Bicycle Inventory Management Application (BIMA)

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ABSTRACT

This report presents about the bicycle inventory management application. Inventory management is very important in many businesses from SME to Enterprise to keep tracking items in the inventory to not let them out of the stock to provide customers the items at all the time and also can calculate income from the remain items in the stock so the manager can know when to order more items. Eventually in bicycle business, there are various types and brands of items so making a good management is also important to keep the business running smoothly and efficiency. However, in nowadays inventory management such as account book may not solve the solution. So, in present more business started to use application to help them manage the inventory that is more conveniently and accurately.

Introduction

Project Rationale

In nowadays, many business use applications to help them manage items in the inventory because they are more convenient and accurate. Such as convenient store, they use both inventory management and POS to help them to do the business easier like keep track of the items to know when they would order more.

Bicycle business could also use the application to help them manage the items that have many types and brands to be more in good order.

Objectives

1. To help the manager to keep track of items easier.

2. To help the manager to know the summarize data to use them to plan for a future what they should do.

3. To help the staff to use feature such as POS to checkout items from the store inventory easily.

Project Scope

This application which designs specific for bicycle business will help the user to plan and manage their bicycle inventory stock easier by listing them in the app and the application will come with the initial database of bicycle items so user can manage it as soon as they install the application and it also allow the user to added more item and category if they need it personally. The application will come up with POS function allow the staff or manager to checkout their items in the inventory when it going to be sold as well.

Expected outcomes

1. Application could use to store the data of the items in the inventory correctly.

2. Application's notification and alert are pop-up on the right time that has been setting by user.

3. POS feature is easy and fast for the users to use when they check out their items from inventory.
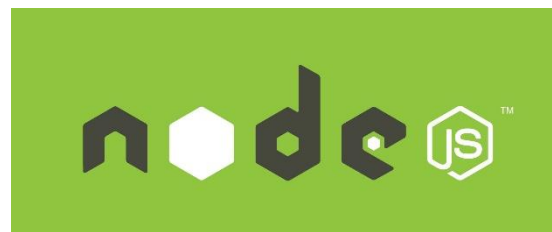
Technology and Tools

Mobile Application require mobile device to use. In this project, I decide to use iOS mobile device in develop and test the application.

- Language using

- React JS: for Front-End developed

- Node JS: for Back-End developed

- Database using

- Firebase: for storing all the data in the cloud database

Roles and Responsibilities

First thing that is very important for develop the project is time management because we must do it right on the limit time so a good plan and good time management are the first responsibility that I must have.

For the role as I do this project individually, I should make sure that I have do all the important things and note it down to check it afterward since there is no one to back me up if I forgot something then it is also important for me to keep checking what I have missed or anything that should be done like survey, research and design I should write it down before and after I finish any tasks.

Impacts of this project on society, health, safety, legal and cultural issues

As far as this project can go, it could provide many benefits for a bicycle business or similar business as this application will help them manage the inventory stock for their business and can use as notification or alert to keep track on the inventory at all the time more than that the application also have POS function to use when the items are going to be sold to help the store to checkout items as well.

For impact of this project, it may change how a specific group business workflow be done but it would not change the society much since this application only provide a solution for a specific business and not the entire business can use this application efficiently like the specific group.

Experimentation and Results

Usability Testing

This is a testing to test the real experimentation with the user which is the application user target to get their feedback for future developed of the application.

All features have been tested by users which are Login/Register, Main Page, Inventory, POS, History, Summary, Notification and Alert Manager.

These are the overall comments/feedbacks of the application

- Input box may need to be bigger for easier touch between each input box.

- Easy and simple menu directory but can be square menu rather than drop down.

- POS work simply like a cart in shopping application.

- History show all transactions fine.

- Order detail is good to check each previous selling items.

- Summary has good overview of current store's items information.

- Push notification is good to get in-check with staff message.

- Alert manager allow communication between manager and staff.

- Color scheme for app is good

- All features are complete for using with current store needed

- Fixed some UI issues provide, and the app is looking fine since mostly user focus on how fast they could do the task

Conclusions and Discussion

Conclusions

In this project, I have learned how to build an inventory application which is something new for me especially new language that I have started leaning from the beginning but with knowledge and experience from ISNE course, I can learn it faster and more understandable. Lastly, the application is finished all the features that I have planning from the project survey course included inventory, history, summary page, notification, alert manager, and POS also more thing that have been added is Staff Application which is the separate version from the Main Application using for staff individually.

Problem

From doing this project there are some problems which are

1. The application cannot save state if it is close, then state like "Login user" will disappear after closing so we need to login each time it has been open again which is not ideally the design of the real inventory application.
2. Because it is my new language that use to develop the application when some problem or error happen, I have to spend some time to re-check and learn it again until I can really understand it and fix it.
3. From physical technic problem, I got only one device to test as a time and when the staff application in developed, I need to swap between manager application and staff application to check if it is worked which spend quite some time.

Suggestions and further improvement

Suggestion for further develop this project are

1. The application should allow the user to remember the username and password, so they do not need to login each time they open the application.
2. UI can still be improving more to meet with the current generation (UI could change overtime)
3. The application could be upload to Appstore, so it does not need a PC to running the server.
4. More usability feature can be added in the future like color palette for color picking in add item or drop-down list to choose the item brand.