Middle East Technical University
Northern Cyprus Campus

CNG 443: Introduction to Object-Oriented Programming Languages and Systems

Assignment 3: RestManApp User Interface

Date handed-out: 14 December 2020, Monday
Date submission due: 28 December 2020, Monday, 23:55

Learning Outcomes

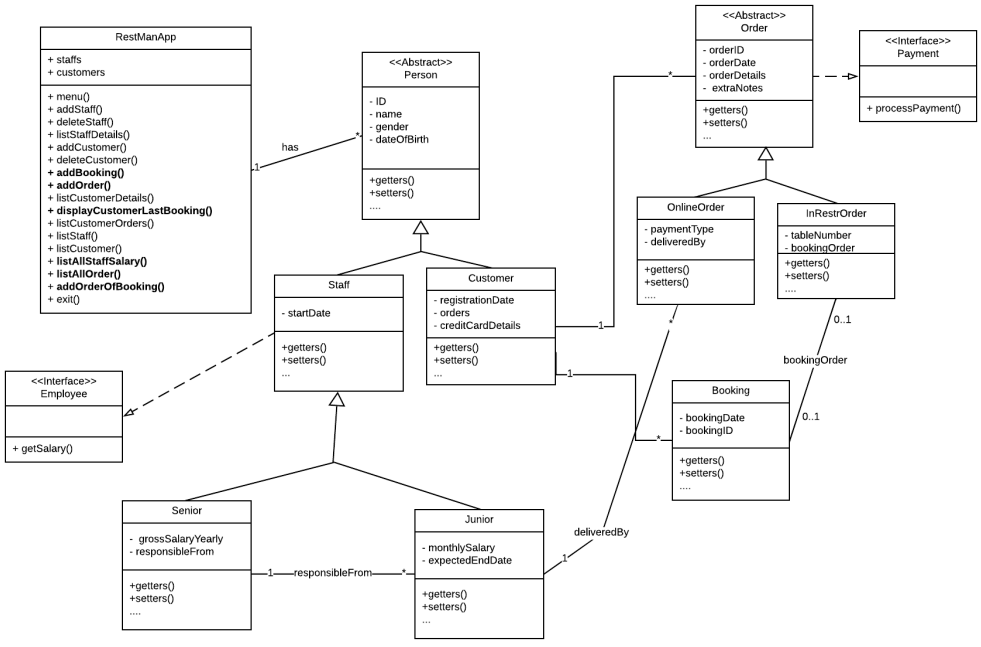
On successful completion of this assignment, a student will:

- Have used different Swing components to implement an application with a GUI.
- Have practiced how to use event-driven programming.
- Have practiced to use streams to store the relevant data in external files.

The aim of this assignment is to create a graphical user interface to the application created in the previous assignment and also store/retrieve the data in external binary files.

PART1: User Interface

In the previous assignment, you created a restaurant management application. Figure bellow shows the UML diagram of this application.



In this assignment, you need to create a graphical user interface to this application. In this interface you will need to make sure that all the methods given in the RestManApp class has a graphical user interface interaction. You need to choose appropriate Swing components to implement the user interface. Make sure that you used at least the following Swing components: JFrame, JButton, JLabel, JMenu, JMenuItem,

JFileChooser, JPanel, JTextArea, JTextField, JCombobox, JScrollPane, JTable. The overall requirements can be summarised as follows:

- When the application starts, you will need to ensure that you show the relevant options to the user – all the tasks they can complete with this application.
- You need to make sure that you have used all the relevant components for entry.

PART 2: Data Storage

In the previous assignment, you were asked to create a test class that would populate your application with some initial data:

> "Since you did not learn how to make your class persistent or use a database, you will lose data every time you run your application. Therefore, you need to create some objects before you start your application. Your application needs to start with 3 Staff objects, 3 Customer objects, with each Customer having one Booking and for each Booking one Order object. To create this data, you need to create a class which is called *PopulateData* that can be used to populate your application with these initial data. "

This is based on the requirement given in the previous assignment. In this assignment now, you will need to use I/O classes you learnt in the class to store your data in binary files. In this assignment, you do not need this test class but whenever the user enters data via your user interface, you will need to store them in a binary file. When the user starts the application again, then your application will need to read the data from these external files. Please note that you can store your major class data in separate files if that's going to make your application easier to store and read.

NOTE: If you have not submitted your previous assignment, then for this assignment you can submit UI and also file storage with dummy implementation.

Assessment Criteria

This assignment will be marked as follows:

Aspect	**Marks (Total 100)**
Fully working interface for choosing the task (see the results or participate in the evaluation)	10
Fully working interface for each of the methods given in the RestManApp	30
All required Swing components are used	10
Fully working interface for retrieving data	20
Data is successfully stored in external files	15
Data is successfully retrieved from external files	15

In order to get full mark, your class should have the following: a constructor with full parameters, at least two constructors with partial parameters, overridden toString method, javadoc. The following grading scheme will also be used for the requested methods.

Fully working	0.2
Appropriate reuse of other code	0.2
Good coding style	0.2
Good Javadoc comments	0.2
Good and neat test results	0.2