UNIVERSITI MALAYSIA TERENGGANU

FACULTY OF COMPUTER SCIENCE & MATHEMATICS

Native Mobile Programming

CSM 3123

PROJECT REPORT :

Warehouse Management

GitHub Link: https://github.com/Marlianti01/Warehouse-Management-System.git

Prepared by:

Group 4

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1. Introduction

In today's competitive industrial landscape, efficient warehouse management is crucial for businesses. Warehouse Management System primarily aims to control the storage of materials in the warehouse. Based on study by Wiku Larutama et al. (2022), between 2% and 5% of the cost sales of organization is from warehousing and with global competitive business environment nowadays, organization are emphasizing on Return on Assets, hence minimizing cost of warehouse has become more crucial in business issues. The Warehouse Management specifically for managing hijab's stock is built to give solution and it is designed to improve the accuracy and efficiency of managing stock, orders and inventory level. There are a few things that the system streamlines key process by leveraging advanced technology such as receiving stock, storing stock and managing stock orders.

The system provides clear organization of hijabs items to ensures optimal stock control to avoid shortage or overstocking. The Warehouse Management includes features such as overview of stock quantity, details stock information displays and update and delete functionality for stock management to facilitate the task of others. Moreover, the system empowers businesses to achieve customer satisfaction and greater productivity by reducing manual errors and modernizing warehouse management system. In conclusion, with the technologies progress continues, the role of Warehouse Management is set to grow and meet the evolving demands of the industry.

2. Problem Statement

Managing warehouse creates serious difficulties if it lacks of ability to manage the inventory effectively and systematically. Besides, the common results of manual inventory tracking are Stock record inconsistencies, errors and delayed updates. The result of this inefficiency makes it impossible to accurately monitor available stock which has a direct impact on the warehouse's capability to meet demand.

Furthermore, the problem arises in identifying the exact amount by the lack of real-time stock visibility. Without automated equipment, it is difficult for warehouse's team to quickly resolve stock anomalies, replenish requirements and maximize storage without automated equipment. This indirectly causes financial losses as well as missed opportunities for more effective resources utilization.

Besides, another major concern arise is the lack of secure access controls in manual or semi-automated systems which raise the possibility of data modification or unauthorized access. Hence, a comprehensive solution that combines automated CRUD functionality with inventory management, stock level tracking and login security is required to solve these issues and guarantee accurate, safe and effective warehouse operations.

3. Objectives

- To ensure accurate tracking and management of stock levels, reducing stock inconsistency, delays and errors.
- To enable quick resolution of stock anomalies, real-time stock visibility and timely replenishment
- To develop secure access control to prevent unauthorized access, data modification, ensuring the integrity of inventory data

4. Team and Task Distribution

NAME	TASK
NUR ARIFAH BINTI MOHD HANAFIAH	Code interface of profile setting, list item, update item
NURHAZIRAH BINTI ABDULLAH	Code interface of add item, details item, update item
MARLIANTI BINTI MUF PIARLIS	Code the backend and the database integration

5. App Explanation

- Landing page

Figure 1. Landing page

Figure 1 shows the landing page of Warehouse Management Application. Users can sign in to the application by clicking the sign in button while signing up for a new user.

- Sign Up page

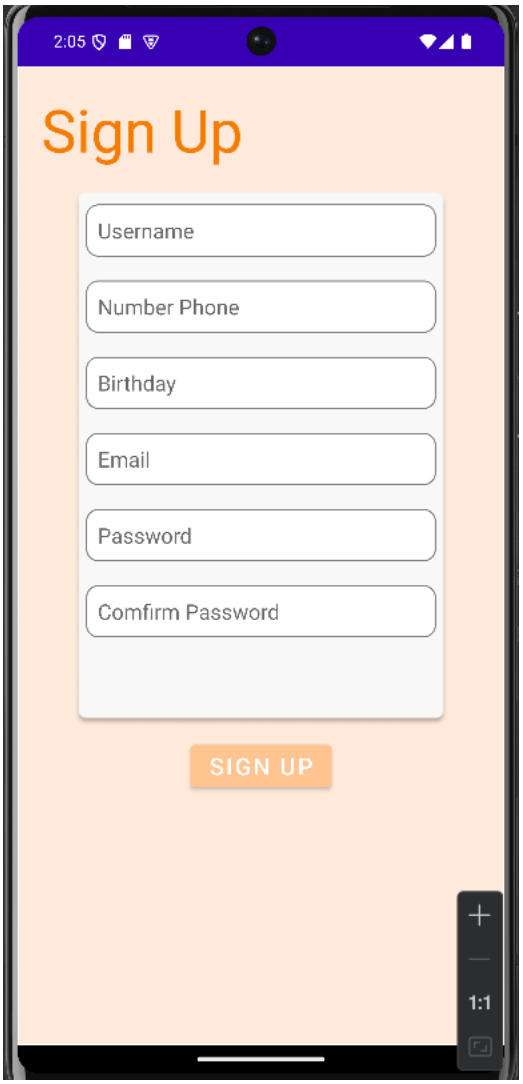

Figure 2. Sign Up interface

This figure 2 shows that the first time user will register first before accessing this application by filling up their details in the form. The form details that need to be filled include username, phone number, birthday, email, password and reconfirm password. Then when the user clicks the sign up button then it will bring the user to the sign in page.

- Sign In page

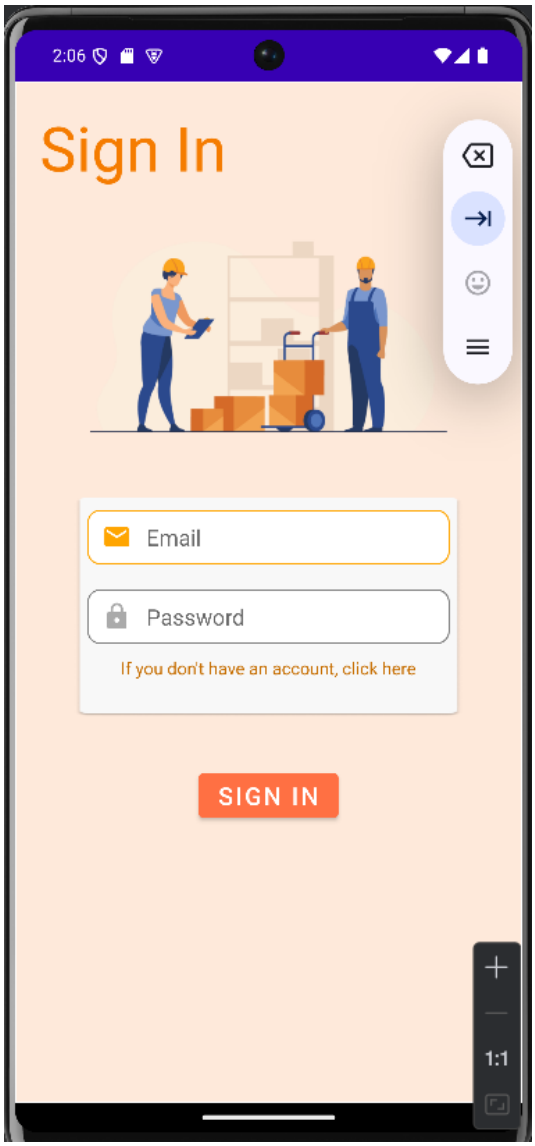

Figure 3. Sign Up page

Figure 3 shows the sign in page where users need to enter their valid email and password to log in to the next page. If a user entered invalid email and password, the system will give an error pop up message and return to the page again to let the user enter a valid email and password.

- Add Item page

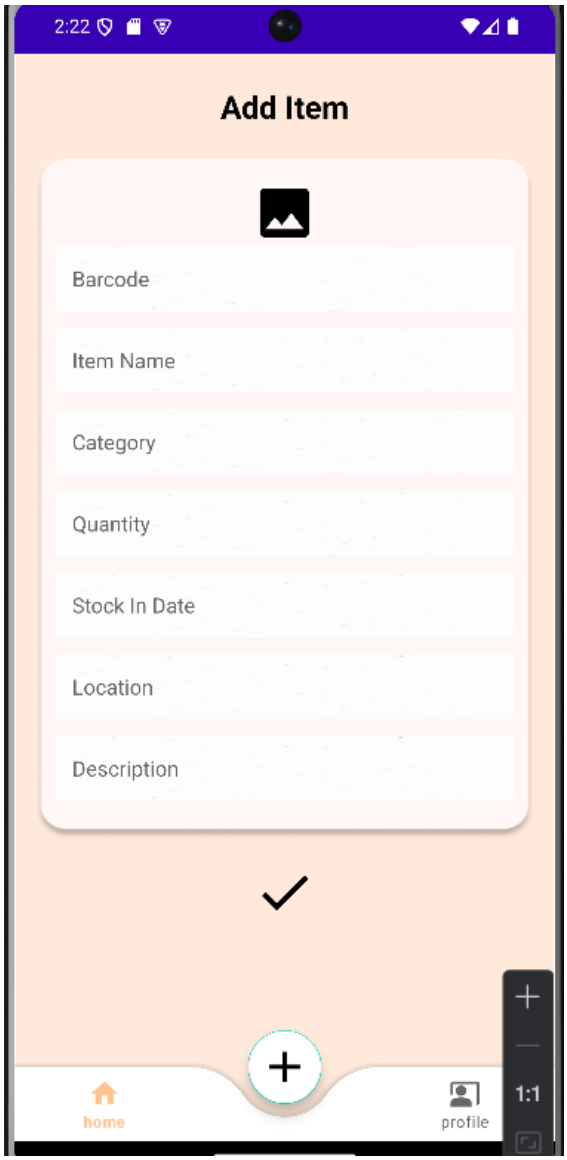

Figure 4. Add item page

This is an add item page where users can add a new item by inserting the image, barcode, item name, category, quantity, stock in date, location and description. After completing the item information, the user will click the tick icon and the user will be redirect to the list item page.

- List Item page

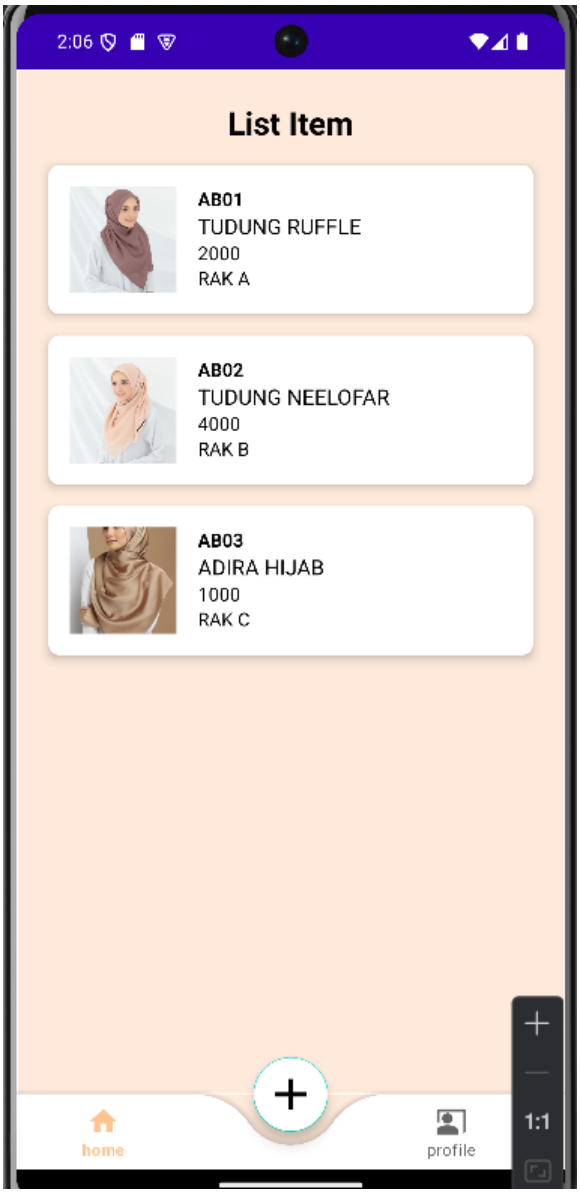

Figure 5. List Item page

Figure 5 shows a page that will display all the list items inserted by the user. Each of the items will be displayed on the card. On the card, it will retrieve data which is the image path, barcode, name of the item, quantity and the location of the items from the database. Users also can press the card to be directed to the details page.

- Details Item page

Figure 6. Detailed page

Figure 6 shows a detailed item page where it will show the details of specific hijab's barcode, quantity, category, stock in date, location and description retrieved from the item's database. Besides, users can press update icons where it will allow users to make an update to the items. Users also can make deletion for the items with press the delete action icon.

- Edit Item

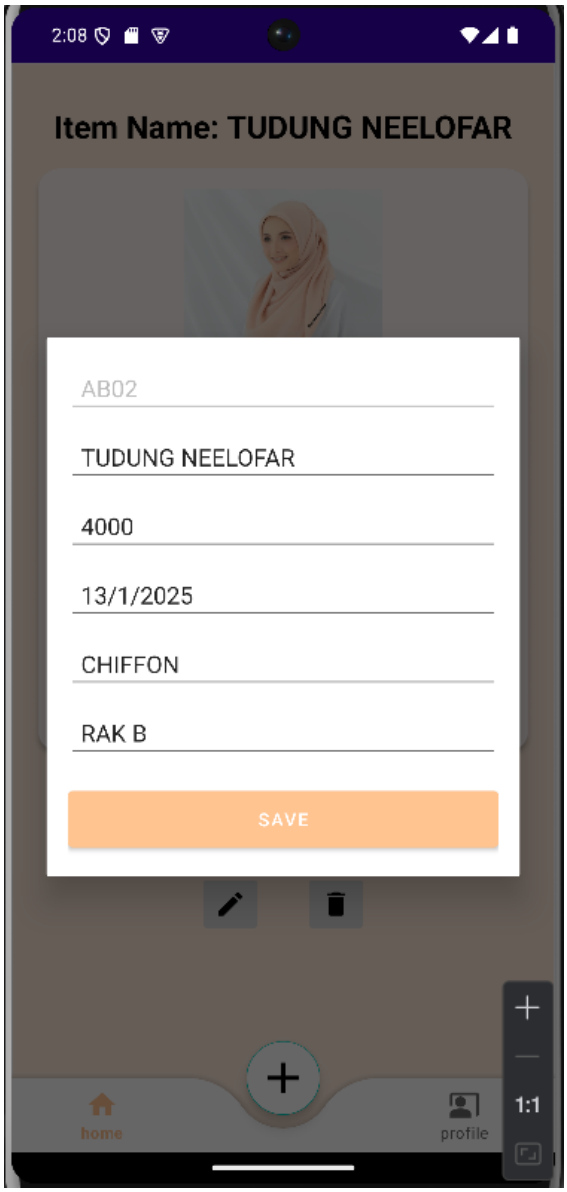

Figure 7. Edit page

The figure above shows that page edit where users can edit the details item that they add before with new detail changes. Users are not allowed to make updates for the barcode field to ensure data integrity and prevent unauthorized modifications, which could compromise the accuracy and security of inventory tracking within the system. The user will click the save button to save the update that they are making.

- Delete

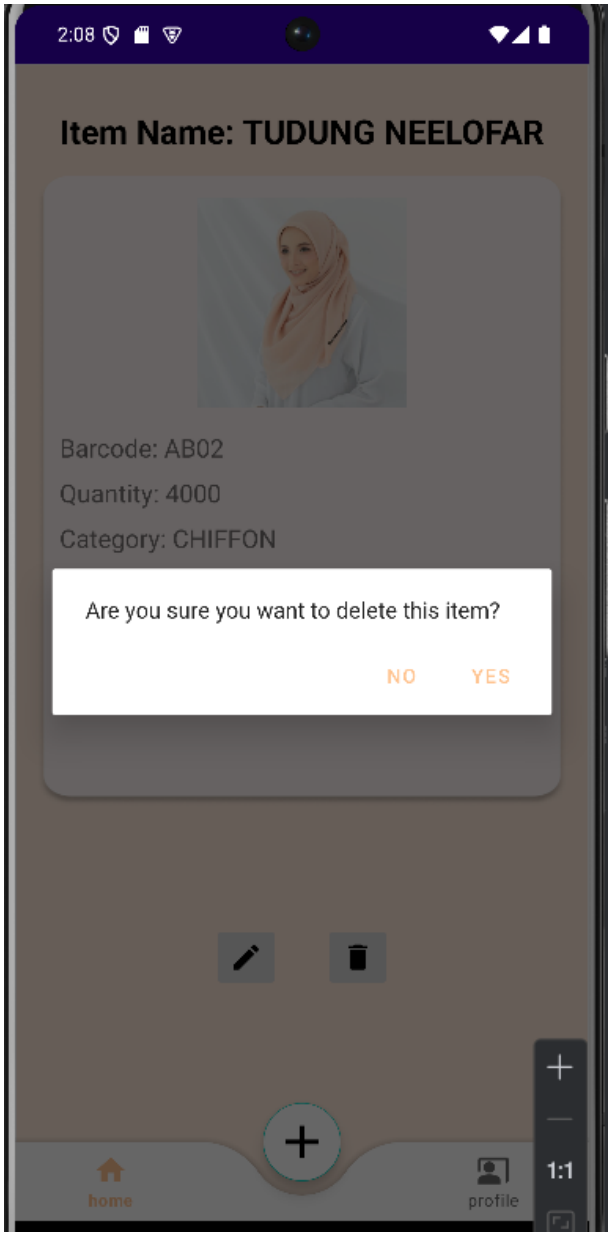

Figure 8. Delete dialog box

The show dialog box will pop out when the user clicks the delete icon. It will ask the user for the confirmation to delete.

- Profile page

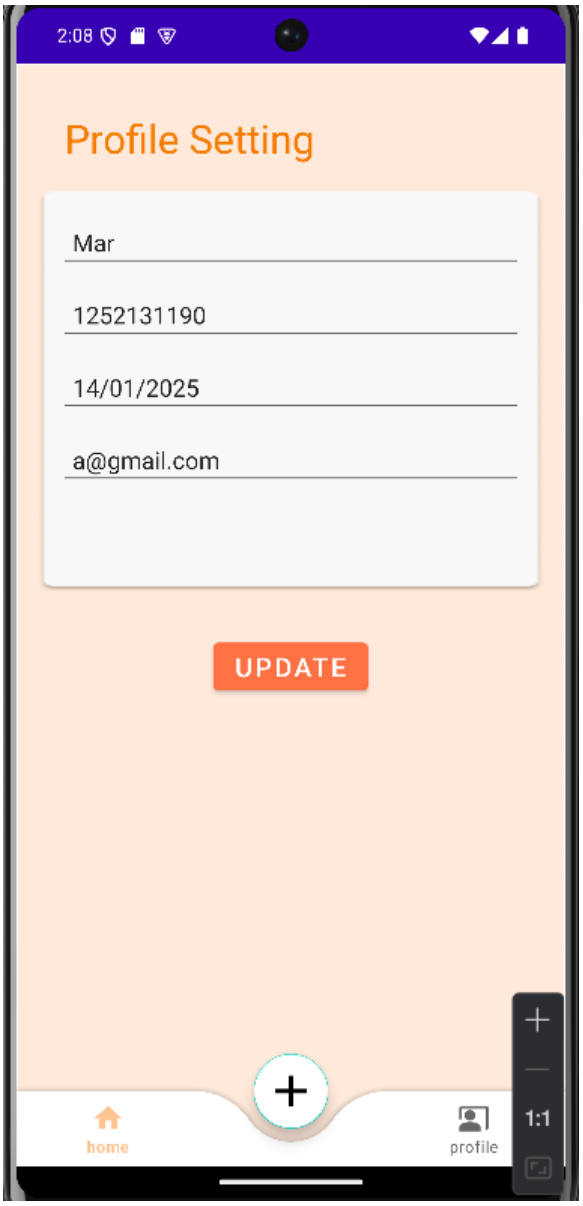

Figure 9. Profile setting

The profile page is for users to see their information's account that contains their name, phone number, birth date and email. This page also allows users to update their profile by changing their information and click the update button.

- Database

User database

	username	nophone	email	birthday	password
	Filter	Filter	Filter	Filter	Filter
1	ira	123456789	ira@gmail.com	29/9/2002	ira
2	Mar	1252131190	a@gmail.com	14/01/2025	123
3	rararockk	135398193	rarak@gmail.com	29/09/2002	123
4	Arifah Hanafiah	1234567890	arifah@gmail.com	31/01/1992	abc123

Figure 10. User database

Figure 10 shows a user database that will store data in database sqlite. The database will store user's data such as username, phone number, email, birthday and user's password.

Item database

	barcode	name	category	qty	stockIn	location	description	image_uri
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	AB01	TUDUNG RUFFLE	CHIFFON	2000	14/1/2025	RAK A	NEW ARRIVAL	content://…
2	AB02	TUDUNG NEELOFAR	CHIFFON	4000	13/1/2025	RAK B	LIMITED EDITION	content://…
3	AB03	ADIRA HIJAB	SATIN	1000	14/1/2025	RAK C	BIRTHDAY EDITION	content://…

Figure 11. Item database

Figure 11 shows the item database table will keep the item details after the user adds the new item at the add item page. All data will store in database and when user update the item details, the database will keep the new one for updated.

6. References

Wiku Larutama, Dewang Rangga Bentar, Rifqy Oktavian Risdayanto, & Ridwan Salman Alvariedz. (2022). Implementation of Warehouse Management System Planning in Finished Goods Warehouse. *Journal of Logistics and Supply Chain*, *2*(2), 81–90.

Ramaa, A., Subramanya, K. N., & Rangaswamy, T. M. (2012). Impact of Warehouse Management System in a Supply Chain. *International Journal of Computer Applications*, *54*(1), 975–8887.