Basic JavaFX GUI Application

The application is a Java program that with the use of JavaFX features implements some basic techniques and solutions to problems that building a GUI might present one with.

Features:

- <u>User Authentication:</u> *Allows the user to log-in using the appropriate username & password (guest initials: user, user123)*
- <u>Event-Driven programming:</u> *The output is driven by user actions*
- <u>Inheritance & Polymorphism:</u> *The classes of a program are built using a blueprint for classes*
- <u>Parsing JSON Objects:</u> *The outputs are collected using an online request, then from JSON format parsed into the program's GUI*

Usage:

1) <u>Prerequisites:</u> *You need to make sure you have Java Development Kit (JDK) and JavaFX installed & working on your computer.*
2) <u>Building the program:</u> *Compile the source code to generate executable class files.*
3) <u>Running the program:</u> *Execute the compiled main class file (AppStarter.java) using Java Virtual Machine to run the code.*
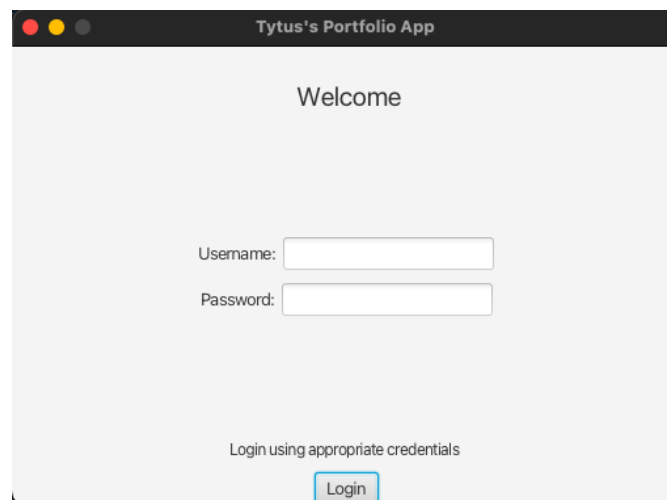
Application Structure:

- <u>AppRunner.java</u> ⇒ *main class that initiates & launches the program*
- <u>CalculatorScene.java</u> ⇒ *class responsible for displaying & handling the calculator*
- <u>ChatScene.java</u> ⇒ *class implementing a simplified chat between you and me*
- <u>HomeScene.java</u> ⇒ *class responsible for guiding the user through the choices of scenes*
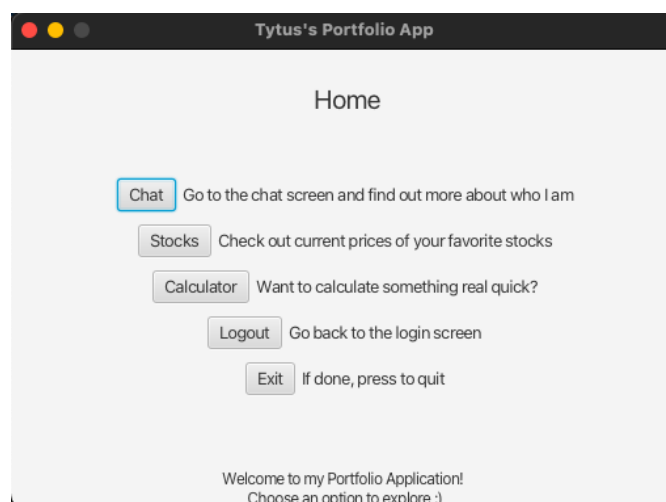- <u>LoginScene.java</u> ⇒ *class responsible for the log-in scene*

- SceneManager.java ⇒ *class that manages and simplifies the scene operations*
- SceneTemplate.java ⇒ *abstract class serving as a blueprint for other scene classes*
- StockScene.java ⇒ *class responsible for displaying & looking-up a stock price of a given symbol*
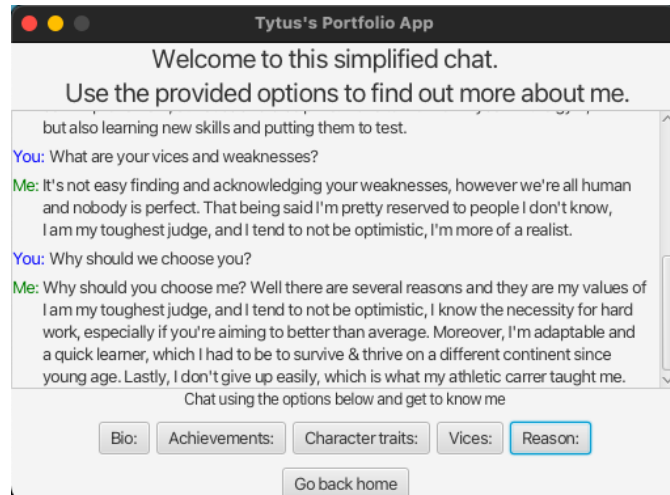
Screenshots:

1. Login screen: after entering the appropriate login and password, the user is sent to the home screen.
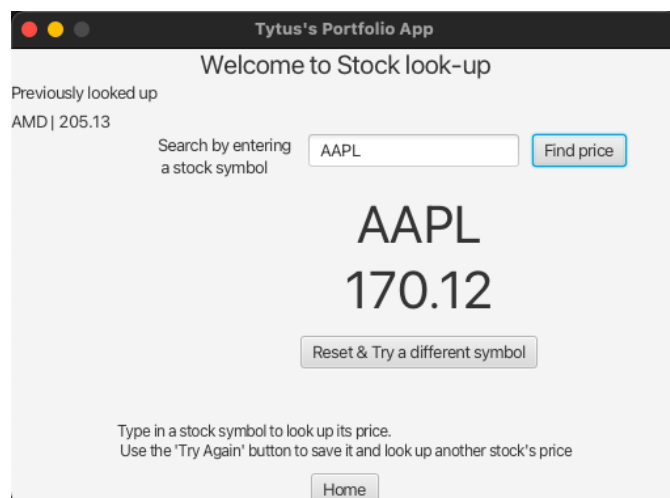

2. Home scene: displays options of where the user can go within the application. After a click on the button, the user is sent to the scene corresponding with the button.
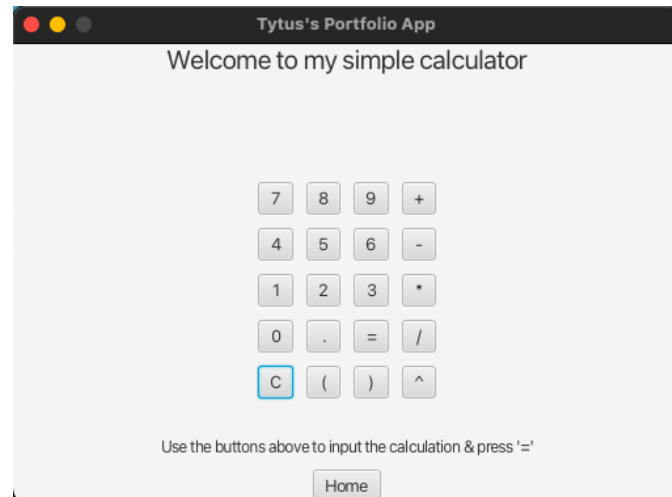
3. Chat scene: prompts the user with an empty scrollpane in the middle of the window, which fills up with a chat conversation as the user clicks the buttons that initialize the 'conversation'.

4. Stock scene: allows the user to look up the price of a stock they wish, displaying it in the center of the scene. If the user clicks on the 'Reset & Try a different symbol' button, the current stock being displayed and its price are moved to the left under 'Previously looked up', freeing the center space for another symbol to be searched.

5. Calculator scene presents the user with a calculator. Using the organized buttons, user can calculate a mathematical equation which product will be displayed between the title and the buttons.

6. Lastly the 'Logout' button will take the user to the login scene, and the Exit button will stop running the application and quit.