CSCI-4448 Project Part 2 - Individual

Name: Jonathan Vu

Project: Paint

Requirements:

User Requirements		
ID	**Description**	**Priority**
US-04	The user should be able to select a brush size and color for all drawing actions.	High
US-09	The user should be able to draw paths.	High

Use Case Documents:

Use Case ID	UC-04
Use Case Name	Select Shape Styles
Description	Users can set the style of the shapes they are about to draw. The specific style settings will vary, but the use case remains the same. This particular use case will deal with selecting a shape's stroke width and color.

Actors	Artists		
Pre-Conditions	Program is running and a drawing area exists.		
Post-Conditions	The current style is configured and will be applied to any shapes drawn.		
Frequency of Use	Often		
Flow of Events		**Actor Action**	**System Response**
	1	Move mouse cursor over color swatch.	Display full color palette.
	2	Click on the desired color.	Change Style Object's stroke attribute to hex value of selected color. Change the displayed color swatch to selected value.
Variations			
Exceptions			
Developer Notes			

Use Case ID	UC-09
Use Case Name	Draw Paths
Description	Users can draw a shape called path. Paths are made up of successive lines or curved lines whose start and endpoints equal each other. A path is drawn as a continuous stroke on the canvas.

Actors	Artists
Pre-Conditions	Program is running and a drawing area exists. A desired stroke color and width has been selected. The pen tool has been selected and is active.
Post-Conditions	The path is displayed on the canvas.
Frequency of Use	Often

SCENARIO 1 – ADDING LINES TO PATH

Flow of Events		Actor Action	System Response
	1	Click on start point of the path.	Display a straight line from the start point to the mouse cursor.
	2	Click on desired endpoint of line.	Create a line object with startPoint and endPoint retrieved from each step. Display a straight line from the end point of the first line object to the mouse cursor.
	3	Repeat step 2 as required to complete desired path.	-
	4	Right click on any clear area of the canvas.	Display the completed path and return the pen tool to an idle state.

Variations: Step 2: Holding left mouse at endpoint instead of clicking leads to the flowing flow of events:

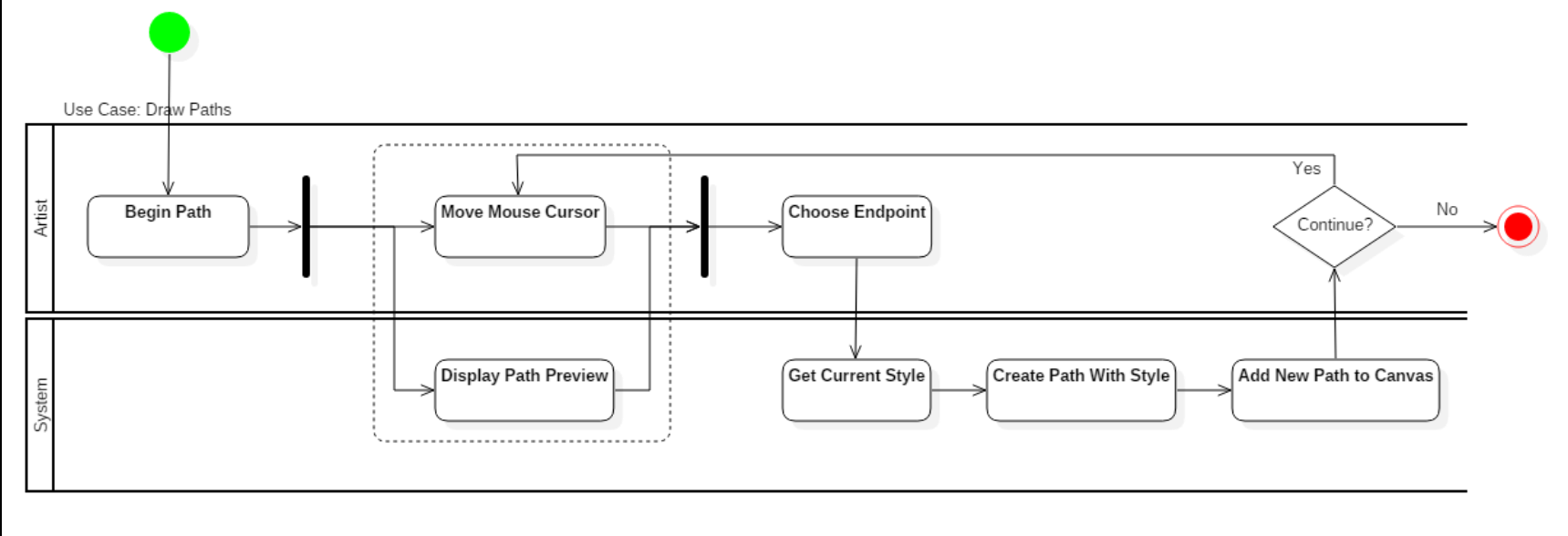| Flow of Events		Actor Action	System Response
	1	Hold left mouse button on the desired endpoint of a line.	Display a real time preview of the curve. Display the control point of the curve and a line starting at the control point and running through the curve's endpoint to assist the user in setting the curvature.
	2	Release the left mouse button when you are happy with the curve preview.	Create a BezierCurve object with attributes startPoint, endPoint, and endControlPoint retrieved from each step. Display a straight line from the end point of the first Line object to the mouse cursor.
	3	Return to normal flow of events.	-
Exceptions		-	
Developer Notes:		-	

Activity Diagram

Name	Jonathan Vu
Requirement ID	US-09
Use Case ID	UC-09
Use Case Name	Draw Paths

Use Case: Draw Paths

Artist

Begin Path → Move Mouse Cursor → Choose Endpoint → Continue? — Yes / No

Display Path Preview

System

Get Current Style → Create Path With Style → Add New Path to Canvas

Sequence Diagram

Name	Jonathan Vu
Requirement ID	US-09
Use Case ID	UC-09
Use Case Name	Draw Paths

interaction Draw Paths

Artist | newpath: Path | newline: Line

1 : setStartPoint

2 : setStartPoint

3 : draw

4 : setEndPoint

5 : setEndPoint

6 : undraw

7 : insertLine(newline)

8 : draw