shall be able to read every page perfectly. o **Efficiency**: All functional purpose shall be fulfilled

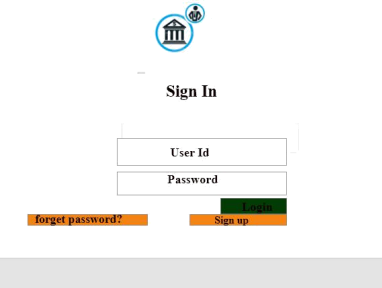
o **Portability**: Shall be able to run on every device correctly

o **Correctness**: All features shall be done the way stakeholders demanded.

**4.3 System Interface**

*****Figure 4-1 Home Page*

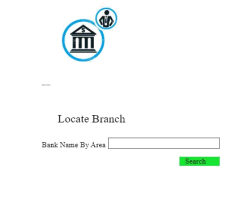
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*Figure 4-2 Sign In Portal*

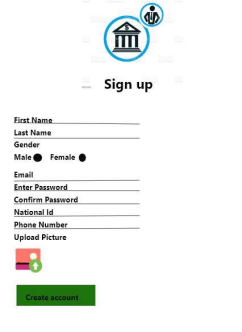
**

*Figure 4-3 Search Panel*

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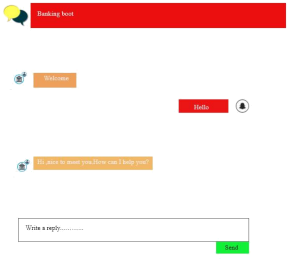


*Figure 4-4 Branch Locator*

**

*Figure 4-5 Sign Up*

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*Figure 4-6 Chatting BOT*

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**4.4 Project Requirements**

• **Time**: Needs to completed within 3 months

• **Budget:** 250,000 BDT

• **Environment:** Should be worked correctly in all device

**5. FEATURES NOT TO BE TESTED**

• Network Security

• Hardware related issues

• Any personal information.

• Low risk, has been used before successfully and is considered stable. UI/UX Design.

**6. TESTING APPROACH**

**6.1 Testing Levels**

o The testing for the SMS project will consist of Unit, System/Integration (combined) and Acceptance test levels. It is hoped that there will be at least one full time independent test person for system/integration testing. However, with the budget constraints and timeline established; most testing will be done by the test manager with the development teams’ participation.

o UNIT Testing will be done by the developer and will be approved by the development team leader. Proof of unit testing (test case list, sample output, data printouts, defect information) must be provided by the programmer to the team leader before unit testing will be accepted and passed on to the test person. All unit test information will also be provided to the test person.

o SYSTEM/INTEGRATION Testing will be performed by the test manager and development team leader with assistance from the individual developers as required. No specific test tools are available for this project. Programs will enter into System/Integration test after all critical defects have been corrected. A program may have up to two Major defects as long as they do not impede testing of the program (I.E. there is a work around for the error).

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o ACCEPTANCE Testing will be performed by the actual end users with the assistance of the test manager and development team leader. The acceptance test will be done in parallel with the existing manual ZIP/FAX process for a period of one month after completion of the System/Integration test process.

**6.2 Test Tools**

The only test tools to be used are the standard AS/400 provided utilities and commands.

o The Program Development Manager (PDM) will be used as the source version configuration management tool in conjunction with the in-house check-in/check-out control utility. The check-in/out utility is part of each developer’s standard AS/400 access menu.

o The initial prototypes for the new screens will be developed using the AS/400 Screen Design Aid (SDA). The initial layout and general content of the screens will be shown to the sales administration staff prior to proceeding with testing and development of the screens.

**6.3 Meetings**

The test team will meet once every two weeks to evaluate progress to date and to identify error trends and problems as early as possible. The test team leader will meet with development and the project manager once every two weeks as well. These two meetings will be scheduled on different weeks. Additional meetings can be called as required for emergency situations.

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**7. TEST CASES/TEST ITEMS**

| Project Name: Banking System Using AI | | | Test Designed By**:** Fajlay Rabbi | | |
| --- | --- | --- | --- | --- | --- |
| Test Case ID: BS\_001 | | | Test Designed date: 21 April, 2021 | | |
| Test Priority: Medium | | | Test Executed by: Abdullah Fahad | | |
| Module Name: User Registration | | | Test Execution date:  April 25,2021 | | |
| Test Title: Registration with user valid information | | | | | |
| Description: Test User Registration page | | | | | |
| Pre-condition: User will need valid email, national ID, Passport size photo and personal information. Dependency: | | | | | |
| Test Steps | Test Data | Expected  Result | | Actual  Result | Status  (Pass/Fail) |
| - Go to the Home page. - Click Sign Up  - Enter First name  - Enter Last name  - Enter gender  - Enter Email  - Enter password  - Enter Confirm Pass  word  - Enter National ID  - Enter phone  - Upload picture of  413 x 531 pixels,  format (jpeg, PNG).  - Click on Submit | First name:  Mr. David  Last name:  Villa  Gender: Male  Email:  davidvia@gmail.com Password:752694  Confirm  Password:752694  National Id:  19967747358727  Phone No:  +8801758766521  Upload Image:  Profile.png | User profile  page will  appear after  validating  email and  national Id. | | As expected | Pass |

Post-Condition: validation email sent to the user email after confirming the email the user data stored into the database. User Sign Up into the system successfully

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| Project Name: Banking System Using AI | | | Test Designed By**:** Mahamud, Niber | |
| --- | --- | --- | --- | --- |
| Test Case ID:BS\_002 | | | Test Designed date: 26  April, 2021 | |
| Test Priority: High | | | Test Executed by: Hasan Pial | |
| Module Name: Login session | | | Test Execution date:  April 27, 2021 | |
| Test Title: Bank account holder login. | | | | |
| Description: A user can login using user ID and Password. | | | | |
| Pre-condition: User must have valid ID and Password. | | | | |
| Dependency: BS\_001 | | | | |
| Test Steps | Test Data | Expected Result | Actual  Result | Status  (Pass/Fail) |
| - Go to the login  page  - Enter user id  and password  - Click login | User Id: CB501  Password:  665984 | Bank Account  holder should be  able to login into the system. | As  expected | Pass |
| Post Condition: Bank account holder is validated by database and successfully  logged into the system. The account session details are stored in the database. | | | | |

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| Project Name: Banking System Using AI | Test Designed By**:** Abdullah Fahad |
| --- | --- |
| Test Case ID:5. BS\_003 | Test Designed date: 24 April, 2021 |
| Test Priority: Medium | Test Executed by:  Mahamud, Niber |
| Module Name: Chatting Bot | Test Execution date  April 26,2021 |
| Test Title: Test user chatting session. function | |
| Description: A valid user can send text message to the bank administrative. | |
| Pre-condition: Bank holder must be registered; Logged in to the system; | |

Dependency: BS\_001, BS\_002

| Test Steps | Test Data | Expected Result | Actual Result | Status  (Pass/Fail) |
| --- | --- | --- | --- | --- |
| - Go to the home  page.  - Click menu bar  - Click contact  - Enter Bank  Account  number  - Enter the text  - Click send | Bank Account No:  230239177770 | User should send the message  successfully and  sent message  should appear with time. | As expected | pass |
| Post-Condition: Sent Data and time stored into the database. | | | | |

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| Project Name: Banking System Using AI | | | | Test Designed By**:** Fajlay Rabbi | |
| --- | --- | --- | --- | --- | --- |
| Test Case ID: BS\_004 | | | | Test Designed date: 24 April, 2021 | |
| Test Priority: Medium | | | | Test Executed by: Hasan Pial | |
| Module Name: Branch Locator | | | | Test Execution date:  April 27,2021 | |
| Test Title: Test search for a Branch function | | | | | |
| Description: Bank Account holder can locate a branch according to the area | | | | | |
| Pre-condition: User must be Login to the system | | | | | |
| Dependency: BS\_002 | | | | | |
| Test Steps | Test Data | Expected Result | Actual  Result | | Status  (Pass/Fail) |
| - Go to the Home  page  - Click on Branch Locator  - Enter Branch  name by area.  - Click search  button. | Branch Name:  CMD Ltd,  Uttara. | Able to find the  requested branch  location. | As expected | | Pass |

Post-Condition: Search found message show.

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| Project Name: Banking System Using AI | | | | Test Designed By**:**  Mahamud,  Niber | |
| --- | --- | --- | --- | --- | --- |
| Test Case ID: BS\_005 | | | | Test Designed date: 25 April, 2021 | |
| Test Priority: Medium | | | | Test Executed by: Abdullah Fahad | |
| Module Name: ATM finder | | | | Test Execution date  April 27, 2021 | |
| Test Title: Test search for a Branch function | | | | | |
| Description: Bank Account holder can search the ATM by area and see the location. | | | | | |
| Pre-condition: User must be Login to the system | | | | | |
| Dependency: BS\_002 | | | | | |
| Test Steps | Test Data | Expected Result | Actual  Result | | Status  (Pass/Fail) |
| - Go to the Home  page  - Click on ATM  finder  - Enter Area or  city name.  - Click search  button. | Area Name:  Bashundhara-1 | Able to find the  requested ATM  booth location. | As expected | | Pass |

Post-Condition: Search found message show.

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| Project Name: Banking System Using AI | | | | Test Designed By:  Mahamud, Niber | |
| --- | --- | --- | --- | --- | --- |
| Test Case ID: BS\_006 | | | | Test Designed date: 24 April, 2021 | |
| Test Priority: Medium | | | | Test Executed by:  Abdullah Fahad | |
| Module Name: Report an issue | | | | Test Execution date:  April 27 ,2021 | |
| Test Title: Report an issue test function | | | | | |
| Description: Users can report or give feedback about any issue. | | | | | |
| Pre-condition: User must be Login to the system | | | | | |
| Dependency: BS\_002 | | | | | |
| Test Steps | Test Data | Expected Result | Actual  Result | | Status  (Pass/Fail) |
| - Go to the Home  page  - Click on  Feedback  - Enter bank  account no  - Type the  desired text  - Click on submit  button. | Bank Account  No:  23023916765230  Report: My  deposit is not  authorized yet | User should get a reply from bank administrative. | As expected | | Pass |

Post-Condition: Show the feedback of bank administrative

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8. ITEM PASS/FAIL CRITERIA

• At the Unit test level-

✓All test cases completed.

✓ Individual module testing is completed.

✓All cases completed with a percentage containing some minor defects since it is  impossible to get 100% tested.

• At the Integration test level-

✓Interaction between integrated unit is tested.

✓ All test cases are checked.

✓ A specific number of plans are completed without errors.

• At the System test level-

✓o System’s compliance with specific requirements are checked.

✓ o All lower level plans are completed.

• At the Acceptance test level-

✓o User acceptance is checked.

✓ o Specified percentage of acceptance criteria.

• Compare the total defects.

• Determine the severity of the defects.

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**9. TEST DELIVERABLES**

Test Deliverables are the test artifacts which are given to the stakeholders of a software project during the SDLC (Software Development Life Cycle). Every software application goes through different phases of SDLC and STLC.

o Acceptance test plan

o System/Integration test plan

o Unit test plans/turnover documentation

o Screen prototypes

o Report mock-ups

o Defect/Incident reports and summaries

o Test Cases

o Test Data

o Test Defect Report

o Test Summary Report

o Test Status Report

o Error Corrective Actions

o Execution Log Files

**10. STAFFING AND TRAINING NEEDS**

There will be one full time tester for the system testing, acceptance testing and integration testing. This testing will continue at the end of the project. The testing will be on both automated and manual. Some test will be manual and some of the integration testing will be automated. Automated testing will be on selenium software and test studio. Those who are connected with the testing will be trained with the software for testing purpose. The automated testing is very sensitive so training is the first concern for this program. This full process will be observed by test manager.

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

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A. The developers and the testers must be trained on selenium and test studio. Also trained on the electronic data interchange [EDC] interface.

B. Specification of test items which is to be tested and who tested that part. And the training program will be arranged by test manager.

C. Unit testing will be handled manually but the integration testing will be on both manually and automated.

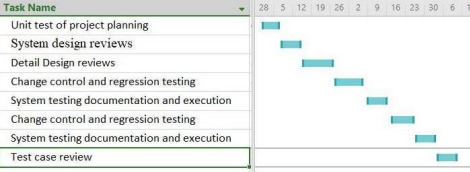
11. RESPONSIBILITIES

|  | TM | PM | DEV  TEAM | TEST  TEAM | CLIENT |
| --- | --- | --- | --- | --- | --- |
| Unit test Documentation & Execution |  | **X** |  | **X** | **X** |
| Unit Test of Project Planning & Responsibilities | **X** |  |  |  | **X** |
| System Design Revies | **X** |  |  |  |  |
| Detail Design Reviews | **X** |  |  |  | **X** |
| Test procedures and Rules Check |  |  | **X** |  | **X** |
| Test Plan Affordability |  | **X** | **X** | **X** | **X** |
| Screen & Prototype Reviews | **X** |  | **X** |  |  |

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**12. TESTING SCHEDULE**

Time has been allocated within the project plan for the following testing activities. The specific dates and times for each activity are defined in the project plan timeline. The persons required for each process are detailed in the project timeline and plan as well. Coordination of the personnel required for each task, test team, development team, management and customer will be handled by the project manager in conjunction with the development and test team leaders.



13. PLANNING RISKS AND CONTINGENCIES

• Planning should be on time

• The tasks should be performed on time

• The test team should follow the test manager command for testing case • The automated testing should be performed clearly

• Web template testing with UI/UX

• Using agile scrum and connecting with the client.

• Agile Kanban information updated to the client.

• Server connection

• Network dependency

• Working plan and procedures

• Requirement specification.

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• Requirement elicitation

• Design analysis

**14. APROVALS**

| Role | Name | Signature |
| --- | --- | --- |
| Project Manager | Niber Mahamud |  |
| Test Lead | Abdullah Al Fahad |  |
| Development Manager | Hasan Pial |  |
| Analyst | Fajlay Rabbi |  |

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