

## SheeshApp Test Plan

**Version <1.0>**

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## Revision History

Date	Version	Description	Author
3.5.2018	1.0	Initial Version	Alexander Grundmann

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# Test Plan

## 1. Introduction

### 1.1 Purpose

The purpose of the Iteration Test Plan is to gather all of the information necessary to plan and control the test effort for a given iteration. 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 SheeshApp supports the following objectives:

- Basic testing of core functionality
- Test driven Development

### 1.2 Scope

- Unit Testing
- Runtime tesing

### 1.3 Intended Audience

We as developers

### 1.4 Document Terminology and Acronyms

N/A

### 1.5 References

N/A

### 1.6 Document Structure

N/A

## 2. Evaluation Mission and Test Motivation

The intention is to find old bugs and implement test-driven-development to prevent future ones

### 2.1 Background

Bugs are not always obvious, Unit testing will show us bugs and prevents us from changing crucial parts of the code into disfunctionality

### 2.2 Evaluation Mission

- Preventing future bugs
- Finding old hidden bugs
- Ensuring not to break code by changes

### 2.3 Test Motivators

N/A

## 3. 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.

- Internal Code
- Expected Workflow

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## 4. Outline of Planned Tests

### 4.1 Outline of Test Inclusions

- Any Usecase should offer a couple of tests to ensure correct behaviour

### 4.2 Outline of Other Candidates for Potential Inclusion

N/A

### 4.3 Outline of Test Exclusions

External Code is expected to be working so it is not necessary to test those cases.

Many cases are bound to individual Android test-devices and are therefore not easy to test.

## 5. Test Approach

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

UseCase based testing

### 5.2 Testing Techniques and Types

#### 5.2.1 Data and Database Integrity Testing

Technique Objective:	Ensuring data consistency and correct calculation behaviour. Testing Server Connections
Technique:	Connect to Server, get Data of faked User. Ensure data is correct.
Oracles:	N/A
Required Tools:	Server SQL JUnit
Success Criteria:	Data contains valid information
Special Considerations:	Automated on build. Care with offline dependency.

#### 5.2.2 Function Testing

Technique Objective:	Ensuring correct behavior of the GUI
Technique:	Automated Execution by test software
Oracles:	N/A
Required Tools:	Espresso A valid setup of tests
Success Criteria:	Expected behavior No errors thrown No missing buttons
Special Considerations:	Maybe Additionally Unit Tests

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### 5.2.3 Volume Testing

Technique Objective:	Ensuring the database does not break on long histories etc.
Technique:	Manual Unit tests
Oracles:	N/A
Required Tools:	JUnit Server SQL
Success Criteria:	Loading a fake User with a large History size succeeds
Special Considerations:	N/A

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#### 5.2.4 Security and Access Control Testing

Technique Objective:	Ensuring the database can not be accessed in illegal ways. Encryption
Technique:	Manual Break Tests (Trying to break in)
Oracles:	N/A
Required Tools:	Various
Success Criteria:	Everything is secured and not illegally accessible
Special Considerations:	Encryption for precaution

#### 5.2.5 Failover and Recovery Testing

Technique Objective:	Ensuring rare exceptions do not lead to unwanted behavior: <ul style="list-style-type: none"> <li>• Connection loss</li> <li>• Weird Characters</li> <li>• ...</li> </ul>
Technique:	Simulation
Oracles:	N/A
Required Tools:	Any
Success Criteria:	Every Exception is handled properly
Special Considerations:	Testing different machines might be useful

## 6. Entry and Exit Criteria

### 6.1 Test Plan

#### 6.1.1 Test Plan Entry Criteria

Tests are written

#### 6.1.2 Test Plan Exit Criteria

When we can't think of any more possible bugs

#### 6.1.3 Suspension and Resumption Criteria

Time pressure might cancel testing. We try to avoid this.

### 6.2 Test Cycles

#### 6.2.1 Test Cycle Entry Criteria

Upon build automatically

#### 6.2.2 Test Cycle Exit Criteria

N/A

#### 6.2.3 Test Cycle Abnormal Termination

We terminate the build when tests trigger



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## 7. Deliverables

### 7.1 Test Evaluation Summaries

Generated each build

### 7.2 Reporting on Test Coverage

Issued after each cycle

### 7.3 Perceived Quality Reports

No

### 7.4 Incident Logs and Change Requests

No

### 7.5 Smoke Test Suite and Supporting Test Scripts

JUniz+Espresso, automated

### 7.6 Additional Work Products

#### 7.6.1 Detailed Test Results

Generated per build

#### 7.6.2 Additional Automated Functional Test Scripts

Per build

#### 7.6.3 Test Guidelines

Test-driven

#### 7.6.4 Traceability Matrices

No

## 8. Testing Workflow

Testing happens automatically, after adding a feature tests have to be written and added to the autotest

## 9. Environmental Needs

### 9.1 Base System Hardware

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

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System Resources		
Resource	Quantity	Name and Type
Database Server		
Network or Subnet		TBD
Server Name		TBD
Database Name		TBD
Client Test PCs		
Include special configuration requirements		TBD
Test Repository		
Network or Subnet		TBD
Server Name		TBD
Test Development PCs		TBD

## 9.2 Base Software Elements in the Test Environment

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

JUnit

## 9.3 Productivity and Support Tools

Test Coverage Monitor or Profiler			
Project Management			

## 9.4 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	The default app installation	Several Hardware

# 10. Responsibilities, Staffing, and Training Needs

## 10.1 People and Roles

This table shows the staffing assumptions for the test effort.

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Human Resources		
Role	Minimum Resources Recommended (number of full-time roles allocated)	Specific Responsibilities or Comments
Test Manager	both	Provides management oversight. Responsibilities include: <ul style="list-style-type: none"> <li>• planning and logistics</li> <li>• agree mission</li> <li>• identify motivators</li> <li>• acquire appropriate resources</li> <li>• present management reporting</li> <li>• advocate the interests of test</li> <li>• evaluate effectiveness of test effort</li> </ul>
Test Designer	both	Defines the technical approach to the implementation of the test effort. Responsibilities include: <ul style="list-style-type: none"> <li>• define test approach</li> <li>• define test automation architecture</li> <li>• verify test techniques</li> <li>• define testability elements</li> <li>• structure test implementation</li> </ul>
Tester	both	Implements and executes the tests. Responsibilities include: <ul style="list-style-type: none"> <li>• implement tests and test suites</li> <li>• execute test suites</li> <li>• log results</li> <li>• analyze and recover from test failures</li> <li>• document incidents</li> </ul>
Database Administrator, Database Manager	1	Ensures test data (database) environment and assets are managed and maintained. Responsibilities include: <ul style="list-style-type: none"> <li>• support the administration of test data and test beds (database).</li> </ul>

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## 10.2 Staffing and Training Needs

Not Needed

## 11. Iteration Milestones

Milestone	Planned Start Date	Actual Start Date	Planned End Date	Actual End Date
Iteration Plan agreed				
Iteration starts				
Requirements baselined				
Architecture baselined				
User Interface baselined				
First Build delivered to test				
First Build accepted into test				
First Build test cycle finishes				
[Build Two will not be tested]				
Third Build delivered to test				
Third Build accepted into test				
Third Build test cycle finishes				
Fourth Build delivered to test				
Fourth Build accepted into test				
Iteration Assessment review				
Iteration ends				

## 12. Risks, Dependencies, Assumptions, and Constraints

See Risk Sheet

## 13. Management Process and Procedures

N/A

### 13.1 Measuring and Assessing the Extent of Testing

N/A

### 13.2 Assessing the Deliverables of this Test Plan

N/A

### 13.3 Problem Reporting, Escalation, and Issue Resolution

N/A

### 13.4 Managing Test Cycles

N/A

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### **13.5 Traceability Strategies**

N/A

### **13.6 Approval and Signoff**

N/A