

# Data Structure Visualizer

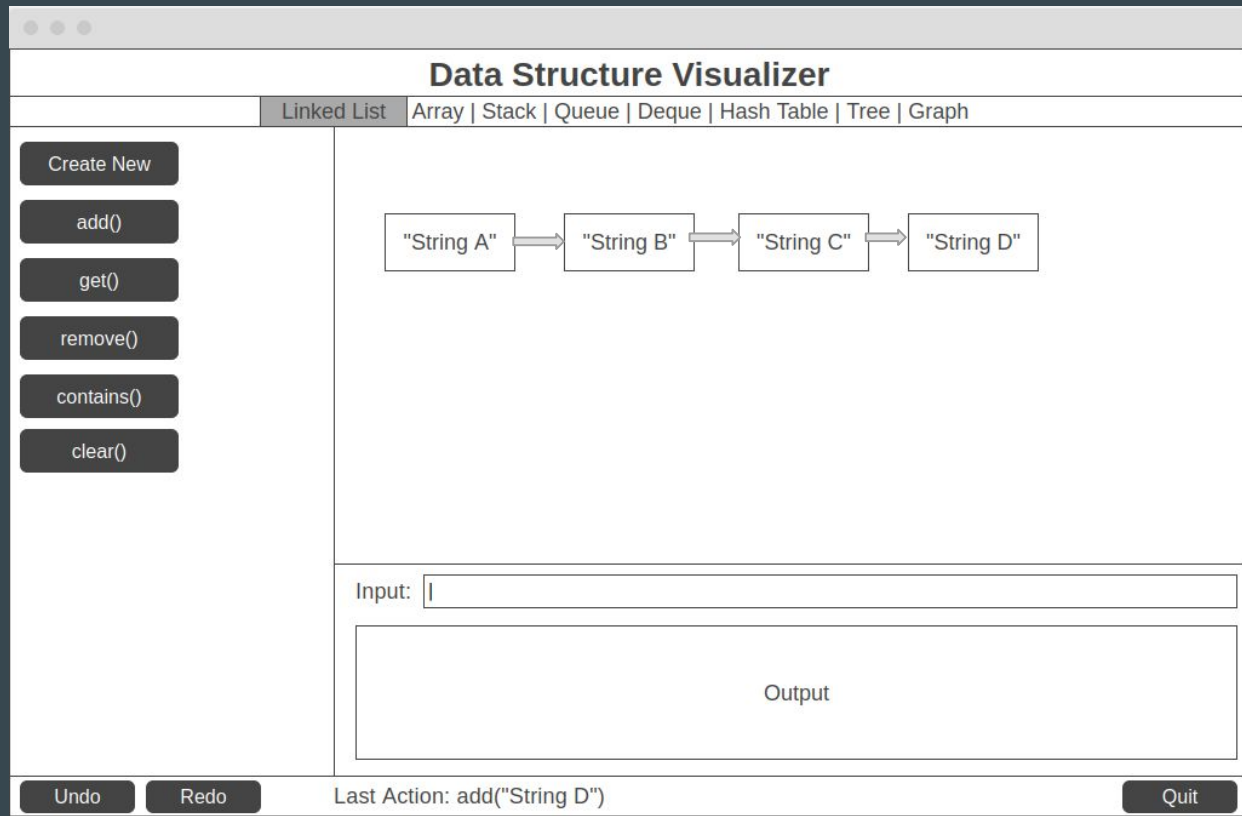
...

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CS 210 Project

# Project Outline

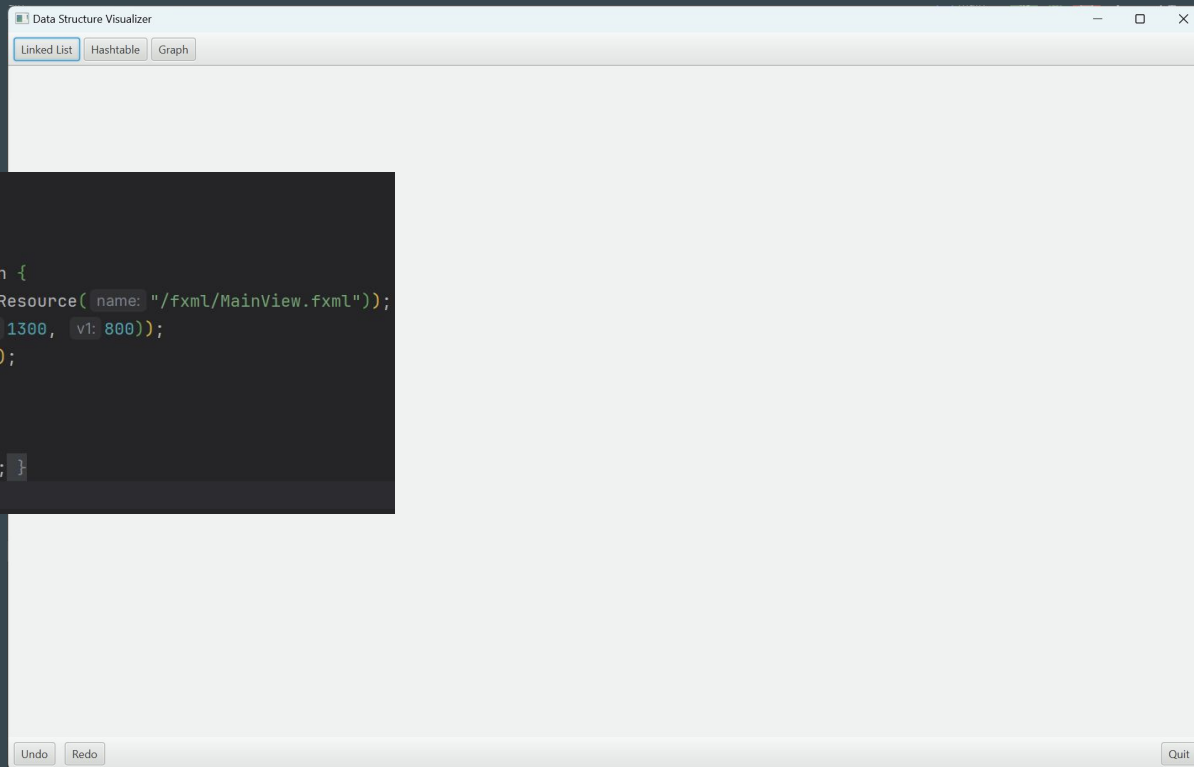
- Objective: Java based GUI Visualizer
- Displays the internals of any desired Data Structure
- Lets the users perform changes to it by graphically selecting the methods and displays the change
- Modularized approach: New Data Structures can be added easily

# GUI Mockup



# Current state

```
public class MainApp extends Application { 2kranz *  
  
    @Override 2kranz *  
    public void start(Stage primaryStage) throws Exception {  
        FXMLLoader loader = new FXMLLoader(getClass().getResource( name: "/fxml/MainView.fxml"));  
        primaryStage.setScene(new Scene(loader.load(), v: 1300, v1: 800));  
        primaryStage.setTitle("Data Structure Visualizer");  
        primaryStage.show();  
    }  
  
    public static void main(String[] args) { launch(args); }  
}
```



# Connection between Frontend and Backend

```
@FXML 2kranz
private void handleUndo() {
    commandManager.undo();
}

@FXML 2kranz
private void handleRedo() {
    commandManager.redo();
}

@FXML 2kranz
private void handleQuit() {
    // Close application
}

@FXML new *
private void handleLinkedList() {
    loadModule(new LinkedListModule());
}

@FXML new *
private void handleHashtable() {
    loadModule(new HashTableModule());
}

@FXML new *
private void handleGraph() {
    loadModule(new GraphModule());
}
```

```
<BorderPane fx:id="rootPane" xmlns:fx="http://javafx.com/fxml" fx:controller="org.conava.dsv.app.MainController">
    <top>
        <ToolBar>
            <Button text="Linked List" onAction="#handleLinkedList"/>
            <Button text="Hashtable" onAction="#handleHashtable"/>
            <Button text="Graph" onAction="#handleGraph"/>
        </ToolBar>
    </top>
    <bottom>
        <ToolBar>
            <BorderPane prefWidth="1286">
                <left>
                    <HBox spacing="10">
                        <Button fx:id="undoButton" text="Undo" onAction="#handleUndo"/>
                        <Button fx:id="redoButton" text="Redo" onAction="#handleRedo"/>
                    </HBox>
                </left>
                <center>
                    <Label fx:id="lastCommandLabel" text=""/>
                </center>
                <right>
                    <Button fx:id="quitButton" text="Quit" onAction="#handleQuit"/>
                </right>
            </BorderPane>
        </ToolBar>
    </bottom>
</BorderPane>
```

# UML

