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**Requirements Specification**

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| **Document identification** | **SW-F-02** |
| **Document name** | SRS for Software based calculator |
| **Version number** | 1.0 |
| **Effective Date** | 05/06/2023 |
| **Project Name** | C upskilling program |
| **Project Version** |  |
| **Project Code** |  |
| **Project Type** |  |
| **Prepared by** | Praveen Deshpande |
| **Reviewed by** | RajKumar Muraleedharan |
| **Approved by** |  |

**VERSION HISTORY:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SL. No** | **Version No.** | | **Prepared by** | **Reviewed**  **By** | **Approved by** | **Description of version** | **Date** | **Reason for version change** |
| **From** | **To** |
| 1 | new | 1.0 | Praveen  Deshpande | RajKumar |  | First initial  version created | 05/06/2023 |  |
|  |  |  |  |  |  |  |  |  |

**DOCUMENT STATUS:**

|  |  |
| --- | --- |
| **Date** | **Document status** |
| 05/06/2023 | First release |

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# Purpose

This document captures the Requirement Specifications for the Software based   
calculator project.

The customer and the user for the system are the employees of the Ignitarium, including developers of the system.

**Product Scope**

The product is an software based calculator which performs arithmetic operations

viz., addition, subtraction, multiplication and division. It takes two input numbers for

performing operations and an operator as input for type of operation

# Acronyms & Definitions

|  |  |  |
| --- | --- | --- |
| **RS** | Requirement Specifications |  |
| **SoW** | Statement of Work |  |
| **RFP** | Request for Proposal | |
|  |  | |

# References

https://www.tutorialspoint.com/cprogramming/index.htm

## Related Documents

|  |  |  |
| --- | --- | --- |
| **Ref 1** |  |  |
| **Ref 2** |  |  |
|  |  | |

## Template Documents

|  |  |  |
| --- | --- | --- |
| **Ref 3** | RS template document: IGN\_Requirement\_Specifications\_template\_1.0.docx : dated Date-Month-Year |  |
| **Ref 4** |  |  |
|  |  | |

## Other Reference Documents

|  |  |  |
| --- | --- | --- |
| **Ref 5** |  |  |
| **Ref 6** |  |  |
|  |  | |

# REQUIREMENTS

## ****OVERALL DESCRIPTION****

### Product Perspective

The product performs the arithmetic operation based on user input and provide the  
result to the user. It also checks the result for any overflow or underflow and displays  
it to the user

### Product Functions

The C program calculator performs addition, subtraction, multiplication and division

### User classes and characteristics

The users include everybody who knows C language and understands the

fundamental operations in mathematics.

### Operating Environment

It runs on all distributions based on linux with gnu c compiler toolchain   
 installed on the system

### Design and Implementation Constraints

only four basic operations are provided with this application as of now.

### User Documentation

C-Prog\_calculator\_SoftwareDesign.docx also provides the details on the design of the   
 C program based calculator

### Assumptions and Dependencies

The C program displays results in floating point number assuming input entered by user  
can be integer or floating point number

## ****EXTERNAL INTERFACE REQUIREMENTS****

### User Interfaces

User has to input the operator and two integer or floating point numbers. The C program  
takes the input numbers and calculates the result and displays it according to the given  
operator.

### Hardware Interfaces

Any x86 Machine with linux OS distribution

### Software Interfaces

GNU compiler tool chain

### Communications Interfaces

N/A

## ****SYSTEM FEATURES****

### **System Feature 1**

Addition operation

#### Description and Priority

It adds two given integer numbers.

#### Stimulus/Response Sequences

It displays the result of the addition

#### Functional Requirements

The users input the numbers and the operator so that the program will display the

result after performing the addition of the input numbers.

The numbers inputted by user are stored as floating point numbers so the result also

will be calculated as floating point number

### **System Feature 2**

Subtraction operation

#### **4.3.2.1 Description and Priority**

It subtracts two input numbers

#### Stimulus/Response Sequences

It displays the result of the subtraction

#### Functional Requirements

The users input the numbers and the operator so that the program will display the

result after performing the subtraction of the input numbers.

The numbers inputted by user are stored as floating point numbers so the result also

will be calculated as floating point number

## ****OTHER NON-FUNCTIONAL REQUIREMENTS****

### Performance Requirements

Requirements such as RAM requirements, CPU speed etc. Basically, these will ensure the software performs smoothly and without any problems

### Safety Requirements

Requirements concerned with possible loss, damage or harm that could result from the use of the product are stated here. Any safeguards that must be implemented should also be defined. External policies or regulations stating safety issues that affect the product’s design or use should be referred. Any safety certifications that must be satisfied is defined.

### Security requirements

This part specifies any requirements regarding privacy and safety, as well as protection of data created or used by the product. Any user identity authentication requirements are stated here. Any safety certifications that needs to be satisfied is also defined.

### Software Quality Attributes

Any additional quality characteristics of the product that might be important are specified here. Such as: adaptability, interoperability, availability, correctness, maintainability, robustness, usability, testability etc.  These are written in a specific, verifiable and quantitative way.

### Business Rules

Operating principles of the product are stated here. Such as which individuals can perform which functions under different circumstances.

# ****OTHER REQUIREMENTS****

Any requirements not stated in the SRS elsewhere are stated here. The requirements may include database requirements, legal requirements etc.

# Requirements Out of Scope

|  |  |  |
| --- | --- | --- |
| **Feature No.** | **Feature Description** | **Remarks** |
| 1. | Description of Feature 1 | Feature 1 is not being implemented due to xyz reasons. |
| 2. | Description of Feature 2 | Feature 2 is not being implemented due to xyz reasons. |
|  |  |  |

# Dependencies

# Assumptions

# Limitations

<List possible limitations in the implementation - they could be related to functionality, performance targets, compliance to standards, portability of implementation, reliability targets etc.>

# Acceptance Criteria

By simulation

By Testing

Module wise Phase wise

# Approvals

|  |  |
| --- | --- |
| .**Business Unit Head (BUH)** | Name: Bu H  Email id [bu.h@ignitarium.com](mailto:bu.h@ignitarium.com)  Signature: |
| **Quality Assurance Head (QAH)** | Name: Qa H  Email id: [qa.h@ignitarium.com](mailto:qa.h@ignitarium.com)  Signature: |

# ****APPENDIX A: GLOSSARY****

Here any and all terms that are necessary to understand and interpret the SRS are given. These may include Acronyms and abbreviations.

# ****APPENDIX B: ANALYSIS MODELS****

This is an optional element, which may show relevant models, such as data flow diagrams, entity-relationship programs etc.

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