









**Version History**

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| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Change** | **Author** | **Approved by** |
| 1.0.0 | 19.09.2023 | Initial test plan preparation | Rifat Shadman | Abdul Qadir |
| 1.0.1 | 22.09.2023 | Feedback incorporated, conflicts resolved. | Rifat Shadman | Abdul Qadir |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Term** | **Abbreviation** | | | |
| DRIVER | Data for Road Incident Visualization, Evaluation, & Reporting. This is the official name of the application | | | |
| RCF | Road Crash Form. Special Entry screen to input brief information. This is seen on the Form input section | | | |
| ARF | Accident Report Form. Detail Incidence Information Entry Screen in WebInstance of DRIVER. It is similar to the Accident Report Forum (ARF) used by the Dhaka Metropolitan Police to record traffic accident data. | | | |
| Blackspot | Location in a road where the highest number of traffic accidents occurs is called a Black Spot. | | | |
| Incident | Locations where incidents have occurred are shown on the map as blue dots. | | | |
| Heatmap | Visual representation of the frequency and distribution of accidents that have occurred in a given area | | | |

**Abbreviation List**

**Table of contents**



[**1. Introduction 3**](#_gjdgxs)

[**2. References 3**](#_8qdb2nwdwrf)

[**3. High Level Test Objective 4**](#_1fob9te)

[**4. Test Strategy 4**](#_3znysh7)

[Strategy 4](#_2et92p0)

[Test Level 5](#)

[Test Types 5](#_tyjcwt)

[**5. Features to be Tested. 5**](#_3dy6vkm)

[**6. Features not to be Tested. 6**](#_4d34og8)

[**7. Test Estimation 6**](#_2s8eyo1)

[**8. Release Procedure 7**](#_17dp8vu)

[**9. Test Suspension Criteria 7**](#_3rdcrjn)

[**10. Test Acceptance Criteria: 8**](#_26in1rg)

[**11. QA Task List and Testing Process 8**](#_lnxbz9)

[**12. Test Environment 9**](#_35nkun2)

[Hardware Requirement: 9](#_1ksv4uv)

[Software Requirement: 9](#_44sinio)

[Network Requirement: 9](#_2jxsxqh)

[Tools to be used: 9](#_z337ya)

[**13. Schedule 10**](#_3j2qqm3)

[**14. QA Summary Report 10**](#_1y810tw)

[**15. Roles and Responsibilities 11**](#_4i7ojhp)

[**16. Risk and Contingencies 11**](#_2xcytpi)

[Schedule: 11](#_7idrnwvsk43c)

[Testing 11](#_2c0f9kqsd3zz)

[Application Risk 11](#_37o8dxqx7axy)

[**17. Test Exit Criteria 12**](#_1ci93xb)

[**18. Bug Status Explanation 12**](#_3whwml4)

[**19. Test Deliverables 13**](#_2bn6wsx)

[**20. Test Plan Approvals 13**](#_qsh70q)

# Introduction

The **Data for Road Incident Visualization, Evaluation and Reporting (DRIVER)** is an open-source system that has been developed, deployed and piloted by the World Bank and GRSF. DRIVER improves data collection, analysis, management and reporting of road crash incidents. Dhaka Metropolitan Police (DMP), as one of the key stakeholders to work with road crash data in Dhaka city have decided to implement the DRIVER for Dhaka City.

This document’s purpose is to outline the comprehensive testing approach, strategies, and methodologies for evaluating the DRIVER (Driving Road Safety Improvements and Vulnerable Road Users' Empowerment) software. This test plan defines the scope, objectives, resources, and schedule for the testing phase of the DRIVER software, developed by [Organization/Team Name]. The aim of this testing effort is to ensure that the DRIVER software functions efficiently, securely, and in accordance with the specified requirements, ultimately contributing to improved road safety data management.

# References



| **Ref. No** | **Document Title** |
| --- | --- |
| 001\_SRS | [[DRSP] Technical Document for Deployment and Configuration of the DRIVER Software V 1.0.0.pdf](https://drive.google.com/file/d/1w7CdutoSjFetK3cJA1lAoFwAL4KsKh3l/view?usp=drive_link) |
| 002\_Module List | [DRIVER\_Module list.xlsx](https://docs.google.com/spreadsheets/d/1S0HG8_KvnrkiyZzbYO4kNNsYldMcbl-N/edit?usp=drive_link&ouid=111964874550972307111&rtpof=true&sd=true) |
| 003\_Estimation | [Project\_Estimation\_DRIVER\_rifat\_0030105](https://docs.google.com/spreadsheets/d/1_gvoWEAXUJg_S7EMKzCozLd-bjYI0UvT8yeQL02InOQ/edit?usp=drive_link) |
| 004\_Manual | [A Brief User Manual of the DRIVER System V 1.0.1.pdf](https://drive.google.com/file/d/1ELJQ4wDVs5b7xdwCxlgtF0COaeWt1szu/view?usp=drive_link) |
| 005\_RFP | [DRIVER\_RFP.pdf](https://drive.google.com/file/d/1tlXygAPkadMGL9qeaMJpZyVxd4nqwdPD/view?usp=drive_link) |

**Note:** The Project will be developed following a clone of Agile based methodology. Each Sprint duration will be 2 weeks. This test plan may also be changed according to the changes at any phase of testing.

# High Level Test Objective



This test plan document serves as a guide for the testing process, providing a clear roadmap for all stakeholder involved in the DRIVER project namely JICA, DPM & BJIT.   
The scope of this test plan encompasses the testing activities to be conducted on the DRIVER software. It covers various aspects of testing, including functional, usability, security, performance, and, more, as detailed in subsequent sections. Any features or functionalities explicitly excluded from testing will also be identified within this document.

Some high level objectives for the DRIVER software testing includes:

1. **Functional Verification:** Ensure that all functional requirements of the DRIVER software are thoroughly tested and meet the specified criteria for correctness and reliability.
2. **Usability Assessment:** Evaluate the user interface (UI) and overall user experience to ensure that the software is user-friendly, intuitive, and accessible to its intended user base.
3. **Performance Evaluation:** Measure the software's performance under various load conditions to verify that it operates efficiently and responds promptly to user requests.
4. **Data Accuracy and Integrity:** Validate that the software accurately captures, stores, and retrieves road crash data without data corruption or loss.
5. **Error Handling and Recovery:** Evaluate the software’s error handling mechanisms and recovery processes to ensure that users informative error messages and that the software can gracefully handle unexpected situations e.g. Duplicate records.
6. **User Acceptance Testing:** Collaborate with the stakeholder to validate that the software aligns with their needs and expectations.

# Test Strategy



## Strategy

To ensure the quality of the applications. testing will be conducted based on following approaches:

* **Functional Testing Strategies:**
  + Test scenarios identification
  + Test case design
  + Test data preparation
  + Test Execution
  + Functional coverage
  + Boundary testing
  + User Workflow testing
  + Integration Testing
  + Usability Testing
* **UI Testing Strategies:** 
  + Test Planning
  + UI Element Identification
  + Accessibility testing
  + UI Consistency with the Requirements
  + UI Responsiveness
  + Data Input Validation
  + Error Handling & Validation
  + User Feedback and UAT
* **System Testing Strategy:** System testing will follow the overall combined working procedures of the functional testing and UI testing.

## Test Level

Only the following test level will be conducted to ensure the quality:

* **System Testing**

## Test Types

Following types of testing will be conducted to ensure the quality:

**Functional Testing:**

Functional test will be conducted considering the positive and negative scenarios. In this level, to ensure that target Infrastructure, the application must meet its Scope Statement.

**GUI Test:**

This testing will cover the application's graphical user interface, to ensure flawless implementation based on UI specification. GUI testing intent to test how the application and the user interact. This includes how the application handles user input and how it displays screen text, images, buttons, menus, dialog boxes, icons, toolbars and more.

# Features to be Tested.



| **Phases** | **Sprint** | **Features** |
| --- | --- | --- |
| 1 | 1 | Login, Dashboard Black Spots By severity Incidents, Account Information  Filter Type , Control Layer Toggle  Zoom, Drawing Layer, Footer, Loss Amount Filter Bar, Incident Location & Time RCF, ARF |
|
|
|
| Note:  Test plan and execution may vary depending on the development progress and release. | | |

# Features not to be Tested.



| **Phases** | **Features** |
| --- | --- |
| 1 | Any feature that is not mentioned on the previous table will not be tested. |
| Regression testing, Retesting will not be performed |
| No testing on mobile devices, tablets will be performed,  Performance testing and security testing will also not be performed. |

# Test Estimation



Testing effort may depend on several factors including.

* Quality of the Test basis
* Size of the product
* Complexity of the problem domain
* Requirements for documentation
* Time pressure
* Number of defects and the amount of rework required.

# Release Procedure



Below procedures will be followed for Release:

* **Step-1:** Requirement Analysis
* **Step-2:** Start Development and make internal release for QA on Sprint first day
* **Step-3:** QA continue testing and report bug
* **Step-4**: Developer complete the rest of development and start fixing current sprint Bugs
* **Step-5:** Make a Final Release for current Sprint on Sprint closing day
* **Step-6:** QA Confirm last release bugs fixed in Final Release
* **Step-7:** QA make complete respective Sprint Testing Scope and record bugs
* **Step-8:** If there is not any blocking issue and bug Severity is low, Application goes release otherwise release will not be done.
* **Step-9:** Remaining bugs will be fixed in next Sprint release

# Test Suspension Criteria



Testing will be suspended, and QA team will reject the receivables upon the following criteria:

* During testing any or some blocking issues are identified.
* Respective bug is not fixed in the dedicated release.
* Release without release note

**Note:** If any case will happen then QA have to raise issue to respective stakeholders

# Test Acceptance Criteria:



* Application UI should match as per provided UI specification.
* Application does not have any blocking issues.
* Application has 85% Test case coverage.
* Application has covered the supported and required browsers (Windows Chrome).

# QA Task List and Testing Process



Below Tasks will be performed by the QA Team:

* Requirement analysis
* Identify Test areas.
* Test Case writing on identified test areas.
* Prepare a Test environment.
* Execute Test Cases
* Bug reporting/retest
* Deliver Test report.
* Perform Test closure activity.
* Daily morning meeting
* Spec grooming meeting

# Test Environment



To prepare the test bed for **the** project followings are the requirement:

## Hardware Requirement:

* PC (Widows)

## Software Requirement:

* **Operating System**: Windows 10 or above
* **Microsoft Office**
* **Google Chrome**

## Network Requirement:

* + - Internet connectivity to PC

## Tools to be used:

* + - **Test Case management**: Microsoft Excel
    - **Document management**: NextCloud
    - **Project management**: Redmine
    - **Design Tool**:

Device oriented testing will be conducted as per following plan:

| Platform/OS | Browser | Device | Details | Comments |
| --- | --- | --- | --- | --- |
| Windows 10 | Chrome  version: 117.0.5938.92 | PC | Screen Resolution: 1366x768 |  |

# Schedule



Schedule will be updated as Sprint feature release:

| **Phases** | **Features** | **No of Test cases** | **Internal QA Release** | **Final Release** |
| --- | --- | --- | --- | --- |
| 1.0.1 | Login, Dashboard,  Black Spots By severity, Incidents Account Information, Filter Type,  Control Layer Toggle, Zoom,  Drawing,  Layer,  Footer Loss Amount,  Filter Bar,  Incident Location & Time RCF, ARF | 130 | 25.09.2023 | 29.09.2023 |
|
|
|
| Note:  Test plan and execution may vary depending on the development progress and release. | | | | |

# QA Summary Report

From this report all stockholders can view and judge the current project Quality

| **Sprint** | **URL** |
| --- | --- |
| 1.0.0 | [QA Summary](https://docs.google.com/document/d/1rP5fjbXEPdQgxTgjdIHc3dbjo8i-SCWpQ97AHwRolVs/edit?usp=drive_link) |
| 1.0.1 | [QA Summary](https://docs.google.com/document/d/1rP5fjbXEPdQgxTgjdIHc3dbjo8i-SCWpQ97AHwRolVs/edit?usp=drive_link) |
| 1.0.2 | [QA Summary](https://docs.google.com/document/d/1rP5fjbXEPdQgxTgjdIHc3dbjo8i-SCWpQ97AHwRolVs/edit?usp=drive_link) |
| 1.0.3 | [QA Summary](https://docs.google.com/document/d/1rP5fjbXEPdQgxTgjdIHc3dbjo8i-SCWpQ97AHwRolVs/edit?usp=drive_link) |

# 

# Roles and Responsibilities



| **Resource Name** | **Responsibilities** |
| --- | --- |
| Homayun Kabir | General Manager |
| NA | BSE |
| Abdul Qadir | Project Manager |
| NA | Team Lead |
| NA | – |
| Rifat Shadman | QA |
| NA | — |

# Risk and Contingencies



## Schedule:

* If SRS are not Cleared as per schedule, then we may not be able to meet the Testing deadline.
* If Releases for Testing are not provided as per schedule, then we may not be able to meet the deadline.
* Any changes to the requirements/scope could affect the test schedule.

## Testing

* The application may have side effects due to implementation of new features and function enhancement and this may affect the functionality of existing features due to lack of proper testing time.
  + Mitigation can be the proper testing scope, testing time.

## Application Risk

* Applications may behave abnormally, and major functions may not work in non-supported devices/interfaces. Application may also not work expectedly in latest browsers for which application is not modified and tested.

# Test Exit Criteria



Testing process of the DRIVER application will be ended if following criteria are met:

* All specified functions are functioning properly.
* Major bugs are identified, resolved, and retested.
* All test cases are executed and passed.
* Testing is ongoing but the PM requested to release the system.

# Bug Status Explanation



We maintain following status of the Bug in our Test Execution report:

**New:** SQAE creates a new bug. Sets the Assignee to PM/TL/SE

**Rejected:** If the reported bug is invalid, PM/TL changes the status to Rejected & Assignee to SQAE.

**Assigned:** PM/TL/SE changes the status to Assigned

**In Progress:** Assignee changes the status to InProgress when s/he starts working. Assignee records Spent Time every day.

**Submitted:** Assignee changes the status to Submitted when s/he finished the task & set the Assignee to PM/TL. Assignee Record Spent time.

**Feedback:** If the review isn’t successful PM/TL changes the status to Feedback & Assignee to SE.

**Reviewed:** Assignee reviews and changes the status to Reviewed and Assignee to SQAE

**Fixed but Failed:** Assignee (SQAE) retest and if not fixed then changes the status to Fixed but Failed and Assignee to PM/TL

**Resolved:** Assignee (SQAE) retest and if fixed then changes the status to Resolved and Assignee to PM/TL

**Close:** PM/TL (if assigned) will close the ticket if review is successful and clarified the feedback

**Reopen:** PM/TL can set the closed task status to Reopen, if necessary

# Test Deliverables



Followings are the deliverables from QA for **DRIVER** project:

**Test Deliverables before Testing**

* Test Plan
* Test Cases

**Test Deliverables after Testing**

* Test execution report
* Test report (each sprint)

*Known issues are well mentioned in each sprint release note.*

# Test Plan Approvals

| **Name** | **Roles** | **Signature** | **Date** |
| --- | --- | --- | --- |
| Abdul Qadir | Project Manager |  | 19.09.2023 |
| Abdul Qadir | Project Manager |  | 22.09.2023 |

