Test Strategy

**BARANGAY SOUTH SIGNAL VILLAGE WEB APPLICATION**

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# Scope

This Test Strategy will be used for the Barangay South Signal Village Web-App of the Team Developmentality. This Test Plan will be looked over by Allan Vincent Nefalar to make sure that the Barangay South Signal Village Web-App will be at its outmost functionality and will fit the industry standards.

Ruth Morallos will supervise and has the authority to approve and decline each test plans to ensure the quality and usability of the Barangay Web-app.

The scope of testing for the Barangay South Signal Village Web-App encompasses the following key aspects:

* **QA Manager**
  + Project managers are the one who oversees that entire project all the time where it also includes activities such as testing. In the case, it is also their responsibility to review the testing strategy document that will ensure all the testing approach and execution is aligned to the project goals, timelines, and resources.
* **QA Engineer**

-In charge of the process of testing the web application to guarantee that the functions adhere to the quality standards.

-Provide feedback on the testing and working collaboratively with the team.

* **QA Test Analyst**
  + QA Team also needs to review the test strategy document since it is crucial to have them provide input, validate the contents and suggest improvement to properly make a test strategy document.
* Responsible for creating test plans and strategy documentation for the testing process.
* Documents the testing process to resolve any issues during the testing and to reduce risk by communicating effectively with the QA Engineer to clarify the requirements during the testing phase.

### QA Team Lead

- Provide feedback from the documentation and schedule meetings to clarify the project requirements.

- Performs approval on test cases provided by the QA Analysts to verify that they align with the project requirements and objective

* **Development Team**
* The development team, in collaboration with the testing team, is collectively working on the Barangay South Village Web App to ensure the software quality and alignment with its specified requirements.

**Development Team necessary roles**

* Establish effective communication for clarification regarding software requirements and gives a comprehensive understanding and precision.
* Collaborating to address identified issues encountered during the testing.
* Provides documentation to ensure transparency.
* Brainstorm ideas and strategize ways to improve solving bug related problems.
* **Stakeholder and Clients**
  + Feedback from Stakeholders and Clients are always necessary that is why testing strategy should also be reviewed by these people to ensure that they understand how testing will meet their needs and expectation with regards to the system.

**Who will approve this document?**

There are three necessary people that could approve a test strategy document which play a vital role in the testing of system and would most likely have the knowledge and technical backgrounds. They could provide insights and validate if the content in the document is accurate to some testing processes.

1. **Project Manager** - who oversees that entire project all the time where it also includes activities such as testing.
2. **Test Manager/QA Manager** – they provide input, validate contents, and suggest improvement to properly make a testing strategy document.
3. **QA Test Analyst -** are responsible for reviewing the test strategy to ensure that testing levels, types, and objectives.

Testing activities carried out with timelines.

A system requires a thorough test strategy document that is created along with the accompanying test strategy document with various test activities that are necessary.

Below is the list of test activities that will be executed:

Requirements Gathering

* Requirements gathering will be crucial in a Quality assurance since you will make sure that the end produce of your system meets at least the industry standard which could help improve the overall quality of IT solutions.

Test Planning

* Draft of a test plan that defines goals, parameters, approach, schedule, and resources as requirements for the test.

Test Case Design

* These are test cases and scenarios based on user stories and use cases.

Test Data Preparation

* Creates meaningful test data that includes a variety of different scenarios and data combinations.

Test Execution

* Execution of test cases in accordance with test plan. Also, recorded findings and faults during testing.

User Acceptance Testing

* It involves testing where end-users can evaluate if the system meets certain requirements and expectations.

Defect Report

* Reports defects that are mostly found during testing, listing down those issues gets prioritized to provide resolution as much as possible.

Test Report

* Test summary reports that give overview of the activities which includes test cases that are already executed, found defects, coverage of tests and results.

# 2. Test Approach

An organized approach must be followed in testing the Barangay South signal Village Web Application to make sure that it is reliable, user-friendly, and offers a smooth experience to users.

**Process of Testing**

1. The testing team will be gathering the requirements for testing, such as ensuring that the application is ready, there is available test data, and the test environment is complete.
2. The testing team will document a test plan/strategy that will be approved by the project owner.
3. The test cases from the test plan will be ensured that it is connected to the requirements traceability matrix.
4. The test cases/scenarios/cycles prepared by the testing team will be reviewed and must be approved by the project owner.
5. Revisions will be done after the review of the test planning.

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**Testing Levels**

* **Each of the task listed from the test cases are thoroughly executed**
* **As each test case are being done, they are examined in what criteria they match. (pass or fail)**
* **With the discovered result, they are documented and sent to the developing team so that they can fix the test cases that are marked fail**
* **Repeat the process until all the cases are done and marked as Pass.**

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**Roles of Team Members**

QA Engineer

* In charge of the process of testing the web application to guarantee that the functions adhere to the quality standards.
* Provide feedback on the testing and working collaboratively with the team.

QA Test Analyst

* Responsible for creating test plans and strategy documentation for the testing process.
* Documents the testing process to resolve any issues during the testing and to reduce risk by communicate effectively with the QA Engineer to clarify the requirements during the testing phase.

QA Team Lead

* Provide feedback from the documentation and schedule meetings to clarify the project requirements.
* Performs approval on test cases provided by the QA Analysts to verify that they align with the project requirements and objectives.

QA Manager

* Provides and communicates the outcome of the testing phases from the QA Team to the Project Manager and ensures that the requirements gathered from the testing are the expected output by the client.

Development Team Representative

* The development team, in collaboration with the testing team, is collectively working on the Barangay South Village Web App to ensure the software's quality and alignment with its specified requirements.

|  |  |  |
| --- | --- | --- |
| Roles | Name | Contact Info |
| QA Engineer | Ruth Morallos | [**rrmorallos@student.apc.edu.ph**](mailto:rrmorallos@student.apc.edu.ph) |
| QA Test Analyst | Vincent Nacor  Patrick Cortez  Dale Joshua Domingo  Bryan Geneta | [**vanacor@student.apc.edu.ph**](mailto:vanacor@student.apc.edu.ph)  [**pacortez2@student.apc.edu.ph**](mailto:pacortez2@student.apc.edu.ph)  [**dbdomingo@student.apc.edu.ph**](mailto:dbdomingo@student.apc.edu.ph)  [**bmgeneta@student.apc.edu.ph**](mailto:bmgeneta@student.apc.edu.ph) |
| QA Team Lead | Allan Nefalar | [**aonefalar2@student.apc.edu.ph**](mailto:aonefalar2@student.apc.edu.ph) |
| QA Manager | Kieyl Ponce | [**kdponce@student.apc.edu.ph**](mailto:kdponce@student.apc.edu.ph) |
| Development Team Representative | Jakerson Bermudo | [**jbbermudo@student.apc.edu.ph**](mailto:jbbermudo@student.apc.edu.ph) |

**Types of Testing**

Exploratory Testing

* Aims to explore the entirety of admin modules of the web app to review if there are any major defects that will hinder the testing process.

Functional Testing

* focuses on verifying the website's functions and features to know if it is working as expected from its software requirements, ensuring that the barangay officers can successfully perform tasks like logging in, updating a concern, and providing services.

User Acceptance Testing

* scopes the admin-module functions of the web app, ensuring that all the functions and features met the criteria set from the business requirements of the client, and that the system functions as how it is intended to work for the user.

**Testing approach & automation tool**

* *Selenium IDE* - The team utilizes Selenium IDE as the test management tool for the functional and user acceptance testing process of Barangay South Village Web App, an essential tool for the tester that ensures every step of the testing process including activities that are performed during the testing will be recorded and troubleshooted to efficiently identify issues.
* *Test Link* – An open-source management platform for the QA teams to manage quality assurance requirements such as test cases, scenarios, scripts, and execution. It helps in organizing and managing the test cases, which allows the QA teams to produce quality assurance requirements and keep track of their activity throughout testing process.
* *BlazeMeter* – a testing platform that is mainly used for User Interface, Functional, Performance Testing and Test Data Management, which will allow the QA team to provide a more comprehensive and integrated testing record.

**Test Sign-off**

* Upon compiling every test data done by the entirety of the QA Team, and approved by the QA Manager and Team Lead, the documents shall be handed over to the Development Team to resolve any problems, mitigate risks, and assess the suggestions pitched to improve the system.

# 3. Test Environment

The system Barangay South Village Web app will be hosted and tested on APC SoCIT Cloud Server, as well as in the local host server of the Testing Team. It will utilize both said environments to conduct its functionality in a wide and large different category to evaluate the functionality of the web app.

**Localhost**- the localhost would be the 1st line of testing grounds to see if the web app’s functionality runs as intended. If there are bugs to be found and discovered, this would be documented and immediately reported to the developing so that it can be fixed and improved as soon as possible.

**SoCIT Cloud- The SocitCloud** is a testing ground that would allow to emulate the environment as if the web app is deployed in real time. This would greatly help the web app to measure how many users it can handle at the same time. This would not only help finding bugs but also check the web app’s security pain points at the same time.

**Define Backup of Test Data and Restore Strategy**

**GitHub for version control -** The purpose of this environment it to primarily ensure the reliability of data backed up and, in the case, where defects are found in events such as system failure, data loss or any catastrophic events, the testing team will be able to restore the system to its initial version before the testing.

# 4. Testing Tools

To make sure the Barangay South Signal Village Web-app, performance, and security satisfy the necessary criteria, testing must be done thoroughly. To evaluate a Web-app, the following testing categories and associated tools can be helpful.

***Selenium IDE*** - The team utilizes Selenium IDE as the test management tool for the functional and user acceptance testing process of Barangay South Village Web App, an essential tool for the tester that ensures every step of the testing process including activities that are performed during the testing will be recorded and troubleshooted to efficiently. identify issues.

***Test Link*** – An open-source management platform for the QA teams to manage quality assurance requirements such as test cases, scenarios, scripts, and execution. It helps in organizing and managing the test cases, which allows the QA teams to produce quality assurance requirements and keep track of their activity throughout testing process.

***BlazeMeter*** – a testing platform that is mainly used for User Interface, Functional, Performance Testing and Test Data Management, which will allow the QA team to provide a more comprehensive and integrated testing record.

There are a few test management tools to test the Barangay South Signal Village Web-app:

Various open-source tools and technologies that were used to develop the necessary components for an open-source web-app.

* MySQL: A widely used open-source relational database management system.
* TortoiseGit: Used for collaborative code development and version control.
* GitHub: A platform for hosting and managing Git repositories.

# 5. Release Control

A Release Management Plan will outline the processes and some procedures that will assure a complete thorough testing of all the numerous modifications or changes within a release while keeping a version history.

Below is the table of version history that includes content such as:

* Version – for keeping track of the version history release.
* Date – Simply input of the date on when it was accessed and modified.
* Author – Any of the project team members or QA team who authored the test of version history.
* Description – a short title for the description of change version history

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author | Description of Change |
| 1.0 | Date | Patrick Cortez | Initial Release Management |
| 1.1 | Date | Vincent Nacor | Added section on Test Execution |
| 1.2 | Date | Allan Vincent Nefalar | Updated roles and responsibility |
| 1.3 | 9 / 25 / 2023 | Kieyl Ponce | Added test sign-off, test environments, etc. and resolved comments |
| 1.4 | 10/24/2023 | Ruth Morallos | Added updates in testing tools, testing cycle, and edited incorrect details |

# 6. Risk Analysis

The Barangay South Signal Village Web-app risk analysis is to locate potential risks, figuring out how they might affect the system, and coming up with ways to lessen or manage those risks that might be encountered.

**Types of Risks:**

* Technical Risks: Data breaches, system downtime software bugs.
* Security Risks: Data Leaks, cyberattacks, etc.
* Operational Risks: Lack of staff/management, lack of staff training.

**Risk Mitigation Strategies:**

* Risk Matrix: A risk matrix must be created to determine the possibility of any risks or risks events occurring and the potential effects of what the risks entail.
* Risk Reduction: Creating a plan to minimize the impact of a risk.
* Risk Avoidance: preparing for the necessary steps to minimize the risk.
* Risk Acceptance: There are risks that are too low and its impact is low and would not affect the system that much and therefore should be dealt with later and put the risks that has a high impact in priority.
* Monitoring and Reviewing the System: Regularly monitoring and reviewing the system to check if there are any risks.

**Contingency Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| Risks | Probability | Impact | Mitigation Plan |
| Human Error | Medium | Medium |  |
| Lack  of Resources | Possible | Significant |  |
| Unpredictable Risks | Possible | Significant |  |

# 7 . Review and Approvals

Reviewed and approved by the following:

|  |  |  |
| --- | --- | --- |
| Name | Signature | Date |
| Allan Vincent O. Nefalar  (QA Team Lead) |  |  |
| Jakerson B. Bermudo  (Representative for development team) |  |  |
| Jose Eugenio L. Quesada  (Subject Adviser) |  |  |