Swetr UML Diagram – Design Description

Overview

Our program creates a functional UML diagram editor for visualizing systems. It does this by leveraging many JavaFX packages and by extending the Java Application class. The scene is initialized at the start and users can select objects to add and draw them by selecting them and dragging on the screen.

UI

A UML scene is comprised of many objects including a row of function buttons along the toolbar at the top and a column menu along the left to select objects to make. The buttons along the top are Button objects contained inside of an Hbox. The left are also Button objects contained inside of a Vbox. The objects the user can create are class boxes and relationships. The relationships can be of type aggregation, composition, generalization, or dependency. These objects are able to be placed inside the gray drawing area. The drawing area is a gray-filled rectangle object.

Class Design

Our UML class currently contains all of the tools to initialize the scene. When the program is started, it calls createUMLOptions, which is the primary method to create the UI. This method creates the Vbox, Hbox, and the drawingBox. It also calls createUMLButtons to create all of the buttons and other objects users can interact with to make their UML diagram. The methods to create the objects are called when the corresponding option is picked from the left menu. These objects are created from the Relationship class which changes line type depending on the button pressed. The Class Box button uses the ClassBox class, which creates objects that are comprised of 3 TextAreas that are each placed inside of one of three Rectangles that are placed one after another vertically.