TÂN TẠO UNIVERSITY
SCHOOL OF INFORMATION TECHNOLOGY

CS401V: DISTRIBUTED SYSTEMS
LAB ASSIGNMENT 2

1. Objective

- Develop a distributed face recognition system for a multi-branch coffeehouse.

2. Description and requirements

Description: A coffeehouse operates multiple branches across different geographic locations. To enhance customer experience and quality of service, the owner of the coffeehouse would like to design and implement a face recognition system to recognize the customers and their preferred orders.

Requirements:

- The coffeehouse operates a server that performs a face recognition task. If the customer is recognized, the server sends the latest order of the customer to the branch so that the shop can prepare and confirm with the customer. If the customer is not recognized, the server informs the branch and adds the customer as a new customer for future use.
- Each branch (shop) will deploy a mobile app (considered as clients) with the capability of taking a photo of the customer and sending a request for face recognition.

3. Design and Implementation Guide

- Students should use an open-source face recognition model available on the Internet.
- Students should implement the communication between the clients and the server using socket programming or an open-source message-broker, e.g., RabbitMQ.
- Students should design a database scheme for storing customer photos and their recent orders.

4. Submission and evaluation

- Students should submit a report detailing the design and implementation of the project.
- Students should also submit the source code of the project.
- Students will be requested to perform a demonstration during the lab hours for assessment.
- Distribution of marks:
    - 40% for the report and code

    - 60% for the demonstration
- Submission deadline for report and source code: **30 November 2025**.
- Demonstration can be done before the submission deadline based on lab schedules.