**E-Banking System Portal**

**OOSE Exp 9**

**November 2019**

**1 Introduction**

* 1. System Overview

The Application focuses on providing less cumbersome experience to the end user by providing a smooth and secure environment for efficient and reliable Online Banking System .

**1.2 Test Approach**

The Application mainly focuses on Security principles so an exemplar for the security model to used for unit as well as domain testing . The testing groups include Face Recognition ,Network Buffer capacity, Database Sql Injection , Shodan Web Application Penetration , Synchronize Flooding Attack on Server, Vulnerability Scan , Session Management. The Security testing for the Network Buffer Capacity Database Sql Injection and Shodan Web Application Penetration and Vulnerability Scan is done for secure transactions and also used to prevent multiple annonymus network login on the Same IP address. Secure Database access for the admin and monitoring the overall services of the application.

**2. Test Plan**

Test Plan includes the Security , Maintainability and reliable portal . The Approach include vigourous network analysis and testing on the performance in every damn aspect of functionalities which deals with Security and testing containerization done by the deployment Engineer. The Resources include Kali Linux, Metasploit ,BurpSuit , Beef xss , Armitage , Netcat ,OpenCv . Features for Testing include Transactions, Login, Register , Session Storage and Session Management User Face Recognition and Database access Security. The personal task includes Developer ,Admin, Penetration Tester, Devops Engineer .The payment gateway will accept only valid credit and debit cards.Testing will be done whether Credit/debit card number,Date of expiry and CVV details are fetched by the application correctly by the application. These can be done by manual testing. The network Security Scan is focused on maintaining the safe and secure gateway.

**2.1 Features to be tested :**

The Features includes Login , Register ,Payment Schedule and Payment History, Payment

Transaction and Facial Recognition ,Database Security.

Face Recognition: Input Image Dataset , Input Data Consistency

Payment Schedule ,Payment History , Payment Transaction :

Database Security : Database Sql Injection :

OverAll Application Security : Network Buffer capacity, Database Sql Injection , Shodan Web Application Penetration , Synchronize Flooding Attack on Server, Vulnerability Scan , Session Management

The security testing will be performed by arachnid tool in 1 week,Cross browser testing

using Cross Browser Tool in 1week,Performance testing using Jmeter tool in week,Usability

testing using chrome runner tool in 1 week.The database testing will be performed

whether all the data are stored and fetched properly from database.The non functional

attributes will be testing in approximately in 1 month

**Test Plan**

|  |  |
| --- | --- |
| Version | Estimated completion of testing |
| 1.01 alpha | 10/10/2019 |
| 1.02 | 20/10/2019 |
| 1.03 | 25/10/2019 |

**Roles And Responsibilities**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr.no | Deliverable  Name | Author | Reviewer |
| 1 | Test Plan | Test Lead(RIDDHISHA) | Project Manager/  Business Analyst’s/Test Lead |
| 2 | Network Buffer Overflow Defects | Penetration Tester(Vedang) | Project Manager/Penetration Tester/Test Lead |
| 3 | Login/Database defects | Test Team(Niket) | Project Manager/  Business Analyst’s/Test Lead |
| 4 | DOS preventions/WAF/IPS issues | Test Team(Vedang) | Penetration Tester/Test Lead/Project Manager |
| 5 | Datasets consistency Defects | Test Team(Hritik) | Test Lead/Project Manager |
| 6 | Test closure re-  port | Test  Lead(Shreejith) | Project Manager |

|  |  |
| --- | --- |
| Version | Functionality to be Tested |
| 1.01 alpha | login and registration, image datasets, network latency and waterfall requirement |
| 1.02 | Website Application Firewall,Intrusion Prevention System for secure transactions |
| 1.03 | Buffer Capacity,SSL certificate validation,  Database security performing sql injection  secure database access and storage |

**2.2 Features not to be tested :**

Enrollment Terms, Bank Offers , Transaction trends

**2.3 Testing Tools and Environment:**

Number of testers needed->3

Time needed->1 month approximately

Hardware:8GB ram and intel processor

Software:Windows OS, Debian Linux Version, Secure network Access Environment ,

Virtual Machines.

Tools needed:

Junit->Unit Testing ,Node Debugger

Citrus Tool->Integration Testing

Selenium->Automation Testing

Performance Testing->Jmeter Tool

Security Testing->Metasploit ,BurpSuit , Beef xss , Armitage , Netcat ,Nmap

Compatibility Testing->Cross Browser Tool

Usability Testing->LightHouse Tool

Database Testing->BurpSuit , Armitage

**3 TEST CASES**

**Functionalities for a bank User**

**3.1 Register Functionality**

**3.1.1 Purpose:**

To check user is able to login with username and password where username should not ,fname ,lname

accept special characters and password must be of minimum 6 characters and cannot contain user name

The Confirm Password and Password must match

To validate Mobile Number

The captcha to be verified.

To Provide aadhar validation with aadhar id using aadhar government api

To Provide Image Recognition based on the image from the aadhar database

The User can register as only user and required security team and project lead would have constant surveillance on the Application

**3.1.2 Inputs:**

Go to site:www.ebanksyns.com

Click on Regsister

Enter username as abc@123

Password as 123

Confirm Password as 123

Next-Button

**3.1.1 Expected Outputs & Pass/Fail criteria**

The result should fail on above input as the password contains special characters

**Input**.

Aadhar validation page https://ebanksyns/register

Enter aadhar id : xyz@123

**3.1.2 Expected Outputs & Aadhar/Fail criteria**

The result should fail on above input as the aadhar id is not recognized as a valid one.

**Input**.

Face Recognition Window

**3.1.3 Expected Outputs & Image/Fail criteria**

The result should not work Please provide a valid Face to be recognized if you ara a Human.

**Input**.

https://ebanksyns/register

Enter username as abc@123

Mobile No:222222

Password as 123

**3.1.4 Expected Outputs & Mobile/Fail criteria**

The result should not work Please Provide a valid mobile number

**3.2 Login Functionality**

**3.2.1 Purpose:**

To Provide The Email and Password

To generate random OTP send for both email and registered valid for only 10 seconds

To provide a captcha in order to verify as a Human

**Input**:

https://ebanksyns/register

Email::abc@123

Password:111111111

OTP ::

**3.2.1 Expected Outputs & Password/Fail criteria:**

**The email is not registered or the password is incorrect**

**Input**:

https://ebanksyns/register

Email::abc@123

Password:111111111

OTP ::

**3.2.2 Expected Outputs & OTP/Fail criteria:**

The OTP is not correct or the requirect OTP is expired.

**3.2.3 Expected Outputs & DDOS/Multiple/Fail criteria:**

By The Bank Security Right your IP is banned for vigorous network attempts legal action may be encountered.

**3.3 Transaction Functionality** :

**Purpose:** Once the User is authenticated by passing login and register functionalities he/she can perform transactions view transaction functionalities

**Input ::**

<https://ebanksyns/username?12eeeaxaxaxax>

Go to Transfer Amount.

Enter the Bank Name

Enter the Bank IFSC code

Enter the Bank Branch

Validate The Captcha

**3.3.1 Expected Outputs & UserInput/Fail criteria:**

The Bank Name is not valid or you have entered an invalid IFSC code

**3.3.2 Expected Outputs & Captcha/Fail criteria:**

The captcha entered is not a valid one.

**3.3.3 Expected Outputs & Session/Fail criteria:**

**Your Session is Expired Please Login Again**

**3.4 Transaction History** :

**Purpose:** Once the User is authenticated by passing login and register functionalities he/she can perform transactions view transaction History in most best User Interactive Format.

**Input:**

The transaction History Log

**3.4.1 Expected Outputs & Session/Fail criteria:**

Your Session is Expired Please Login Again

**Functionalities for Penetration Tester**

**3.5 : Overall Network Security Scan:**

**Purpose:** To perform and Secure OverAll Application Security : Network Buffer capacity, Database Sql Injection , Shodan Web Application Penetration , Synchronize Flooding Attack on Server, Vulnerability Scan , Session Management

**3.5.1 Expected Outputs & Offline/Fail criteria:**

Required Application is brought in production phase from development

**3.5.2 Expected Outputs & Domain/Fail criteria:**

The Domain or the required web server is down or having a heavy traffic on server

**Functionalities for Admin User:**

**3.6 :: Integrity in application and maintainibilty**

**Purpose:** Input Image Dataset , Input Data Consistency,Manage All Application Functionalities

**3.6.1 Expected Outputs & Domain/Fail criteria:**

The Domain or the required web server is down or having a heavy traffic on server

**Functionalities for Devops User:**

**Purpose:** Use of Docker Nginx in order to provide efficient deployment procedure

**3.5.4 Expected Outputs & Phase/Fail criteria:**

The Required Application is not ready for Deployment or in Production Phase

**Test Logs for the Application**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test**  **cas**  **id** | **Test**  **case**  **Name** | **Description** | **Input** | **Expected**  **output** | **Actual**  **output** | **Status** |
| **3.1** | **Register functionality** | **Go to**  **site,do**  **regis-**  **tration for bank portal** | **Go to**  **site,do**  **regis-**  **tration**  **provide username**  **email fname,lname password confirm password .Aadhaar or pan card image and face recognition** | **Welcome user to our bank Portal** | **Special**  **char-**  **acters**  **also**  **ac-**  **cepted** | **Failed(10/10/2019)**  **At testing environment(Windows**  **os (Chrome browser)** |
| **3.2** | **Login**  **functionality** | **Provide Email and Password generate OTP for 10 seconds valid**  **verify a user as human** | **Enter**  **user**  **name**  **and**  **pass-**  **word** | **User**  **name**  **should**  **accept all**  **aphanu-**  **merics**  **but no**  **special**  **charac-**  **ters** | **Username or email is not registered with us** | **Failed(10/10/2019)**  **At testing environment(Windows**  **os (Chrome browser)** |
| **3.3** | **Transaction Functionality** : | **Once the User is authenticated by passing login and register functionalities he/she can perform transactions view transaction functionality** | **Enter the Bank Name**  **Enter the Bank IFSC code**  **Enter the Bank Branch**  **Validate The Captcha** | **Bank Should Accept all the valid IFSC codes and valid captcha and valid session** | **The Bank Name is a valid and the amount is transferred** | **Passed(10/10/2019)** |
| **3.4** | **3.4 Transaction History** : | **Once the User is authenticated by passing login and register functionalities he/she can perform transactions view transaction History in most best User Interactive Format.** | **The transaction History Log** | **view transaction History in most best User Interactive Format.** | **Transaction log displayed**  **in proper form** | **Passed(10/10/2019)** |
| **3.5** | **Overall**  **Network**  **Security**  **Scan:** | **Security : Network Buffer capacity, Database Sql Injection , Shodan Web Application Penetration , Synchronize Flooding Attack on Server, Vulnerability Scan , Session Management** | **None** | **Domain and application has a valid security ssl certificate and domain** | **Penetration testing results obtained positive** | **Passed(25/10/2019)** |
| **3.6** | **Integrity in application and maintainibilty** | **Input Image Dataset , Input Data Consistency,Manage All Application Functionalities** | **None** | **The**  **Domain or the required web server is down or having a heavy traffic on server** | The Domain is Valid data analytics is success | **Passed(25/10/2019)** |

**Test Logs for the Application**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
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| **3.6** | **Integrity in application and maintainibilty** | **Input Image Dataset , Input Data Consistency,Manage All Application Functionalities** | **None** | **The**  **Domain or the required web server is down or having a heavy traffic on server** | The Domain is Valid data analytics is success | **Passed(25/10/2019)** |

**Defect Reporting:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test**  **cas**  **id** | **Test**  **case**  **Name** | **Description** | **Input** | **Expected**  **output** | **Actual**  **output** | **Status** |
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