MINISTRY OF INDUSTRY & TRADE

INDUSTRIAL UNIVERSITY OF HO CHI MINH CITY

FACULTY OF INFORMATION TECHNOLOGY

GROUP ASSIGNMENT

Course name: Distributed Programming With Java

Course code: 2101558

Department: Software Engineering

Subject leader: MSc. Nguyen Thi Hoang Khanh

Outcome + Rubric

Step 1: Form a group *(Time: first week)*

- You form your groups to do the assignment
- Number of members from 2 to 4 people
- Elect the group leader and assign work to each member

Step 2: Choose a topic to implement *(Time: first week)*

- The group chooses one of the names of the assignments attached below
- Maybe, the group can propose a topic that the group likes, describing the assignment's requirements and she will approve it before you carry it out.

Step 3: Implement the assignment *(Time: week 2 to week 14)*

✓ Implement the assignment consists of the following stages:

1. Collect requirements
2. Analyze requirements
3. Design analysis
4. Implementation
5. Testing
6. Deployment

✓ Output: Includes two parts

1. Report document written in Word or PDF includes the following chapters: (CLO2)

   Chapter 1: Introduction

   Chapter 2: Requirements Analysis (CLO4)

   Chapter 3: Design analysis *(screen diagram, use case diagram, activity diagram, class diagram, sequence diagram, database diagram)* (CLO1, CLO5)

   Chapter 4: Implement application (CLO6)

   Chapter 5: Conclusion *(achieved results, limitations, development direction)*

   References (CLO3)

2. Source code of the application

Step 4: Present and criticize the group's results *(Time: week 14 or 15, according to the schedule you announce)*

Results are evaluated according to the rubric attached below

Note: If you have any questions, please meet the lecturer directly during theory and practice sessions or you can discuss via the class Zalo Group or the lecturer's email.

CLOs and Rubric

STT	CLO	Rubric (expected)
1	Implement an application using Java programming language that connects to big data.	Students must be able to connect to the NoSQL database and implement at least two methods: Searching, adding, deleting, editing, and updating data from a NoSQL database.
2	Write clear report documents according to regulations *(correct structure, complete content, citations, references)*	Present the document clearly according to regulations *(Correct structure, complete content, citations, and references as required)* but there are a few errors in formatting and spelling.
3	Using efficient resources to solve problems in distributed applications	Find and use appropriate sources of information to complete the problem that needs to be solved.
4	Present knowledge about new technologies in distributed programming in the Java environment	Students can present the distributed programming model and the functions of the components in the model.
5	Select a solution for distributed application with specific technology.	For a specific problem, the student proposes a solution based on socket/RMI technology and explains its suitability.
6	Apply distributed programming techniques in the Java environment.	With a specific problem, the student implements a distributed application.

Some of the topics for the assignment

Students should choose, analyze the design theory, and implement one of the following applications:

1. Write a medical examination management application at a clinic including the following functions:
   a. Receiving staff:
      – Log in to the system, view your information, and change your password when necessary
      – Enter patient information when visiting and put it in the examination list of the doctor the patient chooses *(if the patient has already been examined, there is no need to re-enter).*
      – Edit patient information when requested by the patient.
      – Find patient information when knowing the code or name.
   b. Doctor:
      – Log in to the system, view your information, and change your password when necessary
      – Receive patients from the waiting list.
      – Performing medical examinations includes: Recording information about the patient's condition, and prescribing medication. If the patient needs testing for more information, the doctor will transfer it to the testing department. When the test is completed, the patient will return to the doctor's room to update the test information.
   c. Medicine dispensing staff:
      – Log in to the system, view your information, and change your password when necessary
      – Receive a list of examined patients and dispense medicine based on the doctor's prescription.
   d. Manage:
      – Manage patient information: view, add, delete *(patients who have not been re-examined for over 3 years).*
      – Manage accounts participating in the system.
      – Manage prescriptions.
2. Write a timekeeping management application in an administrative company with the following functions:
   a. Staff:
      – Log in to the system, view your information, and change your password when necessary.
      – Log in every morning to time and start work.
      – View monthly salary information
   b. Manager:
      – Log in to the system, view your information, and change your password when necessary.
      – Manage employees in your department.
   c. Manage:
      – Manage timesheets.
      – Manage employee payroll.
      – Manage accounts.
3. Write a multiple choice exam application deployed on the local network with the following functions:
   a. Candidates:
      – Log in to the system, be allowed to view your information, and change your password when necessary.

- Take the exam when the exam is open
- View results after completing the test.

b. Teacher:
- Log in to the system, view your information, and change your password when necessary.
- Manage question banks by subject.

c. Manage:
- Candidate management.
- Lecturer management.
- Management of subjects.

4. Write a coffee sales management application with the following functions:
   a. Staff:
   - Log in to the system, view your information, and change your password when necessary.
   - Take orders from customers' tables.
   - Pay bills when requested by customers.

   b. Manage:
   - Manage all types of food and drinks in the restaurant.
   - Employee management.
   - Manage sales invoices.
5. Write a sales management application in a supermarket with the following functions:
   a. Sales agent:
   - Log in to the system, view your information, and change your password when necessary.
   - Pay invoices when customers make purchases.

   b. Manage:
   - Log in to the system, view your information, and change your password when necessary.
   - Manage types of goods and items.
   - Manage invoices, and cancel details of an item in the invoice when the customer sends a request.
   - Employee management.
6. Write an application to manage work assignments in a project of a company with the following functions:
   a. Staff:
   - Log in to the system, view your information, and change your password when necessary.
   - Log in to the application to view assigned tasks, progress, time, and deadline for completing the work. If completed, check the completed content.
   - Can take notes on work in progress.
   - Update account information, register an account if you are a new employee, and have approval from the manager.

   b. Manage:
   - Manage projects *(post, delete, edit, assign project participants, update project status whether completed or not, etc.)*
   - Manage employee accounts *(add, and delete employee information).*