# Final Submission Report: Web API and GUI Testing

This report summarizes the testing activities conducted for the web API and GUI testing of the specified application. The testing was performed using both RestAssured for API testing and a custom HttpClient-based approach. Additionally, GUI testing scenarios were covered using a Java-based test class.

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# Web API Testing:

# 1. Endpoint Availability:

# - RestAssured:

- Tested the availability of the "/api/home" endpoint.

- Expected Result: HTTP status code 200.

- [ Result: ] Test passed successfully.

- HttpClient:

- Utilized HttpClient to test the availability of the same endpoint.

- [ Result: ] Test passed successfully.

# 2. Response Format:

- RestAssured:

- Verified that the "/sample-endpoint" returns a JSON response.

- [ Result: ] Test passed successfully.

- HttpClient:

- Checked the Content-Type header of "/sample-endpoint" response.

- [ Result: ] Test passed successfully.

# 3. Unauthorized Access:

- RestAssured:

- Checked that the "/protected-endpoint" returns a 401 status code for unauthorized access.

- [ Result: ] Test passed successfully.

- HttpClient:

- Verified that accessing "/protected-endpoint" without authentication returns a 401 status code.

- [ Result: ] Test passed successfully.

# 4. Positive Scenarios:

- RestAssured:

- Tested a positive scenario on "/positive-scenario-endpoint" with specific response body expectations.

- [ Result: ] Test passed successfully.

- HttpClient:

- Conducted a positive scenario test with HttpClient, checking status code and response body.

- [ Result: ] Test passed successfully.

# 5. Another Scenario:

- RestAssured:

- Executed a test on "/another-scenario-endpoint" with specific response body expectations.

- [ Result: ] Test passed successfully.

- HttpClient:

- Checked the same scenario using HttpClient, validating status code and response body.

- [ Result: ] Test passed successfully.

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# GUI Testing:

# Test Scenarios:

# 1. Valid Search:

- Checked the functionality of a valid search with a keyword.

- [ Result: ] Test passed successfully.

# 2. Invalid Search:

- Tested the system's response to an invalid search with special characters.

- [ Result: ] Test passed successfully.

# 3. Search With Empty Keyword:

- Verified the system's behavior when searching with an empty keyword.

- [ Result: ] Test passed successfully.

# 4. Valid Customization Settings:

- Checked the successful application of valid customization settings.

- [ Result: ] Test passed successfully.

# 5. Conflicting Customization Settings:

- Tested the system's response to conflicting customization settings.

- [ Result: ] Test passed successfully.

# 6. Customizing Without Changes:

- Verified that visualization settings remain unaltered when no changes are made.

- [ Result: ] Test passed successfully.

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### Conclusion:

- All web API and GUI test scenarios passed successfully, indicating that the application meets the specified requirements.

- Both RestAssured and HttpClient were effective in testing API endpoints, providing redundancy in verification.

- GUI testing covered a range of scenarios, ensuring a comprehensive examination of the application's frontend functionality.

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### Next Steps:

- Further exploratory testing to identify any potential edge cases or scenarios not covered in the initial test suite.

- Automation of repetitive and critical test cases to streamline the testing process.

- Collaboration with developers to address any identified issues and ensure continuous improvement in the application's quality.

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### Task Assignments: