Multiple Views and Navigation

Lecture – 04

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Multiple Views

The JavaFX program starts execution in the main method similar to a simple Java Application.

1. Most software products span across multiple views.

2. Navigation from one view to another is an important requirement.

Ex:
Facebook
- Login Page · Newsfeed

Online Book Store
- Login · Browse Books
- Browse Books · Single Book View
- Browse Books · Shopping Cart
- Single Book View · Shopping Cart

Multiple Views in JavaFX

1. Creating multiple views in JavaFX can be achieved by creating multiple FXML files in the same project.
2. But only a single view can be called from the start method.

In the start method,

- The Primary Stage (Initial window) of the application is provided by JavaFX.
- Root node of the of a specified FXML file is obtained.
- Root Node is set to a new Scene as the scene graph.
- The Scene is set to the primary stage.
- Primary Stage is configured and displayed.

Start Method

```
@Override
public void start(Stage primaryStage) throws Exception{
    Parent root = FXMLLoader.load(getClass().getResource( name: "sample.fxml"));
    primaryStage.setTitle("Hello World");
    primaryStage.setScene(new Scene(root,  width: 500,  height: 275));
    primaryStage.show();
}
```

Navigation between JavaFX Views

Navigation between JavaFX views can be achieved in the following ways.

1. Creating a new window (stage) and assigning the new content (scene with scene graph)

   This can be further divided based on the status of the previous Stage,

   I. Previous Stage can be kept visible after new stage is created.

   II. Previous Stage can be closed after new window is created.

2. Creating new content (scene with scene graph) and assigning it to the current window (stage).

All the code samples given in the next few slides contain methods called on button click events

1.1. Creating new stage (with previous stage visible)

- This code sample creates a new window and makes it visible.
- The previous window will also remain on screen.
- Required in opening temporary windows.

  Ex: Menu Window · Menu Settings Window

```
public void navigate() throws Exception{
    Stage newStage = new Stage();
    Parent root = FXMLLoader.load(getClass().getResource( name: "newView.fxml"));
    newStage.setScene(new Scene(root, width: 400,  height: 400));
    newStage.show();
}
```

1.2. Creating new stage (and closing previous stage)

- This code sample creates a new window and makes it visible.
- The previous window will be closed.
- Required in navigating to a completely different activity.

Ex: Menu Window · Add Student Window

```
public void navigate(ActionEvent actionEvent) throws Exception{
    //Creating new Stage
    Stage newStage = new Stage();
    Parent root = FXMLLoader.load(getClass().getResource( name: "newView.fxml"));
    newStage.setScene(new Scene(root, width: 400,  height: 400));
    newStage.show();

    //Identifying and closing previous Stage
    Stage previousStage = (Stage) ((Node)actionEvent.getSource()).getScene().getWindow();
    previousStage.close();
}
```

2. Adding new content to current stage

```
public void navigate(ActionEvent actionEvent) throws Exception{
    Stage stage = (Stage) ((Node)actionEvent.getSource()).getScene().getWindow();
    Parent root = FXMLLoader.load(getClass().getResource( name: "newView.fxml"));
    stage.setScene(new Scene(root, width: 400, height: 400));
}
```

- ActionEvent parameter is used in the button's onAction method.
- This can be used to identify the source of the click (i.e. the Button).
- The current Scene is identified from the Button.
- The current Stage is identified from the Scene.
- A new Scene with the content root is added to the current Stage.
- Since stage is already visible, calling the show() method is not required

Thank You

Thank You