CSCI 2120:
Software Design & Development II

GUI framework
JavaFX Core: Scene

Overview

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Introduction

- The JavaFX *Scene* object is the root of the JavaFX `Scene` graph. In other words, the JavaFX `Scene` contains all the visual JavaFX GUI components inside it.

- A JavaFX Scene is represented by the class `javafx.scene.Scene`.

- A `Scene` object has to be set on a **JavaFX Stage** to be visible.

In this JavaFX `Scene` lecture I will show you how to create a `Scene` object and add GUI components to it.

Create Scene

You create a JavaFX `Scene` object via its constructor. As parameter you must pass the root JavaFX GUI component that is to act as the root view to be displayed inside the `Scene`.

Here is an example of creating a JavaFX `Scene` object:

```
VBox  vBox  = new VBox();
Scene scene = new Scene(vBox);
```

Set Scene on Stage

In order to make a JavaFX Scene visible, it must be set on a JavaFX Stage.

Here is an example of setting a JavaFX Scene on a Stage:

```
VBox vBox = new VBox(new Label("A JavaFX Label"));
Scene scene = new Scene(vBox);

Stage stage = new Stage();
stage.setScene(scene);
```

A JavaFX Scene can be attached to only a single Stage at a time, and Stage can also only display one Scene at a time.

The Scene Graph

As mentioned in the **JavaFX Overview**, the *scene graph* consists of all the *nodes* which are attached to a given JavaFX `Scene` object. Each `Scene` object has its own scene graph.

The scene graph has a single root node. Other nodes can be attached to the root node in a tree-like data structure (a tree is a kind of graph).

Scene Mouse Cursor

It is possible to set the mouse cursor of a JavaFX `Scene`. The mouse cursor is the little icon that is being displayed at the location of the mouse cursor (pointer). You set the mouse cursor of a `Scene` via the `setCursor()` method.

Here is an example of setting the mouse cursor of a JavaFX `Scene`:

```
scene.setCursor(Cursor.OPEN_HAND);
```

The `javafx.scene.Cursor` class contains a lot of constants you can use to specify which mouse cursor you want to display.

Some of these constants are:

● Cursor.OPEN_HAND ● Cursor.CLOSED_HAND ● Cursor.CROSSHAIR ● Cursor.DEFAULT	● Cursor.HAND ● Cursor.WAIT ● Cursor.H_RESIZE	● Cursor.V_RESIZE ● Cursor.MOVE ● Cursor.TEXT

END