

# Agile Software Development Report

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## Practical 9

### Aim:

Create Test Cases for the project definition selected and related implementation work carried out for Sprint-1 to Sprint-4.

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## Sprint-1

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### Test Cases for Selection Page:

#### Positive Test Cases:

##### Navigate to Selection Page:

- **Action:** Click on the link/button to access the selection page.
- **Expected Outcome:** The selection page is displayed without errors.

##### Verify Driver Option:

- **Action:** Check for the presence of the "Driver" option.
- **Expected Outcome:** The "Driver" option is clearly visible and identifiable.

##### Select Driver Option:

- **Action:** Click on the "Driver" option.
- **Expected Outcome:** User is redirected to the driver-specific functionalities.

#### Negative Test Cases:

##### Non-Existent Option Selection:

- **Action:** Click on a non-existent or invalid option.

- **Expected Outcome:** User should not be redirected and an appropriate error message is displayed.

#### **Broken Link Check:**

- **Action:** Attempt to access the selection page via a broken link.
- **Expected Outcome:** User should not be able to access the page, and an error message should be displayed.

## **Test Cases for Login Page for Driver:**

### **Positive Test Cases:**

#### **Navigate to Login Page:**

- **Action:** Click on the login link/button for the driver.
- **Expected Outcome:** The login page for the driver is displayed.

#### **Enter Valid Credentials:**

- **Action:** Enter valid username and password.
- **Expected Outcome:** User is successfully logged in and directed to the home page.

#### **Forgot Password Functionality:**

- **Action:** Click on the "Forgot Password" link/button.
- **Expected Outcome:** User is directed to the password reset page without errors.

### **Negative Test Cases:**

#### **Incorrect Credentials:**

- **Action:** Enter incorrect username or password.
- **Expected Outcome:** User should receive an appropriate error message indicating incorrect credentials.

#### **Login without Registration:**

- **Action:** Attempt to login without completing the registration process.
- **Expected Outcome:** Users should not be able to login and should be prompted to register first.

## **Test Cases for Registration Page for Driver:**

## Positive Test Cases:

### Navigate to Registration Page:

- **Action:** Click on the registration link/button for the driver.
- **Expected Outcome:** The registration page for the driver is displayed.

### Enter Valid Details:

- **Action:** Enter valid details in all required fields.
- **Expected Outcome:** User is successfully registered and directed to the login page.

## Negative Test Cases:

### Incomplete Registration:

- **Action:** Submit the registration form with incomplete or missing details.
- **Expected Outcome:** User should receive an appropriate error message indicating the missing fields.

### Existing User Registration:

- **Action:** Attempt to register with a username/email that already exists in the system.
- **Expected Outcome:** User should receive an error message indicating that the username/email is already in use.

## Test Cases for Home Page for Driver:

### Positive Test Cases:

#### Navigate to Home Page:

- **Action:** Click on the home link/button for the driver.
- **Expected Outcome:** The home page for the driver is displayed.

#### Verify Functionality Buttons:

- **Action:** Check for the presence and functionality of various buttons (e.g., Fines, Payments, Account).
- **Expected Outcome:** All buttons are present and perform their respective functions as intended.

### Negative Test Cases:

### **Unauthorized Access Attempt:**

- **Action:** Attempt to access the home page without proper authentication.
- **Expected Outcome:** User should be redirected to the login page.

### **Broken Functionality Check:**

- **Action:** Attempt to use a functionality button that is not functioning properly.
- **Expected Outcome:** User should receive an error message indicating the issue, and the functionality should be disabled temporarily.

These test cases cover various scenarios related to the selection page, login page for driver, registration page for driver, and home page for driver functionalities, ensuring comprehensive testing of Sprint-1 deliverables.

## Sprint-2

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### Test Cases for Registration Page for Police:

#### Positive Test Cases:

##### Verify Page Load:

- **Input:** Navigate to the registration page for police.
- **Expected Outcome:** The registration page should load without errors.

##### Enter Valid Details:

- **Input:** Enter valid details in all required fields and submit the form.
- **Expected Outcome:** Police officers should be successfully registered and directed to the login page.

#### Negative Test Cases:

##### Incomplete Registration:

- **Input:** Enter incomplete or missing details in the registration form and submit.
- **Expected Outcome:** Police officers should receive appropriate error messages for the missing fields.

### Test Cases for Login Page for Police:

#### Positive Test Cases:

##### Verify Page Load:

- **Input:** Navigate to the login page for police.
- **Expected Outcome:** The login page should load without errors.

##### Enter Valid Credentials:

- **Input:** Enter valid username and password and click login.
- **Expected Outcome:** Police officers should be successfully logged in and directed to the home page.

## Negative Test Cases:

### Incorrect Credentials:

- **Input:** Enter incorrect username or password and click login.
- **Expected Outcome:** Police officers should receive an appropriate error message indicating incorrect credentials.

## Test Cases for Home Page for Police:

### Positive Test Cases:

#### Verify Page Load:

- **Input:** Navigate to the home page for police.
- **Expected Outcome:** The home page should load without errors.

#### Verify Navigation Buttons:

- **Input:** Check for the presence and functionality of navigation buttons like Generate Fines, Receipt, License Card, etc.
- **Expected Outcome:** All buttons should be present and perform their respective functions as intended.

### Negative Test Cases:

#### Unauthorized Access to Home Page:

- **Input:** Attempt to access the home page without proper authentication.
- **Expected Outcome:** Access should be denied, and the user redirected to the login page.

These test cases cover various scenarios related to the registration, login, and home page functionalities for police officers in Sprint 2, ensuring comprehensive testing of the developed features.

## Sprint-3

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### Test Cases for Fine Slip Generation:

#### Positive Test Cases:

##### Generate Fine Slip Successfully:

- **Input:** Valid details of the offense and associated penalties.
- **Expected Outcome:** Fine slip is generated without errors.

##### Send Fine Slip to Driver:

- **Input:** Generated fine slip details and driver's information.
- **Expected Outcome:** Fine slip is successfully sent to the driver.

##### Receive Fine Slip Confirmation:

- **Input:** Confirmation from driver upon receiving the fine slip.
- **Expected Outcome:** Confirmation message is received indicating successful delivery.

#### Negative Test Cases:

##### Generate Fine Slip with Invalid Data:

- **Input:** Invalid or incomplete details for fine slip generation.
- **Expected Outcome:** System should display appropriate error messages and prevent slip generation.

##### Failed Delivery of Fine Slip:

- **Input:** Attempt to send a fine slip to an invalid or non-existent driver.
- **Expected Outcome:** System should handle the failure gracefully and provide feedback to the user.

### Test Cases for Viewing Fines:

#### Positive Test Cases:

##### View All Fines:

- **Input:** Accessing the fines list page.
- **Expected Outcome:** User can view a list of all fines generated by the police officer.

### **Open Fine Details:**

- **Input:** Clicking on a specific fine from the list.
- **Expected Outcome:** Detailed information about the selected fine is displayed.

### **Download Fine Details:**

- **Input:** Requesting to download details of a specific fine.
- **Expected Outcome:** Fine details are downloaded in a readable format.

## **Negative Test Cases:**

### **Access Unauthorized Fine Details:**

- **Input:** Attempt to view details of fines not generated by the logged-in police officer.
- **Expected Outcome:** Access should be denied, and appropriate error message displayed.

### **Invalid Fine Details Download:**

- **Input:** Requesting download of details for a non-existent or deleted fine.
- **Expected Outcome:** System should handle the request gracefully and notify the user of the error.

## **Common Test Cases:**

### **Security Testing:**

- **Input:** Attempt to access fine slip generation or viewing functionalities without proper authentication.
- **Expected Outcome:** Access should be denied, and the user redirected to the login page.

### **Integration Testing:**

- **Input:** Interaction between fine slip generation and viewing modules.
- **Expected Outcome:** Seamless integration and proper data flow between the modules.

### **Regression Testing:**



- **Input:** Testing previously working functionalities after the implementation of new features.
- **Expected Outcome:** Ensure that existing functionalities remain unaffected by the changes.

These test cases cover various scenarios related to fine slip generation and viewing of fines functionalities, ensuring comprehensive testing of Sprint-3 deliverables.

## Sprint-4

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### Test Cases for Send Fine Slips (Driver):

#### Positive Test Cases:

##### Send Fine Slip Successfully:

- **Input:** Valid fine slip details and recipient's information.
- **Expected Outcome:** Fine slip is successfully sent to the recipient.

#### Negative Test Cases:

##### Failed Delivery of Fine Slip:

- **Input:** Attempt to send a fine slip to an invalid or non-existent recipient.
- **Expected Outcome:** System should handle the failure gracefully and provide feedback to the user.

### Test Case for Receive Fine Slips (Driver):

#### Positive Test Cases:

##### Receive Fine Slip Successfully:

- **Input:** Fine slip received from the police officer.
- **Expected Outcome:** Driver successfully receives the fine slip.

#### Negative Test Cases:

##### Invalid Fine Slip Reception:

- **Input:** Attempt to receive an invalid or corrupted fine slip.

- **Expected Outcome:** System should reject the invalid fine slip and notify the user.

## **Test case for View All Fines (Driver):**

### **Positive Test Cases:**

#### **View List of Fines:**

- **Input:** Accessing the fines list page.
- **Expected Outcome:** User can view a list of all fines generated.

### **Negative Test Cases:**

#### **Unauthorized Access to Fines:**

- **Input:** Attempt to access fines without proper authentication.
- **Expected Outcome:** Access should be denied, and the user redirected to the login page.

## **Test case for View Individual Fine Details (Driver):**

### **Positive Test Cases:**

#### **Open Fine Details:**

- **Input:** Clicking on a specific fine from the list.
- **Expected Outcome:** Detailed information about the selected fine is displayed.

### **Negative Test Cases:**

#### **Access Unauthorized Fine Details:**

- **Input:** Attempt to view details of fines not generated by the logged-in driver.
- **Expected Outcome:** Access should be denied, and appropriate error message displayed.

## **Test case for Download Fine Details (Driver):**

### **Positive Test Cases:**

#### **Download Fine Details Successfully:**

- **Input:** Requesting to download details of a specific fine.
- **Expected Outcome:** Fine details are downloaded in a readable format.

### **Negative Test Cases:**

#### **Invalid Fine Details Download:**

- **Input:** Requesting download of details for a non-existent or deleted fine.
- **Expected Outcome:** System should handle the request gracefully and notify the user of the error.

These test cases cover various scenarios related to fine slip sending and receiving, viewing all fines, viewing individual fine details, and downloading fine details functionalities for drivers in Sprint 4, ensuring comprehensive testing of the developed features.