

American International University-Bangladesh (AIUB)

**Department of Computer Science**

**Faculty of Science & Technology (FST)**

**Police Monitoring System**

A Software Quality Assurance Project Submitted

By

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Semester: Spring\_22\_23** | | **Section:** E | **Group Number:** 02 | |
| SN | Student Name | Student ID | Contribution (CO1+CO2) | Individual Marks |
| 01 | KABIR, SHAILA | 17-35642-3 |  |  |
| 02 | HASAN, MAHAMUD | 18-36698-1 |  |  |
| 04 | SAHARA, SALMA JAHAN | 18-38788-3 |  |  |
| 36 | MOROL, SHOHAN | 20-44038-2 |  |  |
|  |  |  |  |  |

### The project will be Evaluated for the following Course Outcomes

|  |  |  |
| --- | --- | --- |
| Evaluation Criteria | Total Marks (50) | |
|  | |
| Revision History, Test Plan Identifier, Reference Materials, Problem Background, Solutions | [10 Marks] |  |
| Requirements Specification (System feature, Quality Attributes, System Interface, Project Requirements) | [10 Marks] |  |
| Item Not to be tested, Testing approach (Testing levels, tools, meetings), Test cases | [10 Marks] |  |
| Item pass/fail criteria, Test deliverables, Staffing and Training, Responsibilities, Scheduling, Risk | [10 Marks] |  |
| Approval, Format, Submission, and Defense | [10 Marks] |  |

Software Test Plan

for

Police Monitoring System

Version 1.0 approved.

Prepared by

KABIR, SHAILA

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MOROL, SHOHAN

American International University-Bangladesh (AIUB)

24/04/2023

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# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Revision | Date | Updated by | Update Comments |
| 0.1 | 2023.03.27 | Shohan Morol | First Draft |
| 0.2 | 2023.04.28 | Salma Jahan Sahara | Second Draft |
| 0.3 | 2023.04.28 | Shaila Kabir | Third Draft |
| 0.4 | 2023.04.28 | Mahmud Hasan | Fourth Draft |
| 0.5 | 2023.04.28 | Salma Jahan Sahara | Fifth Draft |
| 0.6 | 2023.04.28 | Mahmud Hasan | Sixth Draft |
| 0.7 | 2023.04.28 | Salma Jahan Sahara | Seventh Draft |
| 0.8 | 2023.04.28 | Shaila Kabir | Eighth Draft |
| 0.9 | 2023.04.28 | Shohan Morol | Final Draft |

1. TEST PLAN IDENTIFIER: P.M.S-1.1
2. REFERENCES

* *April, Alain (2018). Software Quality Assurance. Wiley-IEEE.*[*ISBN*](https://en.wikipedia.org/wiki/ISBN_(identifier))[*978-1-118-50182-5*](https://en.wikipedia.org/wiki/Special:BookSources/978-1-118-50182-5)*.*
* *Laporte, Claude Y.; April, Alain (2018). Software Quality Assurance. John Wiley & Sons.*[*ISBN*](https://en.wikipedia.org/wiki/ISBN_(identifier))[*978-1-118-50182-5*](https://en.wikipedia.org/wiki/Special:BookSources/978-1-118-50182-5)*.*
* *Che Muturi, Murali (2010). Software Quality Assurance: Best Practices, Tools and Techniques for Software Developers. J. Ross Publishing.*[*ISBN*](https://en.wikipedia.org/wiki/ISBN_(identifier))[*978-1-60427-032-7*](https://en.wikipedia.org/wiki/Special:BookSources/978-1-60427-032-7)*.*

1. INTRODUCTION

3.1 Background to the Problem

* The justice system is one of the most important aspects in any society and is vital in maintaining peace and order. The ones who regularly use the tools of this system to stop are the police force. However, society still suffers from crimes such as theft, murders, rapes etc. and even though a helpline exists, it is not efficient (response time is worse) and has no direct form of communication with the officers on patrol and so in most cases, the crime goes unpunished or even undetected which further lowers the trust between the general public and the police.
* The root cause of this issue lies in two parts, firstly the lack of proper channel of communication between the operators at the helpline desk and the officers on patrol and secondly, the loophole that exists because of this lack of communication which in turn allows officers to slack off, commit acts of aggression without any justification and indulge in some crime themselves, this is also why corruption exists at the authoritarian end and because of this issue, the general public suffers either from the crimes that were not investigated or even harassed the authority who was supposed to protect them and provide safety.
* This issue has to be addressed as it’s about the safety and security of every citizen of the country and it will also streamline the justice system so that there is a mutual trust between people and the authority. As we know, crime does not sleep hence a mechanism must exist that will stay awake so people may live without fear.

3.2 Solution to the Problem

* The main objective of this project is to establish a control system that will address the root cause in an efficient way and help combat the corruption that lies at the lowest levels all the while for the public interest that is justice. It will be able to overcome the inefficiency that exists between the helpline sector and the police force. It will also be able to monitor and track what an officer is doing, for example whether he/she is not doing their duties, not responding to a crime in progress, indulging in notorious acts or abusing their authority. Automated reports which are tamper-proof, vehicular and individual tracking of the officers and for visual evidence, usage of a camera like a go-pro will also be utilized extensively.
* The solutions provided above will target this “gap” that exists between the helpline operators and the police officers and in particular, close the loophole that has existed for the longest time and has been abused by the law-enforcers to create harassment. Due to the inclusion of automation involved, an officer will have to answer for his/her actions hence enforcing fair play on their end and combating corruption that exists at the lowest levels of law enforcement.
* The solution provided works to reduce the response time between the operators at the helpline and the police officers by giving specific co-ordinates of the location to the assigned officer to maximize efficiency hence officers will no-longer have to go down wrong lanes, wrong residence etc. thereby maintaining a formality during the response and not causing any citizen any issues. Automated reports containing details of a scenario are generated every time an officer is assigned a case/issue and this will be tamper-free therefore they will not be able to modify it, this will build trust between the people and the authority. To maintain proper command and control of the police force, the proposed solution includes an interface that links an officer from any location on the field to their department portal allowing them to connect and share information on the go with any officers on the field, increasing their operational scope and thus enhancing security and safety. For example, in the event of theft, the citizen would have to contact the helpline for help but may not even be helped by an officer shorty after and thus they end up on the short end of the stick but with our software, the helpline will be able to send a very close location of the event which will drastically increase the chances of finding the perpetrator.
* The target group in this case is the general public and the lowest level of the police force and through the usage of our solution, the general public would get the justice and the security they deserve while the police force will be able to better utilize their resources, maintaining a positive relationship with the general population and they will be able to actually focus on catching the perpetrators as most of the paper work will be done automatically.
* Government officials, academic researchers and media outlets published data & statistics to better visualize the police violence and injustice to the public. About 1,000 civilians are killed or faced injustice each year by law-enforcement officers in the United States alone, the scenario is much worse in the 3rd world county. Uncountable cases are dismissed without any sorts of documentation. In many cases, we see these officials’ granting impunity to criminals because they are monetarily influenced. Our developed system going to find the root cause of police corruption, injustice, violence towards the citizen in the first place and find ways to prevent all the above also going to improve response time to the crime scene by introducing accountability.

### In the 2011 publication, Gab bidon, Higgins & Potter suggested police to be more corrupt, unfair, harsh and cruel against people of various racial groups. For our project we have eliminated race profiling terms for the police. Previous Studies about police shows number of reasons why police officer is less interested into policing or involves in corruption. For example, Inadequate training, lack of Prosecution and Accountability, The Stress of the Job and low wages. Our project focused on all the above thus improving the quality of the police force, as a result we will achieve our goal.

### There are already some software’s like law enforcement software which monitors various police operations and their activities, policing practices and builds community trust. It automates report writing, investigations, and record management while reducing human error and improving public security and safety. But if our software is used then the common people will get a chance to directly communicate with the police and if they want any help by calling the helpline, they can get the help directly. With that software one will get an opportunity to directly contact the police in that area and know whether that police officer of that area is performing his duty properly or he is neglecting it because we are creating an automatic system to monitor the activities of the police. So, we believe that by the implementation of this software the police officers will also take his duty more sincerely. Otherwise, he might have to face consequences.

1. REQUEIREMNT SPECIFICATION

4.1 System Features

* + 1. Automated Report Generation

1.1 Whenever a case is reported through the web interface or application interface directly from any area to the operator, the software will automatically create a new report session and set its priority.

1.2 The software will search for any officers in the vicinity and will assign the case to them.

1.3 The report session will be kept open until an officer has responded.

1.4 The report will track any events (for example- Name of the operator & officer(s) assigned, timeline of events etc.) that occur in-between the transition from searching to assigning and save it as a non-editable file.

1.5 The software will send a copy of the file to the operator and to the Police department Priority level: High.

Precondition: Requires an incident to be reported by the public

* + 1. Isolated WLAN creation between operators & police
  1. The connection will be end-to-end encrypted using proper security measures.

2.2 Once the officer(s) has resolved or uploaded their on-field report, the connection will be destroyed and cached data will be deleted.

2.3 After an officer is assigned, the software will create a temporary network session for direct communication between the operator and the officer.

Priority level: High

Precondition: Automated report is needed

Cross-reference: 1.1

[3] Digital signature verification

1. The software uses an AI powered digital signature processing technique to verify the stored digital signatures of operators & police personnel.
2. Verifies the levels of access that is to be provided according to their departments.

Priority level: Medium

Precondition: Database containing the digital signatures of all operators and police personnel is needed

[4] Interface visibility control

1. The software will check whoever is trying to access its portal.
2. The software will try to match the type of user with the ones that it can recognize.
3. Once recognized, it will show the appropriate interface for that user.
4. If it detects any form of tampering, forced access, too many failed logins then it will temporarily hardware ban that device.

Priority level: High

## 4.2 System Quality Attributes

QA1: Integrity

The software will utilize the best security solutions to ensure that any session, report files are protected and only allow access for editing and viewing by special individuals. Data backup services will be employed to save crucial data. Additionally, data security services will control user access and permissions.

Priority level: High

Precondition: Requires a separate security hub

Cross-references: [QA3], [QA4]

QA2: Interoperability

The software will be able to cross-reference to the operators and police department’s database for information necessary for its functionality and also will use location-based services such as Google Maps, to aid the officers on the field to get accurate locations.

Priority level: High

Precondition: Integration of location-based services

Cross-references: N/A

QA3: Usability

Streamlined interface with different accessibility settings will be available to all users, so that their access times are quicker. For example, options for different login types from the perspective of the general public would be either “guest” login or “existing user.”

Priority level: Medium

Precondition: N/A

Cross-references: [QA4]

QA4: Testability

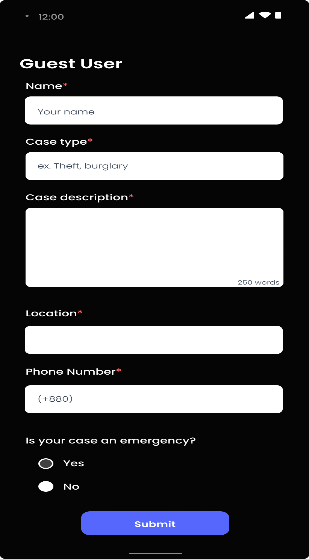
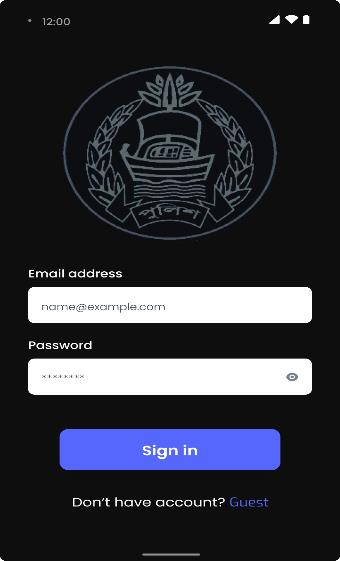
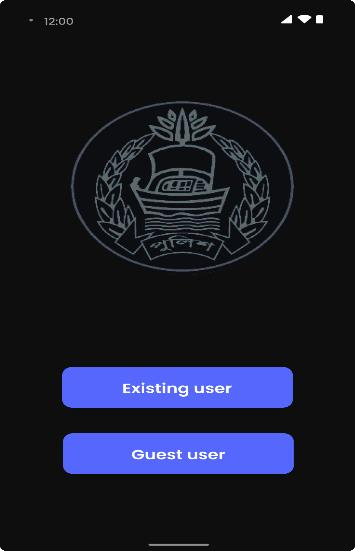
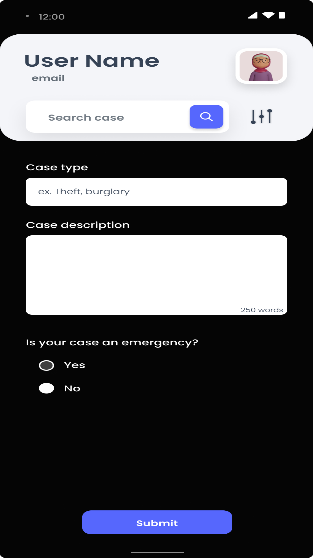
Test automation will be used to continuously to conduct regression tests of all known issues for refinement while the manual tests can be conducted on the emerging issues to prevent future problems.

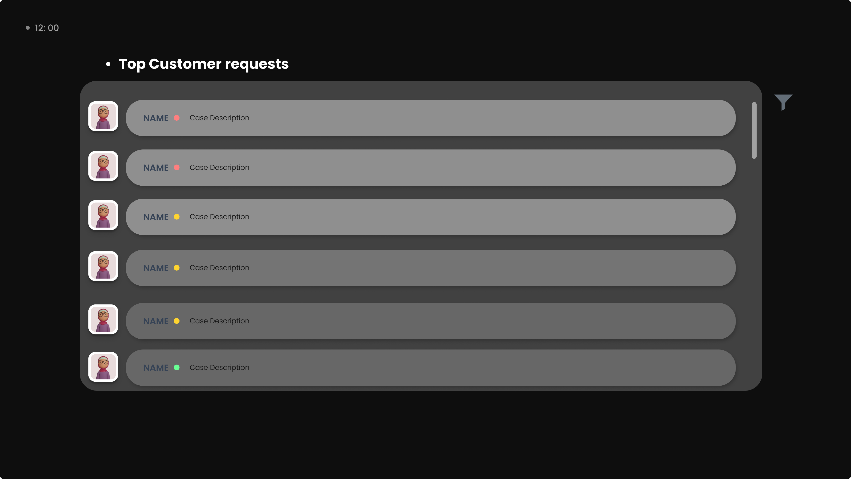
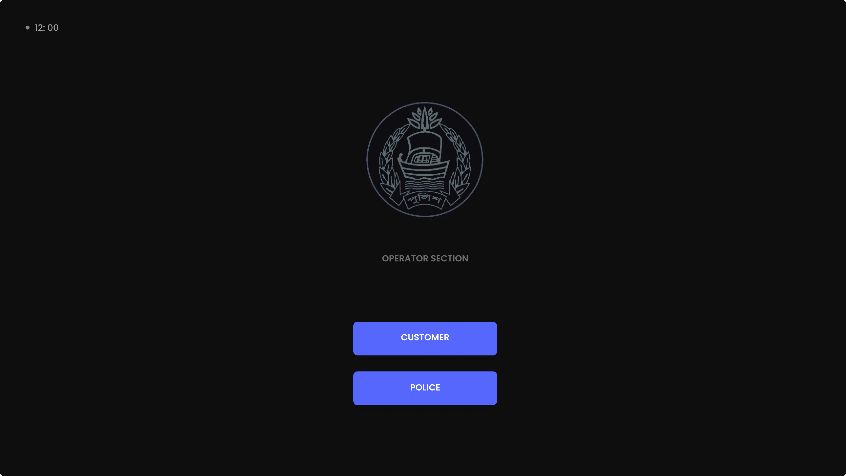
Priority level: Medium

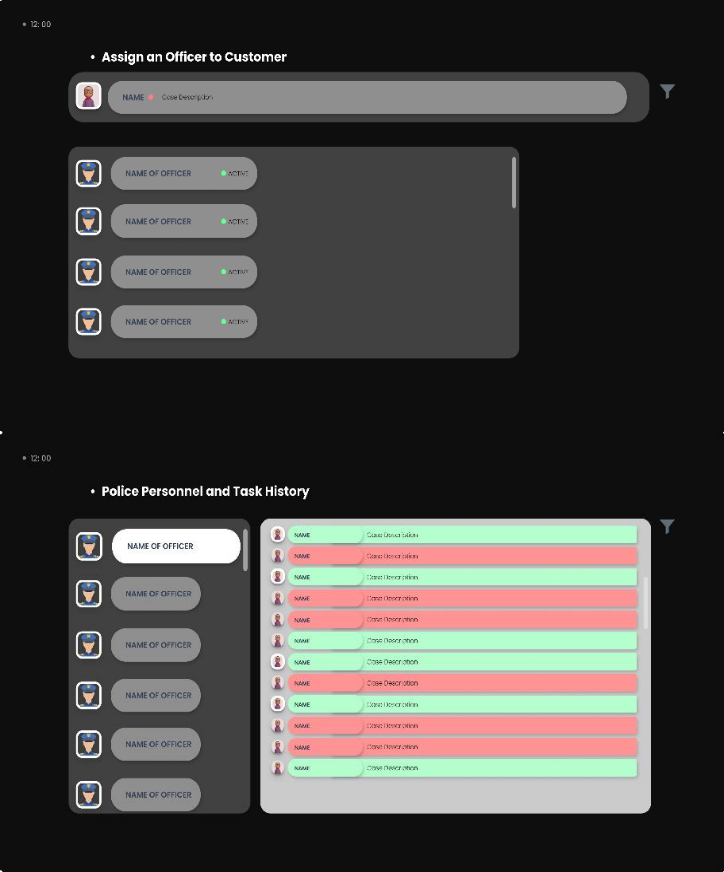
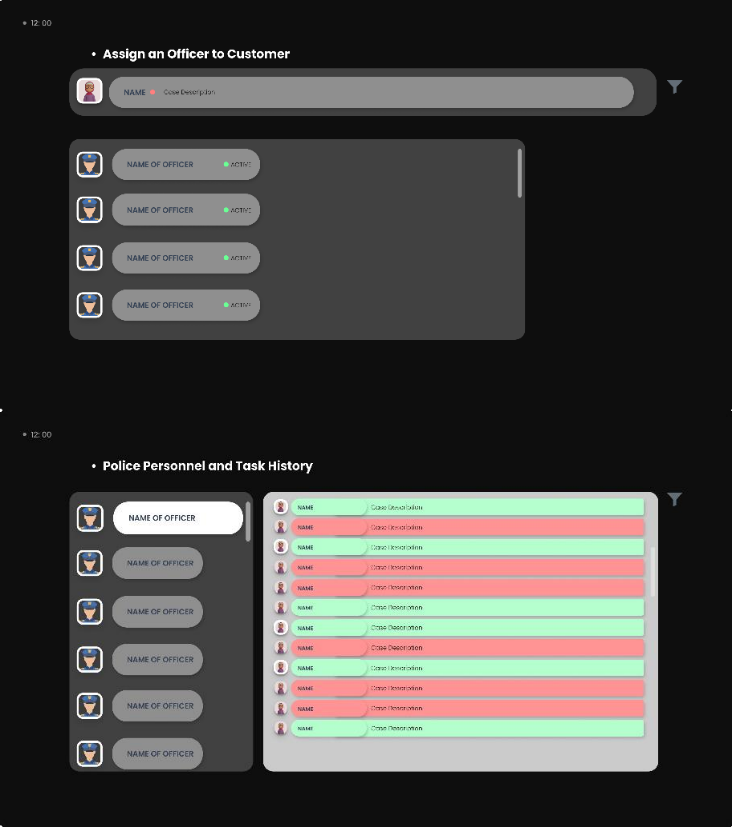
Precondition: Teaching the development team about test automation

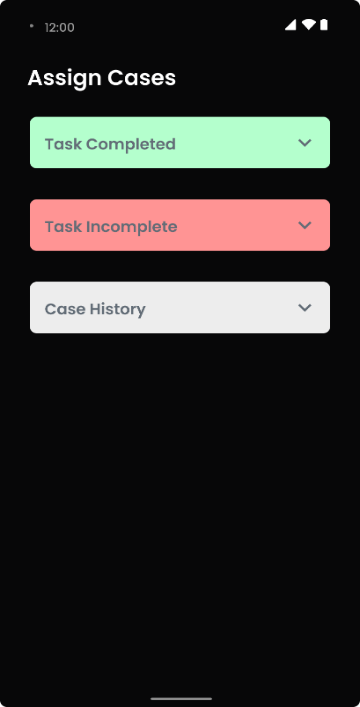
Cross-reference: [QA3], [QA2]

## 4.3 System Interface









## Project Requirements

* + Fault tolerance should for example- backup servers
  + The system’s uptime should not go below 90% at any given time.
  + User capacity should be higher to contain large volumes.
  + Data Storage is very crucial as large volumes of user data has to be stored.
  + Security is very important when it comes to protecting the system from any form of interference.

Software Project type: **Semi-detached**

SLOC (source lines of code) = 200,000Loc = 200KLoc Effort (PM) = 3.0 \* 200 1.12

= 1133 person-month

Development time (DM) = 2.50 \* 11330.35

= 30 months

Required number of people (ST) = 1133/29

= 38 people

Effort Allocation (per activity and their corresponding sub-activities)

* Study: Total time allocated: 40% of 30 months = 12 months
  + Feasibility study = 6 months
  + Business study = 6 months
* Functional Model Iteration: Total time allocated: 16% of 30 months = 5 months
  + Functional prototype identification = 1 month
  + Functional prototype creation = 2 month
  + Functional prototype review = 2 month
* Design & Build Iteration: Total time allocated: 16% of 30 months = 5 months
  + Design prototype identification = 1 months
  + Design prototype creation = 2 month
  + Design prototype review = 2 months
* Implement: Total time allocated: Total time allocated: 28% of 30 months = 8 months
  + User approval guidelines = 3 months
  + User training = 2 months
  + Implementation = 2 months
  + Business review = 1 month

1. FEATURES NOT TO BE TESTED

The project primarily consists of four panels. There are numerous features available in this panel. We chose not to test some features because these features have a similar type of functionality and somewhat similar codes. Additionally, several panels were not evaluated because they were not crucial to the situation.

For example, there is a tool on the user panel called "support ticket" that has functionality similar to that of a call center representative, but it is from their perspective, therefore we didn't test it.

* Create ticket
* Check status

6. TESTING APPROACH

## Testing Levels

The Police Monitoring System's testing progress will follow a well-defined process, which includes unit testing, integration testing, system testing, and acceptance testing. To ensure the efficiency of the project, we plan to employ four or five full-time test personnel to conduct integration and system testing. However, given the constraints of the budget and the deadline, we may have to rely more on the development team members and the testing manager. Despite these limitations, we will make every effort to ensure the quality of the testing process, and we will pay close attention to the details of each stage of testing. Ultimately, our goal is to ensure that the Police Monitoring System is reliable and effective, and that it meets the needs of our clients in law enforcement.

* + - **Unit Testing*:*** Our testing process will start with Unit Testing which is initial or lower level. It is utilized by the **white box** testing method. As part of this method, we will conduct both static and dynamic testing to ensure the reliability and effectiveness of the system. In the early stages, development team members will test each component in isolation to detect and fix issues early in the development cycle. By utilizing static testing, we can identify defects or errors without executing the code, reducing the likelihood of issues being carried forward in the development process. Dynamic testing will be used to ensure that the components work correctly and meet client requirements. Overall, this approach will help ensure timely delivery of the project within budget.
    - **System testing*:*** System testing is crucial for this project as it verifies the system's performance, functionality, and reliability. Our test person will test the system's integration, interaction between various components, and how they work together in a real-world scenario. System testing also ensures that the system meets the required specifications, performs optimally, and meets customer expectations. This type of testing provides comprehensive insights into the system's quality, enabling us to identify and fix any issues before the system is deployed to production.
    - **Integration testing**: The last testing stage for the Police Monitoring System project is integration testing, which is essential to verify the interactions and communication between individual components, subsystems, and interfaces. We used both Whitebox and Blackbox integration testing approaches to ensure that the components are integrated correctly, and the data is passed accurately between them, as per the requirements. As our clients, the police, will be using action cameras and a device to run the project in any situation, it's critical to test the integration system from the root level to ensure its reliability and effectiveness. Integration testing provides a comprehensive view of the system's functionality and performance, enabling us to deliver a high-quality and reliable system to our clients.
    - **Acceptance testing**: Acceptance testing is the final testing stage in the software testing process. It is mainly performed by the client based on their requirements and expectations. We followed a Blackbox testing approach for acceptance testing to verify that the system meets the client's specifications and acceptance criteria. Our clients, who are the police, will use the system for testing purposes, and if they encounter any issues, bugs, or have any suggestions, our development team will work to resolve them to their satisfaction. Ultimately, acceptance testing helps us ensure that the system delivers the expected value to the client and end-users and meets their needs and requirements.

## Test Tools

We used several testing tools for our project. These tools help us to get the code more clean, readable, bug free and performance.

* + - **Code Auditor:** “**Selenium**” is a widely used open-source automation tool for testing web applications. It is valuable for web app testing due to its compatibility with multiple web browsers such as Chrome, Firefox, Safari, Internet Explorer, and Edge. This allows developers and testers to ensure that their web application works consistently across all platforms. Selenium also provides the ability to automate repetitive tasks such as filling out forms, clicking buttons, and navigating through different pages. This automation increases testing efficiency and frees up testers' time to focus on more complex test cases. Additionally, Selenium offers support for different programming languages, making it accessible to a wide range of developers and testers.
    - **Performance Monitors:** “**AppDynamics APM**”, part of Cisco, is a full-stack observability platform. It analyzes applications at the code execution level and monitors the health of individual application, infrastructure nodes, troubleshoot errors and slow response times.
    - **Version Control:** “**GitHub**” is used as the version control. It will provide us the new changes and its effect on the project.

## Meetings

We followed Agile, specifically DSDM approach for the Police Management System. Here, testers and developers should meet regularly throughout the development cycle. In Agile, this could be during daily stand- up meetings, sprint planning sessions, and sprint reviews, where testers can discuss their testing progress, identify defects, and provide feedback to developers. So, the development will be handled with a more structured and prescriptive approach that focuses on the project's business goals and delivering a working system on time and within budget.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl** | **Date & Time** | **Type** | **Duration** | **Attendees** | **Agenda** |
| 1 | 05 Feb 2023, 10:06 AM | physical | 0h 42m | Shohan, Salma, Mahamud, Shaila | Features |
| 2 | 09 Feb 2023, 06:10 PM | virtual | 0h 39m | Shohan, Salma, Mahamud, Shaila | User Interface |
| 3 | 19 Feb 2023, 09:31 PM | virtual | 1h 36m | Shohan, Mahamud, Shaila | Hiring Devs |
| 4 | 26 Feb 2023, 07:20 PM | virtual | 2h 30m | Salma, Mahamud, Shaila | Progress 1 |
| 5 | 06 Mar 2023, 07:21 PM | virtual | 2h 39m | Shohan, Salma, Shaila | Progress 2 |
| 6 | 15 Mar 2023, 12:25 PM | physical | 0h 35m | Salma, Mahamud, Shaila | Progress 3 |
| 7 | 20 Mar 2023, 09:32 PM | virtual | 2h 35m | Salma, Shaila | Progress 4 |
| 8 | 25 Mar 2023, 11:34 AM | physical | 1h 22m | Shohan, Salma, Mahamud, Shaila | Progress 5 |
| 9 | 30 Mar 2023, 06:45 PM | virtual | 1h 31m | Shohan, Salma, Shaila | Progress 6 |
| 10 | 03 Apr 2023, 09:57 AM | physical | 2h 24m | Salma, Mahamud, Shaila | Progress 7 |
| 11 | 12 Apr 2023, 10:41 AM | physical | 1h 35m | Shohan, Salma, Mahamud | Testing 1 |
| 12 | 20 Apr 2023, 08:39 PM | virtual | 1h 43m | Salma, Mahamud | Testing 2 |
| 13 | 23 Apr 2023, 06:48 PM | virtual | 1h 23m | Salma, Mahamud, Shaila | Testing 3 |
| 14 | 29 Apr 2023, 09:52 PM | virtual | 2h 47m | Shohan, Shaila | Testing 4 |

1. TEST CASES/TEST ITEMS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Police Monitoring System | | | Test Designed by: Shaila Kabir | | |
| Test Case ID: FR\_1 | | | Test Designed date:10.04.2023 | | |
| Test Priority (Low, Medium, High): High | | | Test Executed by: Shaila Kabir | | |
| Module Name: Report Generation | | | Test Execution date: 10.04.2023 | | |
| Test Title: Auto report session creation | | | | | |
| Description: Verification of whether or not the report is being auto generated | | | | | |
| Precondition (If any): report an incident on the web portal | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Open the website in the browser. 2. Login as a guest user using a phone number. 3. Provide details of   the incident   1. Press "Submit" | Phone number: +12345678910  Current Location | A dialogue box should give a message confirming.  submission | | As expected, |  |
| Post Condition: Incident is successfully reported, and report is auto generated | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Police Monitoring System | | | Test Designed by: Shaila Kabir | | |
| Test Case ID: FR\_2 | | | Test Designed date: 10.04.2023 | | |
| Test Priority (Low, Medium, High): High | | | Test Executed by: Shaila Kabir | | |
| Module Name: WLAN creation | | | Test Execution date: 10.04.2023 | | |
| Test Title: Observing the creation of temporary WLAN connection | | | | | |
| Description: Checking the strength and stability of the connection | | | | | |
| Precondition: Officer has to be assigned to a particular report session | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Input a report session. 2. Check for available.   Officers   1. Assign officers. 2. Confirm assignment | Officer ID: Rahman#1222  Report ID: 81222A | A new & separate session is created in a new tab with the operator and the assigned officer present | | As expected, |  |
| Post Condition: Secure connection once established should allow the participants to communicate efficiently | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Police Monitoring System | | | Test Designed by: Shaila Kabir | | |
| Test Case ID: FR\_3 | | | Test Designed date: 10.04.2023 | | |
| Test Priority (Low, Medium, High): High | | | Test Executed by: Shaila Kabir | | |
| Module Name: Interface accessibility control | | | Test Execution date: 10.04.2023 | | |
| Test Title: Interface personalization | | | | | |
| Description: Ensuring the proper UI is loaded and personalization settings are available | | | | | |
| Precondition: N/A | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Open the web page. 2. Click on the button labeled, "Existing.   user"   1. Follow on-screen prompts. 2. Click the accessibility tab. 3. Click "Submit" | Username: Shaila 123  Password: 0000@111g | Web-page customizability granted following successful login | | As expected, |  |
| Post Condition: The user can now access the accessibility settings and configure the visuals of the UI | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Police Monitoring System | | | Test Designed by: Shaila Kabir | | |
| Test Case ID: 4 | | | Test Designed date: 10.04.2023 | | |
| Test Priority (Low, Medium, High): High | | | Test Executed by: Shaila Kabir | | |
| Module Name: System Login | | | Test Execution date: 10.04.2023 | | |
| Test Title: System Login verification | | | | | |
| Description: ): User must have valid username & password | | | | | |
| Precondition (If any): N/A | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Verified login. 2. Login as a guest user using a phone number. 3. Verified information. 4. Click submit | Username: Shaila 123  Password: 0000@111g | Successful login  & call or message for help | | As expected, |  |
| Post Condition: User is successfully entering the home page & user can apply for help | | | | | |

1. ITEM PASS/FAIL CRITERIA

After all test cases have been successfully completed, recommendations will be formulated by the test leader based on the outcomes of the test. The testing process cannot be concluded until the software has been verified to be almost free of bugs. It is inevitable that some bugs will remain in the software system even after the complete version is released. The project manager and test leader will make the final decisions on whether to release the program and which test cases should be passed. Ultimately, the decision lies entirely with the project manager and test leader. If 96% of the test cases are successful during the test session, the software will be released.

1. TEST DELIVERABLES

* Acceptance test plan: The user acceptability tests all turned out to be successful. The user interface was easy to use but still efficient.
* System/Integration test plan: Every aspect of system integration was done successfully. As a result, the database was operating correctly, and all of its features were responsive.
* Unit test plans/turnover documentation: The unit testing was done and all were working without any bugs.
* Screen prototypes: Total nine prototypes were made and the last system (3rd) one was the one we used in this project as this was the final latest modification.
* Report mock-ups: There were no mock-ups created for the report we are currently reviewing because it is the project report.
* Defect/Incident reports and summaries: It functions well in circumstances where the project requirements are not fully understood. The process is iterative and based on trial and error between the client and developer.
* Test logs and turnover reports: All of module 4's test logs were displayed. All test logs and a turnover report are displayed in the previous section. All of the tests were completed correctly, and none revealed any major problems.

1. STAFFING AND TRAINING NEEDS

* For the Police Monitoring System, it is recommended to assign at least four full-time testers and two interns under him for the testing phases of the project. We have to hire interns for the constraints of low budget and deadline. The full-time tester will be responsible for system and integration testing, while the interns will assist in carrying out the testing activities.
* It is crucial to ensure that the developers and testers along with the interns have the necessary training and skills to carry out testing activities effectively.
* Our client(police) needs to be trained to know the proper functionality and features.

# RESPONSIBILITIES

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | TM | PM | Dev  Team | Test  Team | Client |
| Acceptance Test Documentation and Execution | X | X |  | X | X |
| System/Integration Test Documentation and Execution | X |  | X | X |  |
| Unit Test Documentation and Execution | X |  | X | X |  |
| System Design Reviews | X | X | X | X |  |
| Test Procedures and Rules | X | X | X | X |  |
| Screen and Report Prototype Reviews |  |  | X | X | X |

1. TESTING SCHEDULE

The project plan includes the following monitoring tasks. The precise dates and times for each project are detailed in the timetable for a project schedule. The project manager will plan the necessary staff for each piece of equipment, including the inspection team, construction team, management, and the client, in close collaboration with the representatives of the production and inspection teams.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Task Name | 20/02/23 | 27/02/23 | 06/03/23 | 13/03/23 | 20/03/23 | 27/03/23 | 03/04/23 | 06/04/23 | 10/04/23 |
| Documentation |  |  |  |  |  |  |  |  |  |
| Design |  |  |  |  |  |  |  |  |  |
| Test plan |  |  |  |  |  |  |  |  |  |
| Unit testing |  |  |  |  |  |  |  |  |  |
| Integration testing |  |  |  |  |  |  |  |  |  |
| System testing |  |  |  |  |  |  |  |  |  |
| Acceptance testing |  |  |  |  |  |  |  |  |  |
| Project completion |  |  |  |  |  |  |  |  |  |
| Feedback |  |  |  |  |  |  |  |  |  |

1. PLANNING RISKS AND CONTINGENCIES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | Developing the wrong software Functions | 20% | Significant | user surveys; prototyping; early user manuals |
| 2 | Mistake in coding | 10% | Catastrophic | Test every piece of code |
| 3 | Customer is changing requirements | 30% | Marginal | Change as requirement |
| 4 | Larger number of users than planned | 50% | negligible | Use of checklist |
| 5 | Tight delivery deadline | 10% | marginal | Extending deadline |
| 6 | Real time performance problems | 15% | Significant | Simulation, prototyping |

1. APPROVALS

|  |  |
| --- | --- |
| Chief Executive Officer (CEO) – Ali Azam |  |
| Chief Technology Officer (CTO) – Moshiur Rahman Radif |  |
| Chief Financial Officer (CFO) – Mojammel Hossain |  |
| Project Manager (PM) – A.K. Zunayed |  |
| Business Analyst – Shoptorshi Roy |  |
| Sales Manager – Shakil Ahmed |  |
| Dev Team Manager – Tasin Shafi Leon |  |
| Test Manager – Tahmeed Mahbub |  |
| Client Support – Zubair Islam |  |
| Project Sponsor – Bangladesh Police Department |  |