# Leruka

# Master Test Plan

**Version <1.5>**

# Revision History

| Date | Version | Description | Author |
|---|---|---|---|
| 11/05/2016 | 1.0 | Dokument erstellt | Ruth W. |
| 17/05/2016 | 1.1 | Dokument geändert | Kassandra F., Ruth W. |
| 18/05/2016 | 1.2 | Testing with end user hinzugefügt und weitere Informationen hinzugefügt | Ruth W. |
| 27/05/2016 | 1.3 | Reports eingebunden | Ruth W. |
| 31/05/2016 | 1.4 | Metric reports in Appendix eingefügt | Ruth W. |
| 08/06/2016 | 1.5 | Anpassungen | Ruth W. |

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# Master Test Plan

## Introduction

### *Purpose*

The purpose of the Master Test Plan is to gather all of the information necessary to plan and control the test effort for a given master test plan. It describes the approach to testing the software, and is the top-level plan generated and used by managers to direct the test effort.

This *Test Plan* for the Leruka supports the following objectives:

- Functional testing for main menu
- Unit test for the implemented functions in unity
- Testing with end user

### *Scope*

Functional Testing

Will blackbox test the application behaviour by using cucumber.

Unit tests

Will test the internal application logic.

Testing with end user

Will test the user interface if it is easy to learn.

### *Intended Audience*

- Students
- Professors
- Programmer

### *Document Terminology and Acronyms*

n/a

### *References*

n/a

## Evaluation Mission and Test Motivation

Automated Testing is good for detect coding errors and will show them. Programmer are lazy people and test only things they have changed. To prevent error in the productive run, we have to detect error in the development process.

### *Background*

Because our team includes some programmers, it could happen that while changing, deleting or updating code the already existing code is negativly affected. The automatic testing should discover these.

### *Evaluation Mission*

Testing is done to provide a stable software. And we will fulfill the goal by the following points.

- find as many bugs as possible
- find important problems

- certify a standard
- verify software specification

### *Test Motivators*

- technical risks
- functional requirements
- non-functional requirements

## Target Test Items

The listing below identifies those test items_software, hardware, and supporting product elements _that have been identified as targets for testing. This list represents what items will be tested.

- Game logic
- Controller
- Models

## Outline of Planned Tests

### *Outline of Test Inclusions*

- Functional Tests
- Unit Tests
- Testing with end users

### *Outline of Other Candidates for Potential Inclusion*

n/a

### *Outline of Test Exclusions*

- n/a

## Test Approach

- Functional Tests
- Unit Tests, automatically after gradle build
- Testing with end user

### *Initial Test-Idea Catalogs and Other Reference Sources*

### *Testing Techniques and Types*

Functional Testing (User Interface Testing)

| Technique Objective: | Navigation through user interface of the app. |
|---|---|
| Technique: | ● Testing the API<br>● User<br>○ Create User<br>○ Login User<br>○ Is logged in<br>● Highscore<br>○ view personal highscore<br>○ view public highscore<br>● Instruction<br>○ view instruction<br>● Change settings<br>○ change display name |

| | |
|---|---|
| | ○ change password |
| Oracles: | The Test is successfull, if all correct answeres are running through. |
| Required Tools: | ● Cucumber<br>● Calabash<br>● End device with Android (smartphone, tablet, etc.) |
| Success Criteria: | All tests run successful. |

Unit Test

| | |
|---|---|
| Technique Objective: | Testing the functionality of the code |
| Technique: | ● Testing the server functions of the testable classes.<br>○ User<br>○ Score<br>○ Game |
| Oracles: | The Test is successfull, if all correct answeres are running through |
| Required Tools: | ● Android Studio<br>● JUnit |
| Success Criteria: | All tests pass. |

Testing with end user

| | |
|---|---|
| Technique Objective: | Testing the simplicity of the app |
| Technique: | ● Testing the menu for simplicity<br>● Testing the app for easy understanding<br>● User fill out a survey |
| Oracles: | The test users are happy with the app. The complete app is easy to understand, it is self explaining. The menu navigation is simple. |
| Required Tools: | ● End device with Android v4.2 (smartphone, tablet, etc.) |
| Success Criteria: | End user is happy. |

## Deliverables

### *Test Evaluation Summaries*

Test evaluation is done by hand directly after the test executed.

### *Reporting on Test Coverage*

Test coverage is reported on our SonarQube project.

### *Perceived Quality Reports*

For showing quality we also use SonarQube.

### *Incident Logs and Change Requests*

n/a

### *Smoke Test Suite and Supporting Test Scripts*

n/a

### *Additional Work Products*

n/a

Detailed Test Results

Feature file results

Unit Test reports

End User evaluation

## Testing Workflow

Beside the automatically tested unit tests we start the test manuelly, when we think it is necessary.

## Environmental Needs

### *Base System Hardware*

The following table sets forth the system resources for the test effort presented in this *Test Plan*.

| System Resources | | |
|---|---|---|
| **Resource** | **Quantity** | **Name and Type** |
| Database Server | 1 | MySQL |
| Server Name | 1 | LerukaServer |
| Database Name | 1 | Leruka/MySQL |
| Test Development PCs | 3 | Kassandra, Leif, Ruth |

### *Base Software Elements in the Test Environment*

The following base software elements are required in the test environment for this *Test Plan*.

| Software Element Name | Version | Type and Other Notes |
|---|---|---|
| Android | 4.2 | Operating System |
| MySQL | | Database Server |
| Android Studio | | IDE |

### *Productivity and Support Tools*

The following tools will be employed to support the test process for this *Test Plan*.

| Tool Category or Type | Tool Brand Name | Vendor or In-house | Version |
|---|---|---|---|
| Project Management | JIRA | Atlassian | 7.0 |
| Test Coverage Monitor or Profiler | SonarQube | | |

### *Test Environment Configurations*

The following Test Environment Configurations needs to be provided and supported for this project.

| Configuration Name | Description | Implemented in Physical Configuration |
|---|---|---|
| Average user configuration | | |
| Minimal configuration supported | | |
| Visually and mobility challenged | | |
| International Double Byte OS | | |
| Network installation (not client) | | |

## Responsibilities, Staffing, and Training Needs

### *People and Roles*

This table shows the staffing assumptions for the test effort.

| Human Resources | | |
|---|---|---|
| **Role** | **Minimum Resources Recommended** (number of full-time roles allocated) | **Specific Responsibilities or Comments** |
| Test Manager | 1 | Provides management oversight.<br>Responsibilities include:<br>· planning and logistics<br>· agree mission<br>· identify motivators<br>· acquire appropriate resources<br>· present management reporting<br>· advocate the interests of test<br>· evaluate effectiveness of test effort |
| Test Analyst | 2 | Identifies and defines the specific tests to be conducted. |

| | | |
|---|---|---|
| | | Responsibilities include:<br>· identify test ideas<br>· define test details<br>· determine test results<br>· document change requests<br>· evaluate product quality |
| Test Designer | 2 | Defines the technical approach to the implementation of the test effort.<br>Responsibilities include:<br>· define test approach<br>· define test automation architecture<br>· verify test techniques<br>· define testability elements<br>· structure test implementation |
| Tester | 3 | Implements and executes the tests.<br>Responsibilities include:<br>· implement tests and test suites<br>· execute test suites<br>· log results<br>· analyze and recover from test failures<br>· document incidents |
| Test System Administrator | 1 | Ensures test environment and assets are managed and maintained.<br>Responsibilities include:<br>· administer test management system<br>· install and support access to, and recovery of, test environment configurations and test labs |
| Database Administrator, Database Manager | 1 | Ensures test data (database) environment and assets are managed and maintained.<br>Responsibilities include:<br>· support the administration of test data and test beds (database). |
| Designer | 1 | Identifies and defines the operations, attributes, and associations of the test classes.<br>Responsibilities include:<br>· defines the test classes required to support testability requirements as defined by the test team |

| | | |
|---|---|---|
| Implementer | 3 | Implements and unit tests the test classes and test packages.<br>Responsibilities include:<br>· creates the test components required to support testability requirements as defined by the designer |

***Staffing and Training Needs***

This section outlines how to approach staffing and training the test roles for the project.

## Iteration Milestones

| Milestone | Planned Start Date | Actual Start Date | Planned End Date | Actual End Date |
|---|---|---|---|---|
| > 20% Test Coverage | 11.05.2016 | 11.05.2016 | 22.05.2016 | 31.05.2016 |
| Have functional tests | 28.11.2015 | 28.11.2015 | 01.11.2015 | 01.11.2015 |
| Have JUnit tests | 20.04.2016 | 20.04.2016 | 23.04.2016 | 31.05.2016 |
| Have installation test | 01.06.2016 | | 01.06.2016 | |
| Have end user test | 01.06.2016 | 02.06.2016 | 05.06.2016 | 06.06.2016 |

## Risks, Dependencies, Assumptions, and Constraints

| Risk | Mitigation Strategy | Contingency (Risk is realized) |
|---|---|---|
| Test data proves to be inadequate. | <Customer> will ensure a full set of suitable and protected test data is available.<br><Tester> will indicate what is required and will verify the suitability of test data. | · Redefine test data<br>· Review Test Plan and modify<br>· components (that is, scripts)<br>· Consider Load Test Failure |
| Technical Problems | <Tester> needs to make sure everything is running fine | · Fix the problem |

| Dependency between | Potential Impact of Dependency | Owners |
|---|---|---|
| | | |
| | | |
| | | |

| Assumption to be proven | Impact of Assumption being incorrect | Owners |
|---|---|---|
| | | |

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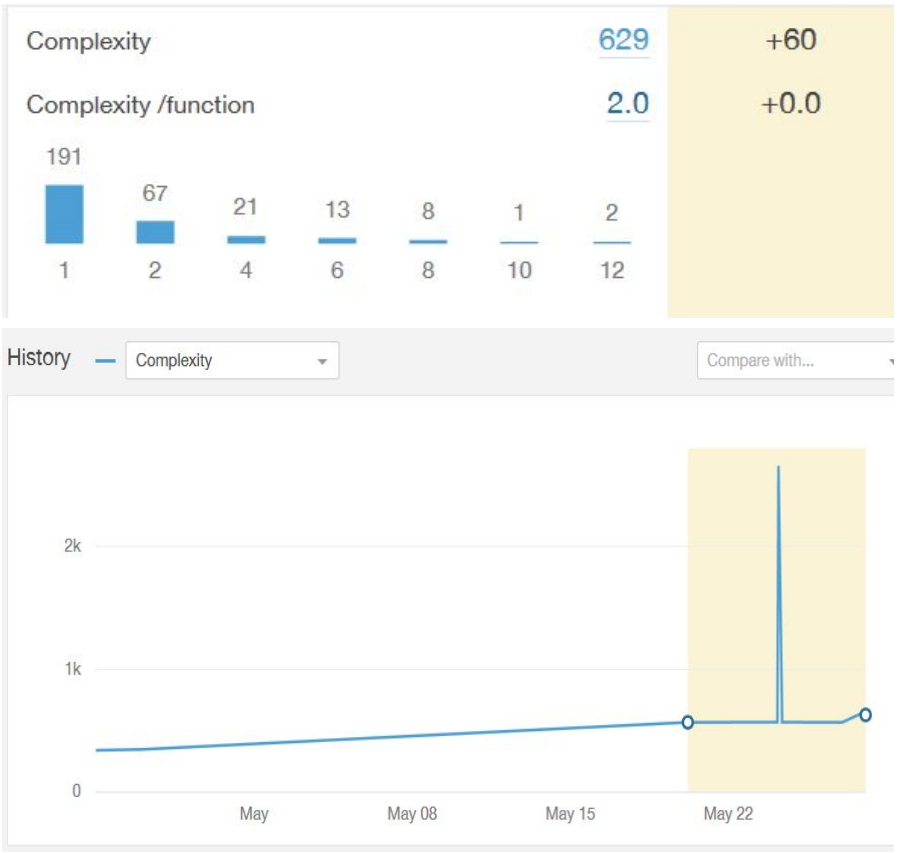
|---|---|---|
| | | |

| Constraint on | Impact Constraint has on test effort | Owners |
|---|---|---|
| | | |
| | | |
| | | |

## Appendix

### *Cyclomatic Complexity*

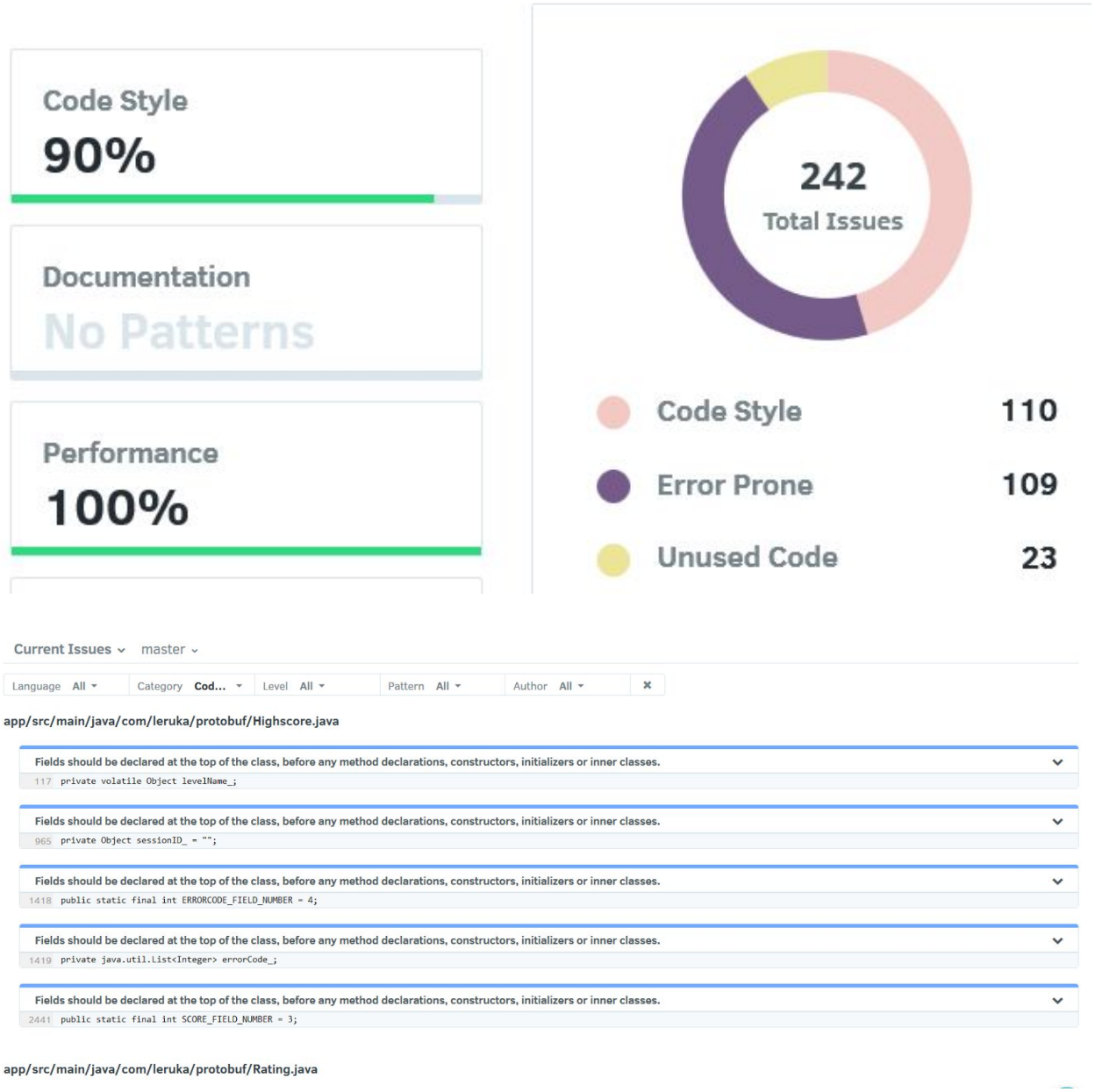




http://193.196.7.25/overview/structure?id=leruka

# Leruka

***Code Style***




https://www.codacy.com/app/leruka/leruka/dashboard