1. **COURSEWORK TITLE**

FURNITURE SALE ORDERING MANAGEMENT SYSTEM

1. **THE COURSEWORK OVERVIEW & DESCRIPTION**

Yoyo-Furniture is a furniture company that is often use a set of processes to complete the tasks and activities that occur in their business everyday. Sale order processing also known as order fulfillment in the business environment details a company completed customer orders. Fulfilment is now more common which customers use to purchase all sorts of furniture products without ever stepping foot in a store. As such, you are commissioned to develop a window-based system that simulates the process of managing sale orders, invoices and reports. Identifying real world objects – physical and/or logical objects - is required, i.e., sale order, invoice, report, user, to name a few. In addition, the system should be GUI-driven for the functional scenarios. Using object-oriented approach, your team is required to design and develop the object-oriented solution to fulfil the requirements. In this assignment, a report document is mandatorily required to reflect the solution that is designed and the implementation details along with code snippets emphasizing object-oriented features.

The following are the basic requirements that illustrate the scenario, *but not limited to*.

**Consider the Furniture Dataset:**

1. IKEA\_SA\_Furniture\_Web\_Scrapings\_sss.csv

* <https://www.kaggle.com/datasets/ahmedkallam/ikea-sa-furniture-web-scraping/>

OR,

1. Furniture Price Prediction.csv

* <https://www.kaggle.com/datasets/shawkyelgendy/furniture-price-prediction>

Select one of the datasets to source the system for product listing. You are freely to choose any content from the item list.

**Authentication and Authorisation:**

You program should have two types of access rights such as officer, administrator and saleperson for access to manage sale order and reports.

**Officer:**

Officer should have access to the following functionalities:

* Manage personal profile
* Process sale order upon sale approval/ closed sale
  + - To search sale orders
    - To modify sale orders
* Submit sales for production
  + - To issue sale invoice
* Check sale product status for *work done* or *in progress* status
* Generate report (Type: work done report, approved/closed sale report)

**Administrator:**

* Manage personal profile
* Manage worker profile (saleperson and officer)
* Generate report (Type: work done report, approved/closed sale report)

**Saleperson:**

Saleperson should have access to the following functionalities:

* Manage personal profile
* Manage sale order quotation (create/modify/remove/search)
* List all personal sale orders (unapproved/approved)

In solution design, you are required to

* Identify the various attributes needed for describing the entity.
  + Identify and include the necessary methods.
  + Check duplication of records.
  + State any valid/logical assumptions for functional requirements to reach the object‑oriented design concepts.

1. **OBJECTIVE OF THIS COURSEWORK**

To evolve the ability to design and develop an Object-oriented system.

1. **LEARNING OUTCOME**

At the end of this coursework, you should be able to:

* Construct a software application that that exploits the strength of object-oriented paradigm (C3, PL02)
* Demonstrate the use of object oriented concepts and their functionalities in the existing system (A3, PL05)

1. **TYPE**

Group Assignment (3 to 4 members in a group)

1. **GENERAL REQUIREMENTS**

* The program submitted should compile and be executed without errors.
* Validation for input should be done for each entry from the users to avoid logical errors.
* The implementation code **must highlight** the use of object-oriented programming concepts as required by the solution.
* Students should use **text files** for storing and retrieving data required for the system.
* **Not allowed** to use any database tools like access / oracle etc.

1. **DELIVERABLES:**

* The system with complete code to be submitted in the Moodle.
* Report document in softcopy form to be submitted in the Moodle.
* Submission deadline: As per specified in Moodle

1. **DOCUMENTS: COURSEWORK REPORT**

* As part of the assessment, you must submit the project report in softcopy form, which should have the following format:

1. Cover Page:

All reports must be prepared with a *front cover*. A protective transparent plastic sheet can be placed in front of the report to protect the front cover. The front cover should be presented with the following details:

* Module
* Coursework Title
* Intake
* Group member (Student name and ID)
* Date Assigned (the date the report was handed out).
* Date Completed (the date the report is due to be handed in).

1. Contents:

* Description and justification of the design and the implementation code which illustrate the object oriented programming concepts incorporated into the solution
* A 2000-word report based on the object-oriented topic research

1. Conclusion
2. References

* The font size used in the report must be 12pt and the font is Times New Roman. Full source code is not allowed to be included in the report. The report must be typed and clearly printed.
* You may source algorithms and information from the Internet or books. Proper referencing of the resources should be evident in the document.
* All references must be made using the APA referencing system.
* List of references at the end of your document or source code must be specified.

1. **ASSIGNMENT ASSESSMENT CRITERIA**

The assignment assessment consists of four components: Requirement Analysis (20%), Report (30%), Implementation (40%), and Presentation (10%). Details of the allocation for each component are as follows:

|  |  |
| --- | --- |
| **Criteria** | **Marks allocated** |
| **DOCUMENTATION:** | |
| Requirement Analysis: [CLO2-PLO2]   * Use case diagram with description * Class diagram | **10**  5  5 |
| Report: [CLO1-PLO1]- Report Format and References- System Documentation | **20**  5  15 |
| **SUBTOTAL:** | **30** |
| **IMPLEMENTATION:** | |
| Implementation: [CLO2-PLO2]   1. Authentication and Authorisation 2. Functional use cases for Officer 3. Functional use cases for Saleperson 4. Functional use cases for Administrator   *\* the group has freedom to decide what should be allocated according to the amount of work assigned noting that each member is required to demonstrate object-oriented features* | **50** |
| Individual Presentation: [CLO3-PLO5]Ability to answer questions addressed by the lecturer pertaining to the work done and presented | **20** |
| **SUBTOTAL:** | **70** |

1. **DEVELOPMENT TOOLS**

The program must be written in Java language and you can use any Java development IDE as a tool but the back-end data store must be **.txt** files.

1. **ACADEMIC INTEGRITY**

* You are expected to maintain the utmost level of academic integrity during the duration of the course.
* Plagiarism is a serious offence and will be dealt with according to APU and Staffordshire University regulations on plagiarism.