

Advanced Programming Methods

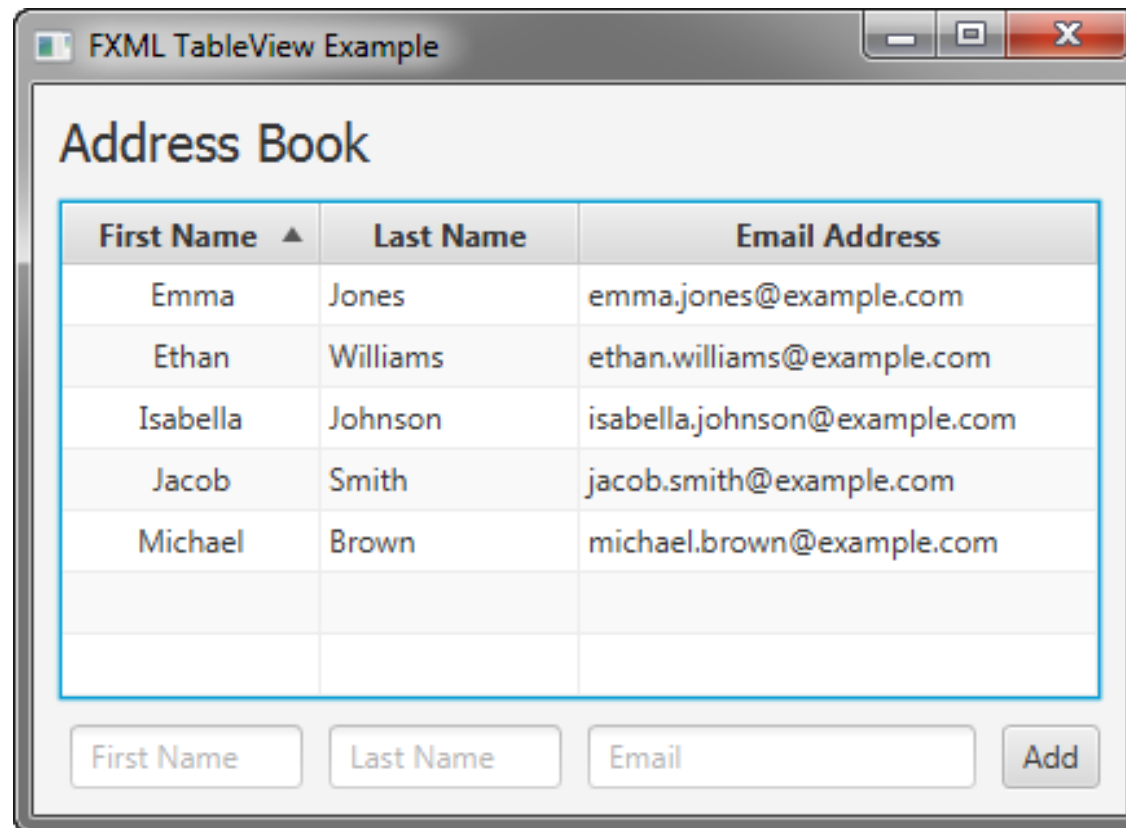
Lecture 12 - JavaFx(Continuation)

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TableView Example

- We follow the Oracle tutorial to create this example
- **See Ex3-TableView.zip**



Define the Data Model

- When you create a table in a JavaFX application, it is a best practice to implement a class that defines the data model and provides methods and fields to further work with the table.
- Create a Person class to define the data for the address book.

Controller

- Method initialize
 - Factory methods for each column: see the correspondence between Person fields and table columns
 - Fills the default values

TableView Example Cont.

- See **Ex4-TableView.zip**
- **Sorting Data in Columns**
 - The TableView class provides built-in capabilities to sort data in columns.
 - Users can alter the order of data by clicking column headers.
 - you can set sorting preferences for each column in your application by applying the `setSortType` method
 - You can also specify which columns to sort by adding and removing TableColumn instances from the `TableView.sortOrder` observable list
 - See method `changeSorting` from `TableController` class

TableView Example Cont.

- **Editing data in the table**
 - Use the `setCellFactory` method to reimplement the table cell as a text field with the help of the `TextFieldTableCell` class.
 - The `setOnEditCommit` method processes editing and assigns the updated value to the corresponding table cell (requires that users press the Enter key to commit the edit)

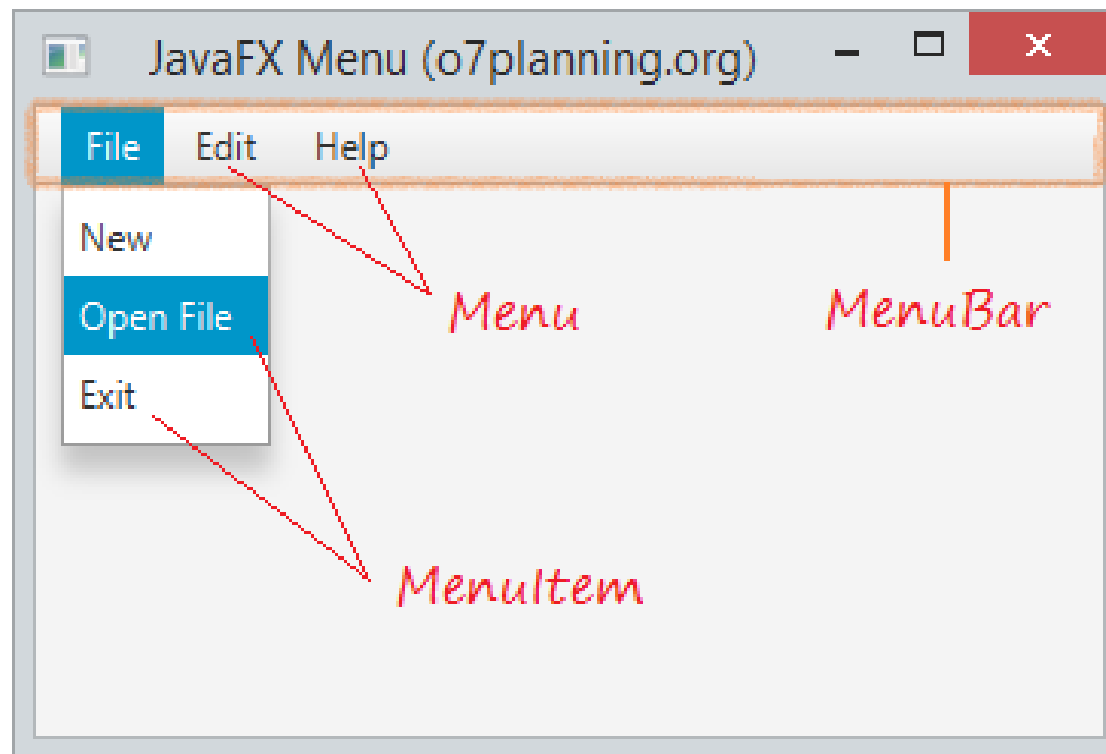
TableView Example Cont.

- **Adding a combo box column**
 - See Gender.java as an enum example
 - Please note that Enum in Java are reference types like class or interface and you can define constructor, methods and variables inside java Enum which makes it more powerful than Enum in C and C++.
 - See the part about combobox in initialize method from TableController class
 - `genderColumn.setCellValueFactory`
 - `genderColumn.setCellFactory`
 - `genderColumn.setOnEditCommit` – for editing

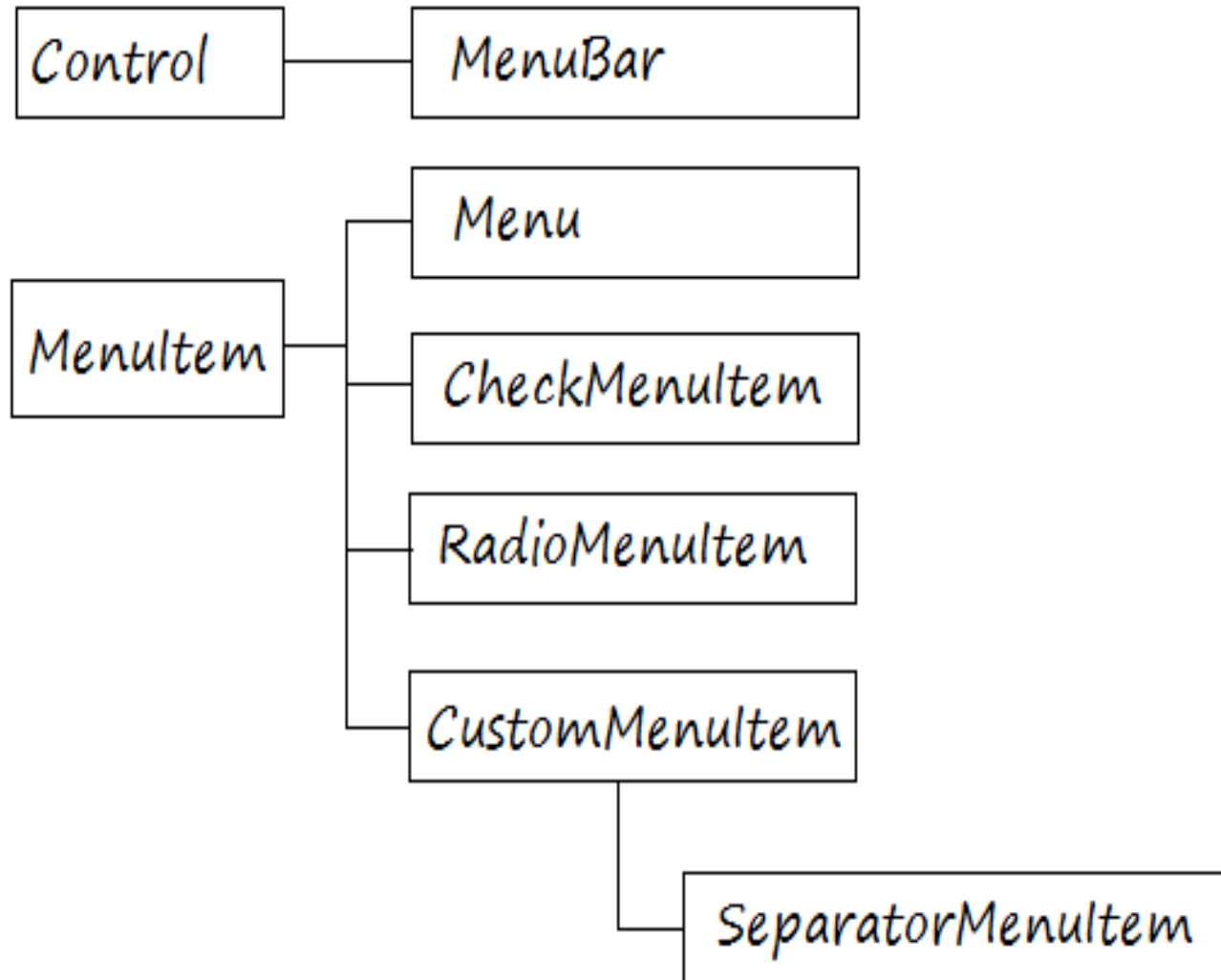
ListView Example

- See **Ex5-ListView.zip**
- In `ListViewController` class
 - the list initialization
 - Setting the focus model
 - Setting the selection model
 - Handling the selection

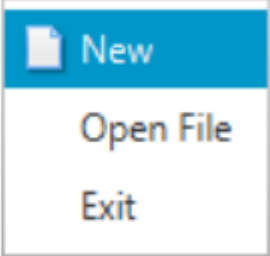
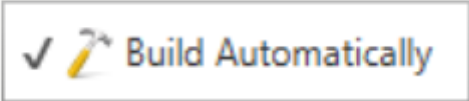
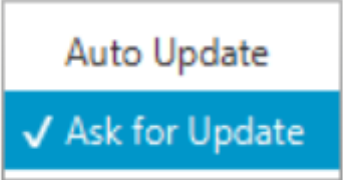
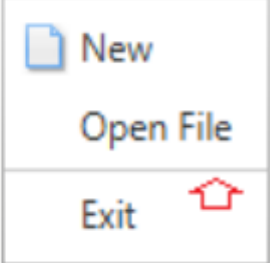
Menu Example



Menu Example



Menu Example

MenuItem	
CheckMenuItem	
RadioMenuItem	
SeparatorMenuItem	

Menu Example

- **See Ex6-Menu.zip**
- Setting the menu structure in SceneBuilder:CheckMenuItem, RadioMenuItem, etc.
- Additional settings for RadioMenuItem in initialize method of MenuController class
- Set accelerator for Exit MenuItem
- Set the handler when click on Exit MenuItem

ContextMenu Example

- See **Ex7-CtxMenu.zip**
- Create a context Menu
- Setting when the context menu is showed

Opening a New Window Example

- When creating a new `Stage`, you can set up a parent window for it (also called the window owning it), via the `stage.initOwner(parentStage)` method
- There are three modelities that you can apply to the `Stage` through the `stage.initModality(Modality)` method.
 - `Modality.NONE`: When you open a new window with this modality, the new window will be independent from the parent window. You can interact with the parent window, or close it without affecting the new window.
 - `Modality.WINDOW_MODAL`: When you open a new window with this modality, it will lock the parent window. You can not interact with the parent window until this window is closed.
 - `Modality.APPLICATION_MODAL`: When you open a new window with this modality, it will lock any other windows of the application. You can not interact with any other windows until this window is closed.

Opening a New Window Example

- See [Ex8-NewWindow.zip](#)
- See how new stages are created in controller
- See how a reference to the primary stage is transmitted to the controller

Switching to different screens

- See **Ex9-SwitchScenes.zip**
- See how a new scene is changed when the button is pressed