**Test Plan**

**“Double plus” Company**

**The Calculator application**

| **Related Artifacts** | |
| --- | --- |
| **Name** |  |
| Application: | The Calculator App |
| Version: | 1.0 |
| Date Test Plan: | 13.02.2022 |

**Contents**

[1. Introduction](#_heading=h.1t3h5sf)…………………………………………………………………………………………………………………….3

[2. Scope of Work](#_heading=h.4d34og8) …………………………………………………………………………………………………………………3

[2.1 Components and Functions to be Test](#_heading=h.2s8eyo1)ed………………………………………………………………………………..3

[2.2 Components and Functions Not to be Tested](#_heading=h.17dp8vu)…………………………………………………………………..3

[2.3 Third-Party Components](#_heading=h.3rdcrjn)………………………………………………………………………………………………….4

[3. Quality and Acceptance Criteria](#_heading=h.26in1rg)………………………………………………………………………………………4

[4. Critical Success Factors](#_heading=h.lnxbz9)…………………………………………………………………………………………………….4

[5. Risk Assessment](#_heading=h.35nkun2)…………………………………………………………………………………………………………………………4

[6. Resources](#_heading=h.1ksv4uv)………………………………………………………………………………………………………………………..4

[6.1 Key Project Resources](#_heading=h.44sinio) ……………………………………………………………………………………………………..4

[6.2 Test Team](#_heading=h.2jxsxqh)……………………………………………………………………………………………………………………………………5

[6.3 Test Hardware](#_heading=h.z337ya) …………………………………………………………………………………………………………………5

[6.4 Test Tools](#_heading=h.3j2qqm3)…………………………………………………………………………………………………………………………………….5

[7. Test Documentation and Deliverables](#_heading=h.1y810tw)………………………………………………………………………………5

[8. Test Strategy](#_heading=h.4i7ojhp)……………………………………………………………………………………………………………………………….5

[8.1 Entry Criteria](#_heading=h.2xcytpi) ………………………………………………………………………………………………………………...6

[8.2 Test Methods](#_heading=h.1ci93xb) …………………………………………………………………………………………………………………6

[8.3 Test Types](#_heading=h.3whwml4)………………………………………………………………………………………………………………………..6

[8.4 Test Levels](#_heading=h.2bn6wsx) ………………………………………………………………………………………………………………………………….6

[8.4.1 Smoke Test](#_heading=h.qsh70q)……………………………………………………………………………………………………………………….6

[8.4.2 Critical Path Test](#_heading=h.3as4poj)………………………………………………………………………………………………………………………….6

[8.4.3 Extended Test](#_heading=h.1pxezwc) ………………………………………………………………………………………………………………………….…6

[8.5 Bug and Documentation Tracking](#_heading=h.49x2ik5)……………………………………………………………………………….......7

[8.5.1 Bug Severity Definitions](#_heading=h.2p2csry)……………………………………………………………………………………………………7

[9. Testing](#_heading=h.147n2zr) Schedule……………………………………………………………………………………………………………….7

**1. Introduction**

This document describes the approach and methodologies used by the testing team to plan, organize and perform the testing applications of the **Calculator application.**

The **Calculator application** consists of:

* general module (the window app);
* module of 2 modes (“Simple'' and ''Scientific’);
* module of mathematical operations (addition, subtraction, multiplication, division);
* module of additional operations (squaring and square root extraction).

**2. Scope of work**

**2.1 Components and functions to be tested**

| # | Application/ component name | Function name | Reference |
| --- | --- | --- | --- |
| 1 | General module (the window app) | Download, open, close, delete and update the app; testing non-functional requirements | System and non-functional specifications; GUI specifications |
| 2 | Module of 2 modes (“Simple'' and ''Scientific’) | Menu bar; Mode "Simple"; Mode "Scientific" | User requirements, functional specifications |
| 3 | Module of mathematical operations | Addition, subtraction, multiplication, division | User requirements, functional specifications |
| 4 | Module of additional operations | Squaring and square root extraction | User requirements, functional specifications |

**2.2 Components and functions not to be tested**

| # | Application/ component name | Function name | Reference/Comment |
| --- | --- | --- | --- |
| 1 | General module | Security and performance testing is not expected | System and non-functional specifications |
| 2 | Modules of mathematical and additional operations | Automated testing is not expected | Functional specifications |

**2.3 Third-party components**

| # | Component name | Component role | Reference/Comment |
| --- | --- | --- | --- |
| 1 | GUI | Default value; keyboard layout; action buttons; the language app; font size; application size | GUI Specifications |

**3. Quality and acceptance criteria**

* The product should work according to the requirements and functional specification;
* The product bug level should reach the acceptance criteria defined in Requirements, or if other is not specified, the product should not have bugs with severity Critical and Major to be released for production;
* Low priority bugs do not affect the main functionality of the Calculator app.

**4. Critical success factors**

* Meet a schedule and complete development and testing of all functionality in term.
* Application shouldn’t have known bugs with severity Critical and Major at the time of Final Release.
* Functional requirements do not have last minute changes.

**5. Risk management**

* Security and performance testing is not expected;
* Automated testing is not expected.

**6. Resources**

**6.1 Key project resources**

| # | Project Role | Name, e-mail, location |
| --- | --- | --- |
| 1 | Project Manager | Ivan Ivanov, [iivanov@gmail.com](mailto:iivanov@gmail.com), Minsk |
| 2 | Project Coordinator, Key Developer | Peter Petrov, ppetrov[@gmail.com](mailto:iivanov@gmail.com), Brest |
| 3 | Test Leader | Nic Nicolaev, nicnic[@gmail.com](mailto:iivanov@gmail.com), Minsk |

**6.2 Test team**

| # | Project Role | Name | Location | Responsibilities |
| --- | --- | --- | --- | --- |
| 1 | Software Testing Engineer | Olga Baryliuk | Brest | Testing of the Calculator application |
|  | Test Leader | Nic Nicolaev | Minsk | Сreation of a test plan and TRR |

**6.3 Test hardware**

Software configuration:

* OS Windows 10;
* Browser Chrome;
* Build 1010.

**6.4 Test tools**

| # | Tool | Comment |
| --- | --- | --- |
| 1 | TestRail | Test Case management System for managing test cases |
| 2 | Jira | Bug tracking system for logging detected and also for project management |
| 3 | Google Docs | Online word processor, which also includes Google Sheets |

**7. Test documentation**

| # | Title | Responsible person(s) | Frequency (delivery time) | Method of delivery |
| --- | --- | --- | --- | --- |
|  | TestPlan | Nic Nicolaev | Once before the testing start | Google Docs |
|  | TestCases | Olga Baryliuk | Before the testing start | Google Docs |
|  | Bug reports | Olga Baryliuk | Upon finding a bug | Jira |
|  | Test Result Reports | Nic Nicolaev | Weekly | Test Rail |

**8. Test strategy**

**The Calculator application** will be tested using a “black box” approach, which is based on the requirements and functional specification without knowledge of the internal structure or program source code.

**8.1 Entry criteria**

The Testing Team may suspend partial or full-testing activities on a given build if any of the following occurs:

* It is impossible to successfully install the new build following the readme.
* There is a fault with a feature that prevents its testing.
* Application does not contain the specified change(s).
* New claimed functionality doesn’t work or works improperly.
* A severe problem has occurred that does not allow testing to continue.
* Development has not corrected the problem(s) that previously suspended testing.
* A new version of the software is available to test.

**8.2 Test methods**

Testing is the process of attempting to find discrepancies between the program and its functional specification/ requirements. The goal is to make sure that all functions of **the Calculator application**work correctly.

* Manual functional testing – is considered as the main method of the application testing.
* Automated Performance/Load testing will not be performed according to the agreements with the customer.

**8.3 Test types**

The application is tested using the following test types: installation, functional, regression, new feature.

Functional testing is carried out for identifying functional errors, inconsistencies in the requirements and expectations of users by implementation of standard test scenarios.

During regression testing, the following types of tests will be carried out:

Verification tests

• Version testing

• Testing related functionality

**8.4 Test levels**

Smoke Test is performed to quickly assess the readiness of the product for further more deep and thorough testing. It includes testing **the Calculator application** major functions on the one most often used and consequently most important server/ client configuration.

If Smoke Test fails, the Testing Team sends notification and suspends testing until a corrected version of the product is available.

Critical Path Test will be performed after the Smoke Test is passed. The goal of the Critical Path Test is to find bugs that could affect the major functionality of the application that is most important for the product users. Critical Path Test will be performed manually according to **the Calculator application** Test Cases document on all platforms to be certified.

The Extended Test’s goal is to find bugs related to the non-typical but still possible and likely usage scenarios (e.g. entering the incorrect data into the fields, boundary testing and so on). Extended Tests will be performed both according to test cases and using ad hoc testing scenarios.

**8.5 Bug and documentation tracking**

Tools described in the section [Test Tools](#_heading=h.ihv636) will be used for bug reporting and documentation tracking. The bug metrics and statistics will be included in the test results reports.

**8.5.1 Bug severity definition**

Critical – Application, component or module crash or are not accessible

Major – Data corruption/loss, a problem in major functionality, no workaround is known.

Medium – A problem with workaround, secondary features do not work properly

Minor – Cosmetic flaw

**9. Testing schedule**

| # | Activity | Begin Date | End Date | Assignment | Location | Work content |
| --- | --- | --- | --- | --- | --- | --- |
|  | Test plan creation, TRR | 13.02.2022 | 13.02.2022 | Nic Nicolaev | Minsk | 8 hours |
|  | Test cases creation | 13.02.2022 | 14.02.2022 | Olga Baryliuk | Brest | 16 hours |
|  | Build installation | 13.02.2022 | 13.02.2022 | Peter Petrov | Brest | 8 hours |
|  | Smoke Test execution | 15..02.2022 | 15.02.2022 | Olga Baryliuk | Brest | 8 hours |
|  | Critical path Test execution | 16.02.2022 | 16.02.2022 | Olga Baryliuk | Brest | 8 hours |

| Revision history | | | | | |
| --- | --- | --- | --- | --- | --- |
| Ver. | Description of Change | Author | Date | Approved | |
| Name | Effective Date |
| 1.0 | Creation | Nic Nicolaev | 13.02.2022 | Ivan Ivanov | 13.02.2022 |
| 1.0 | Change | Olga Baryliuk | 14.02.2022 | Niic Nicolaev | 14.02.2022 |