Project 1

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**Project 1**

**Articulate the goals of the project.**

The app I will be designing is an inventory management app. Its primary goal is to allow authorized users to track inventory, search for items, edit and add inventory entries, and receive alerts when stock levels are low. To achieve this, the app will include several key components. First, a login screen will validate user credentials to ensure secure access. The app will use two databases: one to store user login information and another to manage inventory data. A search function will enable users to quickly fetch specific inventory items and their quantities. A built-in notification system will continuously monitor stock levels and alert users when inventory falls below a specified threshold. Lastly, an edit feature will allow users to update or correct inaccurate inventory counts in real time.

**Describe the users of the application and the assumptions being made regarding their needs and preferences.**

The Inventory App will be built with a few key assumptions to ensure it meets the needs of its intended users. It is assumed that users may have limited technical experience, so the app will prioritize ease of use and simple navigation. Additionally, the app is designed primarily for use on smartphones, with the expectation that users will have consistent access to the internet to enable real-time data updates and notifications.

The app will have three primary users, the business owners, warehouse employees, and sales associates. Business owners will use the app to monitor inventory levels in real time, with the goal of receiving immediate alerts when items go out of stock. This functionality allows them to make faster restocking decisions and avoid disruptions in order fulfillment. The app supports their workflow by providing quick and convenient access to inventory updates throughout the day.

Warehouse employees will rely on the app during their shifts to view current stock levels and update inventory in real time. Their main objectives are to maintain inventory accuracy and improve operational efficiency when receiving or preparing orders. Features such as editable inventory entries and low stock alerts will support these tasks and help reduce errors.

Sales associates will use the app primarily when interacting with customers. Their goal is to quickly check product availability, provide accurate information, and assist with placing orders. The app will act as a fast and reliable reference tool during customer interactions, enabling associates to explain delays or confirm stock without needing to leave the sales floor.

**Discuss the screens and features that will be necessary to produce a user-centered UI design for the app.**

All The screens and UI designs I will be implementing will ensure a user centered design. Each screen except for the login screen, that will have a back button to return to the previous screen and a home button to return to the Home Screen. I will also ensure the design is consistent, this means all components will be aligned while’s being spaced appropriately.

I plan to create a login in screen that displays the apps logo with a text view displaying login, a login button and an edit text with a username/password field. After the user logins and they will be directed to the Home Screen, which displays a notification icon to view notifications, a user icon to edit user info, an search bar with edit text view that read search item, and a search button. If the search bar is empty when the search button is pressed the user will be directed to a new screen with a scrollable list of all available items with a text view above reading searched item. Each item displayed will have a name with an inventory count followed by an edit button to allow adjustments.

**Discuss how the functional app requirements will be represented in the code design and connected to the UI.**

The inventory app’s functional requirements are implemented by connecting the UI components with backend code that manages data. On the login screen, users enter their username and password into text fields, and upon clicking the login button, the app validates against a user database. If successful, it navigates to the Home Screen, which displays a search bar and button along with notification and user icons. When a search is performed, the app queries the inventory database for matching items or retrieves all items if the search is empty, then passes the results to an inventory list screen. This list screen uses a grid to display each item’s name and quantity alongside an edit button. When the edit button is clicked, the app opens an edit dialog box where users can update the quantity. The app then updates the database and refreshes the list to reflect changes. A notification screen displays low-stock alerts using a list view, retrieving data from periodic background checks. Throughout the app, data flows between screens using intents and adapters, while major UI components including edit texts, buttons, image views and list views either accept user input or display data retrieved from the databases or background syncs.