RMIT JAVA GROUP 3 ASSIGNMENT – COSC2081

LECTURE: MINH VU THANH

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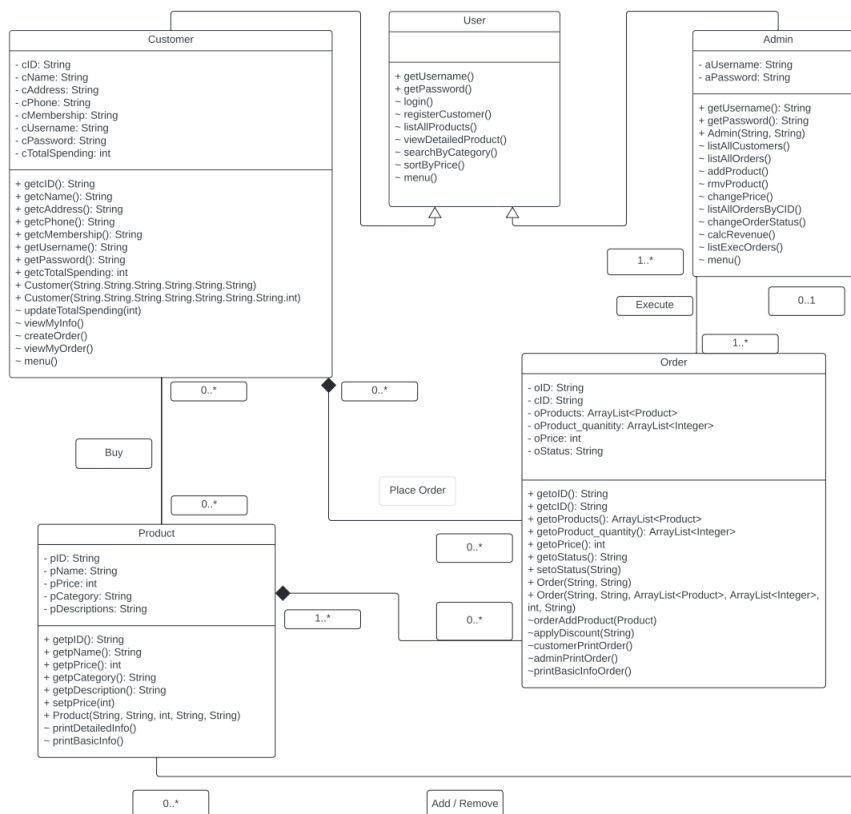# 1.INTRODUCTION

Our project is to create a small basic store where user could experience some basic features during shopping process like, view product, view the details of the product and etc. Moreover, the store also allow user to register and get discount for their membership. Our group has 4 members' total with The Anh as a group leader, Bao Minh and Viet Hoang as a Software Architecture, which design the structure of the project and Khanh Duc as a Documenter, which would take care all of the report and update the process of the whole group. This report document would contain all the information required for the project, as well as it would reflect the group work through each phase.

2.PROJECT DESCRIPTION

Technical Aspect	Description
IntelliJ IDEA	The project is used base on IntelliJ IDEA due to the convenience of the platform, which allow the user to see the highlight keyword, hence, beginner developers could easily identify between variables, functions. The highlighted keywords also enable user to read the function, how it works whenever they hover on it. Through the time using it along with doing project, we learnt how to manage files in the system, how to package many types of files in one category in order to understand and find the code. Furthermore, we are able to comprehend how the system works in general, how to run the code and display it in specific
Language: Java	Java might be hardest language, and the most complex coding language that our group ever faced, learned. Through time we understand more about the syntax and the OOP concepts of the language. Eventually, the group find out the Java is not that hard to work with as the language details from the very first things, for example, display type along with the variables name, the return type method that the user wants to return, etc. The specification of the programming language helps us understand more about the core value, variable type management, leading us able to comprehend it and know how to code the system wisely.

Text file	Record data such as user accounts and orders will be stored in the text file. During each session, when the information is required, the program will temporarily append all the lines of information of the text files in to their respective array lists. Which will then be used to either append new information into the file later, or match with specific attributes which will then be used to pull certain data out for the program to use. For example, the login session of our group would use the text file to append information to the created Array List, the username, and password would be considered carefully. After compare those 2 elements, if it matches with each other, the sign in part would be "sign in successful"
UML Diagram	Dig in deep into the technical part, the UML Diagram is considered to be the most useful tool for the project. The UML Diagram helps our group to design our system wisely, based on the diagram we could manage the work easier and understand what method, what variable should be used in each class in order to achieve the best outcome for the project and make the system able to run smoothly. UML Diagram is the best method the reflect the whole system, and whenever our group need to replace or adjust anything, diagram would be great choice for all the people in the group to understand what the system is doing

There are 5 main classes total in our system: User, Customer, Admin, Product, and Order. The very first thing is the inheritance relationship between User and 2 children: Customer, and Admin. Both Customer and Admin has to get through the log-in, register session to become a member. A Customer could do some basic shopping services: view product, view details, create and view their order. If a Customer spend a specific amount of money on product, they could reach the membership: Silver, Gold, Platinum. Besides, admin has more control of the system, as they could either change or remove the product, price, not only that, they could basically search all the Customer Information through Customer ID, and see that total revenue that the Admin has made lately. The Customer could buy no or many products, and product could be bought by no or many customers base on their needs. The special thing about the product that it could be sorted by price and category for the customer to find item easier. After buying product, the customer could make zero or many orders as they want, and an order could contain zero or many products depends on the customer. The Order could be searched through Order and Customer ID, after the order get done and get paid by Customer, the status would be managed by admin, turning into "PAID".

3.IMPLEMENTATION DETAILS

General Feature		
No	Feature	Description
1	User, Member, Admin: List and view product details	Allow the user to have an overview of the store's product, and they could also view the details of each item they want to buy
2	User and Member: Login and Logout	All the user are allowed to registered, or login with their created password, username from the sign-up process they have done the first time when they want to enter the store. User have to have an account first so they could be able to view the whole store
3	User and Member: Search product by category, and sort it by	There is different type of product, hence in order to make it easier for user to look for the product within thousands of items, user could search for the category of the product they want to look for. Another method to sort the product is pricing,

	price	user could find out the list of the item followed with descending or ascending order.
4	Member: Create order and get order info	User could add up many products as they want, all the product the customer add would form into an order. After finish buying product, user could have an over view about their order, and they also could see whether they already confirmed the order or not based on the displayed status of the order
5	Member: Membership service	The membership service of the store is Silver, Gold and Platinum. Every type of the membership has a special discount with 5%, 10%, 15% respectively. In order to reach Silver, which is the first stage of the membership, user's total spending have to be over 5 million VND, for Gold is bigger than 10 million and Platinum would be up to 25 million VND
6	Admin: List all the member and find member	As the admin have the biggest control of the shopping system, they could see all the registered member in the store, all the required information such as: ID, name, phone number. Another way the admin wants to find specific customer info, is with their ID. Based on the ID uniquely alone, the admin could find member basic information separately.
7	Admin: Add/Remove/ Adjust product and	In order to control the business, the admin user could add new product as well as they could remove it easily based on their needs. Furthermore, the price of each product could be adjusted by admin too.
8	Admin: Check, and change order status	By the time a user has paid for product, the order would be consider "delivered" and the status eventually would be changed into "PAID" by the user admin in order to confirm with customer about their order

9	Admin: Calculate the total revenue, and view total order executed that day	For business purpose, admin user has to check and calculate the total profit for every order, user could see the total revenue of all the order had been made before and also able to view total order that executed from that day.

4.PROJECT   PLANNING   REPORT

All team member	Role and Task Given	Individual contribution (%)
Nguyen Hoang Khanh Duc - s3926243	Documenter	25%
Nguyen Bao Minh - s3926080	Tech - Architecture	25%
Nguyen The Anh - s3927195	Group Leader	25%
Tran Viet Hoang - s3928141	Tester and Tech-Architecture assistant	25%

Our group managed to finish the group project successfully. At first, due to the strict timeline, we were being struggled with the project, and the most difficult part was, there were too many things we do not understand deeply about the Java language, and the Object-Oriented Programming concepts. Not only that, our group all are studying Web Programming and were preparing for the final project at the same time, luckily the Java assignment deadlines was extended up to 1 week thanks to our lecturer, we felt more comfortable to plan out and do the task. In order to have a concrete plan for the assignment, we all agreed to spend the first 3 days of the week to have an overall review of what we have learnt and what tasks have we done in the tutorial session. After that, we divide each work based on the strength of each person. Our team member, The Anh, he is outstanding from the rest of us, he did understand about Java better and also, he has experienced with it too, hence he took a role as a leader to manage the work and guide our team to have the best outcome. Besides, Duc is our team member which he has the weakness of learning and have a deep understanding about the technology, making he were being struggled in understanding Java as well as its application, therefore, in order to keep up with the plan and the process of the group, he took a role as the Documenter, which most of

the work for him will be managing the report to update the process of the whole group for team member to know what they have done so far, and the progress. The rest 2 members who are Bao Minh, and Viet Hoang, they do understand and they could collaborate and understand the working style of each other, therefore, they contributed as an assistant to the other smoothly. We did have online meetings weekly and also online social platform which is Messengers, one of the most social platforms familiar to us to update the process of the work. And we managed to finish the group by the deadlines, although we did have some struggle about the work of each person due to its difficulty but in the end, we managed to work together as a group to get the project completed.

5.CONCLUSION

Technical Aspect:

Due the limitation of the course, we could only do some basic feature with a low scope for our Mini Store Project. The future work we might be consider to learn new aspect about Java, make it more functional for the user to use, and some library, database could be added, if possible, to expand the whole store in to a bigger shopping platform.

Teamwork aspect:

Based on the time doing assignment project, we find that our time management skill is not good as expected. Although we managed to finish the project by the deadlines, but if the deadline was not extended; we might get ourselves into trouble with bunch of work and with bunch of confusion between members. And our team did not take the language lecture seriously at the beginning of the course, leading up to 3 days our group has to spend on the reviewing lectures and tutorials. For the future work, we sure we would have more organizable with the timeline for the project, we would be more focus and serious of learning a new thing from the first start in order to achieve the best outcome for the project. In contrast, our communication during the process was amazing, we shared our perspective between each other and also helped each other whenever someone did not understand or need anything for their work. Besides messenger for updating information daily, we also have an online platform called Discord, which allow us to demonstrate the code between each other through streaming, and our team find that effectively and efficiently for the project. Hence, the future work we would keep it as the same style, and until now, we find no difficulties of our working style.