Scalable and Distributed Computing
HCMC International University
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Course: DSIUxxx
Date Start: 2020-10-09
Date End: 2020-12-06

Course Project

Specification

You create a group of two persons. Your group's tasks are to design and implement a prototype of a distributed sale system for a chain of Trung Nguyen coffee shops. The Trung Nguyen coffee company has many local shops across Ho Chi Minh City offering drink and food, and also selling coffee products. Note that shops can have different or similar services. The sale system is expected to record orders, prepare bills, generate daily and weekly reports and to provide the information of all past transactions. Three kinds of players include:

- Sales staff record orders, produce bills and register payments.
- Local managers can do everything the sales staff can but they can also generate local reports of daily and weekly sales. They can also set local promotions on food and drink items.
- General managers can do everything that local managers can but they can also view all local reports and set general promotions that will apply to all of the shops.

The customer player optionally implemented for the sake of completeness can only view the information of products and services. Your task is to provide a prototype 3-tier system for the business.

All information used in the system should be stored at either a central or a distributed database. The prototype system contains a number of different user interfaces, one for each of the users, which can be built using any technology of your choice. This system must achieve a 3-tier architecture and persistently save data in a database.

The appropriate technology includes the technology for distribution (Middleware, Web Services, etc.), the database (Oracle, SQL server, MYSQL, Postgres, etc.) and also the application/user interface technology (Java, Java Servlets, .NET, ASP.NET, VB.NET, Python, etc.).

Deliverables and Grading Criteria

- D1: An ERD describing your backend database (15%)
- D2: An UML deployment diagram detailing your system architecture (15%)
- D3: UML Use-case diagrams for the scenario, these should distinguish the various functions and users of the system (15%)
- D4: UML conceptual Class diagram for the scenario (10%)
- D5: A critical evaluation of the design and implementation (15%)
- D6: A good report including D1, . . . , D6, short statement of the implemented functionality along with screen shots of the application functionalities (15%)
- D7: Implementation and demonstration (15%)

Submission Requirements

- An electronic copy of your work for this project should be fully uploaded by the deadline date.
- For this project you must submit a single Acrobat PDF document. In general, any text in the document must not be an image (i.e. must not scanned) and would normally be generated from other documents (e.g. MS Office 2007 using "Save As .. PDF").
- For this project you must also upload a single ZIP file containing supporting evidence.
- Make sure that submission files are virus-free and not protected by a password otherwise they will be treated as null submissions.