**SOFTWARE REQUIREMENT SPECIFICATION** **DOCUMENT**

**CALCULATE WITH ME SYSTEM**

**Version: 2.0**

**ABSTRACT**

This document is intended to be the SRS for developing **CALCULATE**

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Title** | **CALCULATE WITH ME SYSTEM** | | |
| **Lead Institution** | **INTERNATIONAL SCHOOL - DUY TAN UNIVERSITY** | | |
| **Project Mentor** | **Mr. Nguyen Dang Quang Huy** | | |
| **Team Name** | **TEAM 5** | | |
| **Team Members** | **Nguyen Thi Men** | | |
| **Nguyen Huu Thang** | | |
| **Le Trung Dung** | | |
| **Le Thanh Nhat Minh** | | |
| **Tran Thi Nhu Ngoc** | | |
| **Start Date** | January 22, 2024 | **End Date** | March 11, 2024 |

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**Table of Contents**

[Revision History 2](#_Toc160637195)

[1. Introduction 4](#_Toc160637196)

[1.1. Purpose 4](#_Toc160637197)

[1.2. References 4](#_Toc160637198)

[2. Project Overview 4](#_Toc160637199)

[2.1. Project Description 4](#_Toc160637200)

[2.2. Business Need 4](#_Toc160637201)

[2.3. Project Analyst 5](#_Toc160637202)

[2.3.1. Business Function Diagram 5](#_Toc160637203)

[2.3.2. System Context Diagram 5](#_Toc160637204)

[2.4. Software Requirement Specification 5](#_Toc160637205)

[2.4.1. High-level Functional Requirement (FR) 5](#_Toc160637206)

[2.4.2. Stakeholders 6](#_Toc160637207)

[2.4.3. Use case 7](#_Toc160637208)

[2.4.4. List Of Use Case 7](#_Toc160637209)

[2.4.5. Use Case Specification 7](#_Toc160637210)

[UC.01: Calculate 8](#_Toc160637211)

[UC.02: Reset 9](#_Toc160637212)

[UC.03: Exit 10](#_Toc160637213)

[UC.04: Delete Left 11](#_Toc160637214)

[UC.05: Delete Right 12](#_Toc160637215)

[2.4.6. Activity Diagrams 13](#_Toc160637216)

[AD.01: 13](#_Toc160637217)

[AD.02: 14](#_Toc160637218)

[AD.03: 14](#_Toc160637219)

# Revision History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Change item** | **Description** | **by** | **Version** |
| **22/1/2024** | Receive requests from customers | After preparing questions about the request and receiving requests from customers | All members | Version 2.0 |
| **23/1/2024** | Start team meeting | Meet and refer to some documents, then focus on implementing the project. The team can fully understand the system requirements after the meeting | All members | Version 2.0 |
| **23/1/2024** | Work analysis | Through specific requirements and analysis, speaking, the leader needs to prepare in advance for the members. | All members | Version 2.0 |
| **23/1/2024** | Assign work | Get BFD, context diagram, use case, use case specification, and activity diagrams. The mandatory rules of the project | Nguyen Thi Men | Version 2.0 |
| **23/1/2024** | Conduct the work | Team members complete the tasks assigned by the team leader. And submit the report on time to the team leader | All members | Version 2.0 |
| **24/1/2024** | Edit the report | The group leader receives reports from group members, then reviews and revises them as required | Nguyen Thi Men | Version 2.0 |
| **25/11/2024** | Complete the SRS file | Complete BFD, context diagram, use case, use case specification, and activity diagrams. | Nguyen Huu Thang, Tran Thi Nhu Ngoc | Version 2.0 |

# Introduction

## Purpose

This document describes the computing system including all information features needed in detail for implementation. The purpose of this document is as follows:

• To assist project managers have an overall view of the system as well as perform tasks in an optimized way

• To Describes the control architecture and use cases in detail. Based on this document

Architectural analysts and designers will be able to develop the system easily.

• Intended Audience

|  |  |
| --- | --- |
| **Intended Audience** | **everyone** |
| Project manager | High level functional requiremen |
| Architect analyst and designer | Overall description and user cases to architect and design the system |
| Quality control | Overall description and user cases |
|  |  |

## References

# Project Overview

## Project Description

A computer system, a compact device, designed to perform basic mathematical operations such as addition, subtraction, multiplication, division, and other related operations. The main goal of this system is to support pupils, students and workers in performing mathematical operations accurately, quickly and conveniently. This system is capable of handling complex calculations or involving many numbers accurately, helping to avoid errors arising from human intervention. This feature not only helps users save time and effort, but also increases work efficiency, especially in fields that require large calculations.

## Business Need

This system had a number of advantages:

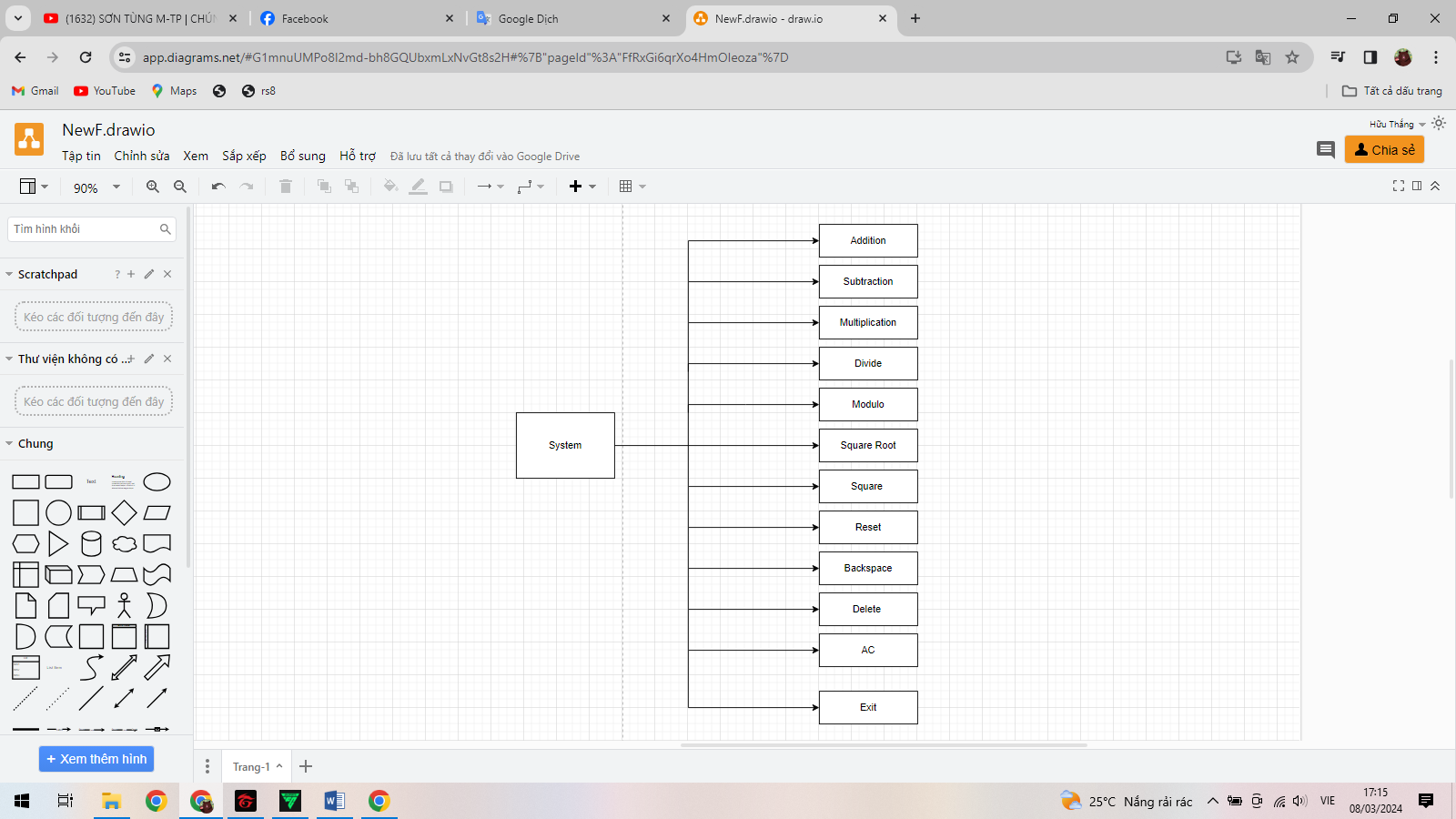
- Supports performing calculations quickly and accurately.

-Helps save time and ensures accuracy in the calculation process

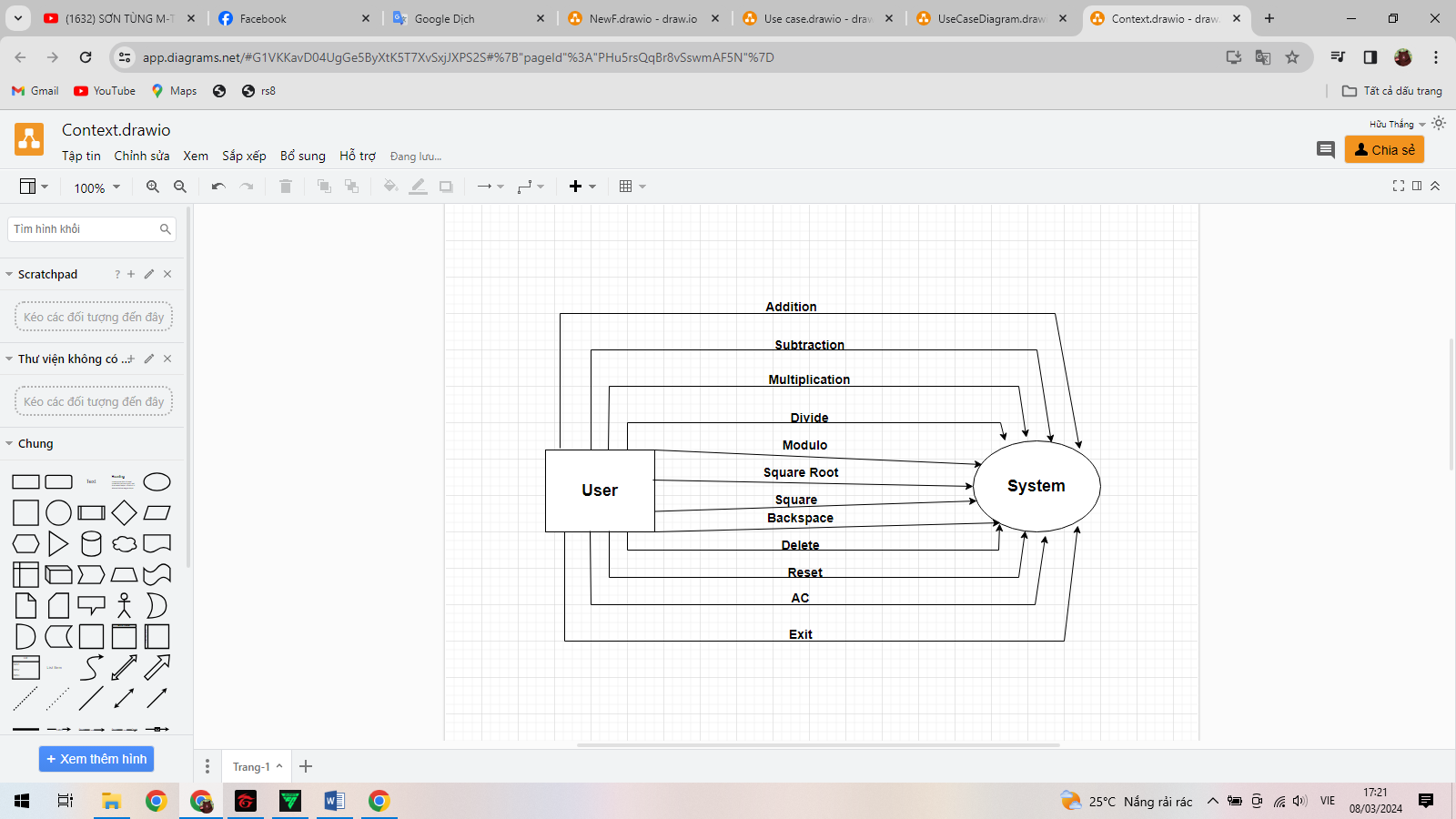
- Support students and people working on problems that require complex calculations or require high accuracy

## Project Analyst

### Business Function Diagram



### System Context Diagram



## Software Requirement Specification

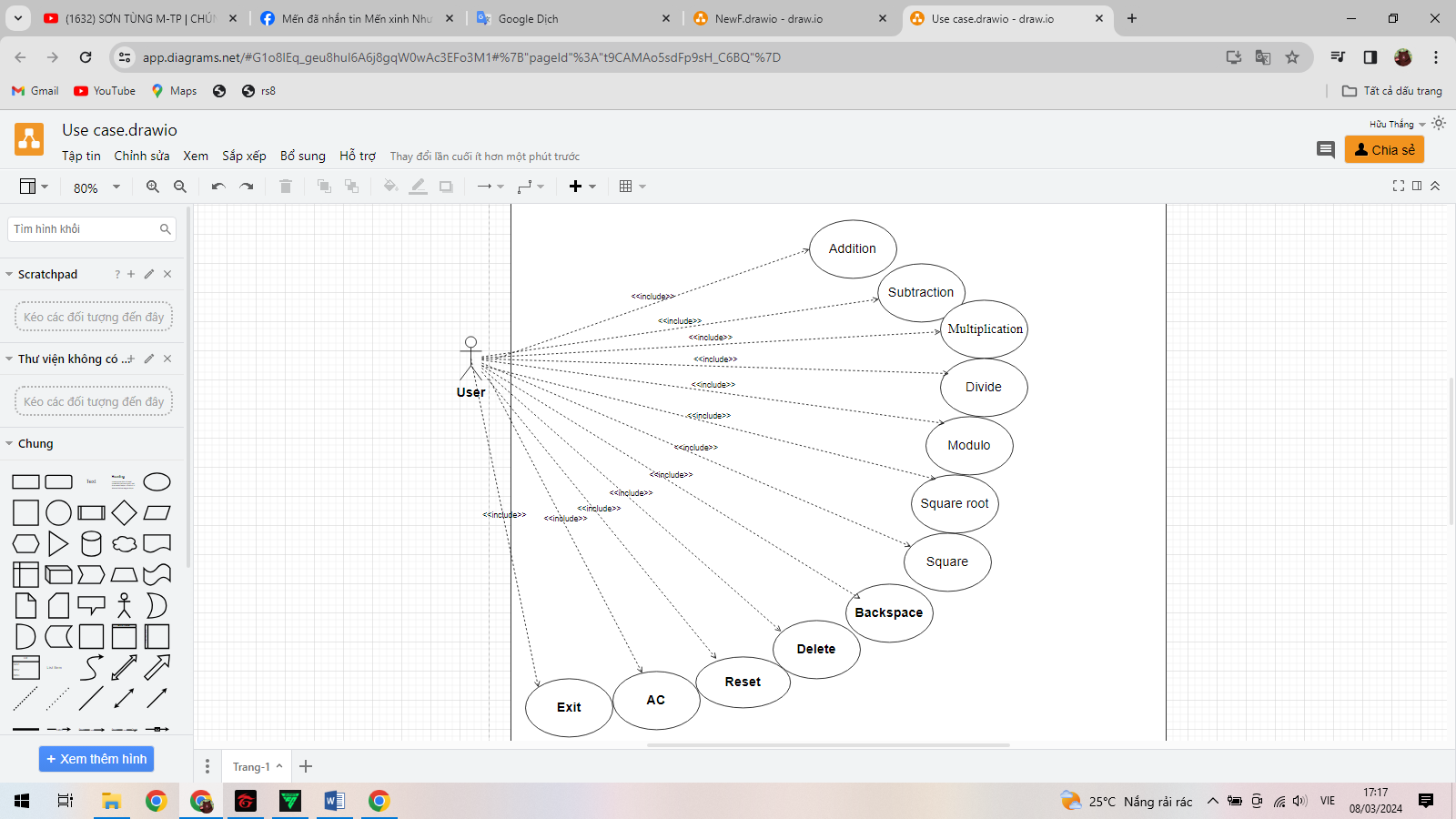
### High-level Functional Requirement (FR)

|  |  |  |
| --- | --- | --- |
| FR1.1 | **Title** | **Calculate** |
| **User** | Allows users to select the calculation to calculate |
| Description | To perform calculations, users need to enter two or more numbers along with plus, minus, multiplication, division signs. The system will calculate these numbers and display the results. |
| FR1.2 | **Title** | **Reset** |
| **User,System** | This user case allows deleting all entered numbers and the system can also self-delete when the user does not enter correctly. |
| Description | The system will delete the two numbers you just entered if you click the "Reset" button. |
| FR1.3 | **Title** | **Exit** |
|  | **User** | This user case allows the user to exit the program |
|  |  | When you want to exit the application you can click the "Exit" button. |
| FR1.4 | **Title** | **Backspace** |
| **User** | This user case allows deleting the character to the left of the entered character. |
| Description | When you want to delete the character on the left, just click the "**Backspace**" button without moving the cursor to the left. |
| FR1.5 | **Title** | **Delete** |
|  | **User** | This user case allows deleting the character to the right of the entered character. |
|  |  | When you want to delete the character on the right, just click the "**Delete** " button without moving the cursor to the right. |
| FR1.6 | **Title** | **AC** |
|  | **User** | This user case allows deleting all entered numbers and the system can also self-delete when the user does not enter correctly. |
|  |  | The system will delete the two numbers you just entered if you click the "AC" button. |

### 2.4.2. Stakeholders

|  |  |
| --- | --- |
| **Stakeholder** | **Description** |
| Users | System users |

### 2.4.3. Use case

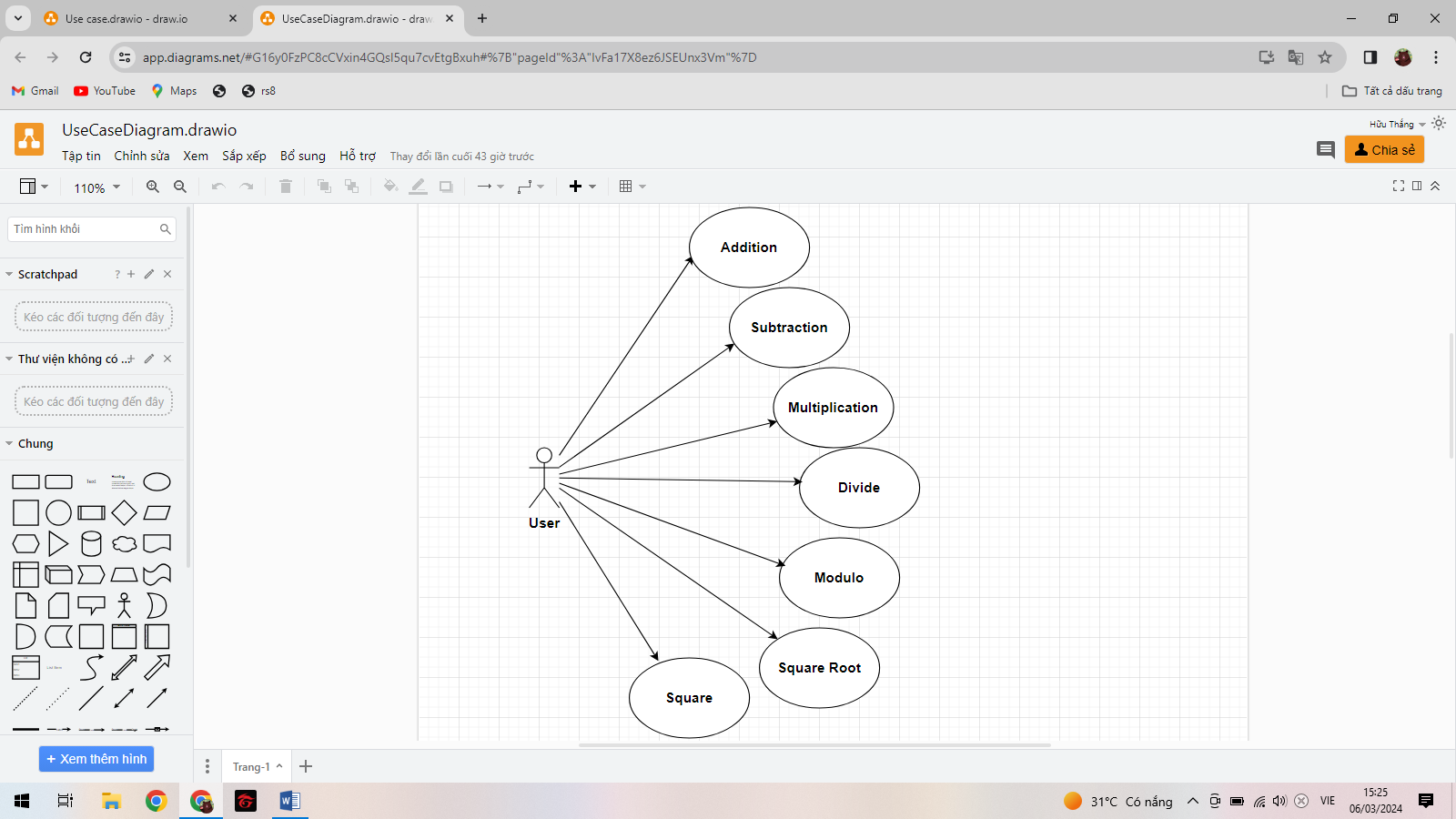


### 2.4.4. List Of Use Case

|  |  |  |
| --- | --- | --- |
| **Use case ID** | **Use case name** | **Functional Req.** |
| UC.01 | Addition | FR.1 |
| UC.02 | Subtraction | FR.2 |
| UC.03 | Multiplication | FR.3 |
| UC.04 | Divide | FR.4 |
| UC.05 | Modulo | FR.5 |
| UC.06 | Square Root | FR.6 |
| UC.07 | Square | FR.7 |
| UC.08 | Backspace | FR.8 |
| UC.09 | Delete | FR.9 |
| UC.10 | Reset | FR.10 |
| UC.11 | Exit | FR.11 |
| UC.12 | AC | FR.12 |

### 2.4.5. Use Case Specification

##### UC.01: Calculate

1. Use Case Diagram   
   
2. Use Case Specification

b.1) Addition, Subtraction, Multiplication, Divide , Modulo.

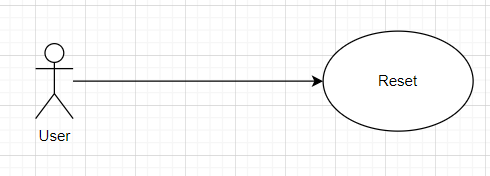
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Use case ID** | **UC.02** | | | | |
| **Use case name** | **Addition, Subtraction, Multiplication, Divide , Modulo** | | | | |
| **Create by** | Huu Thang | | **Last updated by** | | Huu Thang |
| **Date created** | Jan 23,2024 | | **Date last updated** | | Jan 27,2024 |
| **Actor** | User | |  | | |
| **Description** | When the user has entered the correct number, you can choose a calculation to calculate the result. | | | | |
| **Trigger** | The required number has been entered correctly. | | | | |
| **Pre-condition** | Before calculating, users need to enter the correct number required by the system. | | | | |
| **Post-condition** | Users will receive results if they enter the numbers according to the system's requirements (not word). | | | | |
| **Main Success Scenario:** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Enter information in the "A" box and "B" box. | |  | |
| 2 | The user must click on one of the five calculation“**Addition, Subtraction, Multiplication, Divide , Modulo**”buttons. | | The system will display the results if the correct number is entered. | |
|
|
| **Alternative Scenario** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Enter information in the "A" box and "B" box. | |  | |
| 2 | The user must click on one of the five calculation“**Addition, Subtraction, Multiplication, Divide , Modulo**”buttons. | | If First Number or Second number is not a number, Display the error message. | |
|
|
| **Exceptions** | **Step** | **Actor Action** | | **System Response** | |
| 1 | The information entered is not a number | | Display the error message. | |
| 2 | Divide by 0 | | Display the error message. | |
|
|
|
| **Priority** | High | | | | |
| **Business rule** | N/A | | | | |
| **Description:** | After entering numbers into the "A" and "B" boxes, the user will select the function to calculate, the system will display the results if the correct information (Number) is entered. If you enter incorrect information (word), an error will be reported. | | | | |

##### 

b.2)Square Root, Square.

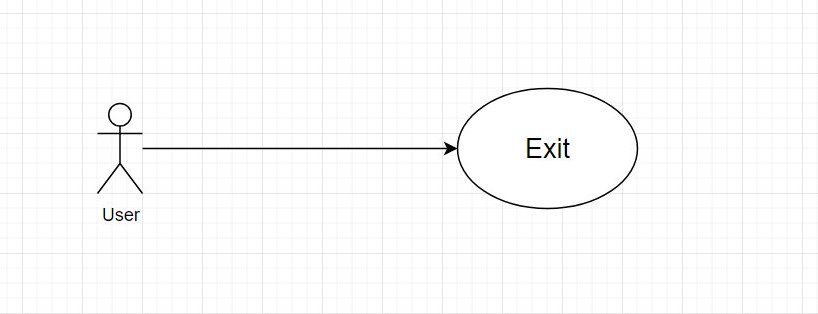
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Use case ID** | **UC.02** | | | | |
| **Use case name** | **Square Root, Square** | | | | |
| **Create by** | Huu Thang | | **Last updated by** | | Huu Thang |
| **Date created** | Jan 23,2024 | | **Date last updated** | | Jan 27,2024 |
| **Actor** | User | |  | | |
| **Description** | When the user has entered the correct number, you can choose a calculation to calculate the result. | | | | |
| **Trigger** | The required number has been entered correctly. | | | | |
| **Pre-condition** | Before calculating, users need to enter the correct number required by the system. | | | | |
| **Post-condition** | Users will receive results if they enter the numbers according to the system's requirements (not word). | | | | |
| **Main Success Scenario:** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Enter information in the "A". | |  | |
| 2 | The user must click on one of the five calculation“**Square Root, Square** ”buttons. | | The system will display the results if the correct number is entered. | |
|
|
| **Alternative Scenario** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Enter information in the "A". | |  | |
| 2 | The user must click on one of the five calculation“**Square Root, Square** ”buttons. | | If First Number or Second number is not a number, Display the error message. | |
|
|
| **Exceptions** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Square root entered in B and Entered in both A and B. | | Display the error message”Do not enter in text filed B”. | |
|
|
|
|
| **Priority** | High | | | | |
| **Business rule** | N/A | | | | |
| **Description:** | After entering numbers into the "A", the user will select the function to calculate, the system will display the results if the correct information (Number) is entered. If you enter incorrect information (word), an error will be reported. | | | | |

##### UC.02: Reset

1. Use Case Diagram   
   
2. Use Case Specification

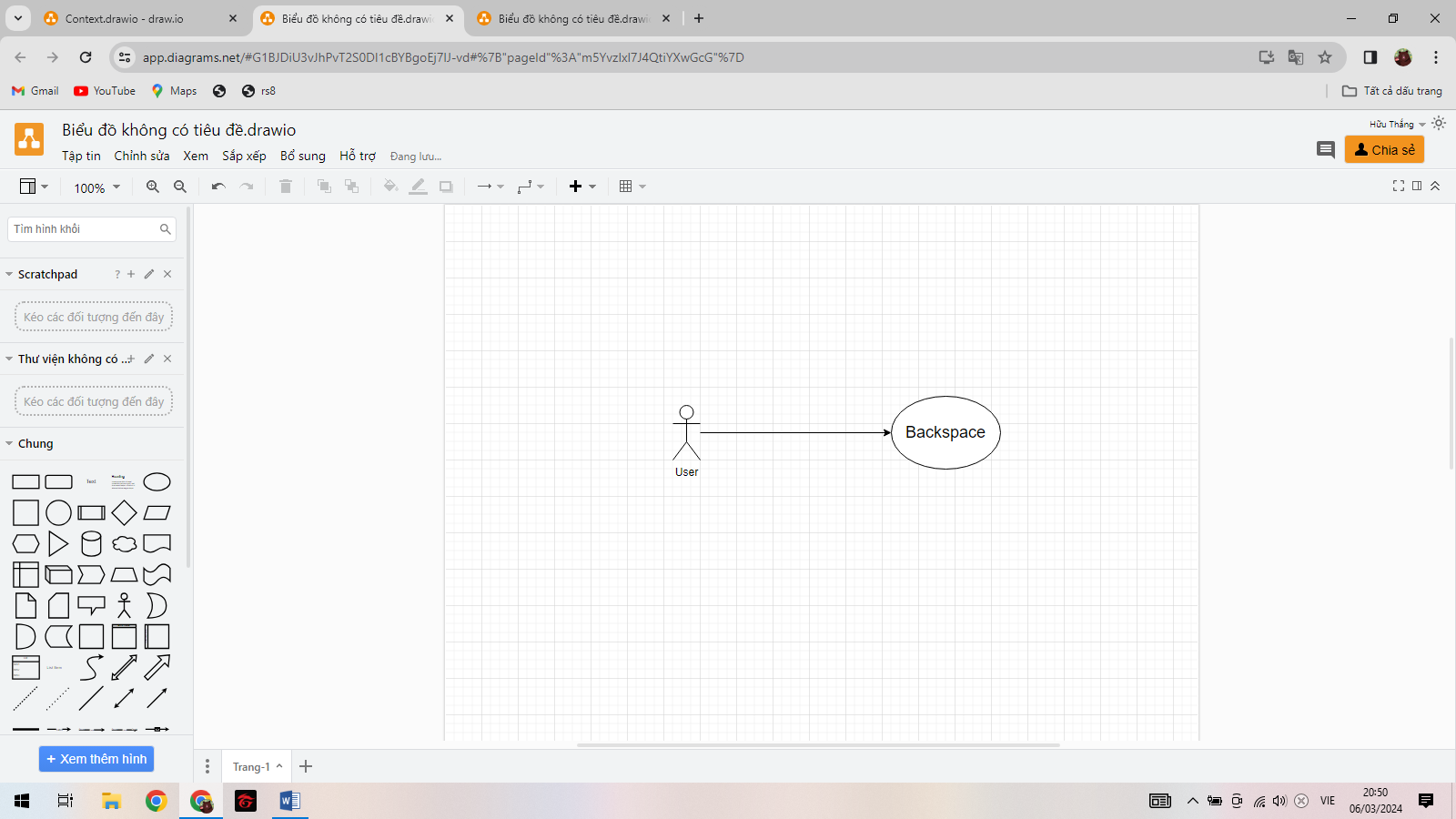
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Use case ID** | **UC.03** | | | | |
| **Use case name** | **Reset** | | | | |
| **Create by** | Huu Thang | | **Last updated by** | | Huu Thang |
| **Date created** | Jan 23,2024 | | **Date last updated** | | Jan 27,2024 |
| **Actor** | User | |  | | |
| **Description** | Users can press the reset button if they want to re-enter two numbers A and B. | | | | |
| **Trigger** | The required number has been entered correctly. | | | | |
| **Pre-condition** | None | | | | |
| **Post-condition** | None | | | | |
| **Main Success Scenario:** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**Reset**” button. | | The system will delete 2 numbers A and B for the user to re-enter. | |
|
|
| **Alternative Scenario** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**Reset**” button. | | The system will delete 2 numbers A and B for the user to re-enter. | |
|
|
| **Exceptions** | **Step** | **Actor Action** | | **System Response** | |
| 1 | None | | None | |
|
|
| **Priority** | High | | | | |
| **Business rule** | N/A | | | | |
| **Description:** | Users can press the reset button if they want to re-enter two numbers A and B. | | | | |

##### UC.03: Exit

1. Use Case Diagram   
   
2. Use Case Specification

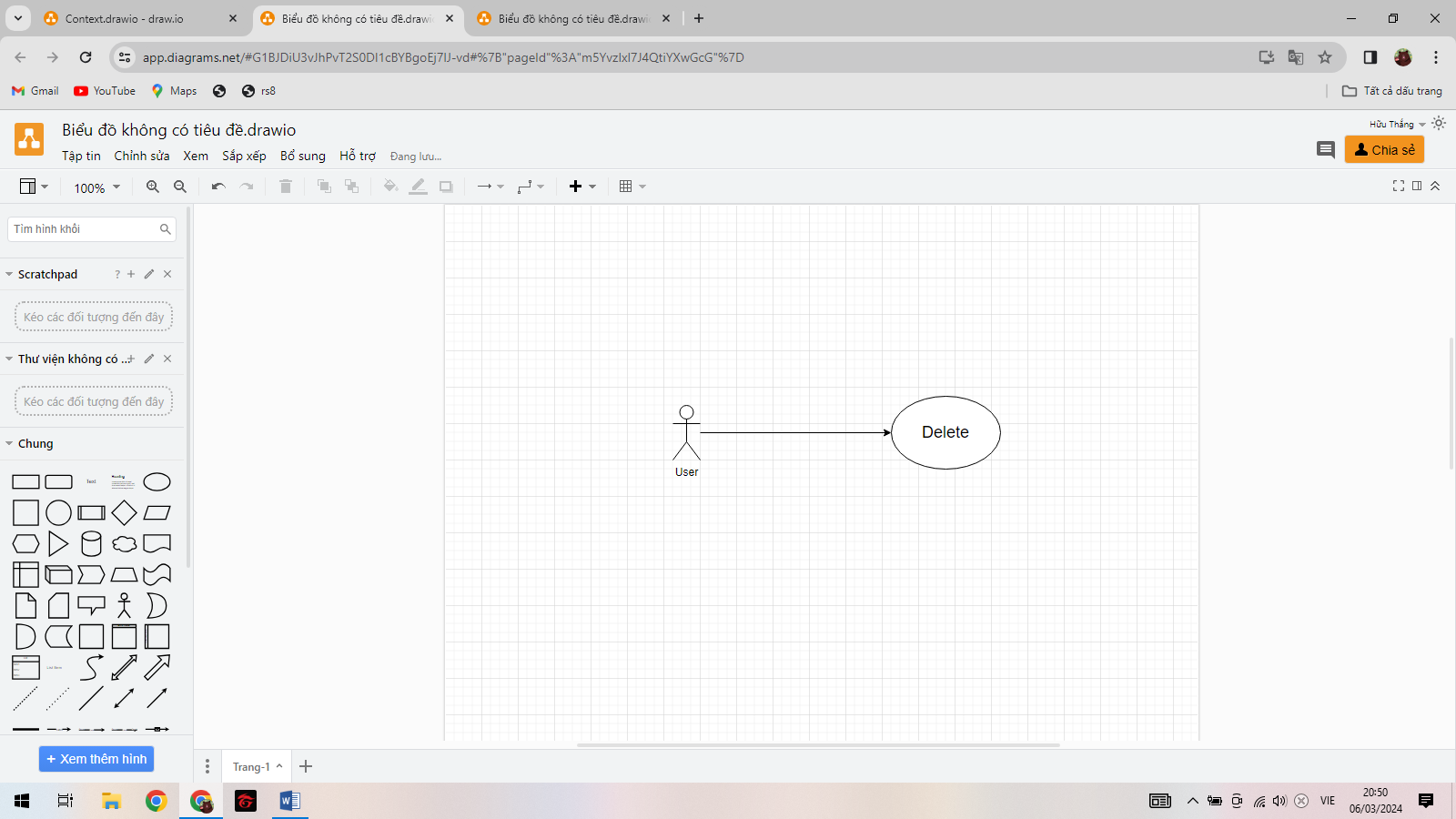
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Use case ID** | **UC.03** | | | | |
| **Use case name** | **Exit** | | | | |
| **Create by** | Huu Thang | | **Last updated by** | | Huu Thang |
| **Date created** | Jan 23,2024 | | **Date last updated** | | Jan 27,2024 |
| **Actor** | User | |  | | |
| **Description** | When user have finished calculating or do not want to use it anymore, user can exit with "Exit". | | | | |
| **Trigger** | User can exit anytime user want. | | | | |
| **Pre-condition** | None | | | | |
| **Post-condition** | None | | | | |
| **Main Success Scenario:** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**Exit**” button. | | The system will exit the calculation page. | |
|
|
| **Alternative Scenario** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**Exit**” button. | | The system will exit the calculation page. | |
|
|
| **Exceptions** | **Step** | **Actor Action** | | **System Response** | |
| 1 | None | | None | |
|
|
| **Priority** | High | | | | |
| **Business rule** | N/A | | | | |
| **Description:** | When user have finished calculating or do not want to use it anymore, user can exit with "Exit". | | | | |

##### UC.04: Backspace

1. Use Case Diagram   
   
2. Use Case Specification

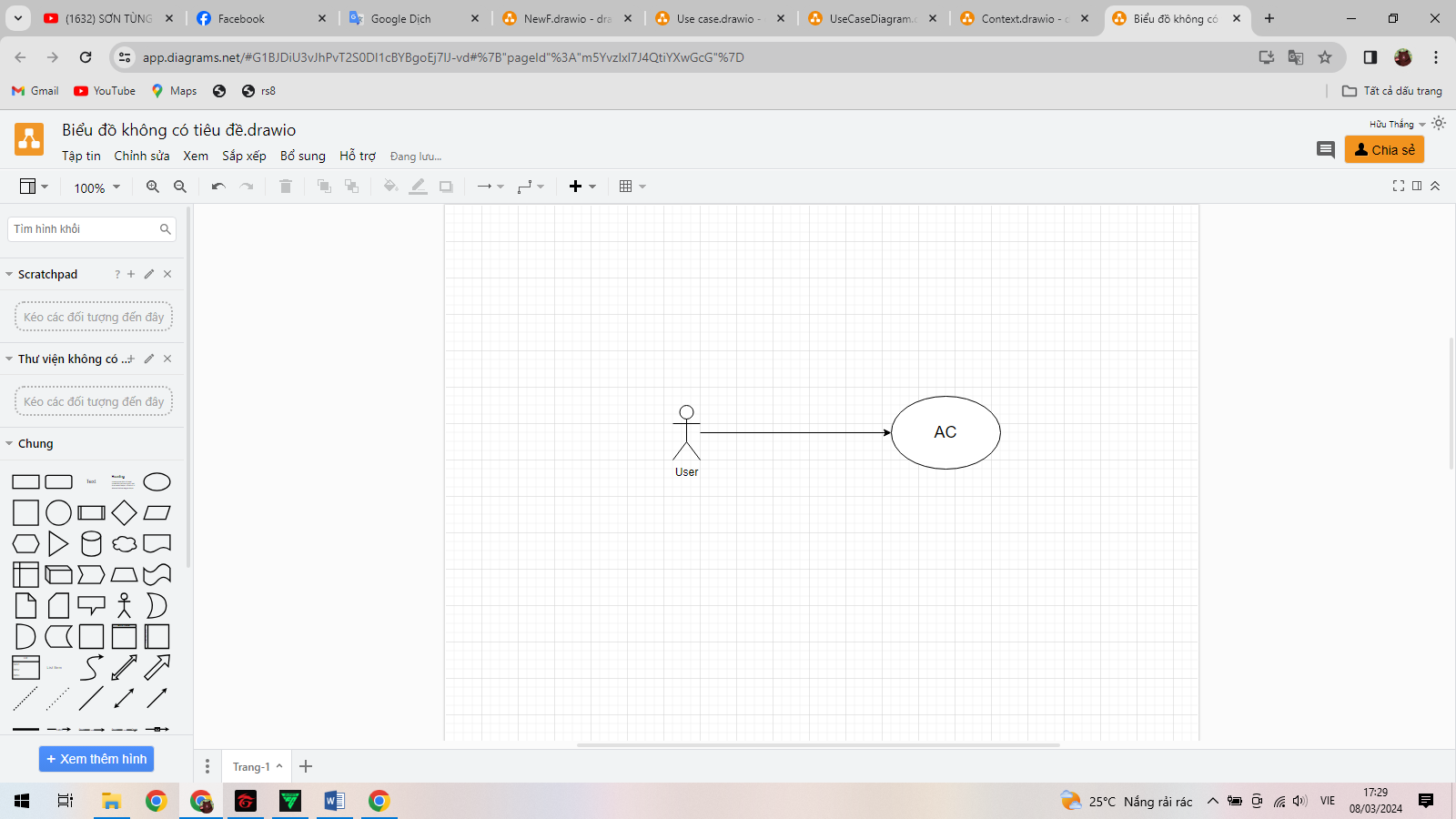
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Use case ID** | **UC.03** | | | | |
| **Use case name** | **Backspace** | | | | |
| **Create by** | Huu Thang | | **Last updated by** | | Huu Thang |
| **Date created** | March 6,2024 | | **Date last updated** | | March 6,2024 |
| **Actor** | User | |  | | |
| **Description** | When you want to delete the character on the left, just click the "**Backspace**" button without moving the cursor to the left. | | | | |
| **Trigger** | Users can use it when they want to delete the character on the left. | | | | |
| **Pre-condition** | None | | | | |
| **Post-condition** | None | | | | |
| **Main Success Scenario:** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**Backspace** button. | | The system will delete the character on the left. | |
|
|
| **Alternative Scenario** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**Backspace”** button. | | If there are no characters in the cell but still click the "**Backspace**" button, the system will report the error "**Text filed is empty**". | |
|
|
| **Exceptions** | **Step** | **Actor Action** | | **System Response** | |
| 1 | None | | None | |
|
|
| **Priority** | High | | | | |
| **Business rule** | N/A | | | | |
| **Description:** | When you want to delete the character on the left, just click the "**Backspace**" button without moving the cursor to the left. | | | | |

##### UC.05: Delete Right

1. Use Case Diagram   
   
2. Use Case Specification

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Use case ID** | **UC.03** | | | | |
| **Use case name** | **Delete** | | | | |
| **Create by** | Huu Thang | | **Last updated by** | | Huu Thang |
| **Date created** | March 6,2024 | | **Date last updated** | | March 6,2024 |
| **Actor** | User | |  | | |
| **Description** | When you want to delete the character on the right, just click the "**Delete**" button without moving the cursor to the right. | | | | |
| **Trigger** | Users can use it when they want to delete the character on the right. | | | | |
| **Pre-condition** | None | | | | |
| **Post-condition** | None | | | | |
| **Main Success Scenario:** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**Delete”** button. | | The system will delete the character on the right. | |
|
|
| **Alternative Scenario** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**Delete”** button. | | If there are no characters in the cell but still click the "**Delete**" button, the system will report the error "**Text filed is empty**". | |
|
|
| **Exceptions** | **Step** | **Actor Action** | | **System Response** | |
| 1 | None | | None | |
|
|
| **Priority** | High | | | | |
| **Business rule** | N/A | | | | |
| **Description:** | When you want to delete the character on the right, just click the "**Delete**" button without moving the cursor to the left. | | | | |

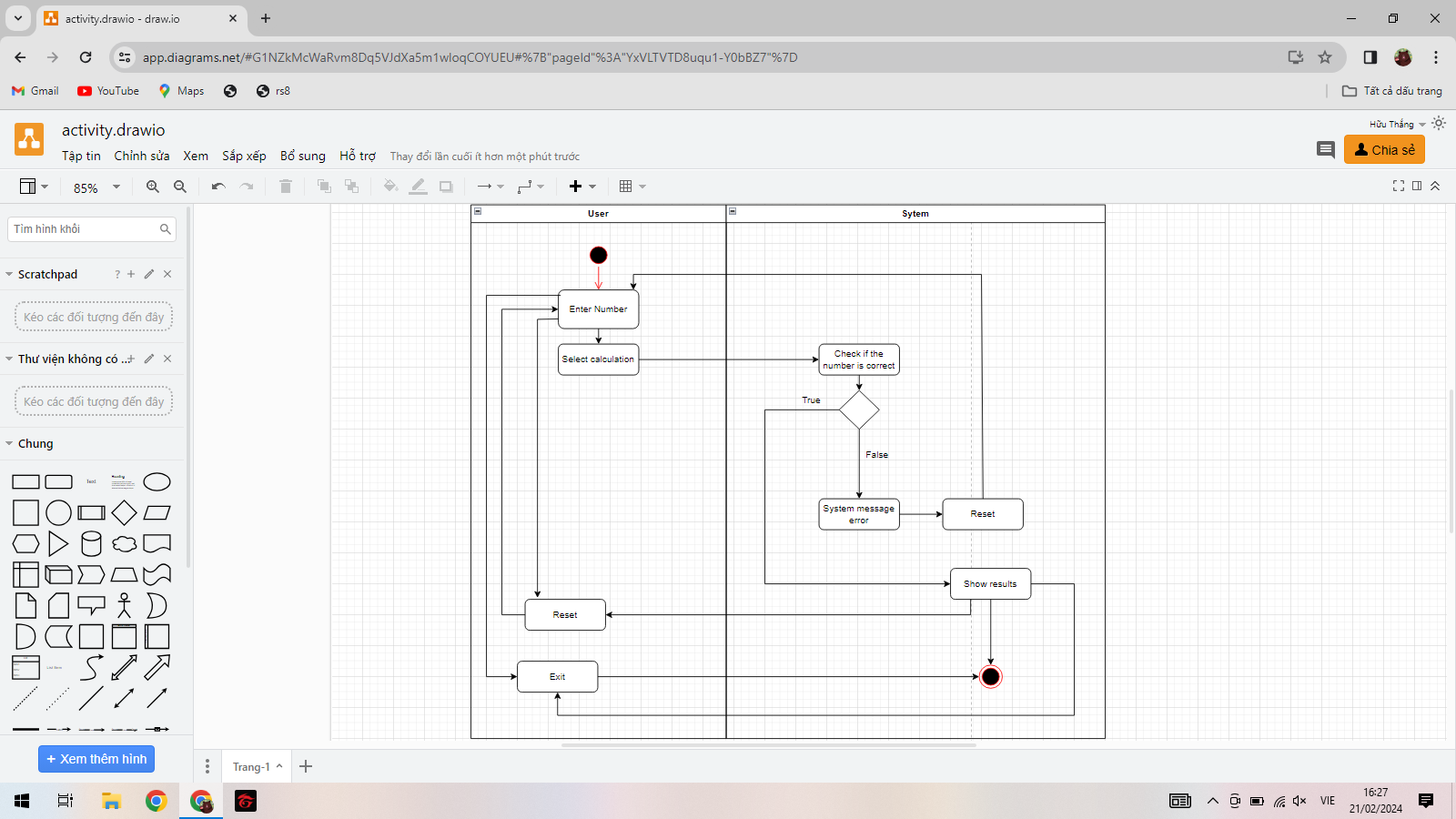
##### UC.05: AC

1. Use Case Diagram   
   
2. Use Case Specification

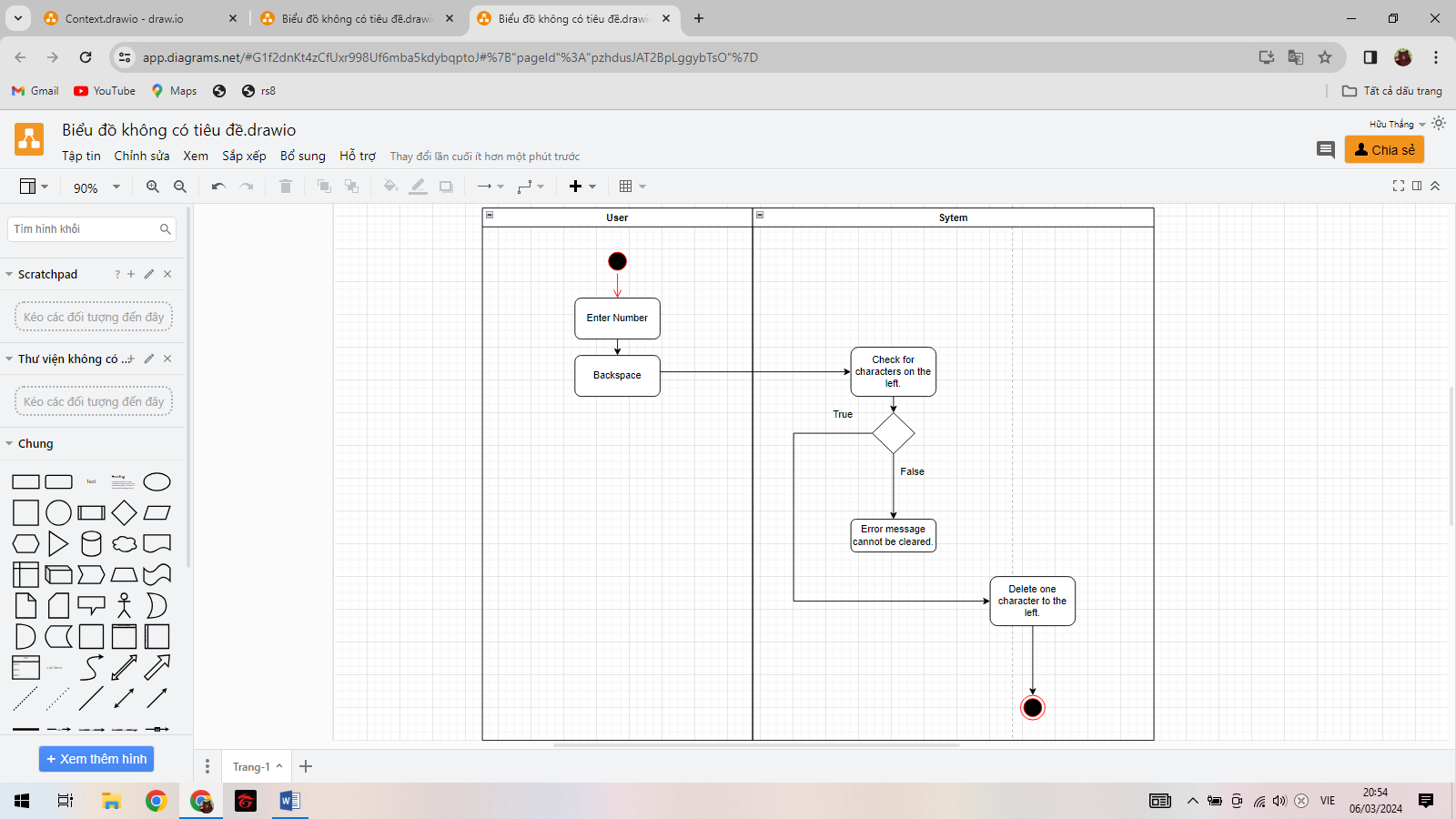
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Use case ID** | **UC.03** | | | | |
| **Use case name** | **AC** | | | | |
| **Create by** | Huu Thang | | **Last updated by** | | Huu Thang |
| **Date created** | Jan 23,2024 | | **Date last updated** | | Jan 27,2024 |
| **Actor** | User | |  | | |
| **Description** | Users can press the reset button if they want to re-enter two numbers A and B. | | | | |
| **Trigger** | The required number has been entered correctly. | | | | |
| **Pre-condition** | None | | | | |
| **Post-condition** | None | | | | |
| **Main Success Scenario:** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**AC**” button. | | The system will delete 2 numbers A and B for the user to re-enter. | |
|
|
| **Alternative Scenario** | **Step** | **Actor Action** | | **System Response** | |
| 1 | Click “**AC**” button. | | The system will delete 2 numbers A and B for the user to re-enter. | |
|
|
| **Exceptions** | **Step** | **Actor Action** | | **System Response** | |
| 1 | None | | None | |
|
|
| **Priority** | High | | | | |
| **Business rule** | N/A | | | | |
| **Description:** | Users can press the reset button if they want to re-enter two numbers A and B. | | | | |

## 2.4.6. Activity Diagrams

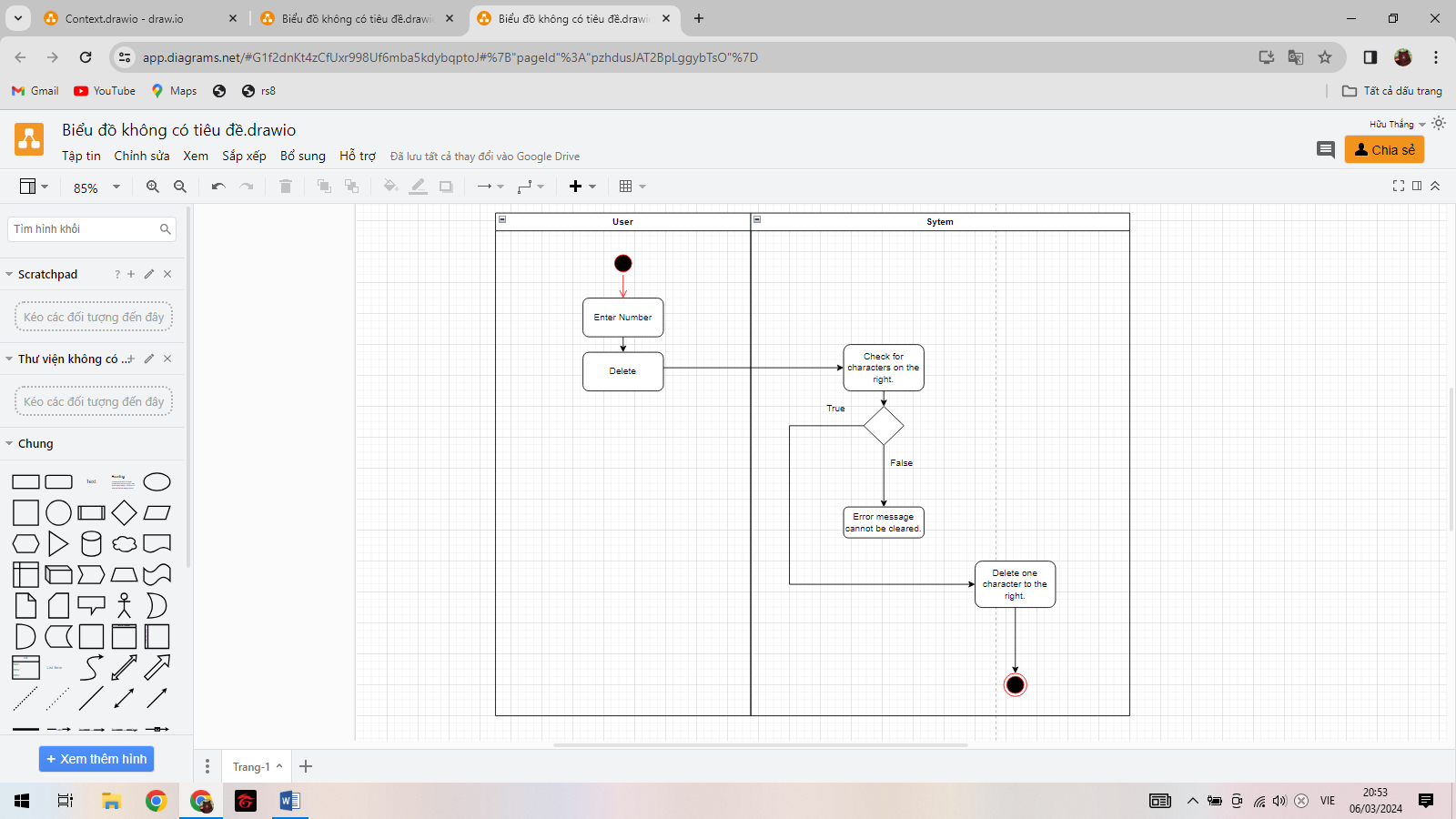
##### AD.01:



##### AD.02:



##### AD.03:



##### AD.04:

