

**INTERNATIONAL SCHOOL**

**CAPSTONE PROJECT 1**

**CMU-SE 450**

**USER INTERFACE DESIGN DOCUMENT**

Version: 1.0

**CALCULATOR SYSTEM – CS**

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**PROJECT INFORMATION**

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**PROJECT PLAN DOCUMENT**

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# INTRODUCTION

## PURPOSE

* Document the design of user interface of functions of the Caculator System
* Be the primary document driving the implementation of the user interfaces.
* Introduce interface design for the reader. Including the background, content information display, buttons.

## SCOPE

* This document helps to better understand the interface of the System, detailed specification components and function of the System.
* With this document, the development team can understand the structure and composition to create a consistent and complete system.
* Overview of the stages and modules of the software and create a complete interface.

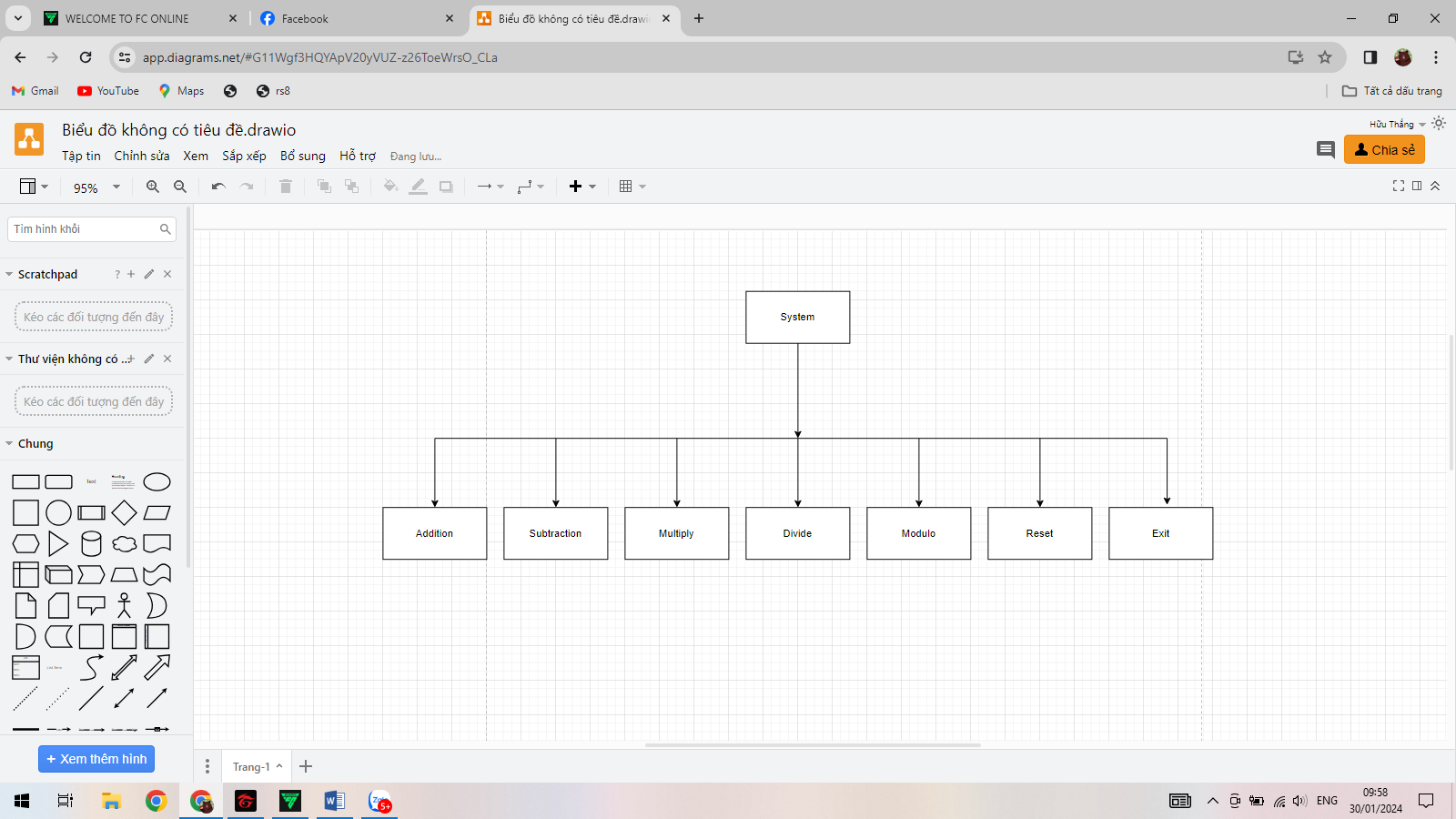
## SCOPE

This document is intended for the following audiences:

* Technical reviewers including:
* Project Management
* Product owner
* Implementers, including:
  + Developers.
  + Testers.

# LIST OF USER INTERFACE

## BUSINESS FUNCTION DIAGRAM:



## CACULATOR SYSTEM:

|  |  |  |
| --- | --- | --- |
| **User Interface ID** | **UI Name** | **Description** |
| UI-01 | Addition | This use case allows the user to perform an arithmetic "+" operation. |
| UI-02 | Subtraction | This use case allows the user to perform an arithmetic "-" operation. |
| UI-03 | Multiplication | This use case allows the user to perform an arithmetic "\*" operation. |
| UI-04 | Divide | This use case allows the user to perform an arithmetic "/" operation. |
| UI-05 | Modulo | This use case allows the user to perform an arithmetic "%" operation. |
| UI-06 | Reset | This use case allows the user to perform an or reset operation. |
| UI-07 | Exit | This use case allows the user exit from calculator system |

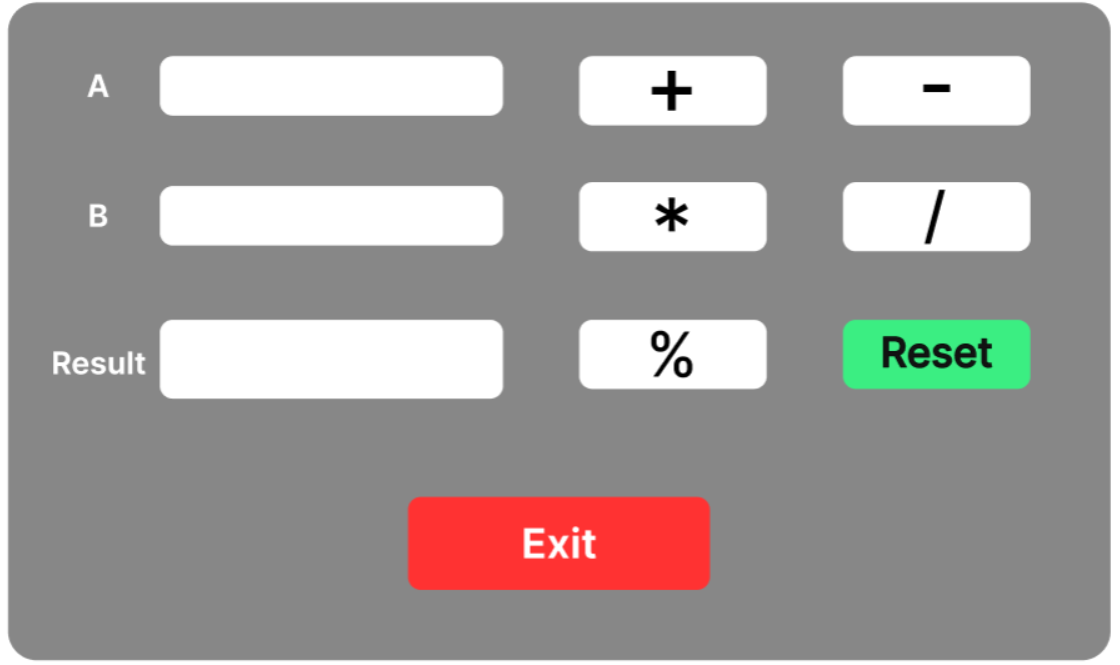
# DESCRIBE USER INTERFACE

## 1. INTERFACE:

# 

8

4



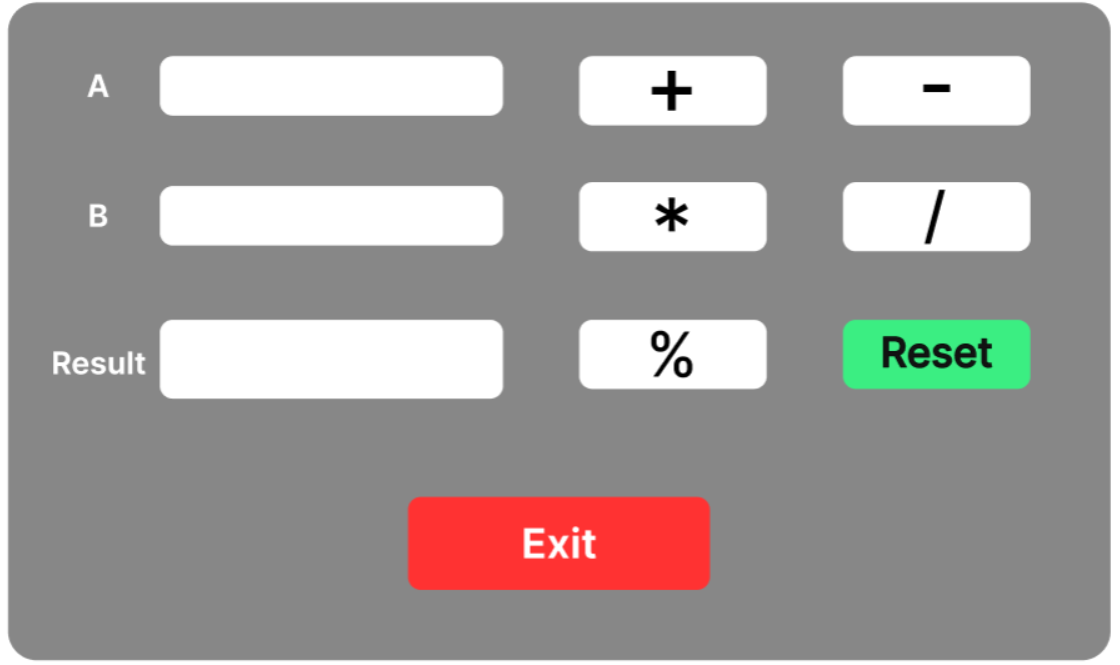
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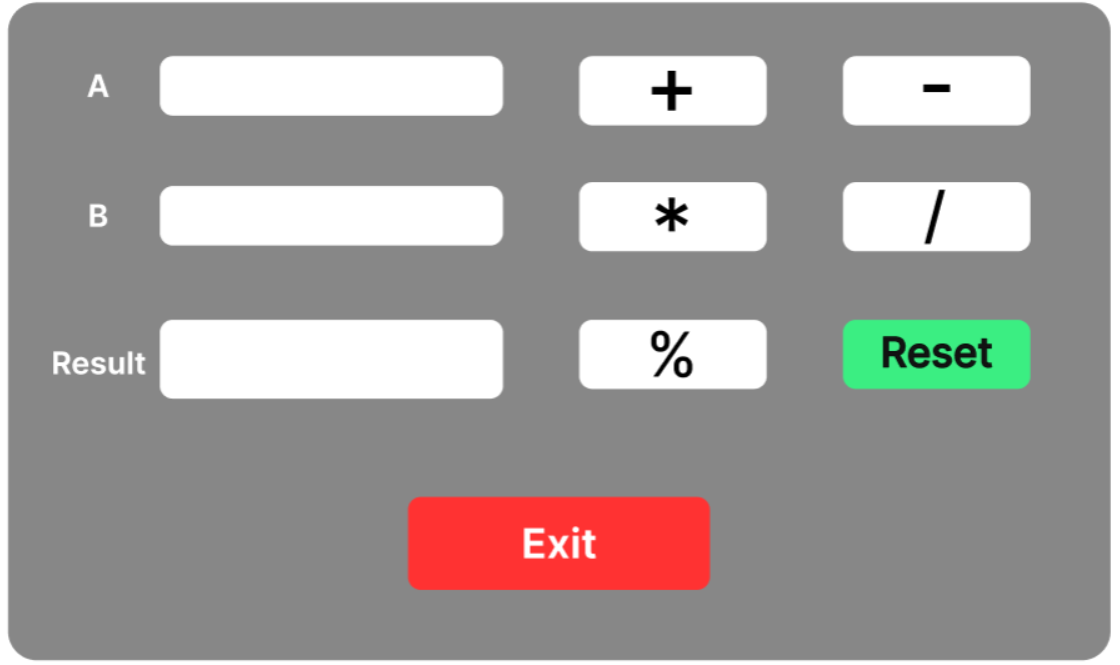
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6

5



2

1

10

## 2. DESCRIBE UI:

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Condition** | **Control Type** | **Target** |
| 1 | Press | Textfield | Enter number A |
| 2 | Press | Textfield | Enter number B |
| 3 | Press | Button | Click to “+” button to plus 2 number A and number B |
| 4 | Press | Button | Click to “-” button to subtract 2 number A and number B |
| 5 | Press | Button | Click to “\*” button to multiply 2 number A and number B |
| 6 | Press | Button | Click to “/” button to divide 2 number A and number B |
| 7 | Press | Button | Click to “%” button to modulo 2 number A and number B |
| 8 | None | Textfield | Display the result of calculations |
| 9 | Press | Button | Click to “Reset” button to reset the calculation |
| 10 | Press | Button | Click to “Exit” button to exit calculator system |

## 2. Use case:

**2.1 Plus Function**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC01 | | | |
| Use Case Name: Plus | | | |
| Member Create: Le Thanh Nhat Minh, Le Trung Dung | | Member Last Update: Le Thanh Nhat Minh, Le Trung Dung | |
| Date Create: 26/01/2024 | | | |
| Actor: User | | | |
| Describes: This use case describes function produces the plus results of 2 numbers a,b | | | |
| Pre-conditions: | | Enter A, B | |
| Post-conditions: | |  | |
| Priority: H/M/L | | High | |
| Use frequency: | | Low | |
| Standard processes: | | | |
| Step | Actor Action | | System Response |
| 1 | Run application | | The application run successful |
| 2 | Input number A in textfield A, number B in textfield B | | - If A is not A number the Result label display “A must a number”  - If B is not a number the Result label display “B must a number” |
| 3 | Click on “+” button | | The result will display on textfield Result |

**2.2 Subtract Function**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC02 | | | |
| Use Case Name: Subtraction | | | |
| Member Create: Le Thanh Nhat Minh, Le Trung Dung | | Member Last Update: Le Thanh Nhat Minh, Le Trung Dung | |
| Date Create: 26/01/2024 | | | |
| Actor: User | | | |
| Describes: This use case describes function produces the subtract results of 2 numbers a,b | | | |
| Pre-conditions: | | Enter A, B | |
| Post-conditions: | |  | |
| Priority: H/M/L | | High | |
| Use frequency: | | Low | |
| Standard processes: | | | |
| Step | Actor Action | | System Response |
| 1 | Run application | | The application run successful |
| 2 | Input number A in textfield A, number B in textfield B | | - If A is not a number the Result label display “A must a number”  - If B is not a number the Result label display “B must a number” |
| 3 | Click on “-“ button | | The result will display on textfield Result |

**2.3 Multiply Function**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC03 | | | |
| Use Case Name: Multiplication | | | |
| Member Create: Le Thanh Nhat Minh, Le Trung Dung | | Member Last Update: Le Thanh Nhat Minh, Le Trung Dung | |
| Date Create: 26/01/2024 | | | |
| Actor: User | | | |
| Describes: This use case describes function produces the multiply results of 2 numbers a,b | | | |
| Pre-conditions: | | Enter A, B | |
| Post-conditions: | |  | |
| Priority: H/M/L | | High | |
| Use frequency: | | Low | |
| Standard processes: | | | |
| Step | Actor Action | | System Response |
| 1 | Run application | | The application run successful |
| 2 | Input A, B in textfield and click Multiply button | | - If A is not a number the Result label display “A must a number”  - If B is not a number the Result label display “B must a number” |
| 3 | Click “\*” function | | The result will display on textfield Result |

**2.4 Divide Function**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC04 | | | |
| Use Case Name: Division | | | |
| Member Create: Le Thanh Nhat Minh, Le Trung Dung | | Member Last Update: Le Thanh Nhat Minh, Le Trung Dung | |
| Date Create: 26/01/2024 | | | |
| Actor: User | | | |
| Describes: This use case describes function produces the divide results of 2 numbers a,b | | | |
| Pre-conditions: | | Enter a, b | |
| Post-conditions: | |  | |
| Priority: H/M/L | | High | |
| Use frequency: | | Low | |
| Standard processes: | | | |
| Step | Actor Action | | System Response |
| 1 | Run application | | The application run successful |
| 2 | Input A, B in textfield and click Divide button | | - If A is not a number the Result label display “A must a number”  - If B is not a number the Result label display “B must a number” |
| 3 | Click “/” button | | The result will display on textfield Result |

**2.5 Modulo Function**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC05 | | | |
| Use Case Name: Modulo | | | |
| Member Create: Le Thanh Nhat Minh, Le Trung Dung | | Member Last Update: Le Thanh Nhat Minh, Le Trung Dung | |
| Date Create: 26/01/2024 | | | |
| Actor: User | | | |
| Describes: This use case describes function produces the remainder of the division results of 2 numbers a,b | | | |
| Pre-conditions: | | Enter a, b | |
| Post-conditions: | |  | |
| Priority: H/M/L | | High | |
| Use frequency: | | Low | |
| Standard processes: | | | |
| Step | Actor Action | | System Response |
| 1 | Run application | | The application run successful |
| 2 | Input A, B in textfield and click Modulo button | | - If A is not a number the Result label display “A must a number”  - If B is not a number the Result label display “B must a number” |
| 3 | Click “%” button | | The result will display on textfield Result |

**2.6 Reset Function**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC06 | | | |
| Use Case Name: Reset | | | |
| Member Create: Le Thanh Nhat Minh, Le Trung Dung | | Member Last Update: Le Thanh Nhat Minh, Le Trung Dung | |
| Date Create: 26/01/2024 | | | |
| Actor: User | | | |
| Describes: This use case describes function will reset 2 number a, b to their initial value | | | |
| Pre-conditions: | | Enter a, b | |
| Post-conditions: | |  | |
| Priority: H/M/L | | High | |
| Use frequency: | | Low | |
| Standard processes: | | | |
| Step | Actor Action | | System Response |
| 1 | Run application | | The application run successful |
| 2 | Click “Reset” button | | Text field A, text field B and text field result will reset |

**2.7 Exit Function**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC07 | | | |
| Use Case Name: Exit | | | |
| Member Create: Le Thanh Nhat Minh, Le Trung Dung | | Member Last Update: Le Thanh Nhat Minh, Le Trung Dung | |
| Date Create: 26/01/2024 | | | |
| Actor: User | | | |
| Describes: This use case describes function will exit | | | |
| Pre-conditions: | |  | |
| Post-conditions: | |  | |
| Priority: H/M/L | | High | |
| Use frequency: | | Low | |
| Standard processes: | | | |
| Step | Actor Action | | System Response |
| 1 | Run application | | The application run successful |
| 3 | Click “Exit” button | | The system will shut down program |