ROAD SIGN AND ROAD SATE MOBILE NOTIFICATION APLLICATION

TEST PLAN

GROUP 3.0

TEAM MEMBERS

Name	Role
POKAM NGOUFFO TANEKOU	
MBUA SEDRICK GOBINA	Tester
KENFACK SAMEZA V.	Tester

Table of Contents

1 Introduction

This Acceptance Test Plan outlines the procedures and criteria for evaluating the final application against the defined requirements. It ensures that the application meets user expectations and fulfills the agreed-upon requirements before deployment.

1.1 Objectives

- To ensure that the application meets the defined requirements and user expectations.
- To identify and fix any defects or issues before the application is deployed.
- To validate that the application works as expected under different scenarios and conditions.

1.2 Test Team Approach

1. **Preparation**: Define the acceptance criteria and design the test cases. Identify the test data and set up the test environment.
2. **Execution:** Execute the test cases and document the results. Compare the actual results with the expected results defined in the acceptance criteria.
3. **Reporting**: Report the test results to the stakeholders. This includes the pass/fail status for each test case and any defects identified.
4. **Retesting and Regression Testing**: If any defects are identified, they should be fixed and the affected test cases should be retested. Also, perform regression testing to ensure that the fixes have not introduced any new issues.
5. **Sign-off:** Upon successful completion of all tests, the stakeholders sign off on the acceptance of the application, indicating that it meets the defined requirements and is ready for deployment.

1.3 Scope

The initial phase will include all ‘must have’ requirements. These and any other requirements that get included must all be tested. At the end of Phase 1, a tester must be able to:

1. Create a manual test with as many steps as necessary
2. Save it
3. Retrieve it and have the ability to view it when running the test
4. Enter results and appropriate comments
5. View results

As the team works with the product they will define the needs for the second phase.

2 Testing Resource and Environment Needs

The Testing Resource and environment describes the test environment, risk, assumptions, for testing including what functions will be tested and what functions will not be tested.

2.1 Test Environment

The hardware, software, and network configurations required for conducting the tests are specified. For example:
- Hardware: Mobile device with a camera and GPS.
- Software: The latest version of the application, a navigation app for integration testing.
- Network: Stable internet connection for real-time notifications.

2.2 Test Tools

All the testing tools to be used are listed here

2.3 Test Cases: Here each requirement is converted into a test case

2.3.1 Functional Test Cases

#	Test Case	Description	Status	Comments
1	Location Tracking	Test if the app can accurately track the user's location in real-time. Test if the app can continue to track the user's location when the app is running in the background		
2	Voice Notifications	Test if the app provides voice notifications for various road conditions. Test if the voice notifications are clear and audible in different environments (quiet, noisy).		
3	Display Location with Existing Navigation App	Test if the app can display the user's location using an existing navigation app. Test if the app updates the displayed location as the user moves.		
4	Blocked Roads Notification and Alternative Paths Proposal	Test if the app notifies users about blocked roads. Test if the app proposes alternative paths when a road is blocked		

2.3.2 Non-Functional Test Cases

#	Test Case	Description	Status	Comments
1	User Data Safety	Test if the app protects user data by checking if data is encrypted and not accessible by unauthorized users or apps		
2	Offline Functionality	Test if the app can function offline, especially for critical features like road sign interpretation.		
3	Real-Time Road Recognition with AI	Test if the app can recognize roads in real-time using AI. Test the accuracy and speed of the road recognition feature.		

2.3.3 User Test Cases

#	Test Case	Description	Status	Comments
1	Alert About Blocked Roads	Test if the app alerts users about blocked roads in real-time. Test if the alert is timely and accurate.		
2	Alert Traffic Areas Before Time	Test if the app alerts users about traffic areas before they reach them. Test if the alert is timely and accurate.		
3	Help in Road Maintenance	Test if the app provides features that can help in road maintenance, such as reporting potholes or other road damage.		

2.3.4 System Test Cases

#	Test Case	Description	Status	Comments
1	Architecture and Design of the Application	Test if the app follows the specified architecture and design		
2	Integration with Other Systems or Services	Test if the app integrates with other systems or services, such as mapping APIs or traffic data providers.		
3	Programming Languages, Frameworks, and Libraries	Test if the app is developed using the specified programming languages, frameworks, and libraries.		
4	Compliance with Road Safety and Traffic Laws	Test if the app complies with road safety and traffic laws.		

2.4 Assumptions

This section lists assumptions that are made specific to this project.

1. The application is fully developed and ready for testing.
2. The test environment is set up correctly and all necessary resources are available.
3. The acceptance criteria are clearly defined and agreed upon by all stakeholders.

2.5 Risks

The following risks have been identified and the appropriate action identified to mitigate their impact on the project. The impact (or severity) of the risk is based on how the project would be affected if the risk was triggered. The trigger is what milestone or event would cause the risk to become an issue to be dealt with.

#	Risk	Impact	Trigger	Mitigation Plan
1	Incomplete or ambiguous requirements	High	This could lead to misunderstandings and incorrect testing	Ensure that the requirements are clearly defined and understood by all stakeholders. Use techniques such as requirement reviews or walkthroughs
2	Unavailability of test environment or resources	High	Unavailability of test environment or resources	Plan the test schedule considering the availability of the test environment and resources. Have a backup plan in case of any unavailability.
3	Changes in requirements during the testing phase	Medium	This could require retesting and increase the time and cost of testing	Have a change management process in place to handle changes in requirements. This includes re-evaluating the impact of the change on the test plan and adjusting the plan accordingly

3 Test Methodology

The test methodology describes how testing will be performed and explains any issues that may impact the success of the project.

3.1 Verification Approach

Verification is defined as the confirmation by examination and through provision of objective evidence that specified requirements have been fulfilled.

3.2 Validation Approach

Validation is defined as the confirmation by examination and through provision of objective evidence that the requirements for a specific intended use or application have been fulfilled.

3.2.1 User Acceptance Test

User Acceptance Test (UAT) is the process of comparing the end product with the user requirements and demonstrating that those requirements have been satisfied.

3.2.1.1 UAT Acceptance Criteria

The acceptance criteria translate each requirement into testable criteria that clearly define what constitutes a "pass" or "fail." *For example:*
Criteria: The timeliness of road condition notifications should be within 5 seconds of the event occurrence.

3.2.1.2 UAT Test Cases

Test cases are specific scenarios that simulate real-world use cases and test various aspects of the application's functionality. *For example:*
Test Case: Check if the app sends a notification within 5 seconds of detecting a roadblock.

3.2.1.3 UAT Test Data

The necessary data sets (road sign images, traffic data, weather information) are defined to execute the test cases realistically. *For example:*
Test Data: Traffic data for testing the road condition notifications.

4 Test Milestones and Deliverable

4.1 Test Schedule

The initial test schedule follows…….

Task Name	Start	Finish	Effort	Comments
Test Planning	13/05/2024	pending		
Review Requirements documents	13/05/2024	pending	1d	
Create initial test estimates	13/05/2024	pending		
Verification Approach				
Validation Approach				
User Acceptance Testing (UAT)				

4.2 Deliverable

Deliverable	For	Date / Milestone
Test Plan	Project Manager	
Traceability Matrix	Project Manager	
Test Results	Project Manager	