Software Design and Architecture (SOFE 3650) Project Proposal

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Group Members

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Project Title and Description

This project will encompass the development and deployment of a database system for a gaming retailer. The title of this project will be **GameStart Database System** where GameStart is the name of an imaginary gaming retailer we had created. This project is planned to act as a system for the company side of the retailer, where users will be entities working for the company.

Our plan for this project is to construct a database system which supports numerous functions such as searching a catalogue of products, checking the availability of an item's stock, viewing orders made by customers, and so on. In essence, the product we aim to produce as a result of this project is a system that will sufficiently encompass a system that would be used to manage the various aspects that are critical in overseeing the operations of a gaming retailer.

The main objectives of this project however, is the design process used to produce the proposed database system. As such, this project will primarily focus on leveraging the ADD design process, where numerous iterations of this method will help to define the structure of the system, define the components of the architecture to achieve the functional requirements of the systems, and refactor the architecture to achieve the quality requirements of the system.

Functional Requirements

Functional Requirement No.	Functional Requirement Description
FR 1	Users should be able to add items (such as games, toys, clothes, game devices etc.)
FR 2	Users should be able to modify items.
FR 3	Users should be able to delete the items
FR 4	Users should be able to view a list of items and interact with it (add, delete, modify).
FR 5	A view of list of items should be easily filtered
FR 6	Users should be able to search for an item by its id.
FR 7	List of items should be paginated in the view. (in order to prevent lag otherwise rendering thousands of items at once is unreasonable)
FR 8	Each item should be associated with its warehouse/store.
FR 9	Users should be able to display orders.
FR 10	Should have multiple views (orders, items, warehouses, stores)
FR 11	Users should be able to login with their credentials.
FR 12	All the views must be accessed by authorized users.
FR 13	There are going to be different types of users (Employee, Manager)
FR 14	Only managers can access the Warehouse and Stores views.
FR 15	Employees can only access Orders and Items views.
FR 16	Users should be able to modify orders.
FR 17	Users should be able to modify some information about customers.

Non-Functional Requirements

Non-Functional Types	Non-Functional Description
Usability	● The interaction between users and the database system should be performed through simple user-interface ● Users of the database system should be able to easily perform (or learn to perform) the database's numerous functions such as querying data, inserting new data, updating data, etc.
Availability	● The Database system should be available for users to access 24/7
Security	● The relations created in the database should not break any constraints such as entity, referential, and so on. ● Certain features should only be accessible by a manager user type
Performance	● The database system should perform various functions such as query, insert, update, and so on, within 1000 ms..
Modifiability	● Ability to perform query functions such as add, remove, update, and collect data elements from the database.