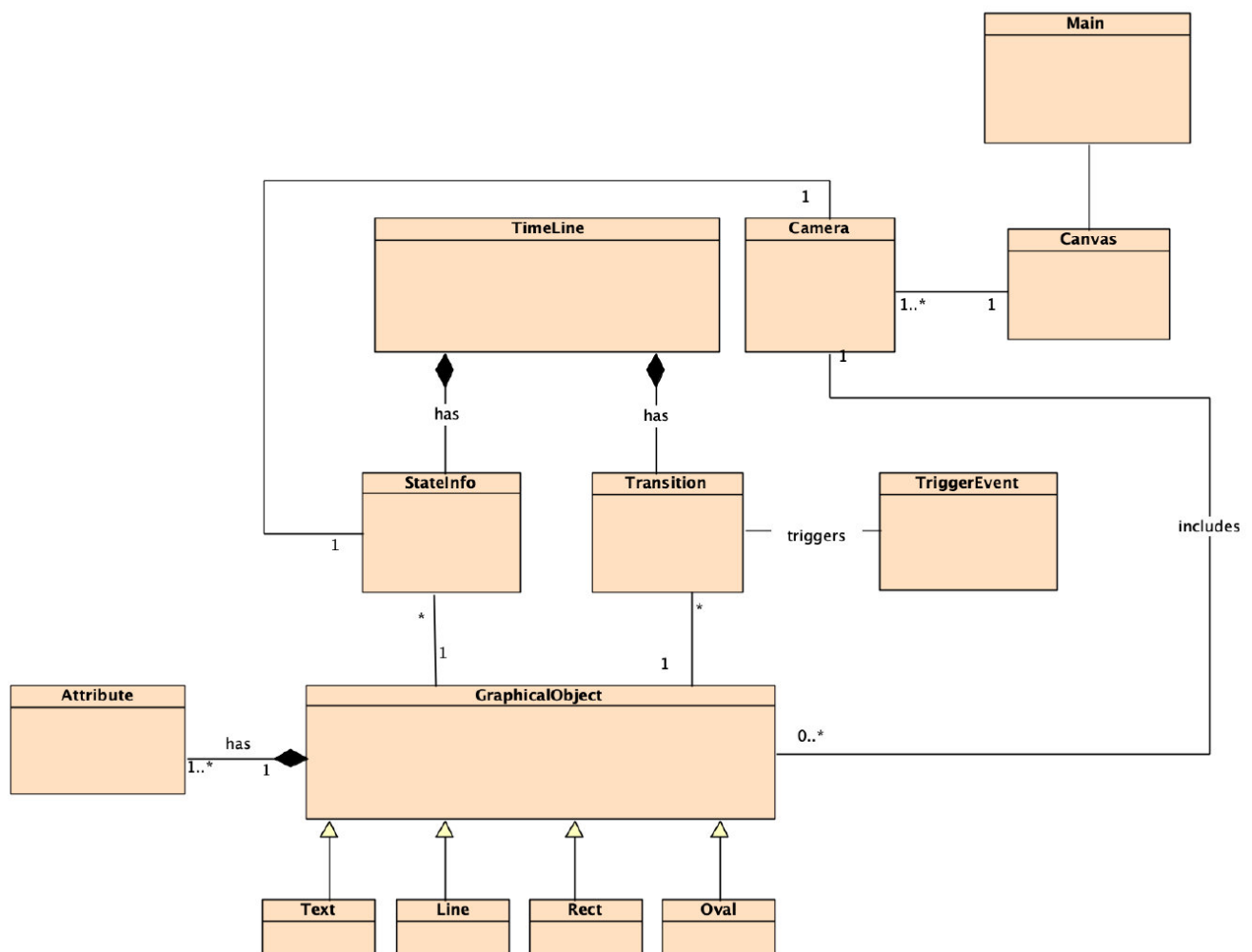# ENGI 9874 Software Design and Specification - Requirement and Specification Document

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Requirement Document

Domain Model

Lexicon

1. State: A state can hold a single or multiple GraphicalObjects, showing the text, Line, Rect or Oval etc.

2. Text: It is a Graphical Object representing texts.

3. Line: It is a Graphical Object representing lines.

4. Rect: It is a Graphical Object representing shapes of rectangle.

5. Oval: It is a Graphical Object representing shapes of oval.

6. Transition: Transition is a condition between two states.

7. TriggerEvent: TriggerEvent can trigger a state to change.

8. TimeLine: TimeLine contains State and Transition, it can move forth, move back and edit

9. Sheet: Sheet is a background for State and Transition.

10. EditingMode: It allows users can edit States and Transitions.

11. PresentationMode: It can show the presentations.

12. Camera: It can show a certain portion in PresentationMode.

13. ViewPort: It a region showing the EditingMode.

14. PreZoom: It is a system including EditingMode and PresentationMode.
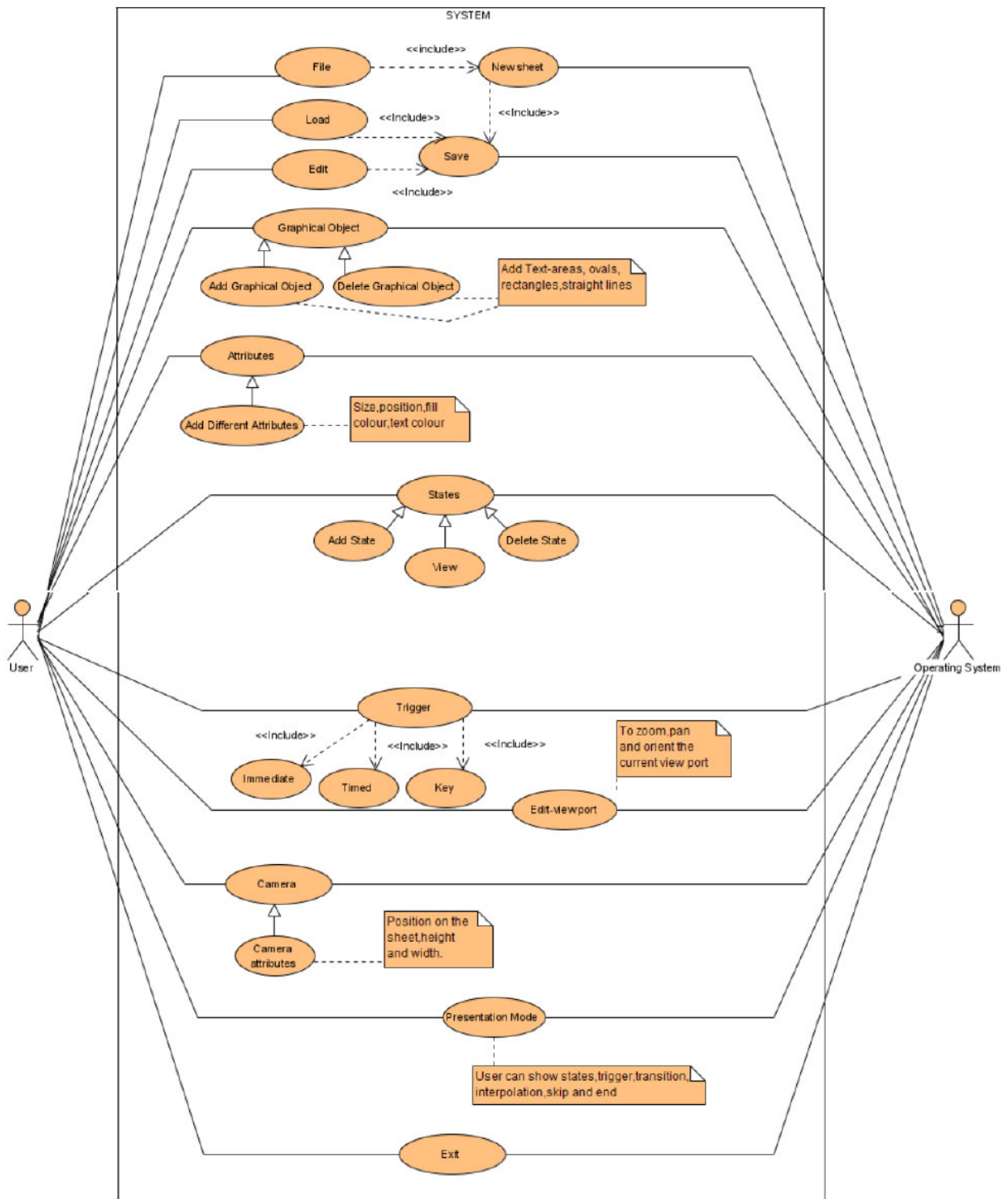
Functional Requirements

1. R0: As a user, I will be able to create a new presentation sheet for my prezoom system.

2. R1: As a user, I will be able to save a presentation to file for my prezoom system.

3. R2: As a user, I will be able to read/load a presentation from a file for my prezoom system.

4. R3: As a user, I will be able to edit the presentation of a file for my prezoom system.

5. R4: As a user, I will be able to add graphical objects like text areas, ovals, straight line segments and rectangles to a presentation for the prezoom system.

6. R5: As a user, I will be able to delete graphical objects like text areas, ovals, straight line segments and rectangles from a presentation for the prezoom system.

7. R6: As a user, I will be able to add attributes such as size, position, fill colour, text colour, and visibility to my graphical objects for the prezoom system.

8. R7: As a user, I will be able to add a state at any point to my presentation for the prezoom system.

9. R8: As a user, I will be able to delete a state at any point to my presentation for the prezoom system.

10. R9: As a user, I will be able to delete/view/modify various attributes in my current state for the prezoom system.

11. R10: As a user, I will be able to use edit mode to zoom, pan, cut, copy, and paste for the prezoom system.

12. R11: As a user, I will be able to change the camera object attributes in each state of the prezoom system.

13. R12: As a user, I will be able to use presentation modes for the prezoom system.
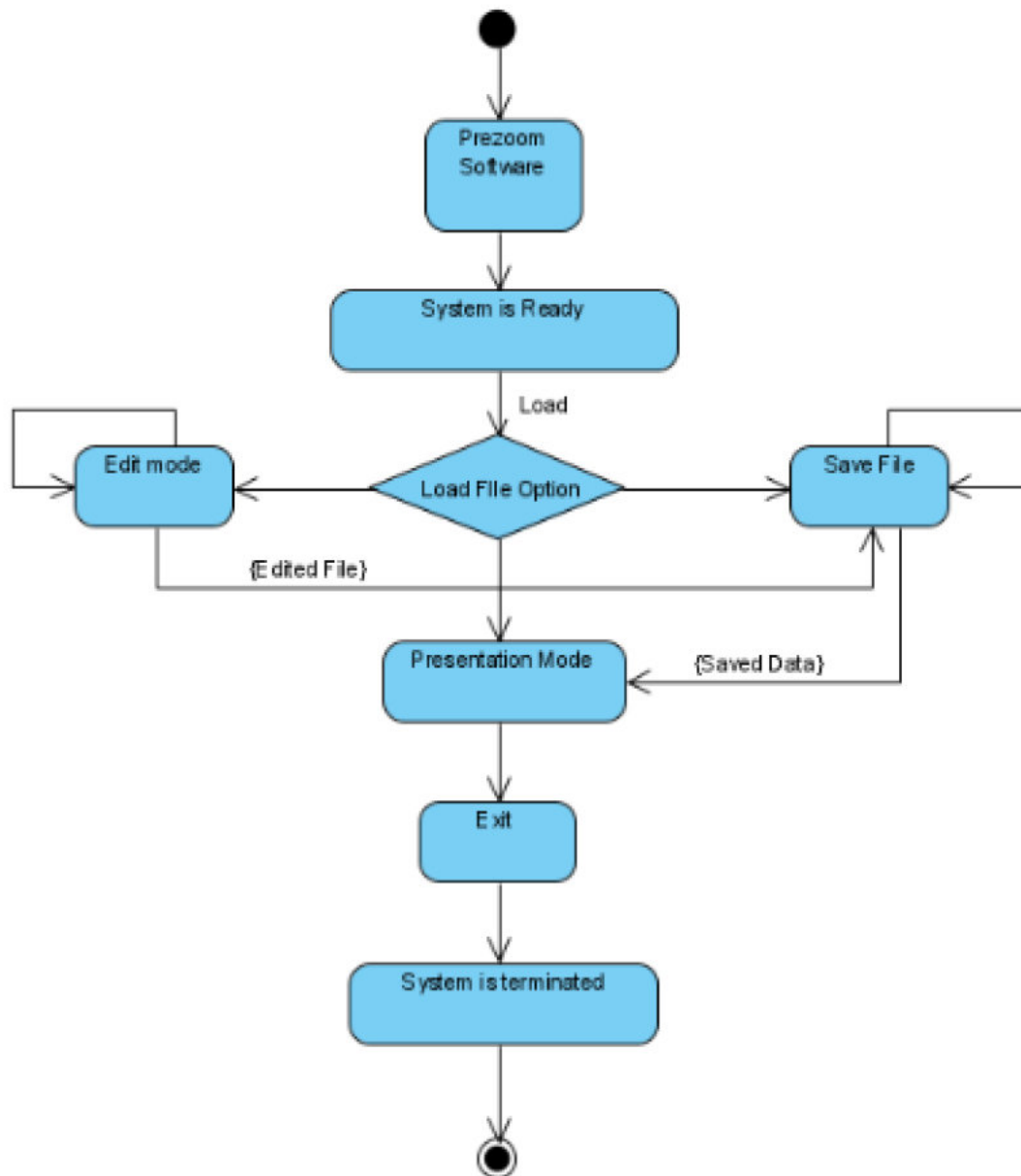
Non-functional Requirement

- The code is written in Java and should be run on Java SE platform.

Specification Document

Use Case Diagram

SYSTEM

File ──<<include>>──▷ New sheet

Load ──<<Include>>──▷ Save ◁──<<Include>>── New sheet

Edit ──<<Include>>──▷ Save

Graphical Object

Add Graphical Object   Delete Graphical Object

Add Text-areas, ovals, rectangles,straight lines

Attributes

Add Different Attributes ---- Size,position,fill colour,text colour

States

Add State   View   Delete State

Trigger

<<Include>>   <<Include>>   <<Include>>

Immediate   Timed   Key

Edit-viewport

To zoom,pan and orient the current view port

Camera

Camera attributes ---- Position on the sheet,height and width.

Presentation Mode

User can show states,trigger,transition, interpolation,skip and end

Exit

User

Operating System

State Diagram

Use Case User Stories

Create new sheet (Done)

Actors Involved: User, System program

Requirement addressed: R0 Typical flow:

1. The user clicks on file option.

2. The user then selects "Create new sheet" option from the list.

3. The program reads the input and creates a new sheet.

Postcondition: A new sheet has been created.

Save a presentation sheet (Stated)

Actors Involved: User, System program

Requirement addressed: R1 Typical flow:

1. The user clicks on file option.

2. The user then selects "Save" option from the list.

3. The program reads the input, and it saves the sheet to file.

Postcondition: A sheet has been saved.

Load a presentation sheet (Not Done)

Actors Involved: User, System program

Requirement addressed: R2 Typical flow:

1. The user clicks on file option.

2. Selects "Load" option from the list and clicks on the sheet which needs to be displayed.

3. The program loads the sheet selected and displays it on the interface.

Postcondition: An existing sheet has been loaded.

Edit mode (Done)

Actors Involved: User, System program

Requirement addressed: R3 Typical flow:

1. The user clicks on "Edit" option.

2. Program takes the input and displays a list in the edit mode.

3. User now has various options such as add/delete graphical objects to a presentation sheet.

4. User selects the requirement and edits the sheet.

Postcondition: A sheet has been edited by selecting the appropriate options from the list.

Add Graphical objects (Done)

Actors Involved: User, System program

Requirement addressed: R4 Typical flow:

1. The user clicks on "Graphical Objects" option.

2. Program takes the input and displays the user to choose either add graphical object/delete graphical object list.

3. User clicks on Add Graphical objects list and the program takes the input.

4. User can now choose to add either Oval, Straight line, Rectangle, Ellipse or Text area on the canvas.

Postcondition: A graphical object has been added on the canvas from the list of options.

Delete Graphical objects (Done)

Actors Involved: User, System program

Precondition: Already should have one or more Graphical object on the canvas sheet.

Requirement addressed: R5

Typical flow:

1. The user selects the graphical object which is drawn on the canvas.

2. User then right clicks using the mouse to delete the selected graphical object.

3. Program takes the input and deletes the graphical object from the canvas.

Postcondition: A graphical object which was on the canvas has been deleted by the user.

Change Attributes (Done)

Actors Involved: User, System program

Requirement addressed: R6

Typical flow:

1. User will select an object and then change the appropriate properties from object information menu and click on submit.

2. Based on selected shape and inputs derived from object information menu shape will change its properties. This property includes height, width for square and rectangle. radius for circle and radius 1 and radius 2 for ellipse.

Fill colour (Done)

1. The user selects and right clicks the graphical object drawn on the canvas.

2. User is prompted with different attributes on the canvas.

3. User clicks on Fill colour attribute to change the colour of the graphical object.

4. Program takes the input and adds colour attribute to the graphical object.

Postcondition: A graphical object has been filled with colour attribute by the user.

Front (Done)

1. The user selects and right clicks the graphical object drawn on the canvas.

2. User is prompted with different attributes on the canvas.

3. User clicks on 'Front' attribute to make the graphical object come front.

4. Program takes the input and adds colour attribute to the graphical object.

Postcondition: A graphical object has been come to front.

Back (Done)

1. The user selects and right clicks the graphical object drawn on the canvas.

2. User is prompted with different attributes on the canvas.

3. User clicks on 'Back' attribute to make the graphical object come front.

4. Program takes the input and adds colour attribute to the graphical object.

Postcondition: A graphical object has been gone to back.

Text size (Done)

1. The user selects and highlights the text written on the canvas.

2. User is prompted with different attributes on the canvas.

3. User clicks on 'Text size' attribute to change the size of the text.

4. Program takes the input and change the size of the text written on the canvas.

Postcondition: The size of the text written on the canvas has been changed by the user.

Position on the sheet (Done)

1. The user selects and right clicks the graphical object drawn on the sheet.

2. User is prompted with different attributes on the sheet.

3. User clicks on 'Change Position' attribute to change the position of the graphical object.

4. Program takes the input and changes the position of the graphical object on the sheet.

Postcondition: The position of the graphical object drawn on the sheet has been changed by the user.

Add State (Done)

Actors Involved: User, System program

Requirement addressed: R7

Typical flow:

1. The user clicks on Tools tab option.
2. The user selects 'Add State' option from the list.
3. The program reads the input and add a state on the canvas.

Postcondition: A new state has been added.

Delete State (Done)

Actors Involved: User, System program

Precondition: Already one or more States should be pre-existing.

Requirement addressed: R8

Typical flow:

1. The user selects the state which they want to delete.
2. The user then clicks on Tools tab option.
3. The user selects 'Delete State' option from the list.
4. The program reads the input and deletes a state on the canvas.

Postcondition: A state has been deleted.

Add Transitions to an object (Done)

Actors Involved: User, System program Requirement addressed: R8 Typical flow:

1. The user clicks on an object.
2. The user selects an option from Animation Tab and presses the "Submit" button.

Transition List Change colour (Done)

1. Select "change colour" animation from animation tab.
2. User will select the colour to change into.
3. User will also select the time for transition.

Postcondition: A selected object will change its colour during allocated time.

Scale an object (Done)

1. Select "zoom" animation from animation tab.
2. User will select the size to change into.

3. User will also select the time for transition.

Postcondition: A selected object will change its size during allocated time and revert back to its original size.

Fade In (Done)

1. Select "Fade In" animation from animation tab.
2. User will select the opacity property of selected object to change into.
3. User will also select the time for transition.

Postcondition: A selected object will change its opacity property of object during allocated time.

Change State (Done)

1. Select "Change In" animation from animation tab.
2. User will select the state which he wants to move.
3. User will also select the time for transition.

Postcondition: A state will change to selected state in allocated time.

Camera Attributes (Done)

Actors Involved: User, System program Requirement addressed: R9 Typical flow:

1. The user clicks on Tools tab option.
2. Program takes the input and displays a list of options in the Tools tab.
3. User clicks on 'Camera Attribute' option from the list.
4. User can now select various attributes such as Visible angle, Position on the sheet, height, or width.
5. Program takes the input given by user and displays the attribute during the presentation of that state.

Postcondition: A camera attribute value has been added to the state.

Presentation Modes (Done)

Actors Involved: User, System program Requirement addressed: R10 Typical flow:

1. The user clicks on Tools tab option.
2. Program takes the input and displays a list of options in the Tools tab.
3. User clicks on 'Presentation Mode' option from the list.
4. User now has various options to choose from such as Presentation Start, Presentation States, Presentation Trigger, Presentation Transition, and Presentation End.

5. Presentation Start: User can move from edit mode to presentation mode at the start of the current state. By using Caps Lock key user will be able to go to the beginning of presentation.

6. Presentation State: User will be shown each state of the presentation in succession.

7. Presentation Trigger: User will be able to trigger appropriate event while the presentation moves to the next state using Enter key.

8. Presentation Transition: A transition will be shown between one state and another when user selects it.

9. Presentation End: User will be able to end the presentation mode by clicking the escape button.