AMERICAN
UNIVERSITY OF BEIRUT

MAROUN SEMAAN FACULTY OF
ENGINEERING & ARCHITECTURE

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
EECE 351 - Computing Networks and Services

Network Programming Project
AUBoutique - Phase II
Due 11:59 pm on December 8, 2024

Team Guidelines

- The team is expected to complete Phase I before starting with Phase II.

- Team members are expected to put a balanced effort on the development of the different parts of the project.

- One team member will be in charge of submitting the project deliverables (code and report) on Moodle.

Project Deliverables

- Full source code of the project with documentation.

- Project report that documents the entire project including all features of both phases. The report shall include:

  - Cover page listing the team members (names, ID numbers, emails) and the workload distribution (in percentage of individual effort to total effort.)
  - up to 6 pages excluding the cover page and appendices
  - Description of the system architecture and the protocol used between communicating entities.
  - A tabular presentation of all the project features (phase I and II) indicating the ones that are successfully or partially implemented.
  - Description of the implementation at the client side, server side and database.
  - One appendix that includes snapshots of the application depicting the main features.
  - One appendix that includes a table showing a breakdown of the project tasks. Indicate next to each task the name of the team member who was mainly responsible for its implementation.

- Project demo to present the application and all implemented features.

General Description

In this project, you are required to design and implement AUBoutique, an online marketplace for the AUB community. **AUBoutique** is a user-friendly platform that facilitates the buying and selling of a variety of products including craftwork, textbooks, collectibles, and others. The platform starts in phase I as a simple online marketplace that provides basic features of account management and selling-and-buying products, then it evolves into a more advanced platform in phase II with creative features and a user-friendly graphical user interface.

Extending AUBoutique application to support GUI and enhanced features

In this phase, you are asked to modify your system to add GUI and implement advanced features. Below is a list of features, some of which are required and the rest are optional.

- *required* Upgrade your system to support a visually appealing and interactive GUI.

- *required* Upgrade your system to follow a hybrid client/server and peer-to-peer architecture. Instead of having users exchange messages through the server, they can chat directly with each other in a peer-to-peer manner. To do so, once a user logs in, the server saves its IP address and port number and sets its status to online. If an online user is interested to chat with an online product owner to inquire about the product or negotiate the price, the user gets the IP address and port number of the owner from the server and initiates a peer-to-peer communication using text messages.

- *required* Users can rate a product based on their degree of satisfaction from least (one star) to highest (five stars).

- *required* Users view the average rating of a product.

- *required* Look for a free webservice that provides exchange rates and use it in your application to support multiple currencies.

- *required* Upon adding a product, the owner specifies the available quantity.

- *required* The application supports efficient searching of products.

- *required* A creative feature of your choice.

- *optional* Extend the chat feature to include different forms of media such as images, audio, or video.

- *optional* Users can follow product owners to receive a notification whenever a product owner adds a product or modifies an existing one.