

# Official Player App

## Design Document

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EECS 2311 - Software Development Project (Winter 2017)

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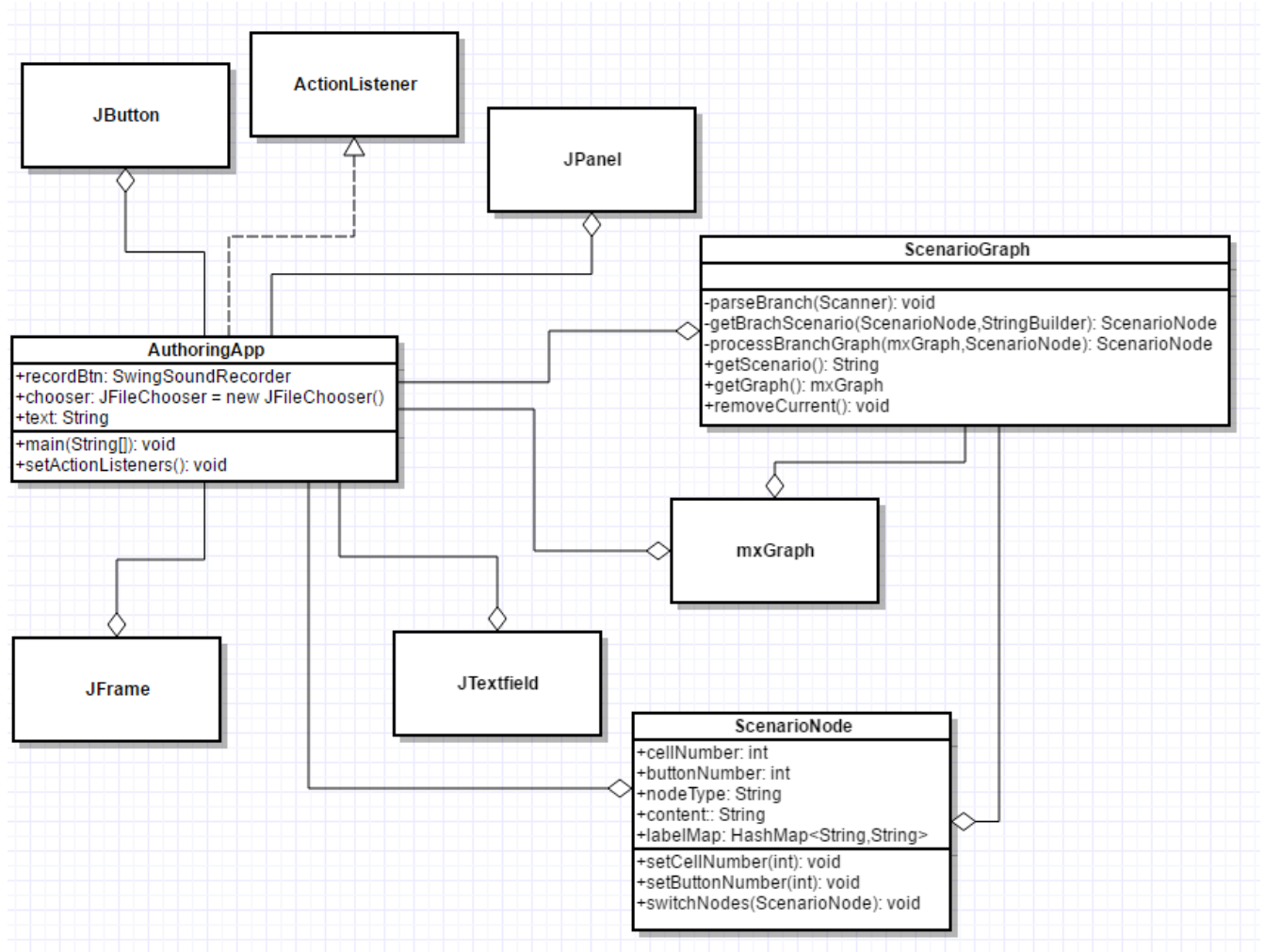
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# 1. Introduction

This document provides a detailed description of the design that was chosen for the official player application.

The design architecture for this calculator uses graphs and a GUI. The design also allows for easy implementation, testing, and maintenance of every component.



**Figure 1:** UML Diagram of the Authoring app

This UML diagram shows that the Authoring app has two main classes, **ScenarioGraph** and **ScenarioNode**. The additional classes used are for implementation of this architecture.

## 2. AuthoringApp

The Authoring app class is responsible for making scenarios in a GUI. This is achieved using different methods. Some of the important methods are described below. More information can be found in the requirements document

- **setActionListeners(): void** – This method adds and implements the buttons to the GUI. Each button has a method named actionPerformed that takes an ActionEvent, and each button does a different action.

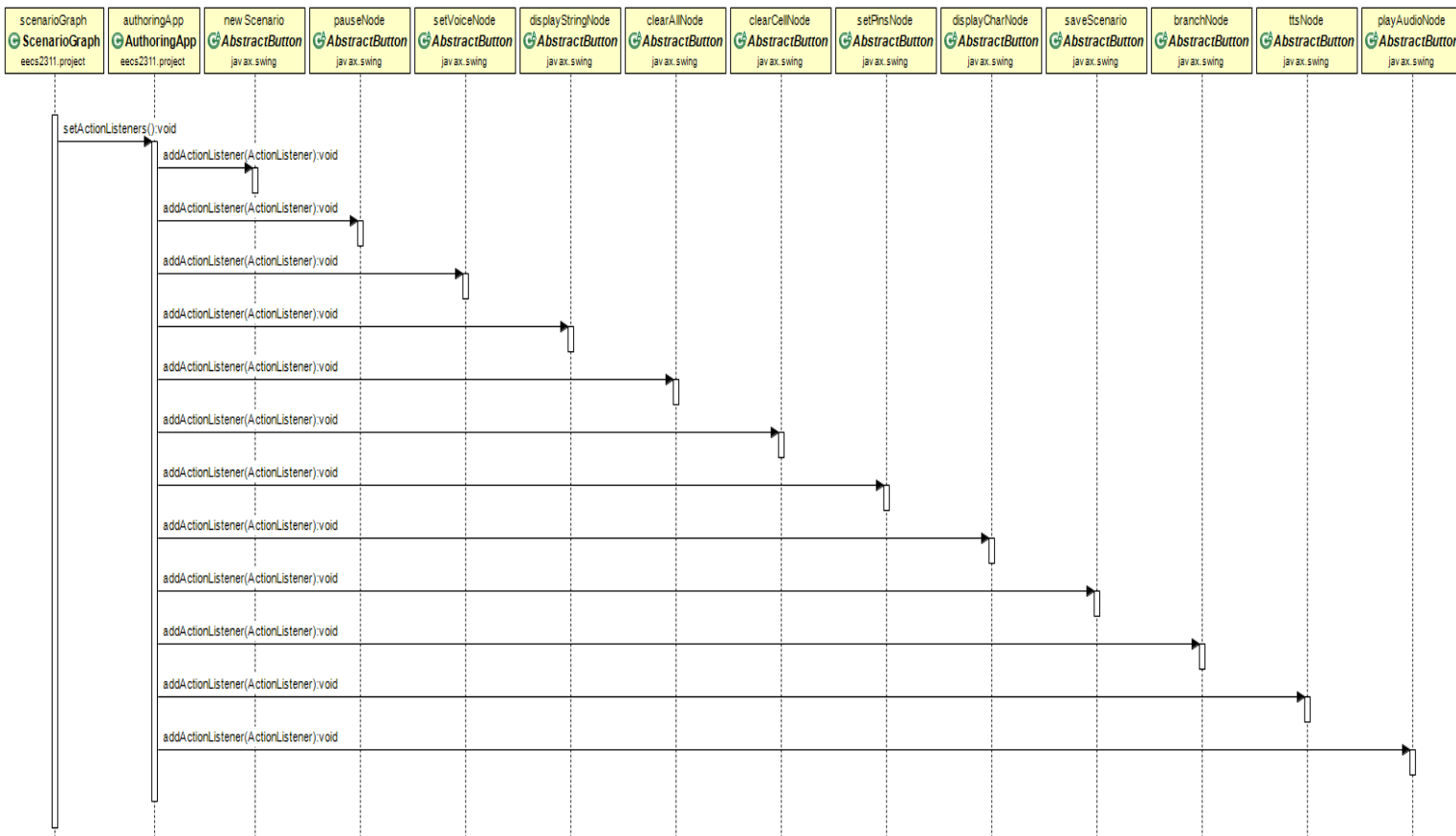


Figure 2: The Authoring app is calls ScenarioGraph to addActionListener method to create new buttons.

- **Main(String[]): void** – The main method sets up the GUI including all the buttons. It also constructs the proper frame and positioning of the buttons and layout.

## 3. ScenarioGraph

The ScenarioGraph class is responsible for creating the graph using mxGraph, and is managed by the Authoring App. This is done using the important methods below. More information about the methods can be found in the requirements document.

- **parseBranch(Scanner): void** – This method allows for two branches to be created, then it reads each branch and returns to the main branch.
- **getScenario(): String** – This method iterates through the scenario graph and returns a string which contains the whole scenario.

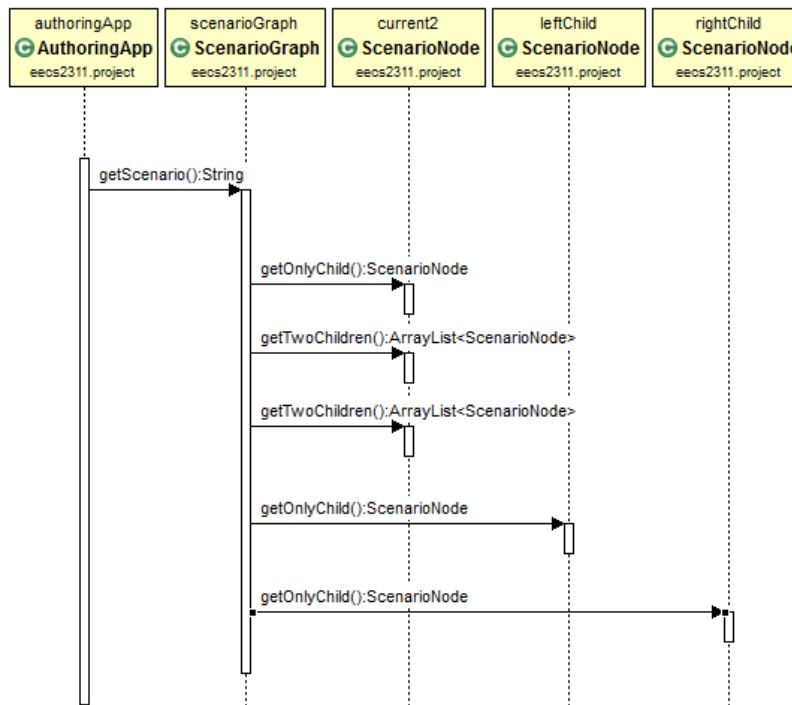


Figure 3: Sequence diagram of `getScenario(): String`

- **getBranchScenario(ScenarioNode,StringBuilder): ScenarioNode** – This method assists the `parseBranch` method.

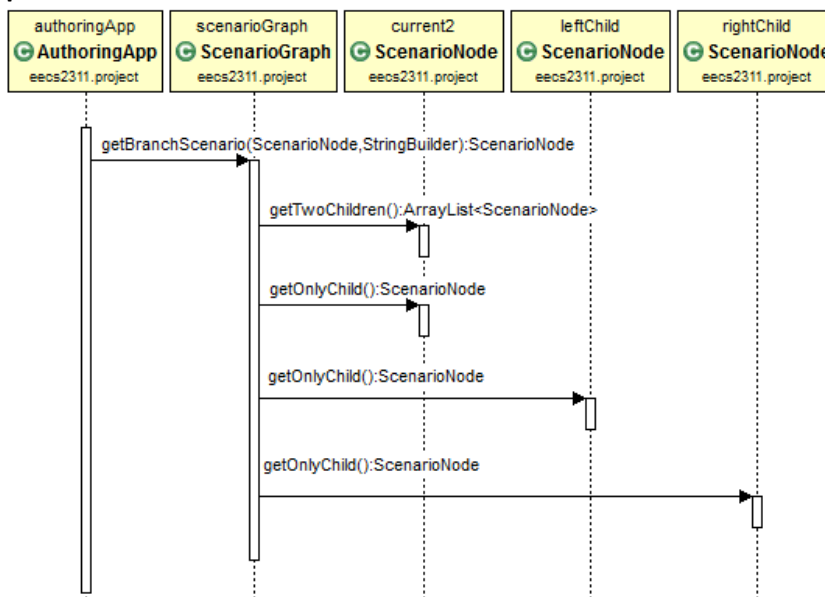
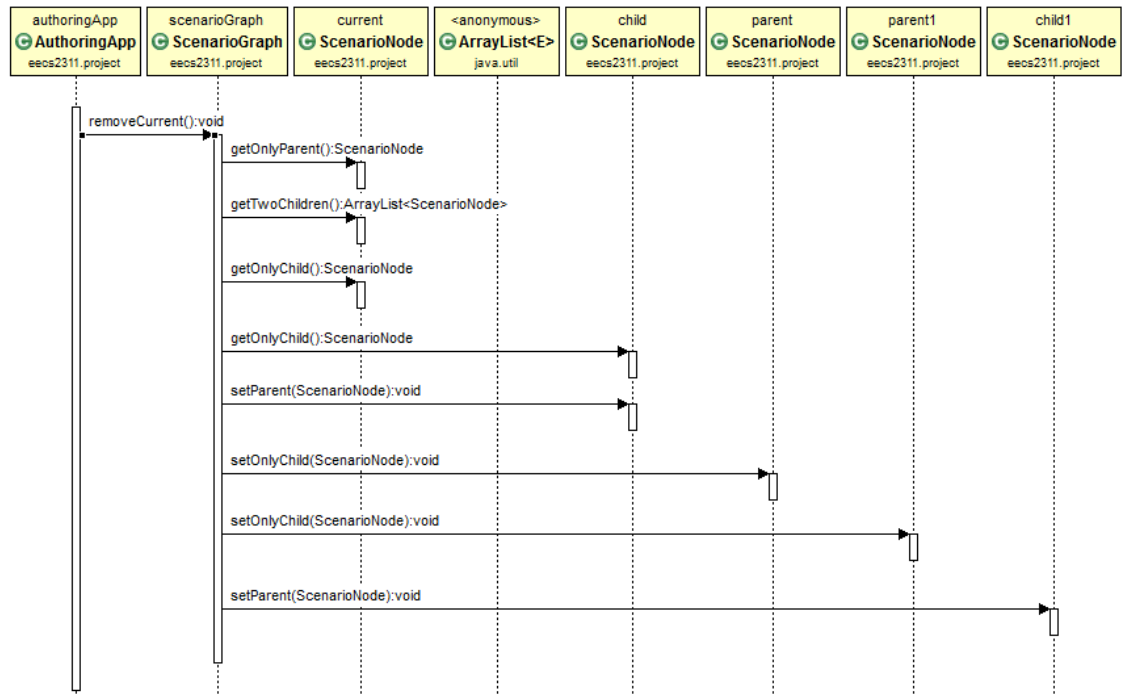


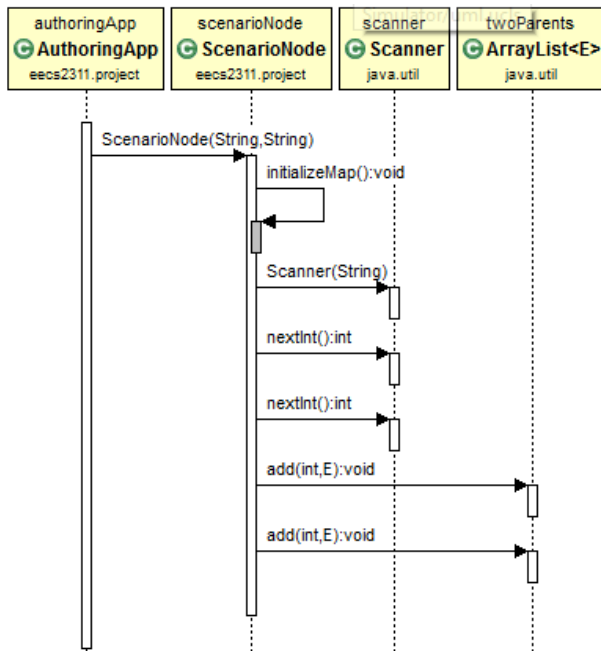
Figure 4: Sequence diagram of `getBranchScenario(ScenarioNode,StringBuilder): ScenarioNode`

- **getGraph(): mxGraph** – This method creates the design of the graph but does not display it.
- **processBranchGraph(mxGraph,ScenarioNode): ScenarioNode** – This method is to assist the getGraph method.
- **removeCurrent(): void** – This method removes the selected node from the graph.



**Figure 5:** Sequence diagram of **removeCurrent(): void**

## 4. ScenarioNode



**Figure 6:** Sequence diagram of `ScenarioNode(String,String)`

The `ScenarioNode` class is responsible for letting the graph have objects that perform different events. The important methods are listed below. More information about the methods can be found in the requirements document.

- **setCellNumber(int): void** – This method sets a cell to a certain number.
- **setButtonNumber(int): void** – This method sets a button to a certain number.
- **switchNodes(ScenarioNode): void** – This method switches the node with another existing node.

## 5. Maintenance

This code is designed to offer a lot of future functionality. The user can follow the code by the simple names used and is able to easily modify it. For example, changing the color of the buttons, or adding a button can be done simply.

### 5.1 Adding a button

Using  `JButton`  you create a static button. Then in the `setActionListener` method you would add the button to the `addActionListener` method and use the `actionPerformed` method to edit the name and allow it to perform certain actions. It will be similar to the already created buttons that could be used as a reference.