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CS-360 Mobile Architecture and Programming

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Module 3-3: Project One

1. Articulate the goals of the project.

This project will create an Inventory Management App which will allow a user to manage items in a warehouse setting. This application will allow a user to login or create a login if authorized to, authenticating that user's access, and allow the users to manage items in the warehouse, with functionality allowing users to add, remove, and increment items, and finally a notification method to notify users of items having no inventory available. The application will maintain a database with a table that tracks user Usernames, Passwords, and another table that tracks Inventory.

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

There is a wide range of potential users of this app. But their needs are much easier to define than who they are. The users expect a secure app, one that will be safe in both their use and in the accuracy of the information stored within it. Another expectation is the ease of usage regarding the core functionality of managing item inventory. A user should understand what they are doing, before they do it. Viewing the list of items should be as simple as can be. Selecting specific items within that list should be just as easy. Item information should be presented when the user wants it, but not taking up space when not desired. Managing the items should be simple and easy to understand. The options to increment item inventory should be simple, clear and easy to use. A user should be able to differentiate items. They should visually understand what they are selecting when selecting an item to get more information, and finally understand what that information is.

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

The app will contain three primary screens: the login screen, the inventory screen, and the item screens.

The login screen will contain a place for a user to input their username and password, and a button to submit that information. The app will check that information against the user identity table and authenticate their identity or deny access to the app. If the user is authenticated, they will be shown the inventory screen. This screen should also provide an option for the user to create a login, where the user will input a userid number that was provided by the warehouse IT team, which will be checked against the user identity table, and if found will be given the option to create a username and password. If not found, the user will be denied and returned to the login screen. If the user was to press the back button in this screen, it should display an app shutdown message, if pressed again the app will close.

The inventory screen will have a grid layout with all of the items in the inventory shown. The top of the screen should have a bar that displays the user’s username on the left and a logout button on the right. Below the bar the user can scroll through the inventory, which displays the item picture and name in a grid layout. Items with no picture should have a generic “No picture” text picture. They can also add an item to the inventory or select an item to bring up the final screen, the item screen. Tapping an item should bring up the item screen. Items with a zero count should have a red highlight. If the user presses the back button in this screen, the app should log them out and return them to the login screen. Optionally the logout button is available as well.

The item screen will have the item name and picture listed and display the available number of the item. It will have a button to increase and a button to decrease the amount of the item. Tapping the item’s available number should allow the user to enter a number via the device keyboard. If the item’s count is reduced to zero, the app should notify the user the item count is zero. The user should be given an option to remove the item from the inventory at this point. Pressing the back button should return the user to the inventory screen.

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

The functional requirements of this application are fairly simple to define, authentication of the user, display of items in inventory, and item management. Item management further breaks down into the ability to increase or decrease the item amount, and the ability to add or remove an item from inventory. Authentication should check the user's identity against a table that contains usernames, passwords, and a user identity number. Item management should be conducted by checking information with the item table. Each item will have a name, picture, item number, and number of items available. Adding an item will allow the user to add items with all this information to the table, whereas removing the item will allow the user to remove that item from the table. Incrementing the items will adjust the number of items available, with items having zero available should trigger the zero available items warning.