FaceRecognition

Version <1.0>

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 22.05.2016 | 1.0 | First work | Pascal Treptow |
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# 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 the 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:

* Unit Tests
* Functional Tests
* User Interface and Usability Tests
* Stress Test

## Intended Audience

n/a

## Document Terminology and Acronyms

tba

## References

|  |  |
| --- | --- |
| **Title** | **Date** |
| [Overall Use Case Diagram](https://raw.githubusercontent.com/sapacaFaceRecognition/Documentation/master/Use%20Cases/UCD.jpg) | 07.04.2016 |
| [Software Requirements Specification](https://github.com/sapacaFaceRecognition/Documentation/wiki/Software-Requirements-Specification) | 07.04.2016 |
| [Software Architecture Documentation](https://github.com/sapacaFaceRecognition/Documentation/wiki/Software-Architecture-Documentation) | 11.05.2016 |
| [Use Case: Browse Image](https://github.com/sapacaFaceRecognition/Documentation/wiki/Use-Case:-Browse-Image) | 04.05.2016 |
| [Use Case: Delete Image](https://github.com/sapacaFaceRecognition/Documentation/wiki/Use-Case:-Delete-Image) | 04.05.2016 |
| [Use Case: Detect Face](https://github.com/sapacaFaceRecognition/Documentation/wiki/Use-Case:-Detect-Face) | 04.05.2016 |
| [Use Case: Label Image](https://github.com/sapacaFaceRecognition/Documentation/wiki/Use-Case:-Label-Image) | 04.05.2016 |
| [Use Case: Upload Image](https://github.com/sapacaFaceRecognition/Documentation/wiki/Use-Case:-Upload-Image) | 04.05.2016 |
| [Use Case (S2): Bind to Google Search](https://github.com/sapacaFaceRecognition/Documentation/wiki/Use-Case-(S2):-Bind-to-Google-Search) | 04.05.2016 |
| [Use Case (S2): Eye Detection](https://github.com/sapacaFaceRecognition/Documentation/wiki/Use-Case-(S2):-Eye-Detection) | 04.05.2016 |
| [Use Case (S2): Gender Classification](Use%20Case%20(S2):%20Gender%20Classification) | 04.05.2016 |
| [Use Case (S2): Statistics](https://github.com/sapacaFaceRecognition/Documentation/wiki/Use-Case-(S2):-Statistics) | 04.05.2016 |

## Document Structure

n/a

# Evaluation Mission and Test Motivation

## Background

n/a

## 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.

* Operation System
* WebInterface
* And so forth

# Outline of Planned Tests

n/a

# Test Approach

## Initial Test-Idea Catalogs and Other Reference Sources

## Testing Techniques and Types

### Function Testing

|  |  |
| --- | --- |
| Technique Objective: | This tests should ensure that the functions of our project are working correctly |
| Technique: | The program starts functions and compares the results with an expected condition |
| Oracles: | If the result and the condition matches the test was successful |
| Required Tools: | [Junit](http://junit.org/junit4/) |
| Success Criteria: | If the result and the condition matches the test was successful |
| Special Considerations: | The face detection can´t be test, because the result picture is never exactly the same, there are always differences. |

### User Interface Testing

|  |  |
| --- | --- |
| Technique Objective: | Functionalities of the userintface got emulated |
| Technique: | User interaction, like clicks, got emulated. The tool compared therefore the condition before and after the emulation. |
| Oracles: | The test are successful, if the userinterface acts like the emulation predicted it. |
| Required Tools: | [Selenium](http://www.seleniumhq.org/) |
| Success Criteria: | All tests need to run through successfully |
| Special Considerations: | We could not test the whole userinterface, same functionalities require a special user input |

### Load Testing

|  |  |
| --- | --- |
| Technique Objective: | This test should provide that our project runs even when there is a lot of load |
| Technique: | Therefor the program generates a high number of thread, like 5000. Then there are definded calls which this threads can use, for calling a page, login in or uploading an image. When the program starts all this threads work at the same time and cause so a lot of load |
| Oracles: | After the test finished there a lot of different possibilities to view the result. One opportunity is to show the response time as a graph for every definded call. |
| Required Tools: | [JMeter](http://jmeter.apache.org/) |
| Success Criteria: | In the result you can look up all call and can see if a call failed or not. You can also see for every defined call how much of the calls fails as a percentage. |
| Special Considerations: | tbd |

# Entry and Exit Criteria

# Deliverables

## Test Evaluation Summaries

n/a

## Reporting on Test Coverage

Our Test Coverage can be looked up at [Coverall.io](https://coveralls.io/github/sapacaFaceRecognition/FaceRecognition?branch=master)

## Perceived Quality Reports

n/a

## Incident Logs and Change Requests

We used [SonarQube](http://193.196.7.25/overview?id=sapaca) and [Travis-Ci](https://travis-ci.org/sapacaFaceRecognition/FaceRecognition) to trace and log our Incident Logs and Change Request

## Smoke Test Suite and Supporting Test Scripts

n/a

## Additional Work Products

n/a

### Detailed Test Results

n/a

### Additional Automated Functional Test Scripts

Our Repository can be found under [GitHub](https://github.com/sapacaFaceRecognition/FaceRecognition)

### Test Guidelines

n/a

### Traceability Matrices

n/a

# Testing Workflow

After a commit on github [Travis-Ci](https://travis-ci.org/sapacaFaceRecognition/FaceRecognition) tries to builds our project, after that [Coveralls](https://coveralls.io/github/sapacaFaceRecognition/FaceRecognition?branch=master) runs our definded tests and [Codacy](https://www.codacy.com/app/chi340/FaceRecognition/dashboard?bid=3316998) analysis it.



Abbildung 1: Batches from our GitHub

# 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 |  | MySQL Database |
| —Database Name |  | SAPACA |
| Client Test PCs |  |  |
| —software |  | Java JDK 8, XAMPP, Spring Tool Suite |

## 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 | 10 | Operating System |
| XAMPP for Windows 5.6.14 | 5.6.14 | Virtuell Server and Database |
| Intellij | Community Editon 2016.1.1 | Editor |
| Spring Tool Suite | 3.6.4 | Editor |
| Internet Explorer |  | Internet Browser |
| Mozilla Firefox |  | Internet Browser |

## 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** |
| --- | --- | --- | --- |
| Test Coverage Monitor | Coverall.io | Lemur Heavy Industries |  |
| Code Climate, Metrics | Sonarqube | SonarSource S.A | 4.5.7 |
| Build Tool | Travis.ci | Travis CI GmbH |  |

## 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 | Number of users who are accessing the application at the same time | 5000 Useres |
| Minimal configuration supported | Speed and power of the internet connection provided by the server host | Not relevant, because it is running local |
| Test Computer | Specs of a test computer | Processor: AMD A10-8700P Radeon R6 1,8 GHz  RAM: 8GB  HDD: 1 TB  OS: Windows 10 |

# 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 | Sascha Kühne | Provides management oversight.  Responsibilities include:   * planning and logistics * agree mission * identify motivators * acquire appropriate resources * present management reporting * advocate the interests of test * evaluate effectiveness of test effort |
| Test Analyst | Carolina Mehret | Identifies and defines the specific tests to be conducted.  Responsibilities include:   * identify test ideas * define test details * determine test results * document change requests * evaluate product quality |
| Test Designer | Sascha Kühne | 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 | Pascal Treptow | Implements and executes the tests.  Responsibilities include:   * implement tests and test suites * execute test suites * log results * analyze and recover from test failures * document incidents |
| Test System Administrator | Sascha Kühne | Ensures test environment and assets are managed and maintained.  Responsibilities include:   * administer test management system * install and support access to, and recovery of, test environment configurations and test labs |
| Database Administrator, Database Manager | Sascha Kühne | Ensures test data (database) environment and assets are managed and maintained.  Responsibilities include:   * support the administration of test data and test beds (database). |
| Designer | Pascal Treptow | Identifies and defines the operations, attributes, and associations of the test classes.  Responsibilities include:   * defines the test classes required to support testability requirements as defined by the test team |
| Implementer | Carolina Mehret | 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)** |
| --- | --- | --- |
| Project crashes and can´t be started | Bevor every commit it must be sure the project is working | * Testing bevor committing |
| The port for the server is occupied | Make sure no program is running on the port the server is using | * Give the server a special port * Restart your comupter |
| Changes influence existing functionalities | Chances, especially functionally chances, have to be tested bevor | * Reverse a commit * Testing bevor committing |

# Management Process and Procedures

n/a