



Ain Shams University
Faculty of Engineering
Computer Engineering and Software Systems Program

CSE411: Distributed Computer System – Spring 2023

T E R M - P R O J E C T R E Q U I R E M E N T S

This project is a group project with each group has of 7 to 10 students. In this project, you are going to design a distributed online software system. This system must provide at least the following features to its clients:

- i. Create a new account.
- ii. Login to your account.
- iii. The system should have different type of users
- iv. Add/Edit/remove data that is shared between the users.
- v. Online payment.
- vi. Multi search options.
- vii. View your account info such as current cash balance, List of purchased items, list of sold items and items to be sold yet.
- viii. Mange inventory of the items.
- ix. Generate different kinds of reports such as reports about the transactions performed on the systems.
- x. Use SOAP or REST web services
- xi. Design an Application-Level Protocol (ALP) that models the interaction between the different nodes in this system.
- xii. Implement the ALP at each level of nodes using multi-threading.

The system should rely on a distributed database model, where appropriate partitioning of the tables are designed. Additionally, the system should have an interface to allow other stores to sell your products. Moreover, a detailed report and demo session to the TA is needed by the due date.

Project Deliverables

The following are required to be delivered by the due date:

- Project code the source code of the project, the database schema in the form of SQL file, the executable files, and any additional resource files should be provided.. It must be submitted on LMS system in a zip/rar archive
- A Readme.txt file that shows how to compile the developed code and how it can be run as well as the required running environment by the project.
- A presentation (in .pptx format) of the different phases of the project. Each group will do the presentation and project demo via Microsoft-Team
- Project document (in .docx format) that contains at least the sections shown hereafter.

Project Document

The project document should contain at least the following sections:

- i. **Cover Page**
This page should contain the university name, faculty name and department name at the top of the page. In addition, module code and name, project name, and your names should be provided on the cover page.
- ii. **Table of Contents**
It contains the table of contents of the whole document as well as the page number for each section/sub-section.
- iii. **Introduction**
A detailed description that elaborates on the project is needed.
- iv. **Target Beneficiaries of the Project**
Who are the beneficiaries of the delivered software application that will be delivered from your project? You may provide a list of all entities that can use your product and how each of them can benefit from your project.
- v. **Adopted Programming Language**
Specify the programming language that you will use to implement the project.
- vi. **System Architecture**
This section should contain the updated system architecture of your project. The system architecture should be provided in the form of a block-diagram that shows the major sub-systems in your project and how they interact with each other. You need to provide an explanation of the system architecture that shows your assumptions and any clarification that might be needed and cannot be added to the block-diagram. Additionally, the system should clarify which distributed architecture model have been adopted and the justification of adopting it.
- vii. **Application-Level Protocol**
Detailed application-level protocol of your system should be provided in this section.
- viii. **Distributed Database Design**
Distributed database design and database schema should be provided in this section with the justifications of the adopted portioning methods.
- ix. **Time Plan**
In this section, an updated time plan of all phases of the project is detailed with the detailed tasks of each phase. A Gantt chart should be provided to show the actual time spent in each phase of the project as well as the overlapping among the different activities of the project.
- x. **Testing**
Detailed testing process that you adopt in the project should be described in this section. It must cover component testing and system testing. It should detail all test cases used during testing phase. Test results must be provided and properly described.
- xi. **End-User Guide**

In this section, you provide the details of how to use your software. Screenshots and sample output of your software must be provided and commented. Step-by-step description of how to use your software is highly recommended in this section.

xii. **Resources Needed**

Describe all resources that have been utilized in your project.

xiii. **Role of Each Member**

A description of the role of each team member in the project should be provided in this section.

xiv. **Appendices**

This section might be needed if you have extra information that helps clarifying certain issues in your document or you don't need to distract the reader by adding this information inside the text.

xv. **References**

A list of references that are adopted during accomplishing this project.
