Nappy, the ingenious

Testplan

Revision History

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| 15/05/2016 | 1.0 | First version | Mehmet Ali Incekara |
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Test Plan

# Introduction

## 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 Nappy, the ingenious supports the following objectives:

* The tests are aligned with the interface and functionality.
* The motivation is to develop an application with the fewest number of bugs.

## Scope

This document addresses the following types and levels of testing:

* JUnit tests
* Functional tests
* Blackbox TestFX tests
* JUnit like GUI tests with TestFX
* Installation test

## Intended Audience

n/a

## Document Terminology and Acronyms

tbd.

## References

|  |  |
| --- | --- |
| SikuliX – Directory | <https://github.com/nappydevelopment/docs/tree/master/sikulix> |
| Junit + GUI – Directory | <https://github.com/nappydevelopment/Nappy-the-ingenious/tree/master/src/test/java/nappydevelopment/nappyTheIngenious> |
| Codacy | <https://www.codacy.com/app/NappyDevelopment/Nappy-the-ingenious/dashboard> |
| Coveralls | <https://coveralls.io/github/nappydevelopment/Nappy-the-ingenious?branch=master> |
| SonarQube | <http://193.196.7.25/overview?id=5235> |
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|  |  |
|  |  |

## Document Structure

n/a

# Evaluation Mission and Test Motivation

## Background

Testing supports all project members with feedback to their work. It ensures that use cases and functionalities are implemented in a correct manner and shows if changes infected the behaviour of the application in a bad way.

## Evaluation Mission

In general, our mission is to improve our design and code quality.

This contains to find as many bugs as possible, find quality risks and so forth.

## Test Motivators

Tests reduce bugs in new features and in existing features. Also tests are good documentation and reduce the cost of work if something needs to be changed.

# 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.

* Desktop application “Nappy, the ingenious”
* Database connection

# Outline of Planned Tests

## Outline of Test Inclusions

Unit test for the game logic and GUI.

## Outline of Other Candidates for Potential Inclusion

Database and Wiki stress-test. It is unlikely that we add more Characters.

## Outline of Test Exclusions

Database (H2) itself

JavaFX library

Java System API (open Browser, Mail client, …)

# Test Approach

## Initial Test-Idea Catalogs and Other Reference Sources

n/a

## Testing Techniques and Types

### Data and Database Integrity Testing

n/a

### Function Testing

Customers can define SikuliX tests in plain text with screenshots and developers implement these in Java.

|  |  |
| --- | --- |
| Technique Objective: | Correct implementation of use-cases. |
| Technique: | Execute each use-case scenario’s individual use-case flows or functions and features, using valid and invalid data, to verify that:   the expected results occur when valid data is used |
| Oracles: | n/a |
| Required Tools: | SikuliX |
| Success Criteria: | SikuliX tests don’t fail |
| Special Considerations: | n/a |

### Business Cycle Testing

n/a

### User Interface Testing

User Interface (UI) testing verifies a user’s interaction with the software. The goal of UI testing is to ensure that the UI provides the user with the appropriate access and navigation through the functions of the target-of-test.

|  |  |
| --- | --- |
| Technique Objective: | Navigation through the target-of-test reflecting business functions and requirements, including window-to-window, field-to- field, and use of access methods (tab keys, mouse movements, accelerator keys).  Window objects and characteristics can be exercised–such as menus, size, position, state, and focus. |
| Technique: | Create or modify tests for each window to verify proper navigation and object states for each application window and object. |
| Oracles: | Maven Test or build fails. |
| Required Tools: | Java  Maven TestFX (loaded by maven automatically) JUnit (loaded by maven automatically) |
| Success Criteria: | Every Unit tests passes without assert fails or unexpected exceptions. |
| Special Considerations: | n/a |

### 

### Performance Profiling

n/a

### Load Testing

n/a

### Stress Testing

n/a

### Volume Testing

n/a

### Security and Access Control Testing

n/a

### Failover and Recovery Testing

n/a

### Configuration Testing

n/a

### Installation Testing

|  |  |
| --- | --- |
| Technique Objective: | new installation: a new machine, never installed previously with Nappy, the ingenious  update: a machine previously installed Nappy, the ingenious, older version |
| Technique: | Install desktop application on a linux, mac or windows. |
| Oracles: | n/a |
| Required Tools: | Java 8 (JRE or JDK) |
| Success Criteria: | Installation Testing Document should be marked successfully |
| Special Considerations: | n/a |

# Entry and Exit Criteria

## Test Plan

### Test Plan Entry Criteria

The entry of the Test Plan is to take immediately after the first version.

### Test Plan Exit Criteria

The Test Plan is completed once all tests have been successfully completed.

### Suspension and Resumption Criteria

The Test Plan cannot be canceled.

## Test Cycles

n/a

# Deliverables

## Test Evaluation Summaries

Our summary of our tests are always up-to-date in Travis:   
<https://travis-ci.org/nappydevelopment/Nappy-the-ingenious>

The summary will produce with every push on GitHub.

## Reporting on Test Coverage

Test Coverage is reported in:

* SonarQube: <http://193.196.7.25/overview?id=5235>
* Coveralls: <https://coveralls.io/github/nappydevelopment/Nappy-the-ingenious?branch=master>
* Codacy: <https://www.codacy.com/app/NappyDevelopment/Nappy-the-ingenious/dashboard>

## Perceived Quality Reports

Quality is graded and reported in:

* Codacy: <https://www.codacy.com/app/NappyDevelopment/Nappy-the-ingenious/dashboard>

## Incident Logs and Change Requests

n/a

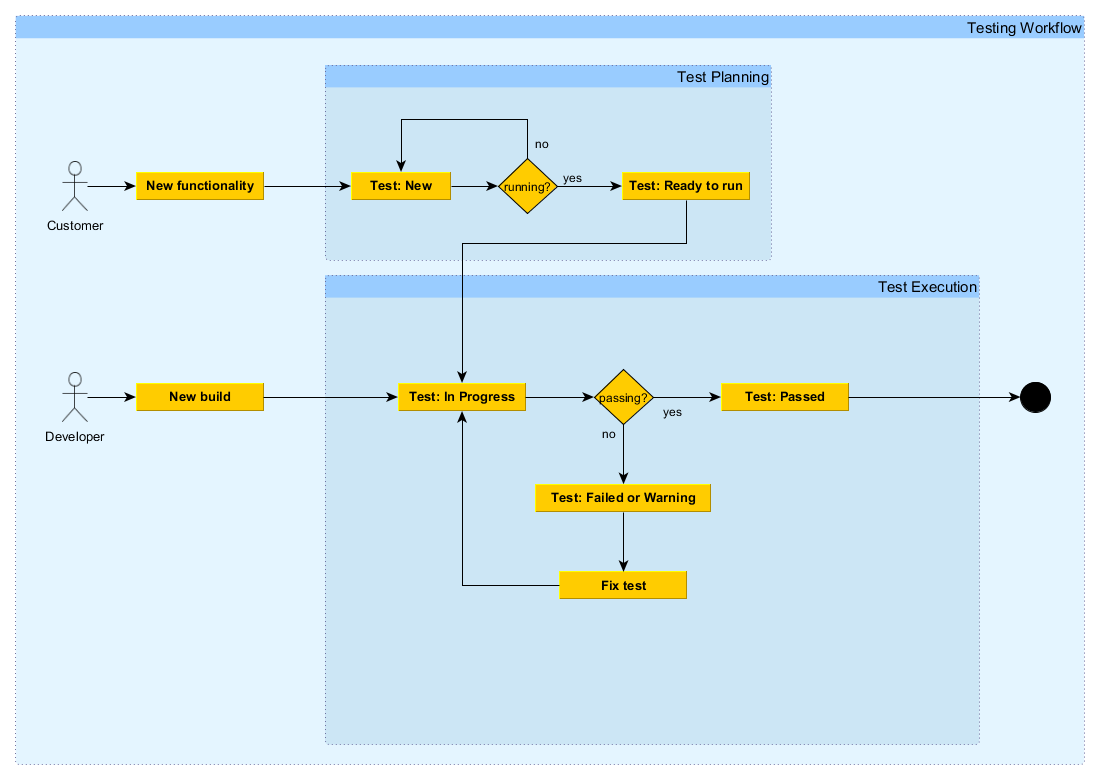
## Smoke Test Suite and Supporting Test Scripts

n/a

## Additional Work Products

n/a

# Testing Workflow



# 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** |
| Client Test PCs | 3 | Jani: Mac OS X 10.11.3 with Java 8 |
| —Include special configuration requirements |  | Tom: Windows 7 with Java 8 |
| Samuel: Linux with Java 8 |

## 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** |
| --- | --- | --- |
| Windows | 7, 8, 8.1, 10 | Operating System |
| Linux | Ubuntu 15.10 | Operating System |
| Mac OS | 10.11.3 | Operating System |
| Firefox | 45.x.x, 46.x.x | Internet Browser |
| Google Chrome | 49.x.x | Internet Browser |
| MS Outlook | 2010, 365 | eMail Client software |
| Thunderbird |  | eMail Client software |
| Java | 1.8 | Programming language |

## Productivity and Support Tools

n/a

## Test Environment Configurations

n/a

# 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 | Mehmet Ali Incekara  Marvin Zerulla | Provides management oversight.  Responsibilities include:   * planning * agree mission * identify motivators * present management reporting |
| Test Analyst | Mehmet Ali Incekara  Marvin Zerulla | Identifies and defines the specific tests to be conducted.  Responsibilities include:   * define test details * evaluate effectiveness of test effort * document change requests * evaluate product quality |
| Test Designer | Marvin Zerulla | Defines the technical approach to the implementation of the test effort.  Responsibilities include:   * define test approach * define test automation architecture * verify test techniques * define testability elements * structure test implementation |
| Tester | Marvin Zerulla  Mehmet Ali Incekara  Marc Mahler  Manuel Bothner | Implements and executes the tests.  Responsibilities include:   * implement tests * execute test suites * analyze and recover from test failures |
| Implementer | Marvin Zerulla  Mehmet Ali Incekara  Marc Mahler  Manuel Bothner | Implements and unit tests the test classes and test packages.  Responsibilities include:   * creates the test components required to support testability requirements as defined by the designer |

## Staffing and Training Needs

n/a

# Iteration Milestones

n/a

# Risks, Dependencies, Assumptions, and Constraints

| **Risk** | **Mitigation Strategy** | **Contingency (Risk is realized)** |
| --- | --- | --- |
|  |  |  |

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

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

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

# Management Process and Procedures

## Measuring and Assessing the Extent of Testing

[Outline the measurement and assessment process to be used to track the extent of testing.]

## Assessing the Deliverables of this Test Plan

[Outline the assessment process for reviewing and accepting the deliverables of this **Test Plan**]

## Problem Reporting, Escalation, and Issue Resolution

[Define how process problems will be reported and escalated, and the process to be followed to achieve resolution.]

## Managing Test Cycles

[Outline the management control process for a test cycle.]

## Traceability Strategies

[Consider appropriate traceability strategies for:

* Coverage of Testing against Specifications — enables measurement the extent of testing
* Motivations for Testing — enables assessment of relevance of tests to help determine whether to maintain or retire tests
* Software Design Elements — enables tracking of subsequent design changes that would necessitate rerunning tests or retiring them
* Resulting Change Requests — enables the tests that discovered the need for the change to be identified and re-run to verify the change request has been completed successfully]

## Approval and Signoff

[Outline the approval process and list the job titles (and names of current incumbents) that initially must approve the plan, and sign off on the plans satisfactory execution.]