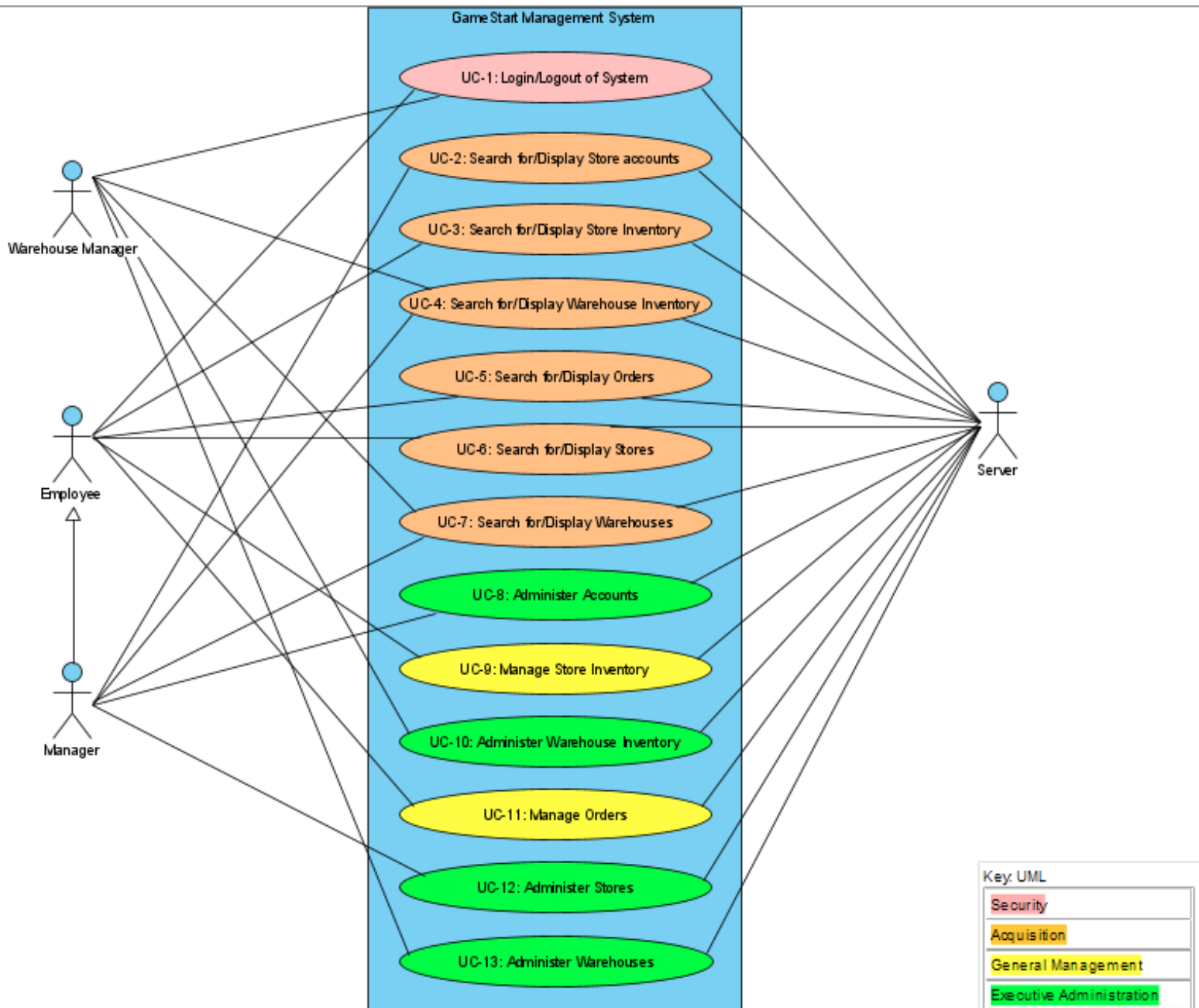


Software Design and Architecture (SOFE 3650) Project Progress Report

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Use Cases

Use Case	Description
UC-1: Login/Logout of System	A user (Employee, Manager, Warehouse Manager) will enter account credentials (user ID & password) upon successful login, the user will be granted access to their account (Where each type of user has varying levels of permissions). Upon completion of the desired tasks, the user will select the logout icon to deactivate the current session.
UC-2: Search for/Display Store accounts	A user (Manager) will enter account credentials (user ID & password), or the user will select an account from the dropdown box. Upon successfully entering the credentials, the user will receive appropriate data about accounts based on entered or selected information.
UC-3: Search for/Display Store Inventory	A user (Employee, Manager) will search the database system for the current store's inventory, where they will enter a store's id and receive a broad list of the current store's inventory of items.
UC-4: Search for/Display Warehouse Inventory	A user (Manager, Warehouse Manager) will search the database system for the current inventory of a warehouse either by entering the warehouse ID and viewing a list of all inventory in the specified warehouse.
UC-5: Search for/Display Orders	A user (Employee, Manager) will search the database system for the customer orders associated with the current store through numerous methods. The user will either choose to display a specific store's orders, or search by entering a unique order number. After entering the information, data corresponding to that order will be displayed to the user.
UC-6: Search for/Display Stores	A user (Employee, Manager) will search the database system for other store locations by entering a store id, or by viewing a list of other store locations with their associated information.
UC-7: Search for/Display Warehouses	A user (Manager, Warehouse Manager) will enter a warehouse id into the database system. Given the warehouse id is correct and corresponds to an existing warehouse, information corresponding to that warehouse will be displayed.

UC-8: Administer Accounts	A user (Manager) will change account attribute(s) associated with a particular account id. The changes are then sent to the server for constraint validation. Upon successful validation, the changed attribute(s) are going to be updated in the database.
UC-9: Manage Store Inventory	A user (Employee, Manager) will either add items, remove items, or update particular details about items within the inventory of the current store.
UC-10: Administer Warehouse Inventory	A user (Warehouse Manager) will either add items, remove items, or update particular details about items within the inventory of the current warehouse.
UC-11: Manage Orders	A user (Employee, Manager) will view current “live” orders and will either add a new order, remove an order from the database system or confirm the order as complete.
UC-12: Administer Stores	A user (Manager) will either add a new store, remove an existing one, or enter a store id in order to view information corresponding to that store. Given the id is correct, the user will update various details regarding that store.
UC-13: Administer Warehouses	A user (Warehouse Manager) will either add a new warehouse, remove an existing one, or enter a warehouse id in order to view information corresponding to that warehouse. Given the id is correct, the user will update various details regarding that warehouse.

Quality Attribute Scenarios

ID	Quality Attribute	Scenario	Associated Use Case
QA-1	Usability	Users of the database system should be able to easily perform the database's numerous functions. A user should take approximately 7 clicks to perform a desired task.	ALL
QA-2	Availability	A user sends a request via the server api to access the database system. The database system should be online to accommodate that request 100% of the time, it should be available 24/7.	ALL
QA-3	Security	A user attempts to access information or make changes which their account is not authorized to. Their request will be denied and their action will be restricted 100% of the time (no data in the system is compromised).	UC-1, UC-8, UC-10, UC-13, UC-13
QA-4	Availability	A user sends requests to the server api, most commonly read, write and update, for various entities such as items, orders, warehouses etc. At peak load; 99.99% of the requests are successfully processed by the system.	UC-2 to UC-13
QA-5	Performance	A user queries data from, adds data to, or modifies data within the database system. The system should be able to perform that request within 1000 ms.	UC-2 to UC-13
QA-6	Modifiability	When a new entity is introduced to the system (a new user type), the new entity should be able to be successfully added without needing to make major changes to the system's components or core functionalities. The modification should be able to be made with no defects introduced, within 3 hours, and minimal effort.	UC-1

System Constraints

ID	Constraint
CON-1	The Manager will be the only account level which has access to executive administration functions (See use case model) that pertain to a store.
CON-2	The Warehouse Manager will be the only account level which has access to executive administration functions (See use case model) that pertain to a warehouse.
CON-3	The maximum number of inventory items within a single store is 999 items.
CON-4	The maximum number of inventory items within a single store is 9999 items.
CON-5	Users will be required to login and have an active session before accessing any store information or editing order information
CON-6	The database system will only be available on local servers, one pertaining to each store.
CON-7	The database system will only be accessible on devices that have the correct credentials to log into the system.
CON-8	The database system will be accessible through a web browser (Chrome, Firefox, Safari, etc.) on different platforms (Windows, Linux, OSX), given CON-7 is satisfied.
CON-9	The database system can support a maximum of 30 individual users per server (by extension, per store).

Architectural Concerns

ID	Concern
CON-1	Facilitating a reliable piece of software that adheres to all business requirements.
CON-2	Establish a web application which successfully cooperates with the designed database system.
CON-3	Delegate tasks to members of the development team
CON-4	Leverage the team's knowledge about Python technologies, including Django, SQLAlchemy, Asyncio, PyQt5, Tkinter, Kivy ,MVC frameworks and the Python language.
CON-5	To be able to sufficiently maintain a centralized, data strong application system.