

Final Project
DrawingKit Software System
Mohammad Rashid 3927-FBAS/BSSE/F18-C

Final Project OOAD
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Submitted to: Sir Mohammad Imran Said

DrawingKit Software System Documentations

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Project Vision

This software is from the family of digital drawing technologies that will enable user draw using a drawing tablet device in computer.

Stakeholders for the project are:

1. Developer
2. End User

The business need for developing this is that I'm required to prepare a small project for Object Oriented Analysis Course.

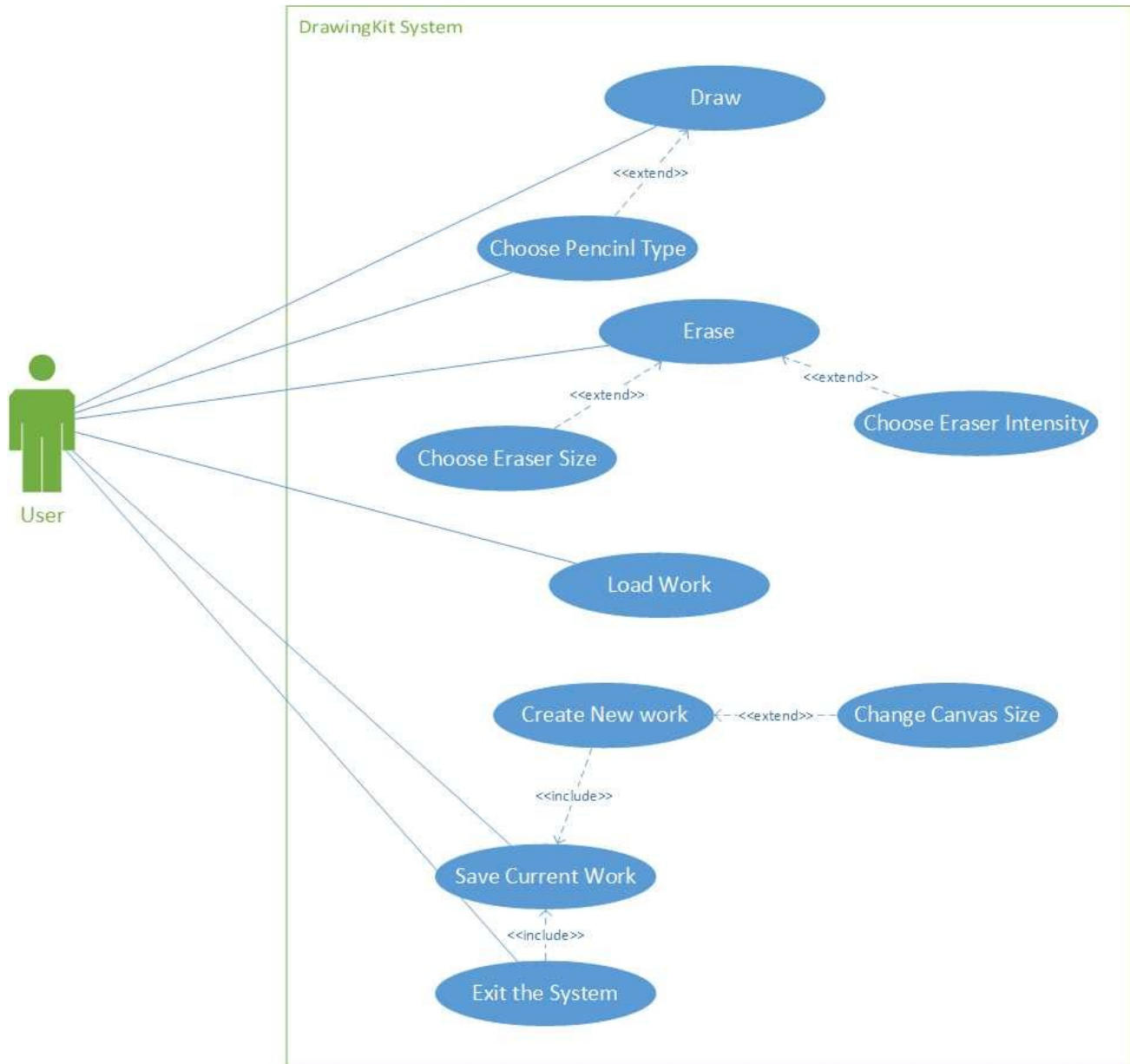
Scope of the Project

This software will provide following functionalities:

1. User can draw into a canvas using digital drawing tablet device.
2. User can erase from the canvas using the digital drawing tablet device.
3. User can choose pencil type.
4. User can choose eraser intensity.
5. Choose eraser size.
6. User can create new work.
7. User can change current canvas size.
8. User can load already existed work.
9. User can exit the system.

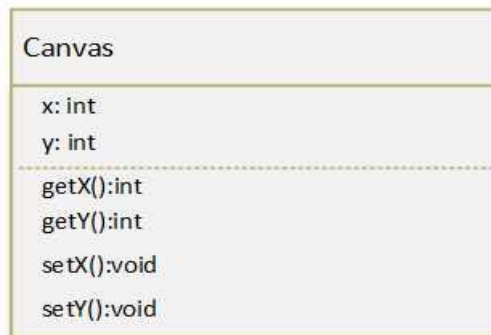
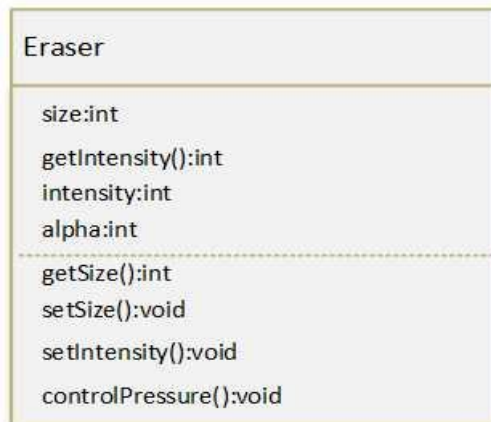
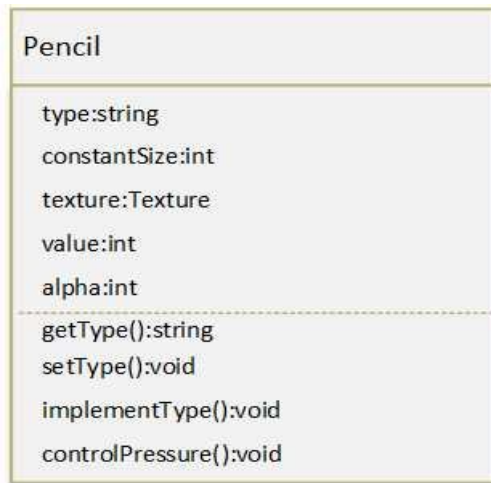
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Final Use Case Diagram:



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Conceptual Mode:



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Use Cases:

Name:	Draw
Short Description:	User draw on the desired area of canvas.
Precondition:	<ul style="list-style-type: none">- System is started successfully.- Canvas is created.- Drawing pen device work properly.
Post-condition:	<ul style="list-style-type: none">- User has drawn his artwork.
Error Situation:	<ul style="list-style-type: none">- Drawing pen device does not work properly
System state in the event of an error:	<ul style="list-style-type: none">- System display error dialog saying the device is not working properly.
Actors:	<ul style="list-style-type: none">- User
Trigger:	<ul style="list-style-type: none">- Pen device is moving by user.
Standard Process:	<ul style="list-style-type: none">1- User move pen on the tablet face.2- Pen send data coordinate to the system.3- System detect the strokes.4- System draw the strokes as pen is moved.5- User stop moving the pen on the tablet face.
Alternative Processes:	-None
Exceptional Processes:	<ul style="list-style-type: none">2E1- Pen device does not send data to the System.2E2- System show error dialog.

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DrawingKit Software System
Mohammad Rashid 3927-FBAS/BSSE/F18-C

Name:	Choose Pencil Type
Short Description:	User choose different pencil type for his drawing.
Precondition:	- System has been started. - Canvas has been created.
Post-condition:	- Pencil type has been changed.
Error Situation:	- None
System state in the event of an error:	- None
Actors:	- User
Trigger:	- User select different type from the pencil type list.
Standard Process:	1- User select pencil type menu on the system. 2- System display pencil types list. 3- User select desired pencil type from the list. 4- System change pencil type.
Alternative Processes:	3A1- User cancel choosing different type. 3A2- System close list.
Exceptional Processes:	- None

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Name:	Erase
Short Description:	User erase desired area on the canvas.
Precondition:	<ul style="list-style-type: none">- System has been started.- Canvas has been created.- Drawing pen device work properly.
Post-condition:	<ul style="list-style-type: none">- User has erased the desired area.
Error Situation:	<ul style="list-style-type: none">- Drawing pen device does not work properly
System state in the event of an error:	<ul style="list-style-type: none">- System display error dialog saying the device is not working properly.- Pen device cannot draw on canvas.
Actors:	-User
Trigger:	<ul style="list-style-type: none">- Pen device is moving by user.
Standard Process:	<ol style="list-style-type: none">1- User move pen on the tablet face.2- Pen send data coordinate to the system.3- System detect the strokes.4- System erase the area belong to strokes as pen is moved.5- User stop moving the pen on the tablet face.
Alternative Processes:	<ul style="list-style-type: none">- None
Exceptional Processes:	<ol style="list-style-type: none">2E1- Pen device does not send data to the System.2E2- System show error dialog.

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DrawingKit Software System
Mohammad Rashid 3927-FBAS/BSSE/F18-C

Name:	Choose Eraser Size
Short Description:	User choose different eraser size.
Precondition:	<ul style="list-style-type: none">- System has been started.- Canvas has been created.
Post-condition:	<ul style="list-style-type: none">- Eraser size has been changed.
Error Situation:	<ul style="list-style-type: none">- None
System state in the event of an error:	<ul style="list-style-type: none">- None
Actors:	<ul style="list-style-type: none">- User
Trigger:	<ul style="list-style-type: none">- User select different size eraser from the standard sizes type list.
Standard Process:	<ul style="list-style-type: none">1- User select eraser size menu on the system.2- System display standard eraser sizes list.3- User select desired eraser size from the list.4- System change eraser size.
Alternative Processes:	<ul style="list-style-type: none">- User cancel choosing different standard eraser size.
Exceptional Processes:	<ul style="list-style-type: none">- None

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DrawingKit Software System
Mohammad Rashid 3927-FBAS/BSSE/F18-C

Name:	Choose Eraser Intensity
Short Description:	User choose different eraser intensity.
Precondition:	- System has been started. - Canvas has been created.
Post-condition:	- Eraser intensity has been changed.
Error Situation:	- None
System state in the event of an error:	- None
Actors:	- User
Trigger:	- User change eraser intensity value in value field.
Standard Process:	1- User move intensity slider on the system. 2- System reflect value change on the field. 3- User stop moving slider. 4- System change eraser intensity to the user generated value by slider.
Alternative Processes:	1A1- User click in the value field. 1A2- System allow user to enter value via keyboard. 1A3- User enter desired value from the keyboard.
Exceptional Processes:	- None

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Mohammad Rashid 3927-FBAS/BSSE/F18-C

Name:	Create New canvas.
Short Description:	User create new canvas.
Precondition:	- System has been started.
Post-condition:	- New canvas is created.
Error Situation:	- Illegal canvas dimension value is set.
System state in the event of an error:	- System show error dialog saying “Illegal canvas dimension”.
Actors:	- User
Trigger:	- Create New Canvas button is clicked the system.
Standard Process:	1- User click Create New Canvas button on the system. 2- System save current work. 3- System display New Canvas dialog. 4- User enter desired dimension from the keyboard into the fields. 5- User click Create button. 6- System create new canvas with dimension according to the entry fields values.
Alternative Processes:	3A1- User click on predefined dimension pattern list. 3A2- System display predefined dimension pattern list. 3A3- User choose the desired pattern from the list. 3A4- User click Create button. 3A5- System create new canvas according to the selected pattern.
Exceptional Processes:	3E1- User enter illegal dimension. 3E2- System display dimension error dialog box.

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Mohammad Rashid 3927-FBAS/BSSE/F18-C

Name:	Change Canvas Size
Short Description:	User can change current canvas size.
Precondition:	<ul style="list-style-type: none">- System has been started.- Canvas has been created.
Post-condition:	<ul style="list-style-type: none">- Current canvas size has been changed.
Error Situation:	<ul style="list-style-type: none">- Illegal canvas dimension value is set.
System state in the event of an error:	<ul style="list-style-type: none">- System show error dialog saying “Illegal canvas dimension”.
Actors:	<ul style="list-style-type: none">- User
Trigger:	<ul style="list-style-type: none">- Create New Canvas button is clicked the system.
Standard Process:	<ol style="list-style-type: none">1- User click Resize button on the system.2- System save current work.3- System display Canvas Size Change dialog.4- User enter desired dimension from the keyboard into the fields.5- User click Resize button.6- System change canvas size with dimension according to the entry fields values.
Alternative Processes:	<ol style="list-style-type: none">3A1- User click on predefined dimension pattern list.3A2- System display predefined dimension pattern list.3A3- User choose the desired pattern from the list.3A4- User click Change button.3A5- System change canvas size according to the selected pattern.
Exceptional Processes:	<ol style="list-style-type: none">3E1- User enter illegal dimension.3E2- System display dimension error dialog box.

Final Project
DrawingKit Software System
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Name:	Save Current Work
Short Description:	User can save current work.
Precondition:	<ul style="list-style-type: none">- System has been started.- Canvas has been created.
Post-condition:	<ul style="list-style-type: none">- Work has been saved to the HDD.
Error Situation:	<ul style="list-style-type: none">- None
System state in the event of an error:	<ul style="list-style-type: none">- None
Actors:	<ul style="list-style-type: none">- User
Trigger:	<ul style="list-style-type: none">- Save button is clicked.
Standard Process:	<ol style="list-style-type: none">1- User click Save button on System.2- System display Save dialog.3- User enter a name for the work in related field.4- User choose one of the standard graphical type.5- User choose a path for file to save in.5- User click on Save button.6- System save the work with given attributes.7- System close Save dialog.
Alternative Processes:	<ul style="list-style-type: none">- None
Exceptional Processes:	<ul style="list-style-type: none">- None

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Name:	Load File
Short Description:	User can load an existing file into the system.
Precondition:	- System has been started.
Post-condition:	- Work is loaded into the a new canvas from HDD.
Error Situation:	- None
System state in the event of an error:	- None
Actors:	- User
Trigger:	- Load button is clicked.
Standard Process:	1- User click Load button on System. 2- System display Load dialog. 3- User choose a file from HDD. 4- User click Load button. 5- System fetch the attributes from the file. 6- System assign related attribute to initialize new canvas accordingly. 7- System load file information into the canvas. 8- System close Load dialog. 9- System create the canvas.
Alternative Processes:	- None
Exceptional Processes:	- None

Final Project
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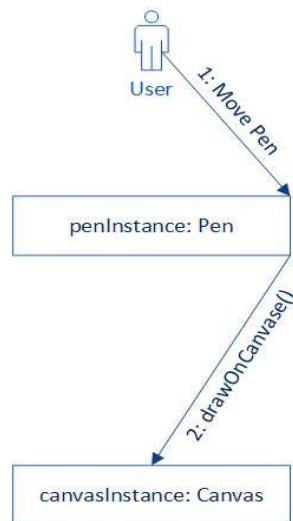
Name:	Exit System
Short Description:	User can exit the system.
Precondition:	- System has been started.
Post-condition:	- System has been exited.
Error Situation:	- None
System state in the event of an error:	- None
Actors:	- User
Trigger:	- Exit button is clicked.
Standard Process:	1- User click Exit button on System. 2- System save the work. 4- System exit.
Alternative Processes:	- None
Exceptional Processes:	- None

Final Project
DrawingKit Software System
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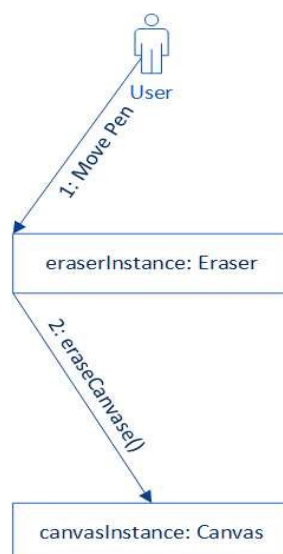
Class Diagram:



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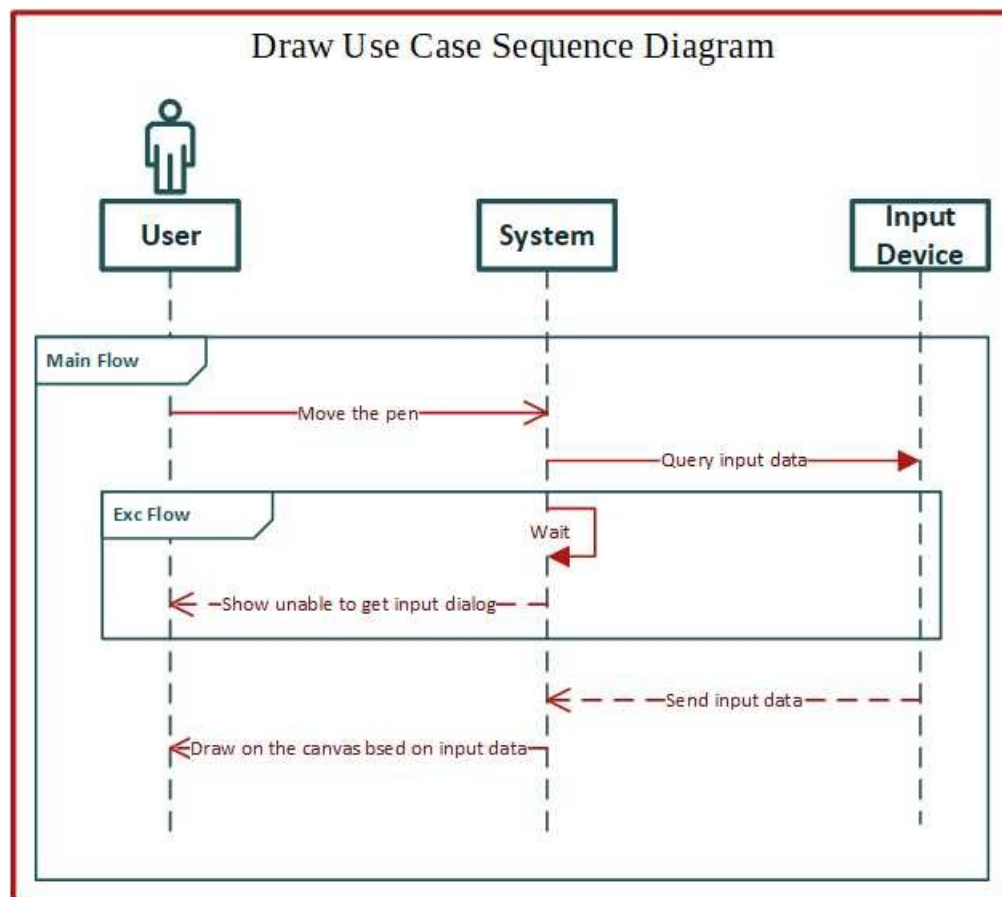


Collaboration Diagram:

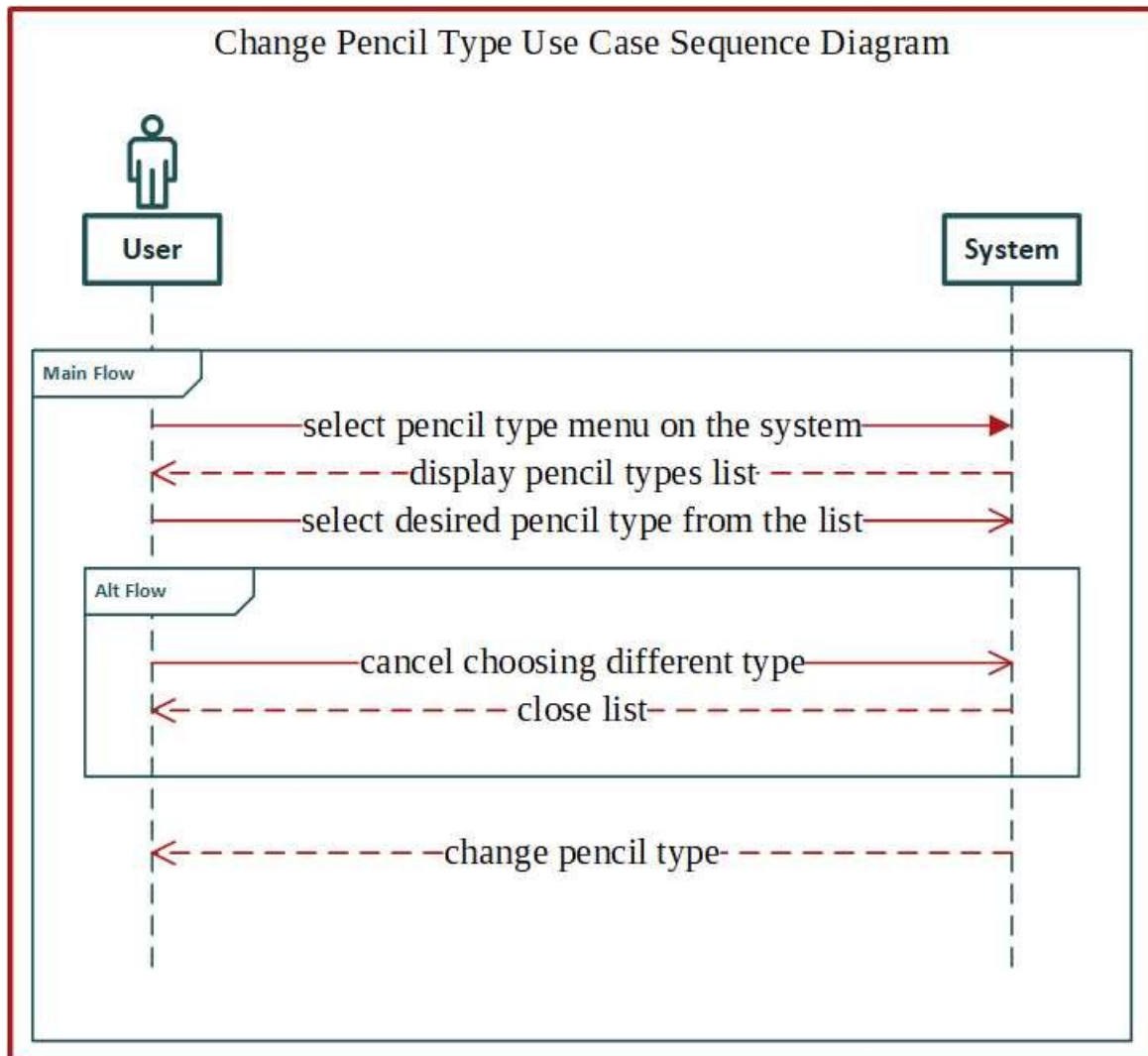


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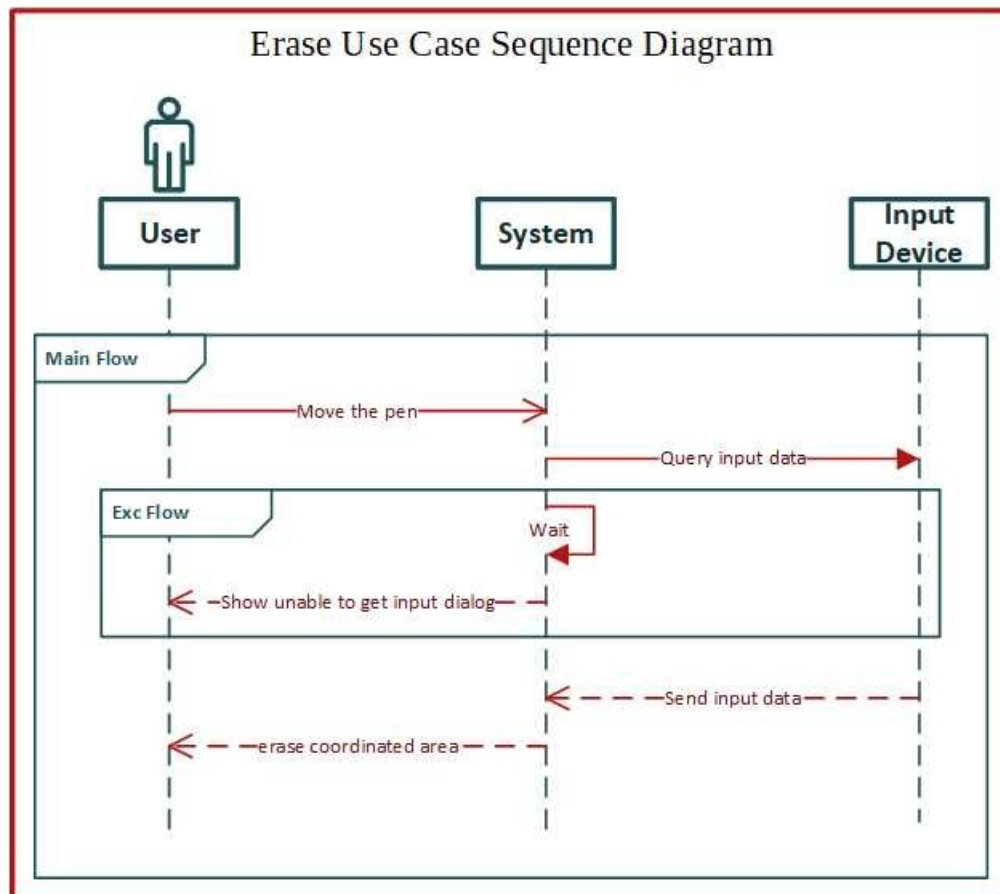
Sequence Diagrams:



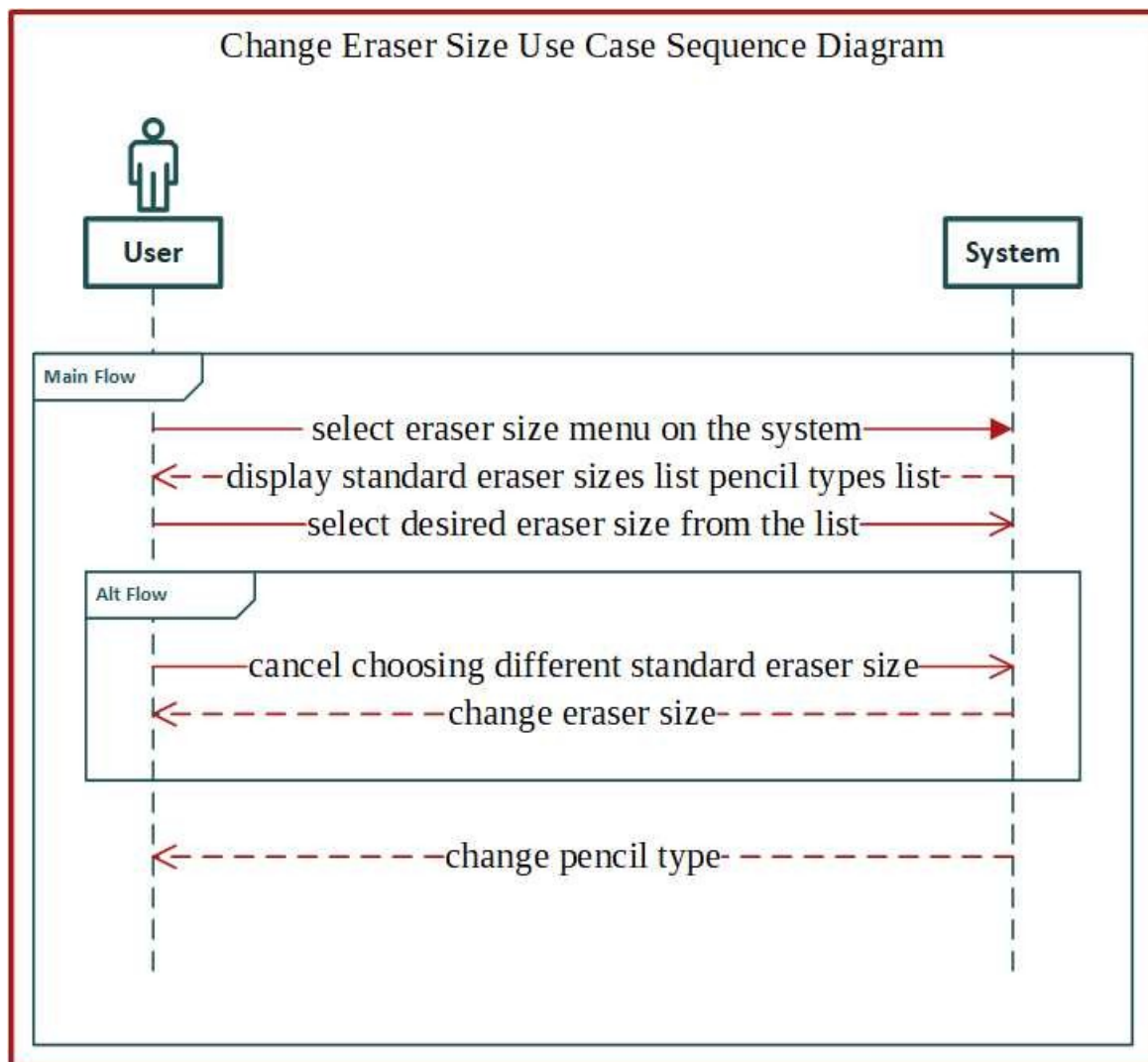
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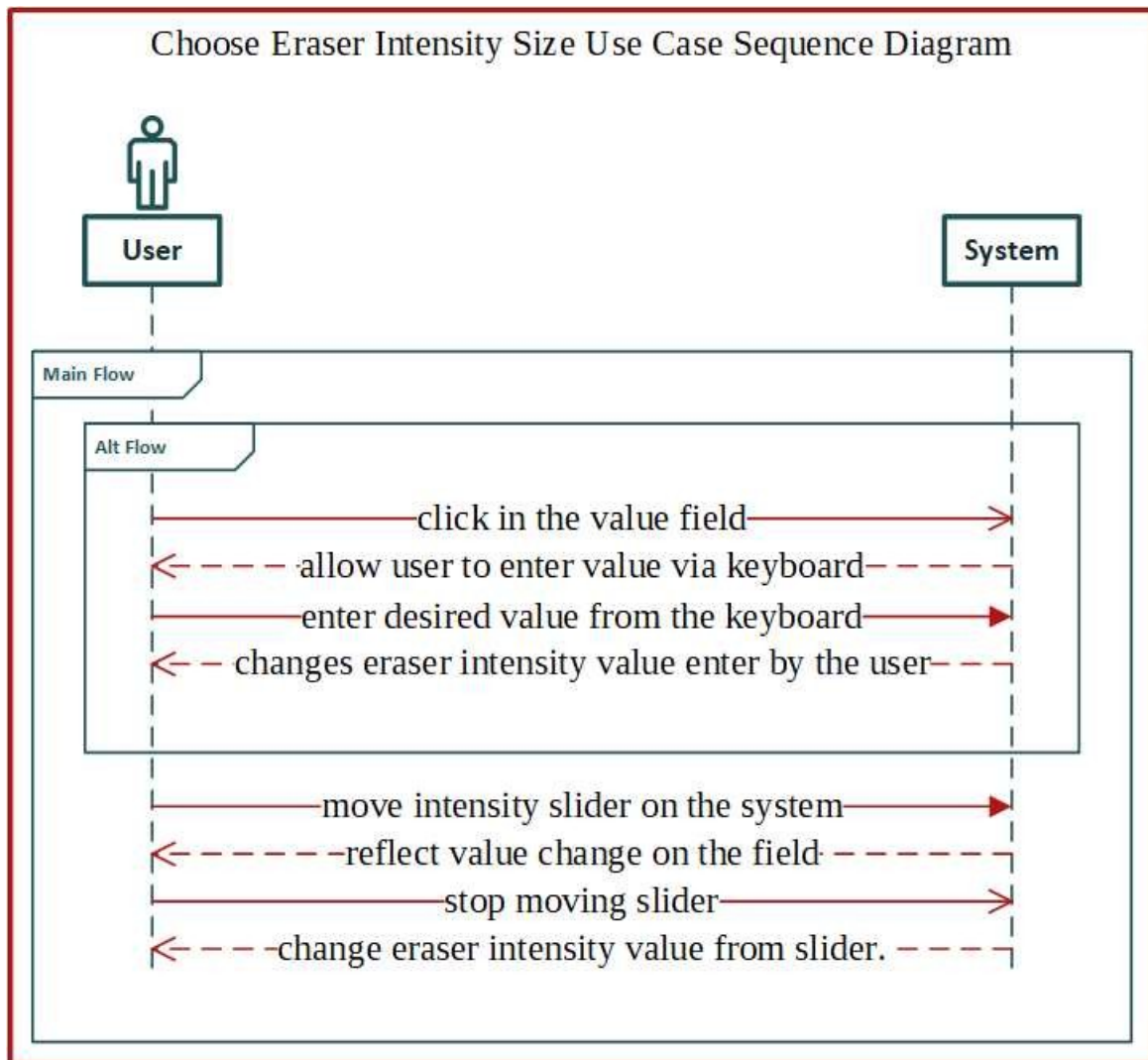
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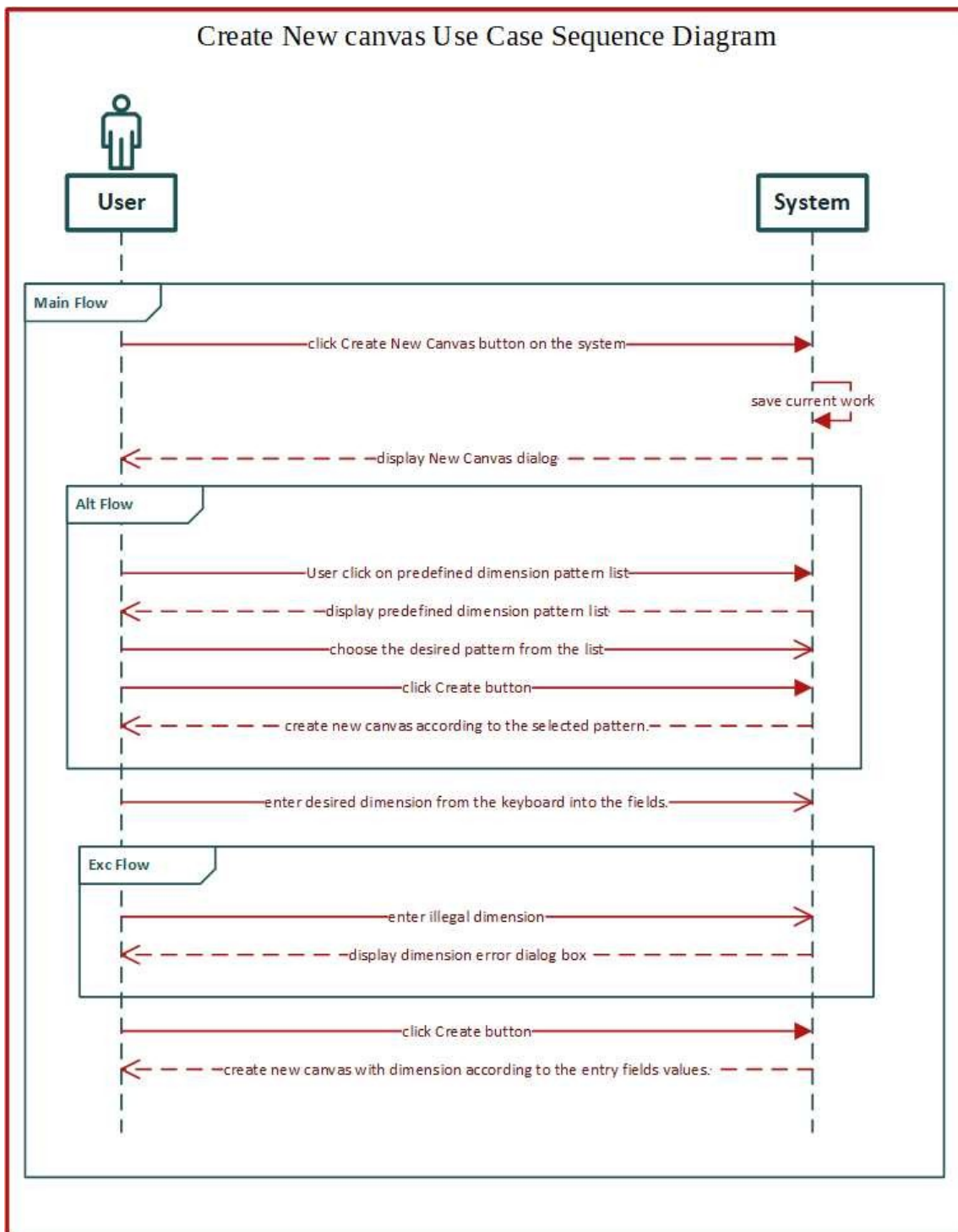
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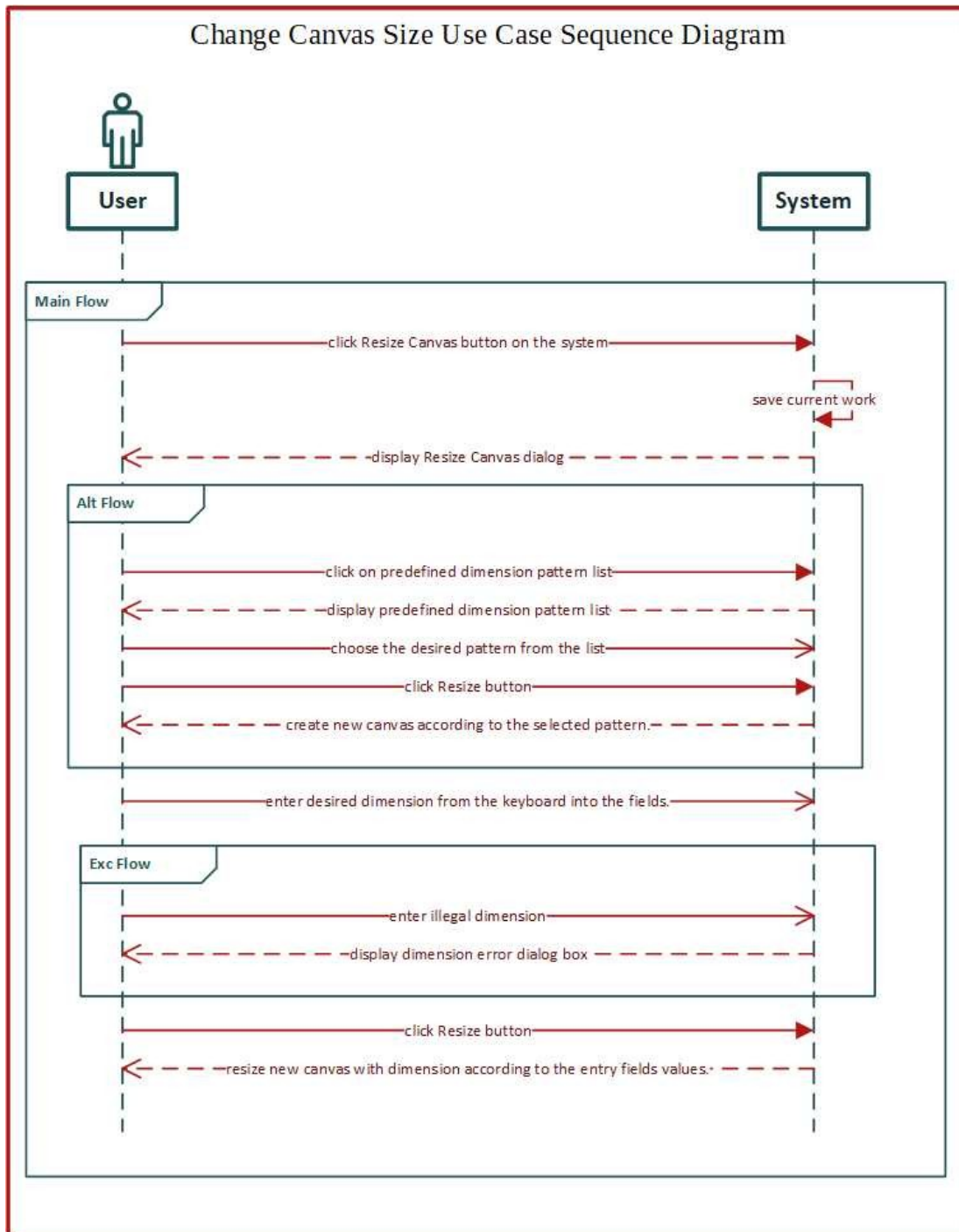
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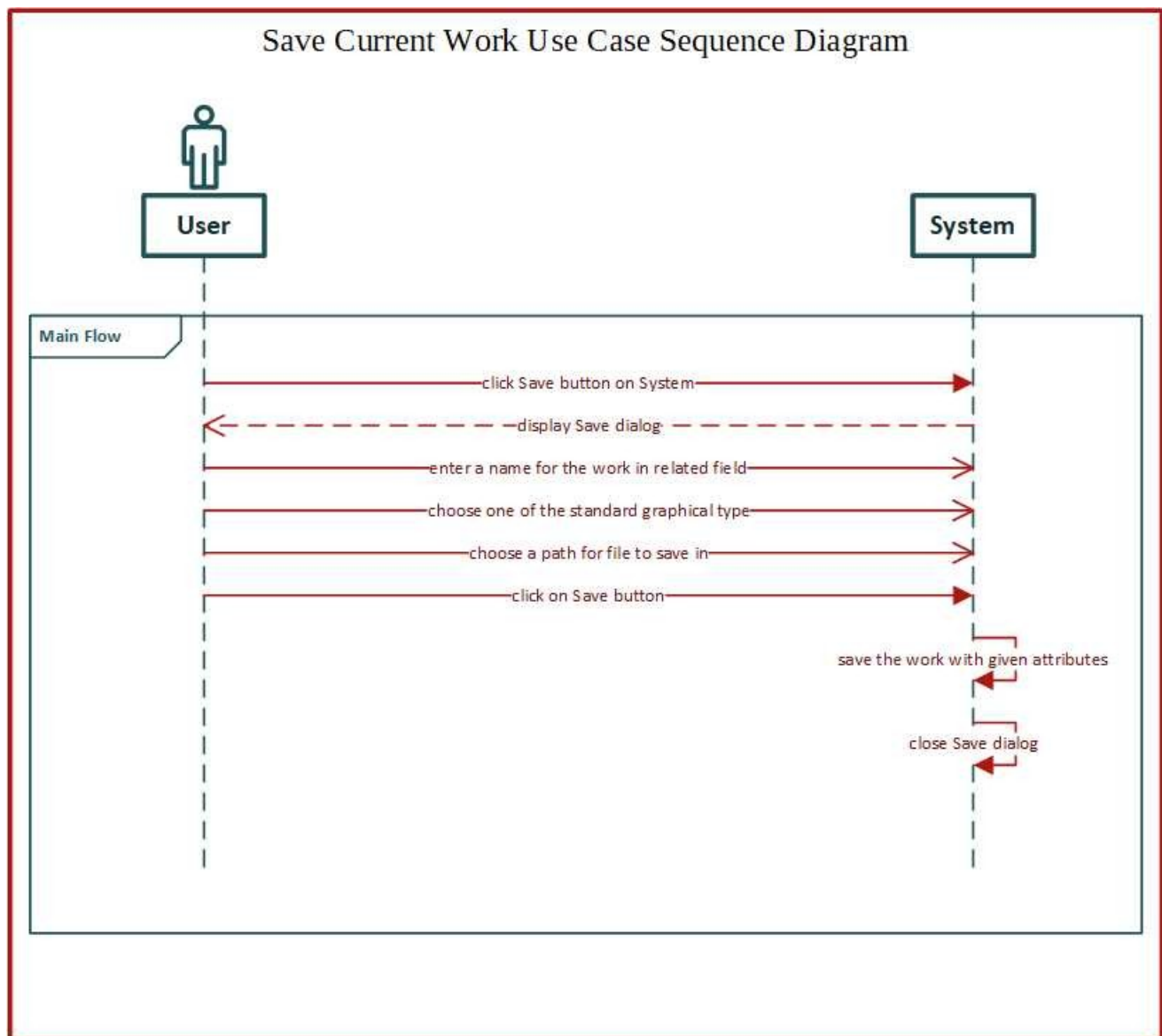
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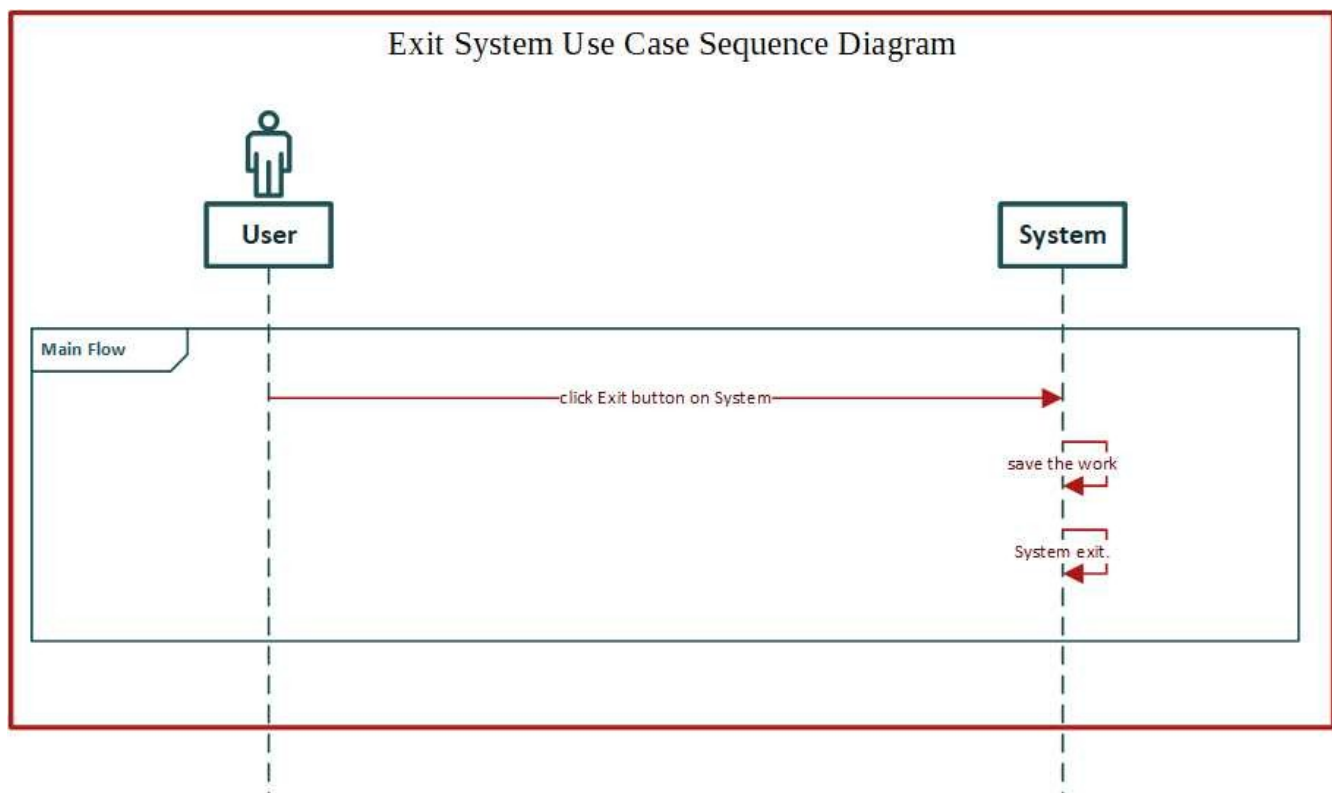
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