• “ANTOOBA DOOKAN”

A Hybrid Solution for Inventory & Pos.

BY

Radoan Hosan
151-15-206

Anik Chandra Sutradhar
172-15-1597

Ridoy Badsha
171-15-1545

Arifur Rahman
161-15-6918

This Report Presented in Partial Fulfilment of the Requirement for the Degree of Bachelor of Science in Computer Science and Engineering.

Supervised By

Md Sabab zulfiker
Lecturer
Department of CSE
Daffodil International University

C0-Supervised

Mushfiqur Rahman
Lecturer
Department of CSE
Daffodil International University

Daffodil International University

Dhaka, Bangladesh

@Daffodil International University

DECLARATION

We hereby declare that, this project has been done by us under the supervision of Md.Sabab Zulfiker , Lecturer, Department of CSE Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

Md.Sabab Zulfiker

Lecturer
Department of CSE
Daffodil International University

Co-Supervised by:

Mushfiqur Rahman
Lecturer
Department of CSE
Daffodil International University

Submitted by:

Radoan Hosan
ID: 151-15-206,
Department of CSE,
Daffodil International University.

Anik Chandra Sutradhar
ID: 172-15-1597,
Department of CSE,
Daffodil International University.

Ridoy Badsha ID:
ID : 171-15-1485,
Department of CSE,
Daffodil International University.

Arifur Rahman
ID: 161-15-6918,
Department of CSE,
Daffodil International University.

ACKNOWLEDGEMENT

Firstly, we reveal our exuberant thanks and appreciativeness to almighty God for His divine blessing makes us possible to complete the final year project successfully.

We really thankful and wish our profound indebtedness to Md Sabab zulfiker, Lecturer, Department of CSE Daffodil International University, Dhaka. Extensive Knowledge & eager interest of our supervisor in the field of Hybrid Application influenced us to carry out this project. His endless perseverance, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to Md Sabab zulfiker and Head, Department of CSE and our friends for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and patients of our parents

@Daffodil International University

ABSTRACT

In the present time, Point of Sale (POS) is becoming a huge factor of the business world. Without a proper automated system, piled up paper works might emerge and multiple issues might occur since everything is hand written in a logbook and the guaranteed safety of the data are more likely nothing. The main purpose of this study is to design and develop an Inventory Management System using Node Js and Electron Js framework and implement a Point of Sale with a user-monitoring feature, real time based. The objective of the study is to resolve the current issue of the client's data storing procedure and sale processing. This shall help the client to stay away from their former data storing procedure and move on to the automated world. Middle to large business can use this system.

After the implementation of all functions, the system is tested on a different platform and it performs successfully.

@Daffodil International University

TABLE OF CONTENTS

Content	Page
Declaration	I
Acknowledgement	II
Abstract	III

CHAPTER

CHAPTER 1: INTRODUCTION

1.1 About The Project	1
1.2 The Problem Statement	1
1.3 The Purpose	1
1.4 Scope	2
1.5 Benefits of the Project	2
1.6 Outline the Project	2
CHAPTER 2 : RELATED WORKS AND BACKGROUND STUDY	4-5
2.1 Requirement Analysis	4
2.2 Functional Requirement	4-5

@Daffodil International University

CHAPTER 3 : DESIGN AND IMPLEMENT 6-10
3.1 Requirement Analysis 6
3.2 Functional Requirement 6
3.3 System Design 7
3.4 Use Case Diagram of POS 7
3.5 Use Case Description 8-10

CHAPTER 4 : DESIGN AND IMPLEMENT 10-36
4.1 Development Methodology 10
4.2 Development & Technology 11
4.3 ER Diagram 12
4.4 Activity Diagram 13
4.5 Used Interface 14-36
CHAPTER 5 : TESTING AND EVALUATION 37-40
5.1 Testing 37
5.2 Testing List 37-40
CHAPTER 6 : CONCLUSION AND EVALUATION 40-41
6.1 Goal 40
6.2 Limitation 41
6.3 Future work and plan 41
6.4 Conclusion 41

Introduction

1.1About The Project

Antooba Dokan is a desktop-based application for Small and huge businesses or companies are enforcing inventory management systems for their organizations due to the massive intake of data that usually disrupts the flow of manual data recording of the business. To use this system records will be accessed easily; data intakes will have a safe storing area and everything will be one click away. One of the important parts is the Point of Sale (POS) where in the user could easily store the sales data, export the sales data and product a receipt for the customer. This will provide a huge ease of access for the employees in the organization.

1.2 The Problem Statement

Everyone knows how hard it is to manage a business and without the help of an automated system, everything will be difficult to manage and searching for a specific data might be extremely lethargic for the employee since exploring the logbook could be excruciating to filter especially when the logs are filled with many data. But in this system everything will be easy to manage and searching for a specific data much easy without wasting any time. The goal of this project is to save time and increase business In our country, the internet is one of the big issues. In our system owner can use it both online and offline.

1.3 The Purpose

The main purpose of this system is to manage the business without any hassle and know each and every piece of information of the business with just a click. Data will be store in the client-server and also the cloud server. System will help to know the business progress. The owner can manage his business at any time in any place.

1.4 Scope

- Business can handle through online platform.
- This system will be store data both online and offline.
- User can find any kind of data without wasting any time.
- Don’t need to write any menu card, the system will automatically print the menu card.
- System will calculate daily earning, daily due etc.
- Don’t need to calculate stock states system will calculate it.

1.5 Benefits of the Project

- The system will help to produce the physical work.
- It will help to save valuable time.
- It will help to increase the business.
- Owner can find any kind of data just a click don’t need to weast too many time.
- Owner can handle multiple business.
- No need internet connection for desktop application.

1.6 Outline the Project

To discuss the whole project in a nice presentable way it is necessary to divide the study according to concept. The project presentation needs the study in a well presentable form so others can get a thorough idea about the study at a glance without wasting time.

@Daffodil International University

CHAPTER-1:INTRODUCTION(Context, Problem Statement, Purpose, Scope, benefit of project, outline the project)
CHAPTER-2:RELATED WORKS AND BACKGROUND STUDY(developing online exam system, Existing Online Exam System of Different Website, Conceptual Framework)
CHAPTER-3:REQUIREMENT ANALYSIS (Requirement analysis, Functional Requirements, Use Case Diagram of Online Exam System ,Use case description, System Design)
CHAPTER-4:DESIGN AND IMPLEMENTATION(Development methodology, Used language and Technique, Development process of Online Exam System, ER Diagram, Activity Diagram, UI of Online Exam System)
CHAPTER-5:TESTING AND EVALUATION(List of Testing)
CHAPTER-6:CONCLUTION AND FUTURE WORK(Goal, Conclusion, Future work plan, limitation)

@Daffodil International University

CHAPTER 2

Related Work and Background Study

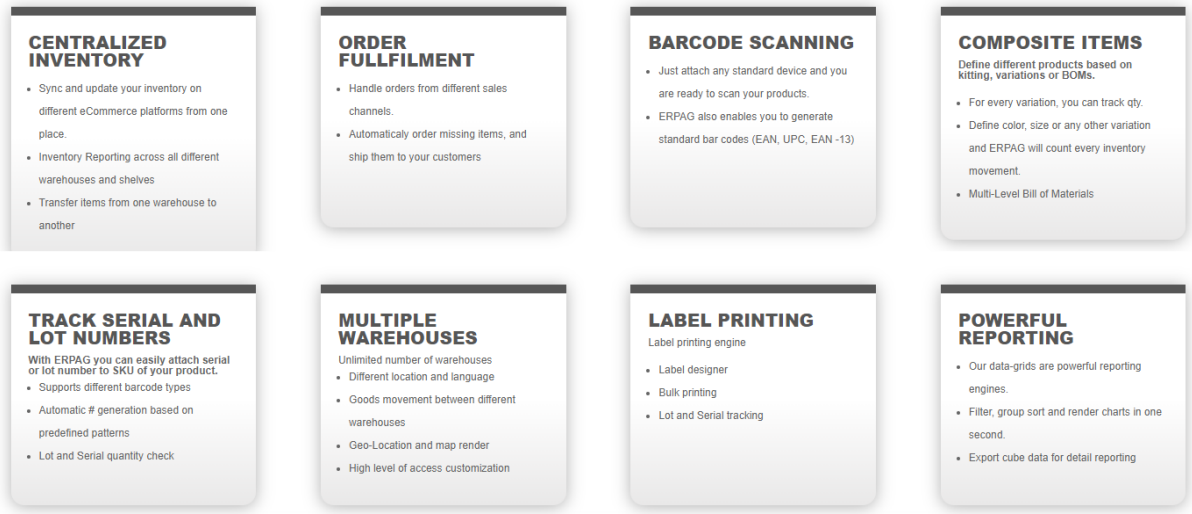
2.1 Developing "ANTOOBA DOOKAN" A Hybrid Solution for Inventory & Pos

This paper discuss about inventory and pos system for shops. This is a hybrid solution for inventory and pos system.

2.2 Related works and background study

2.2.1 ERPAG

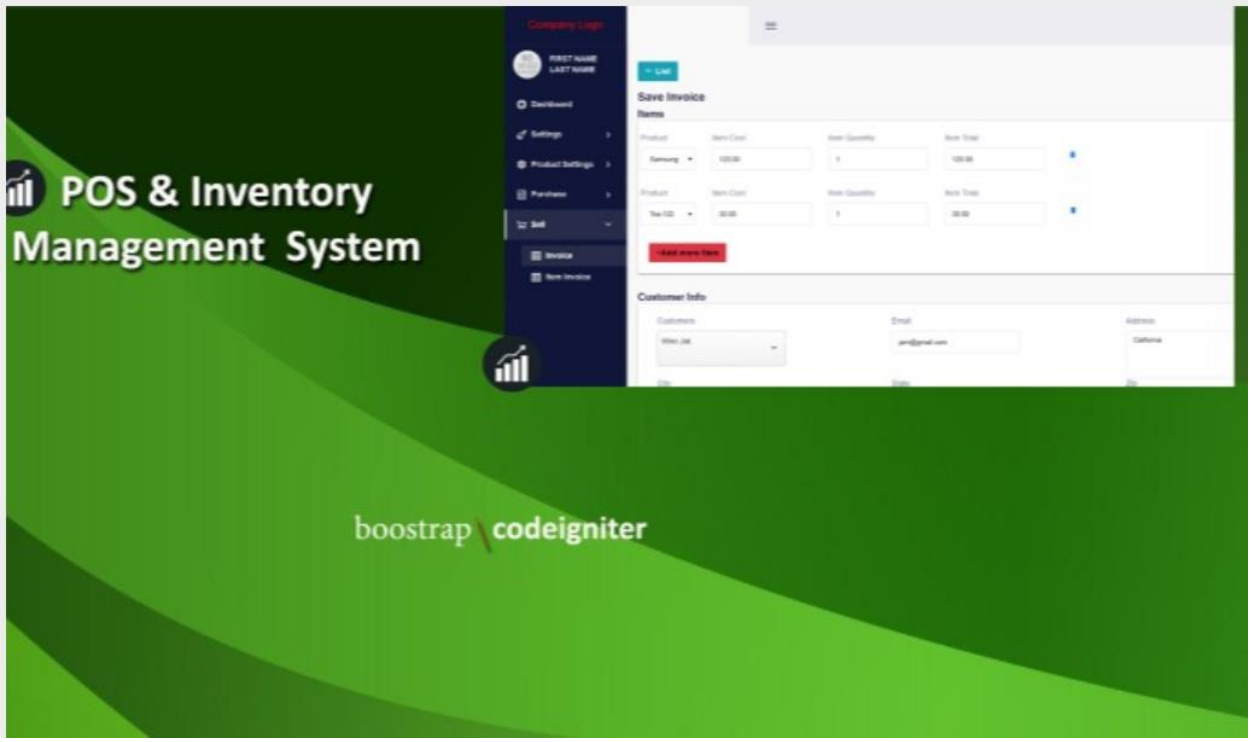
ERPAG is an USA company. They build Inventory Management Software for shops. Some features of this software are:



2.2.2 Piecex

Piecex build POS and Inventory Management System. This is the Point of Sale (POS) & Inventory management system for small, medium & large company (Extended Version). In this POS and Inventory management

system You will have the products information with selling price, buying price, category and subcategory. The products will be used as item and at the purchase time You can add multiple items and supplier's info and general information.at the Sale time you can add multiple items and customers info and general information. You can print out the pdf formatted invoice. Some features of this system are: Dashboard, Products, Purchase, Sell (Invoice), Reports.



@Daffodil International University

CHAPTER 3

Requirement analysis

3.1 Requirement Analysis

Requirement analysis is an important process for any project. To start the project, we must ensure that all the requirements of this project fulfill or not. We should determine the minimum requirements for both hardware and software.

Requirement Analysis has Two Phases:

1) Primary Research: Collect the requirement from client demand and also other sources.
2) Secondary Research: Compare the requirement from other software that existing in the market.

3.2 Functional Requirements:

- Create an account and add shop name, phone number and other details.
- Product for stock in.
- Product in on its brand and category based, fix product quantity, price and other details.
- Add Supplier details.
- Add customer to name and phone number. Also, others field available but not necessary.
- POS machine for scan bar-code.
- Automatic generate all kinds of report like stock report, customer report, expense report revenue report etc.
- Automatic calculate selling price also generate shop memo.

@Daffodil International University

3.3 System Design:

System design is an important process to determine the architecture, modules to satisfy the requirement. It helps to client chose hardware and software for a specific project.

In this project we design our system as simple as possible. Because simple means gorgeous.

3.4 Use Case Diagram of POS:

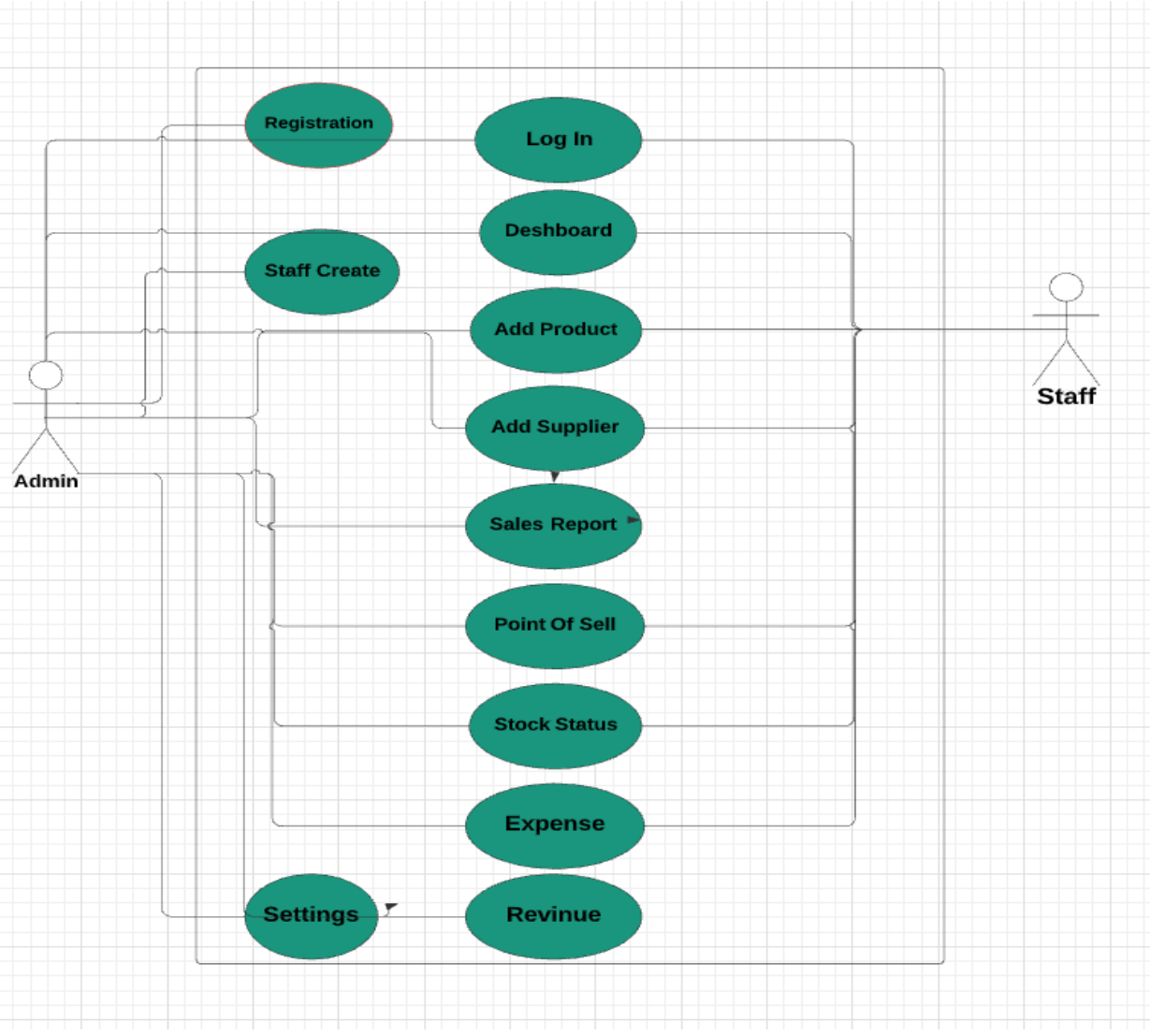


Figure: Use Case Diagram

3.5 Use Case Description:

Registration Use Case

Name	Registration
Primary Actor	Admin
Description	Registration the system
Pre-condition	User fill up all the required field
Post-condition	Users are resisted.

Login Use Case

Name	Login
Primary Actor	Admin, Staff
Description	Login into the system.
Pre-condition	All authorized has the user name and password and verified by the system.
Post-Condition	The system accepted.

Brand Add Use Case

Name	Add Brand
Primary Actor	Staff
Description	Adding Brand to the product
Pre-Condition	Create a Brand
Post-condition	Complete brand name and description.

Category Use Case

Nane	Add Category
Primary Actor	Staff
Description	Adding Category to the product
Pre-Condition	Create a product
Post-Condition	Complete category name and description.

Add Product Use Case

Name	Add Product
Primary Actor	Staff
Description	Add product to its code, bran, category, supplier and others information.
Pre-Condition	Create a product
Post-Condition	Fill all the necessary information field.

Add Supplier Use Case

Name	Add Supplier
Primary Actor	Staff
Description	Add Supplier name and others information
Pre-Condition	Create supplier
Post-Condition	Fill all the necessary field,

Customer Use Case

Name	Add Customer
Primary Actor	Staff
Description	Add customer for product sale.
Pre-Condition	Adding Customer name
Post-Condition	Add customer with name phone number and others information.

Staff Use Case

Name	Add Staff
Primary Actor	Admin
Description	Add staff for the shop.
Pre-Condition	Add Staff
Post-Condition	Add staff with name, email, phone number and others information.

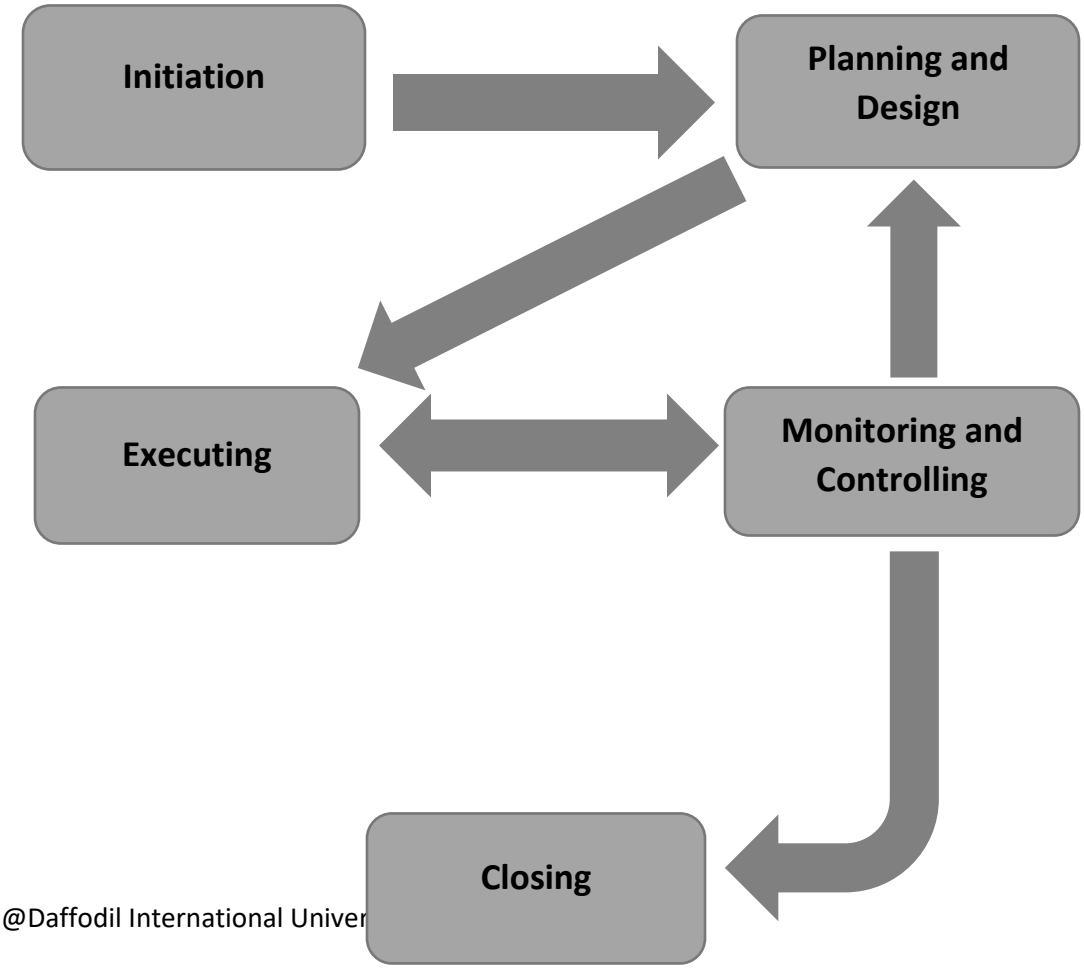
CHAPTER 4

Design and implement

4.1 Development Methodology

Development methodology is a process to developing a software. This is one kind of chain process. All the section includes this method to develop a system. One of the important parts to build a system.

There are few stages for our project development. These are given bellow:



@Daffodil International Univer

4.2 Language and Techniques

Language

- JavaScript

Front-End

- HTML
- .CSS
- Bootstrap
- Handlebars as templating engine.

Backend

- Node Js

Database

- SQLite

For Desktop Application

- Electron Js

@Daffodil International University

4.3 ER Diagram

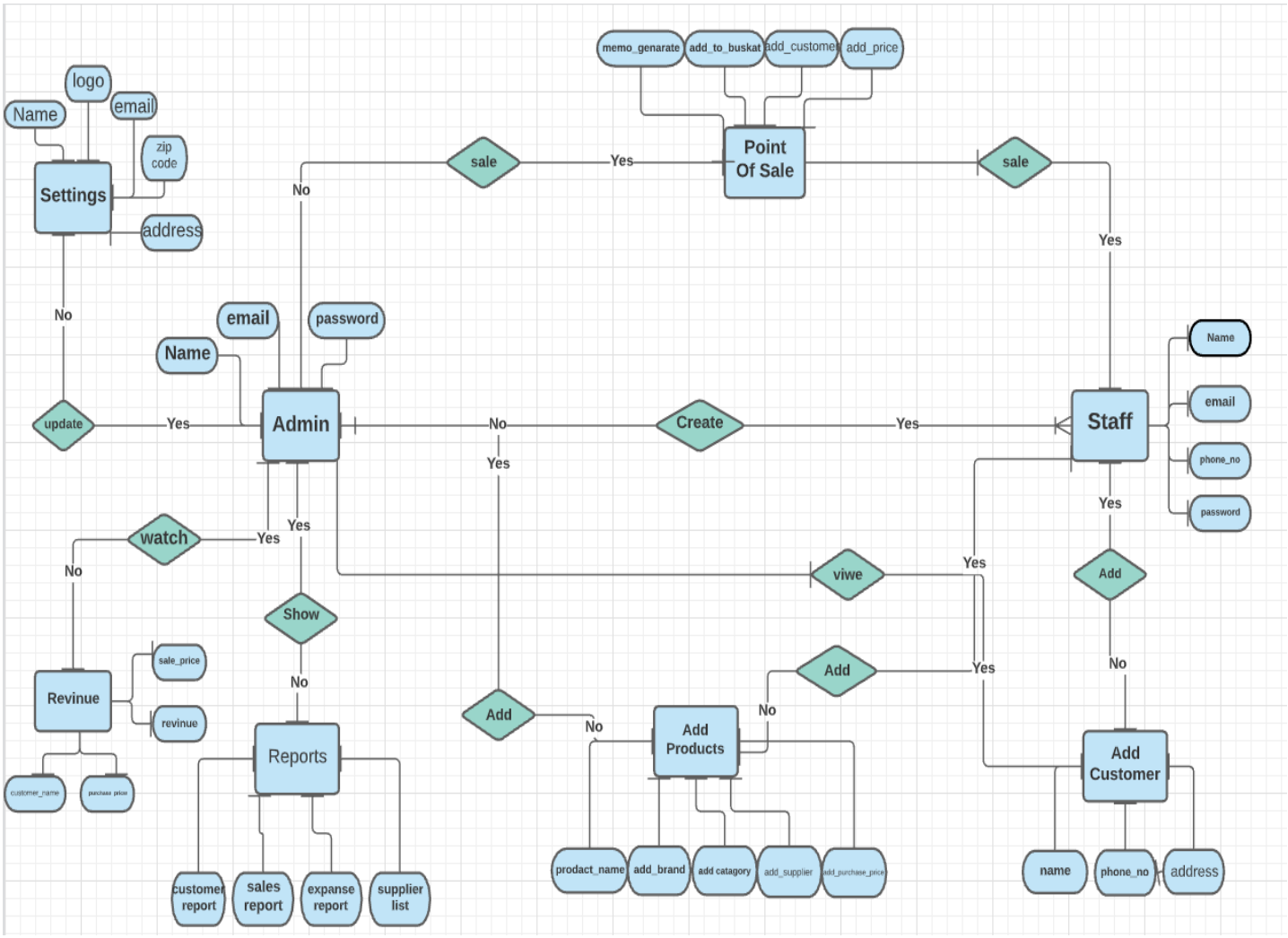


Figure: ER Diagram

@Daffodil International University

4.4 Activity Diagram

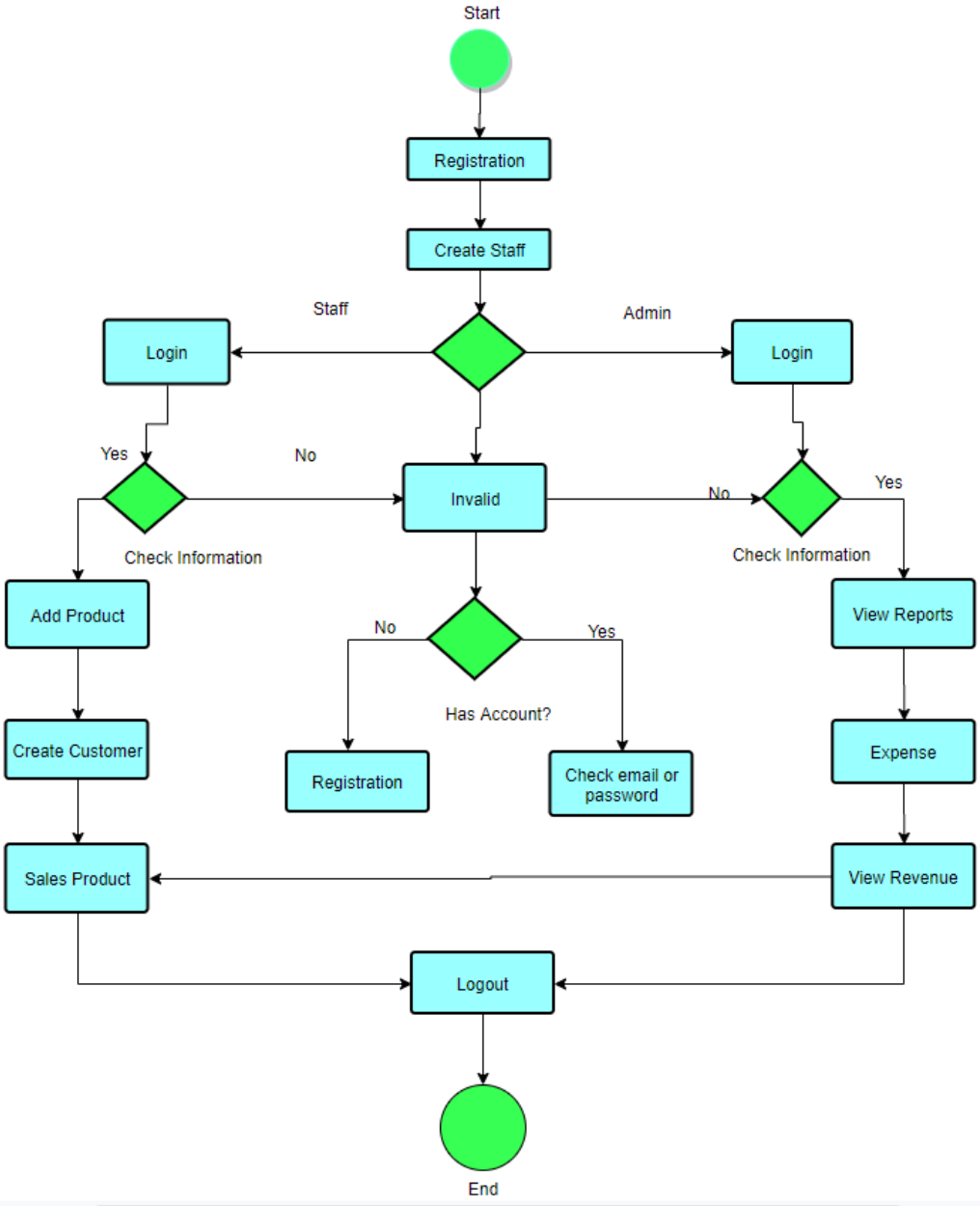


Figure : Activity Diagram

@Daffodil International University

4.5 User Interface

❖ Registration Page

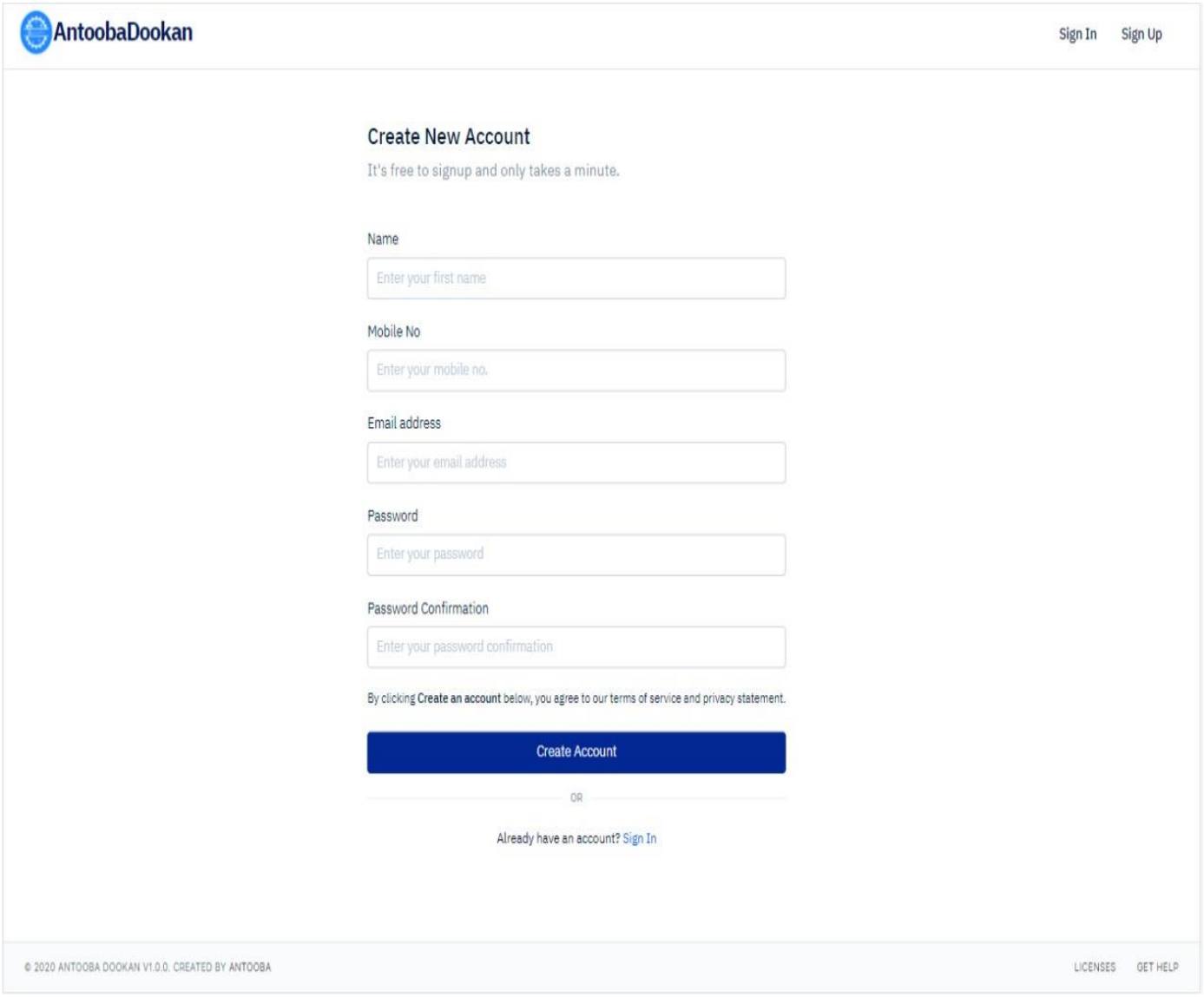


Figure 4.1 Registration Page

This is registration page. Here admin must give his/her valid information.

❖ Login Page

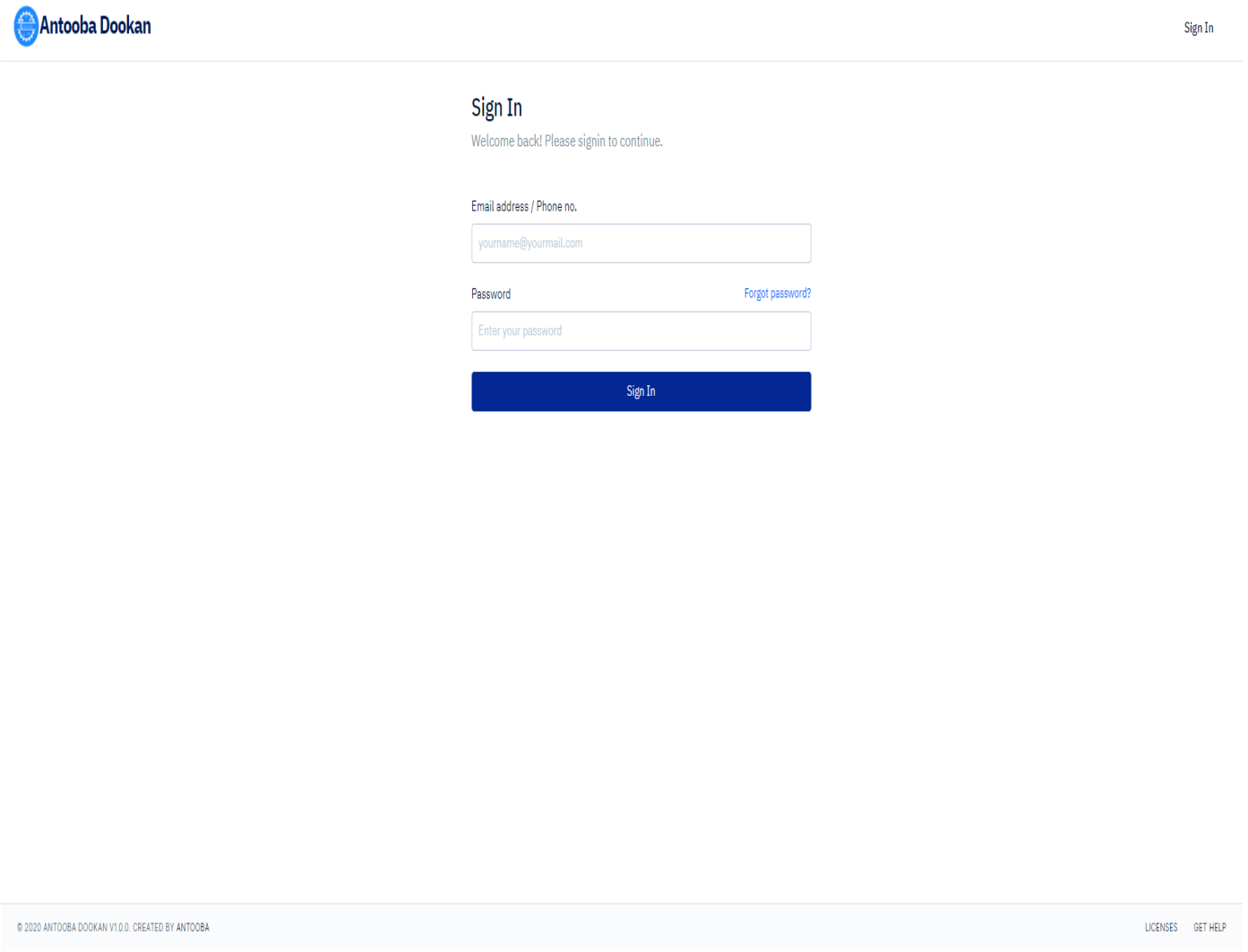


Figure 4.2 Login Page

This login page of our application. After giving mail or phone number and password you will send to the next page. If you are admin then you will access all functions. If not then you will access only limited functions that admin select for you.

❖ Dashboard

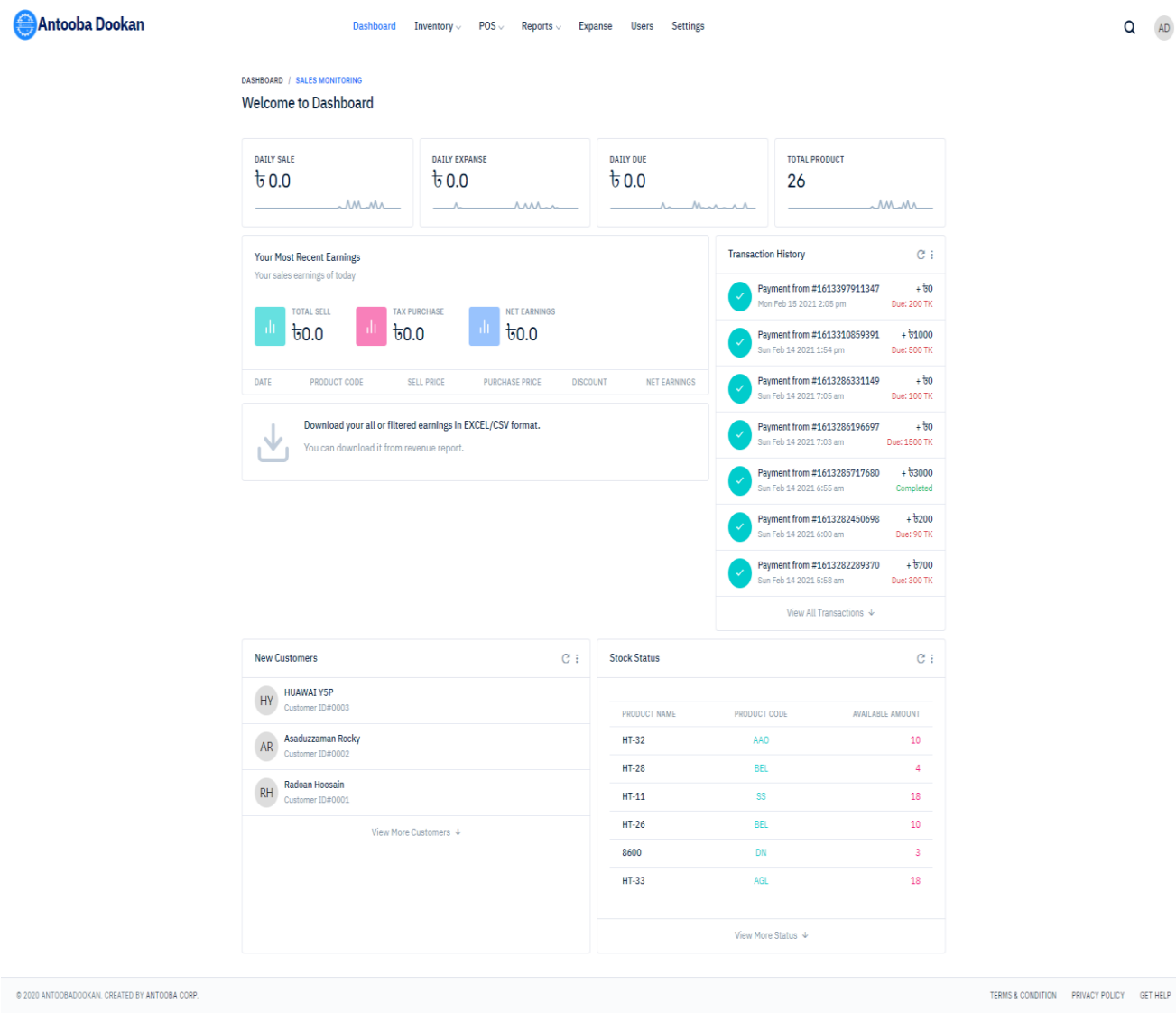


Figure 4.3 Dashboard

This is dashboard of our desktop application. In this dashboard owner can see his business daily activity. The features of this dashboard is daily sale ,daily expense, daily due, total product. Also shows recent transaction history , recent earning chart, stock status, and also new customer, Owner can easily know his todays business condition by viewing dashboard.

❖ Product Category

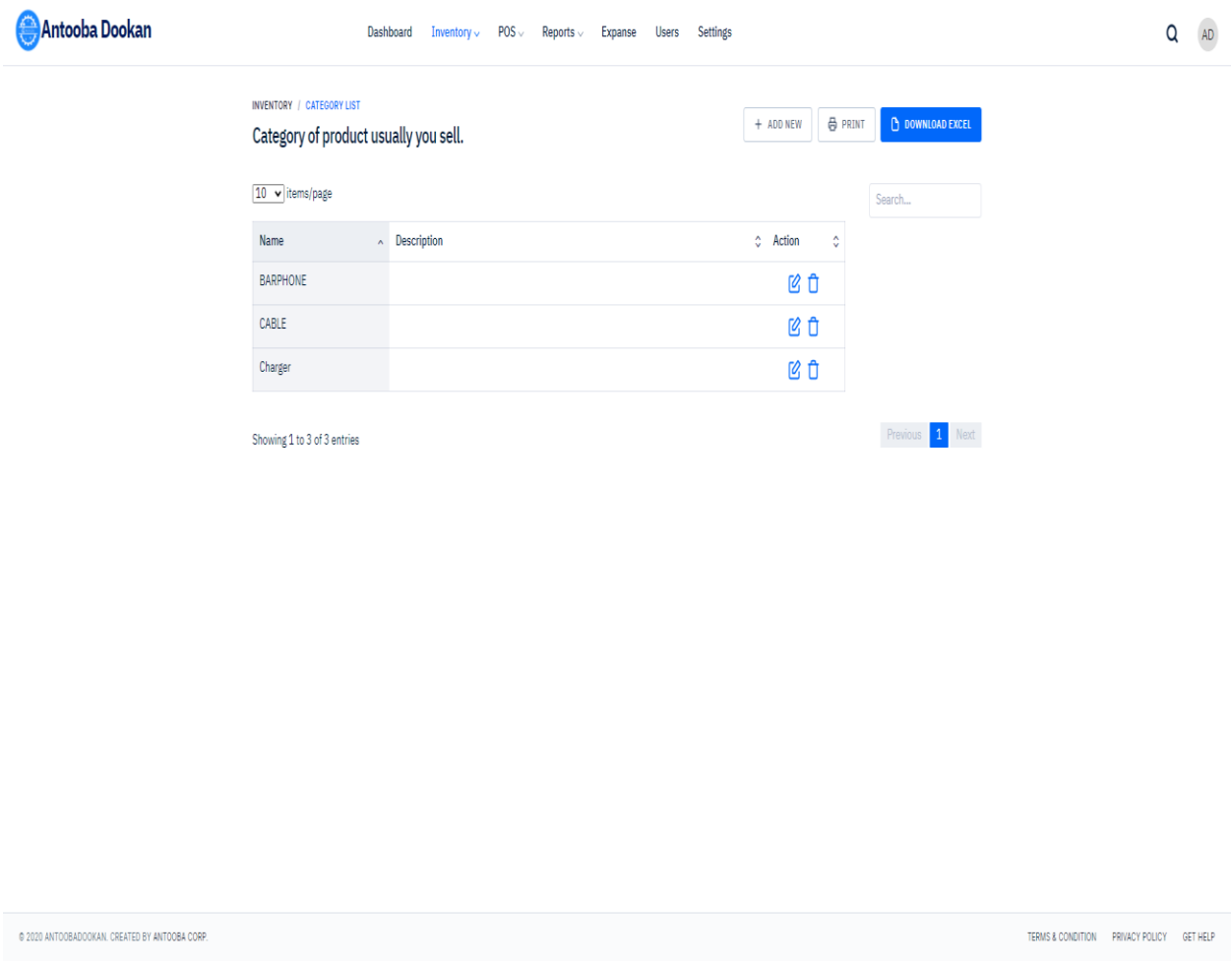


Figure 4.4 Product Category

On this page, the user will see the product category with the product name and description Users can add new categories, edit category and also delete categories. Users also can print the category page and download excel sheet.

❖ Product Brand

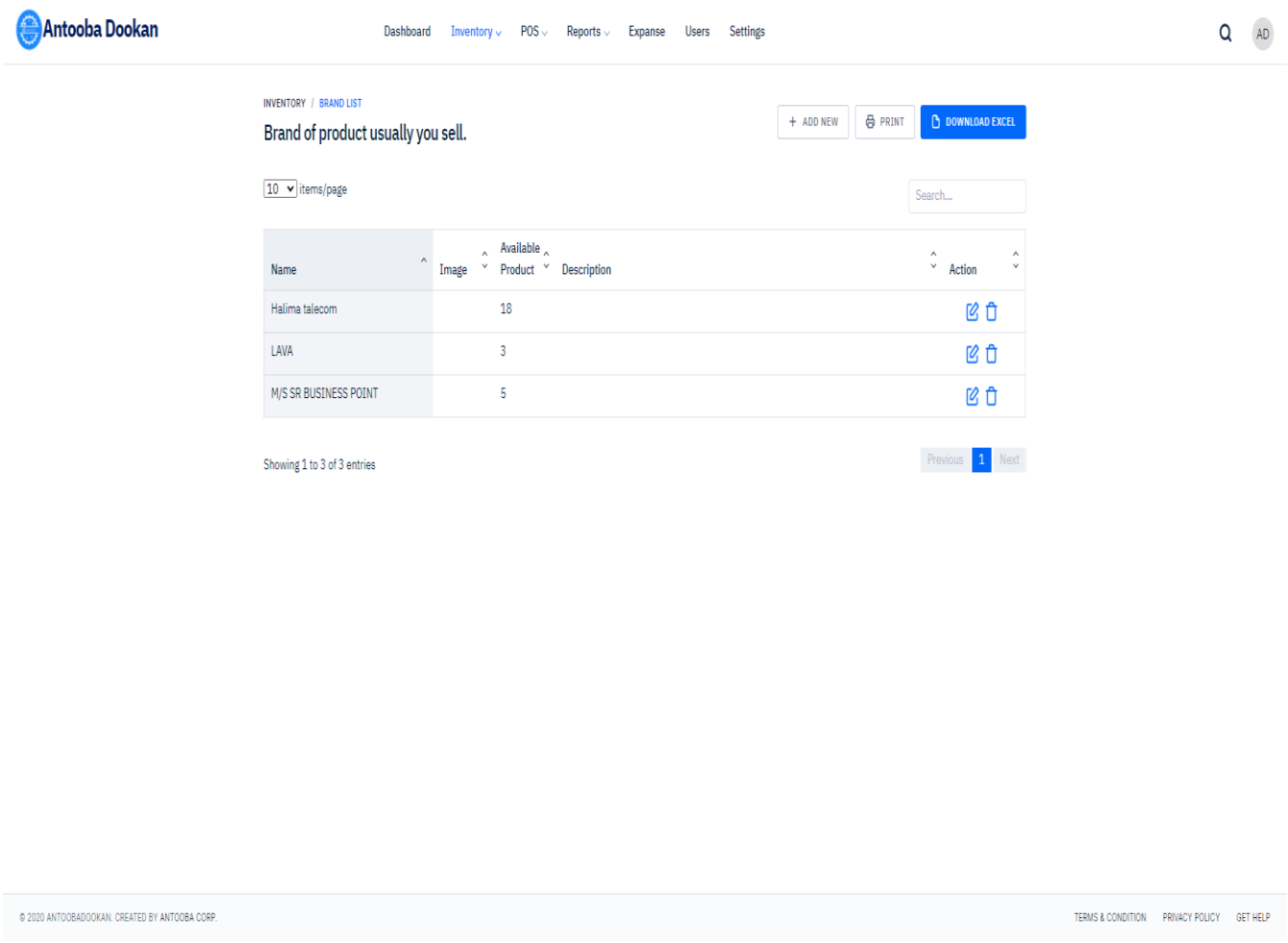


Figure 4.5 Product Brand

On this page, the user will see the product brand with product name , description ,image and available product. Users can add new brand , edit brand and also delete brand. Users also can print the brand page and download excel sheet.

❖ Add New Product

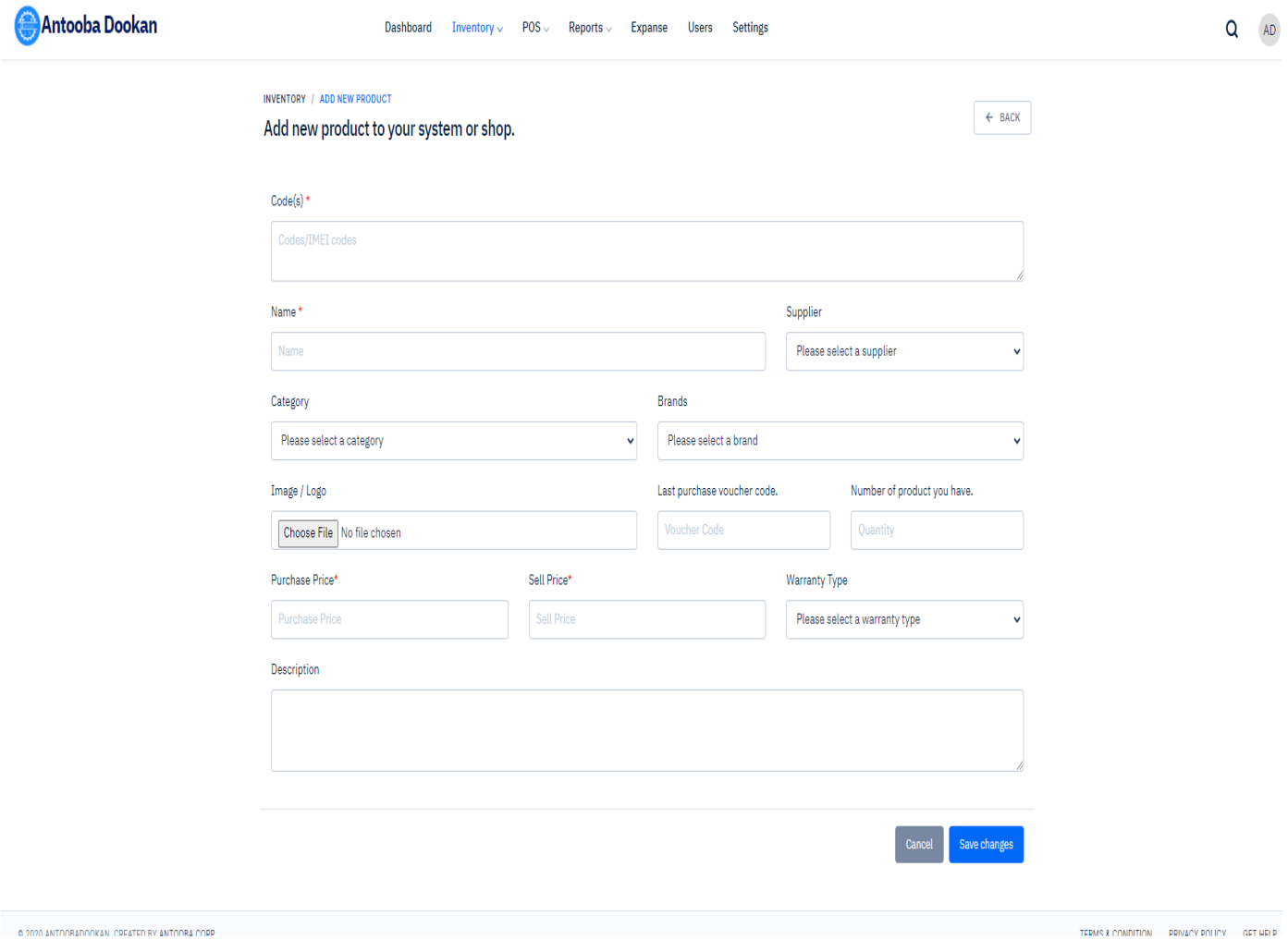


Figure 4.6 Add New Product

On this page user can add new products with code ,name , select supplier name , select categories ,select brands, add image or logo, add voucher code , quantity, purchase price, sell price ,warranty (lifetime, monthly or no warranty) and description (not mandatory) .

❖ Product List

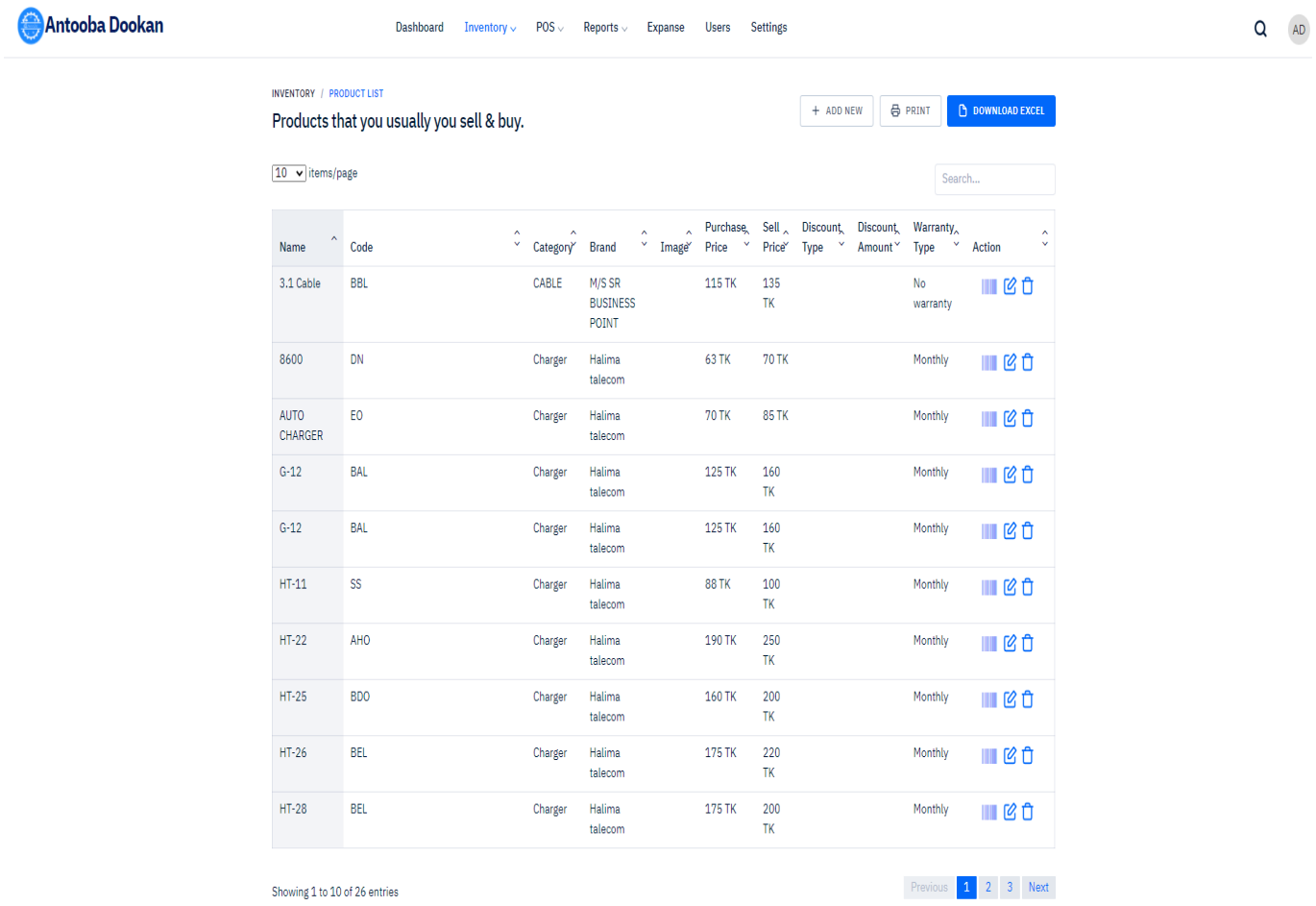


Figure 4.7 Product List

On this page can see product list with name, code , category , brand ,I mage , purchase price , sell price , discount type , discount amount , warranty type . Users can add new product, edit product , delete product and also can print the bar code. Users also can print the products page and download excel sheet.

❖ Add Stock

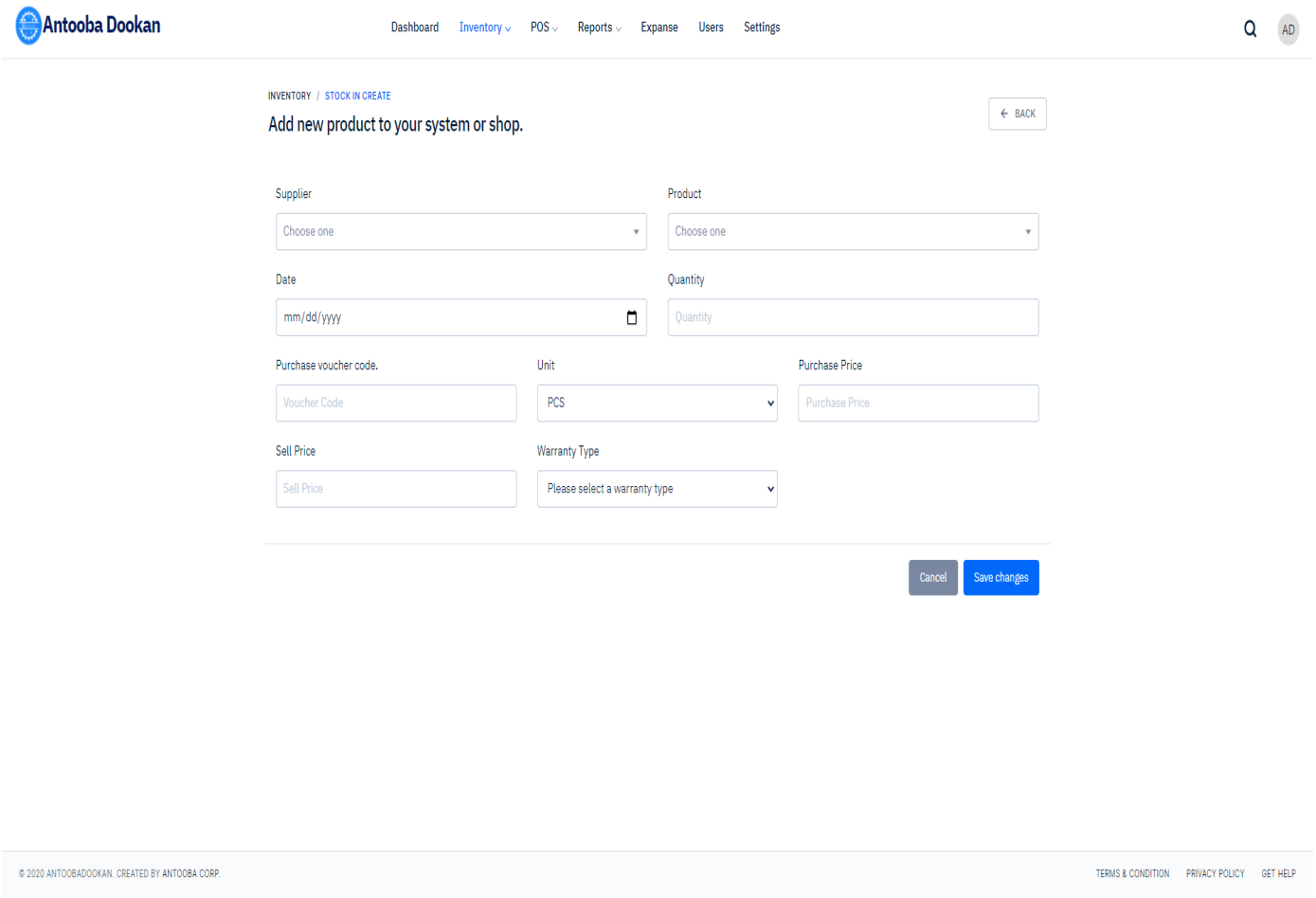


Figure 4.8 Add Stock

On this page user can add new product to his/her system. Select supplier name, select product, add date, add quantity, purchase voucher code, product unit, add purchase price, add sell price, and select warranty type. Press save changes and product will be update on stock.

❖ Stock Suttas

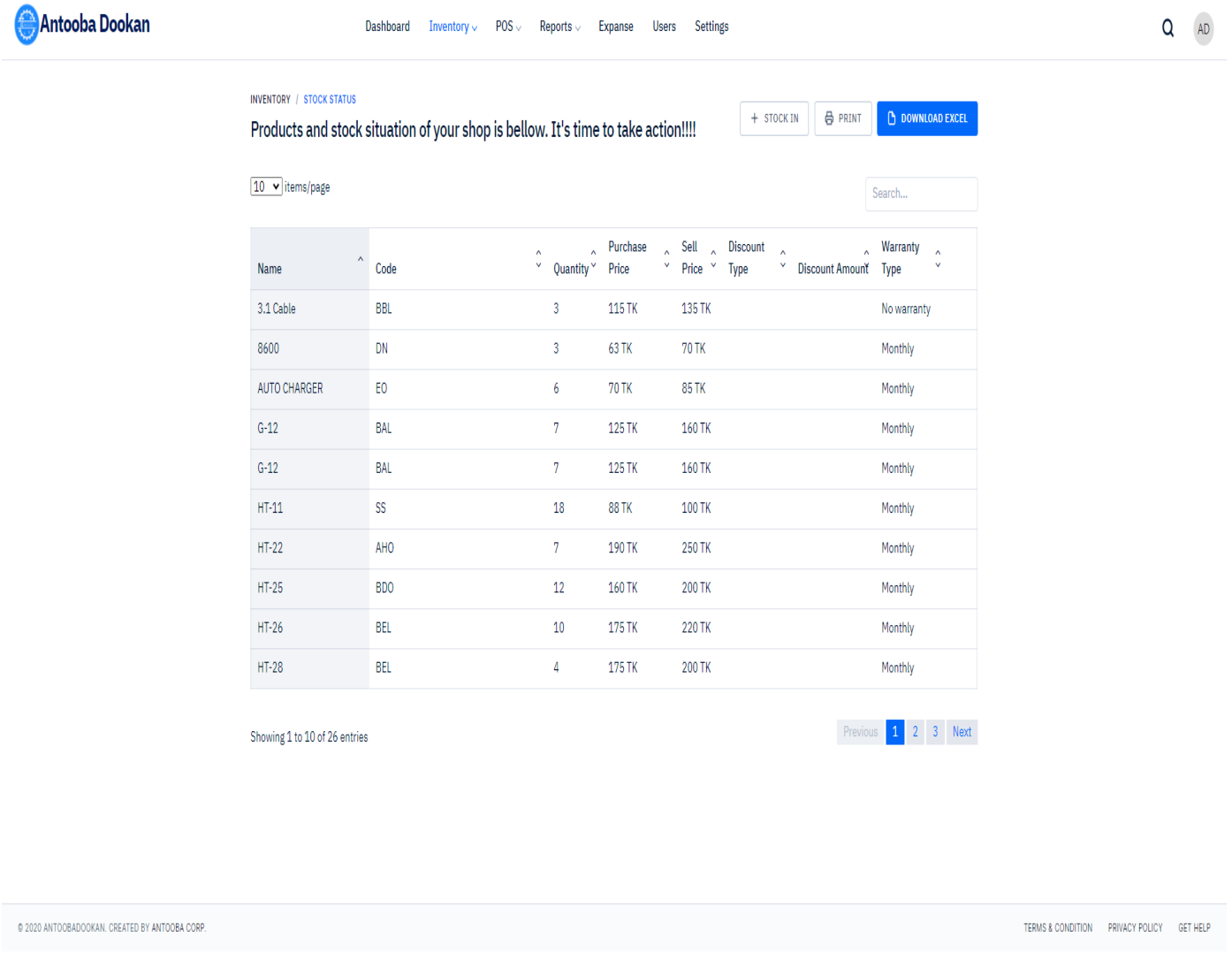


Figure 4.9 Stock Statuus

In this page user can watch stock status. Products and stock situation of his/her shop. Products name, quantity and others information available in this page. User can add product by pressing stock in button. Also print product status and can download excel file.

❖ Supplier List

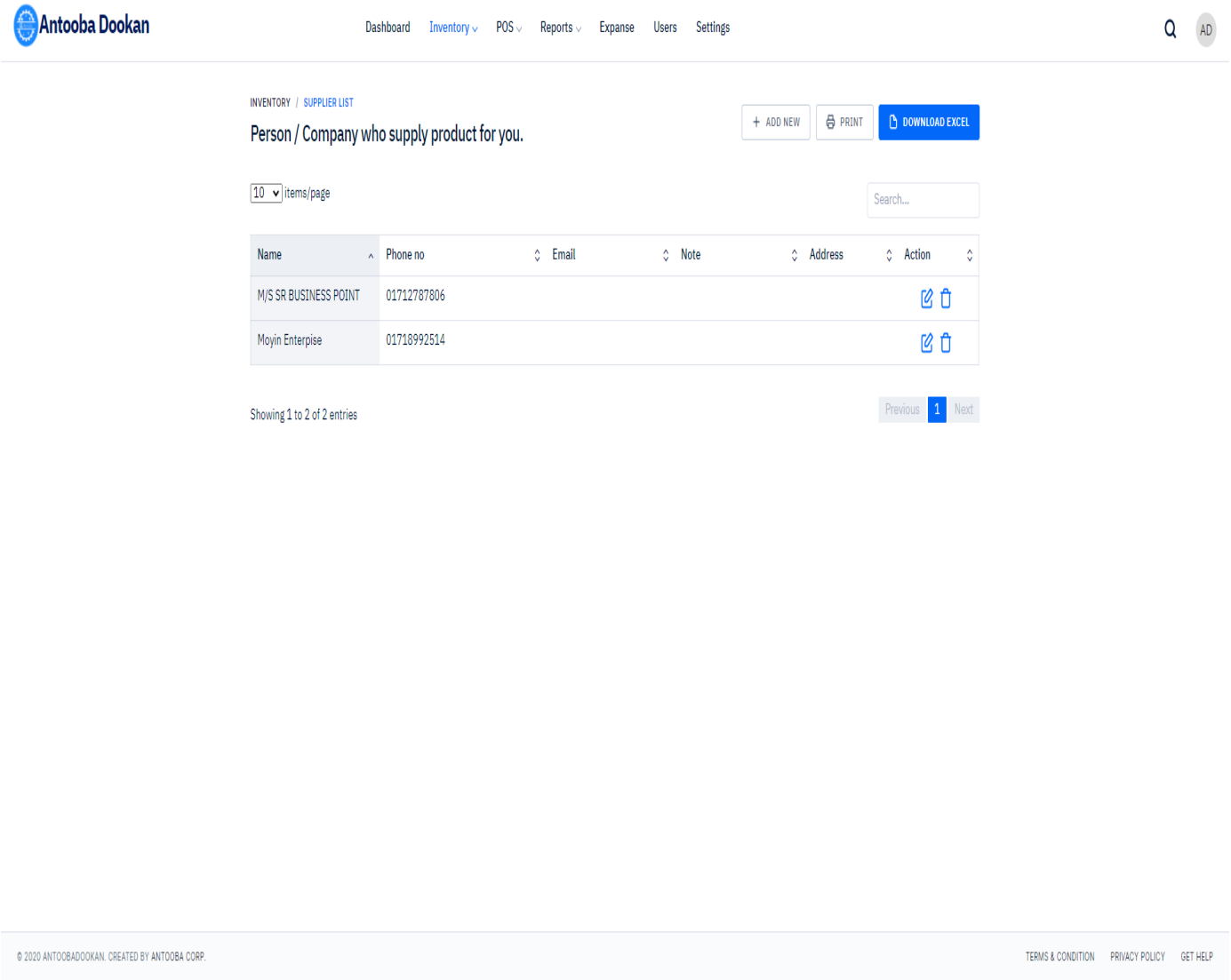
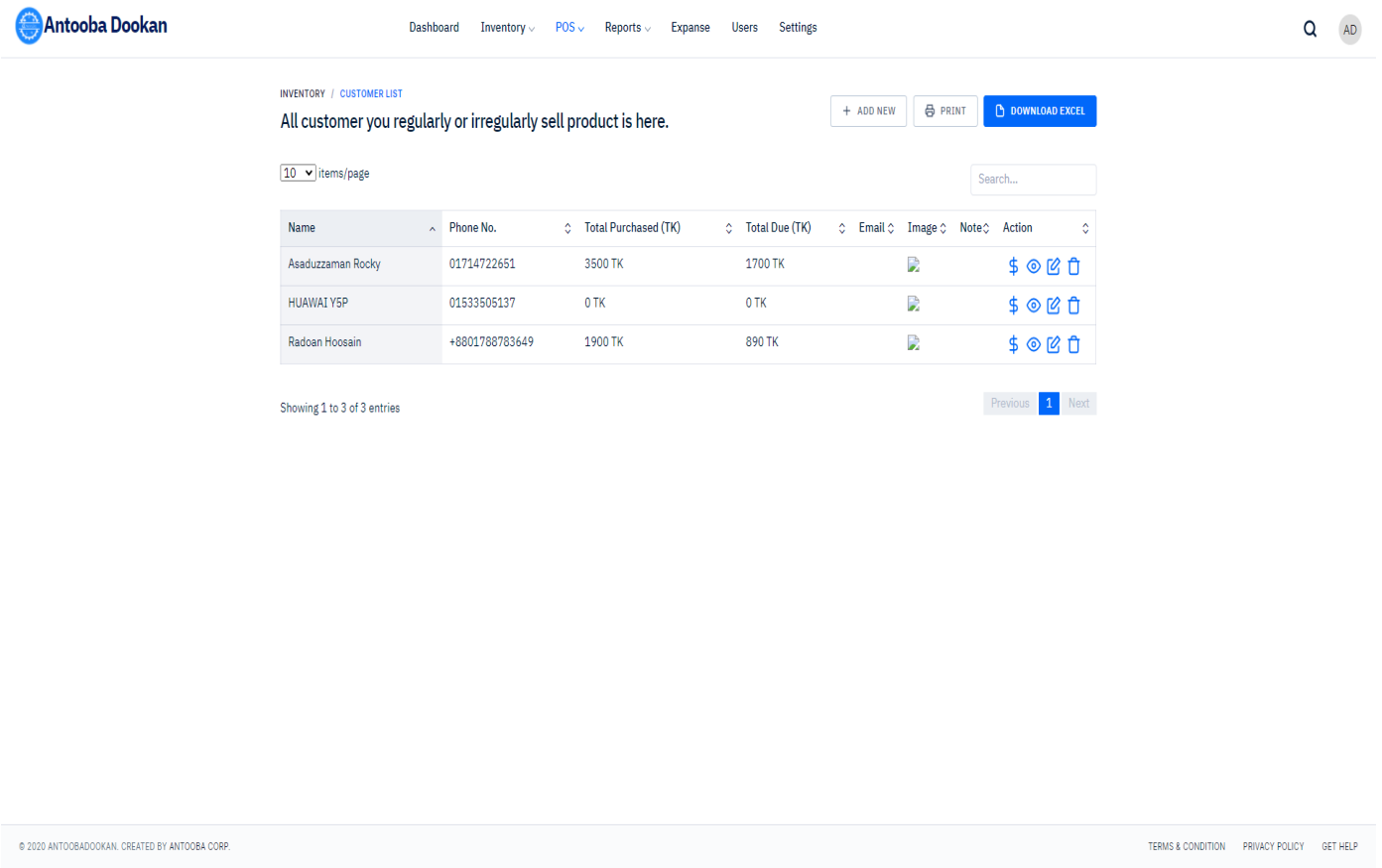


Figure 4.10 Supplier List

This is supplier list page. In this page user can add supplier to his/her name, phone number by pressing add new button and also other field available like email, address, note but those are not mandatory. Also, can edit supplier data and delete suppliers. User can print and download supplier list.

❖ Customer List



4.11 Customer List

This is customer list page. In this page user can add customer to his/her name and phone number by pressing add new button. In this page user can watch customer details due amount and others information. If any customer pay his/her due then press the dollar sign ($) button and add his/her paying amount and date. System will automatic calculate his/her amount with previous dues. User can also edit and delete customer in this page. Also can print the page and download the excel file.

❖ Point Of Sell

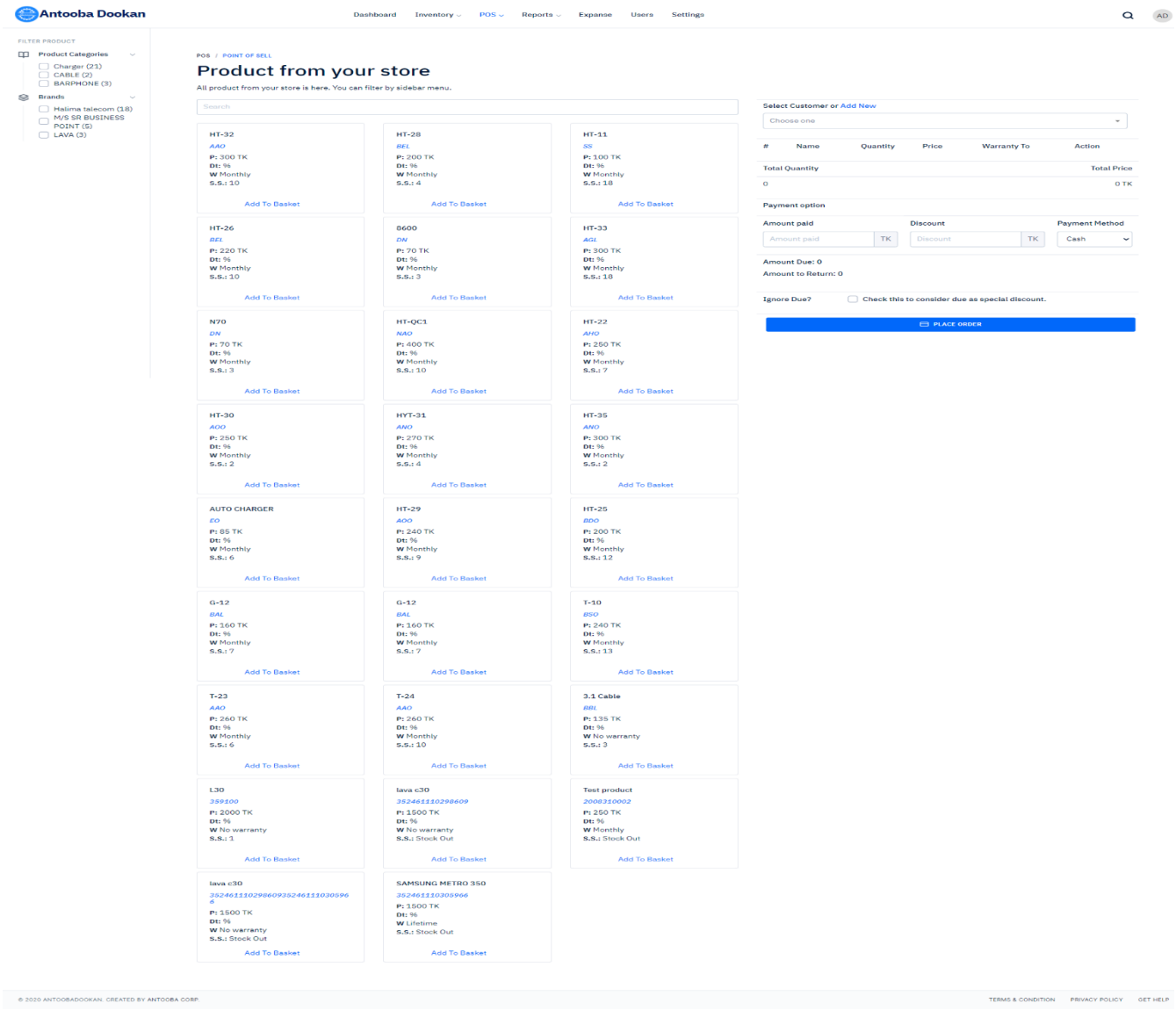


Figure 4.12 Point Of Sell

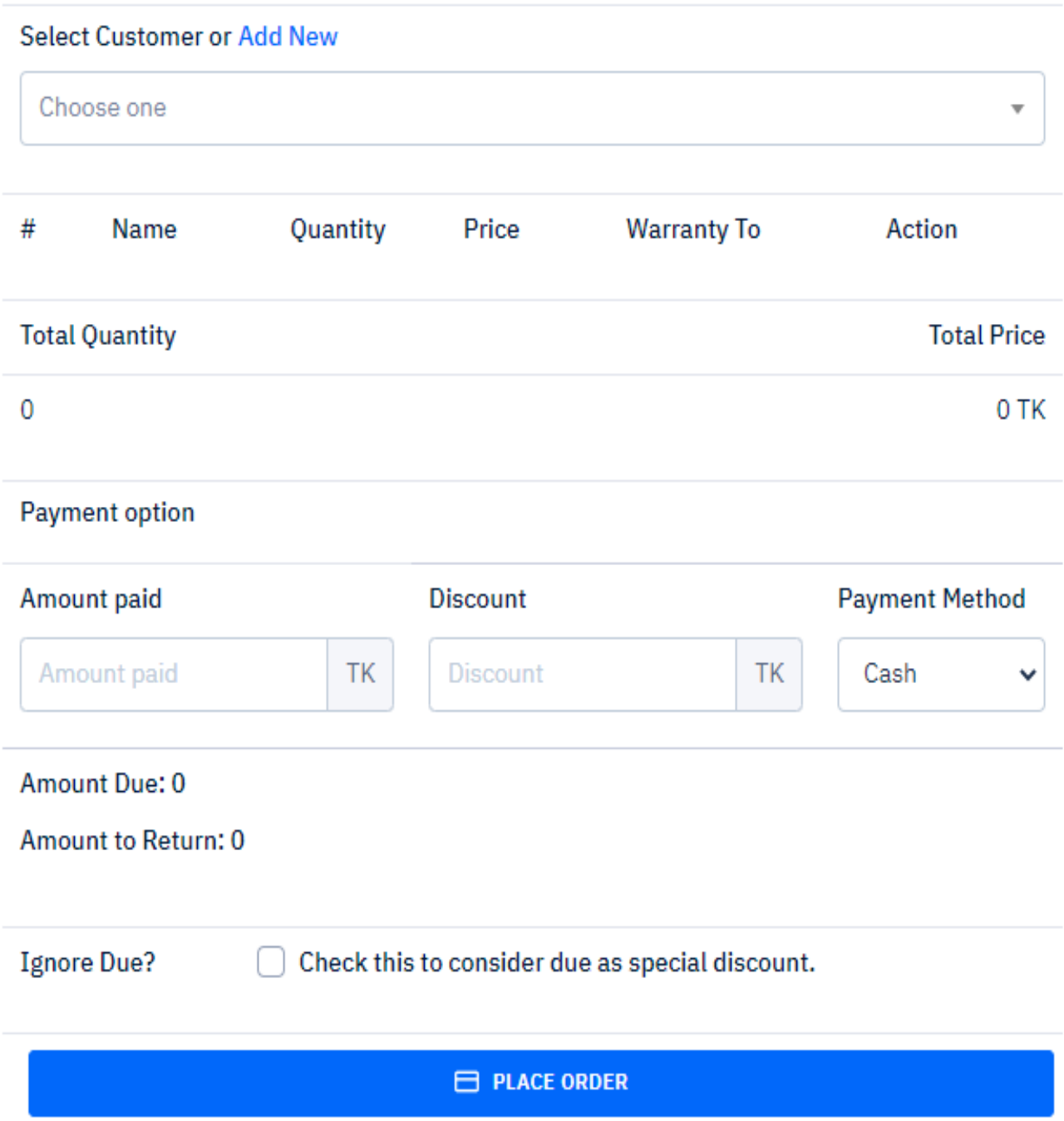


Figure 4.13 Memo

@Daffodil International University

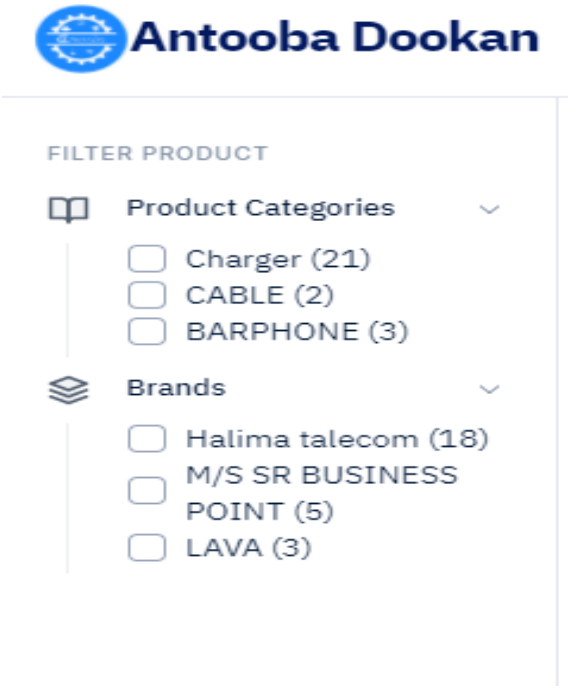


Figure 4.14 Filter Product

This is point of sell page. The products on left side are sorted by brand and category wise. User can filter the product by sidebar menu. In the middle part the products are arranged in the form of baskets. User can select the product and product will add to the menu section. Here is search option. User can search a product to its name or id. Also, user can watch product name, price, warranty and quantity in this section. In the right part of this page is menu card. At first select customer name, if customer is new then press add new button then type customer name and phone number (other fields is not mandatory) and add new customer to the customer list. Then choose customer name, select product that customer want (press add to basket option). System will calculate all the amount. If selected product is warranty type then an extra field will add this menu card, you need to select product warrants. Then prese the place order option and print the cash memo. System will save all the data. There is an extra option name 'Ignore Due', if user want to give an extra discount to his/her customer but don't want to add those money as a due then press this option. Cash memo will print the full money that the product has but in daily sale only received money will be adding.

@Daffodil International University

❖ Order List

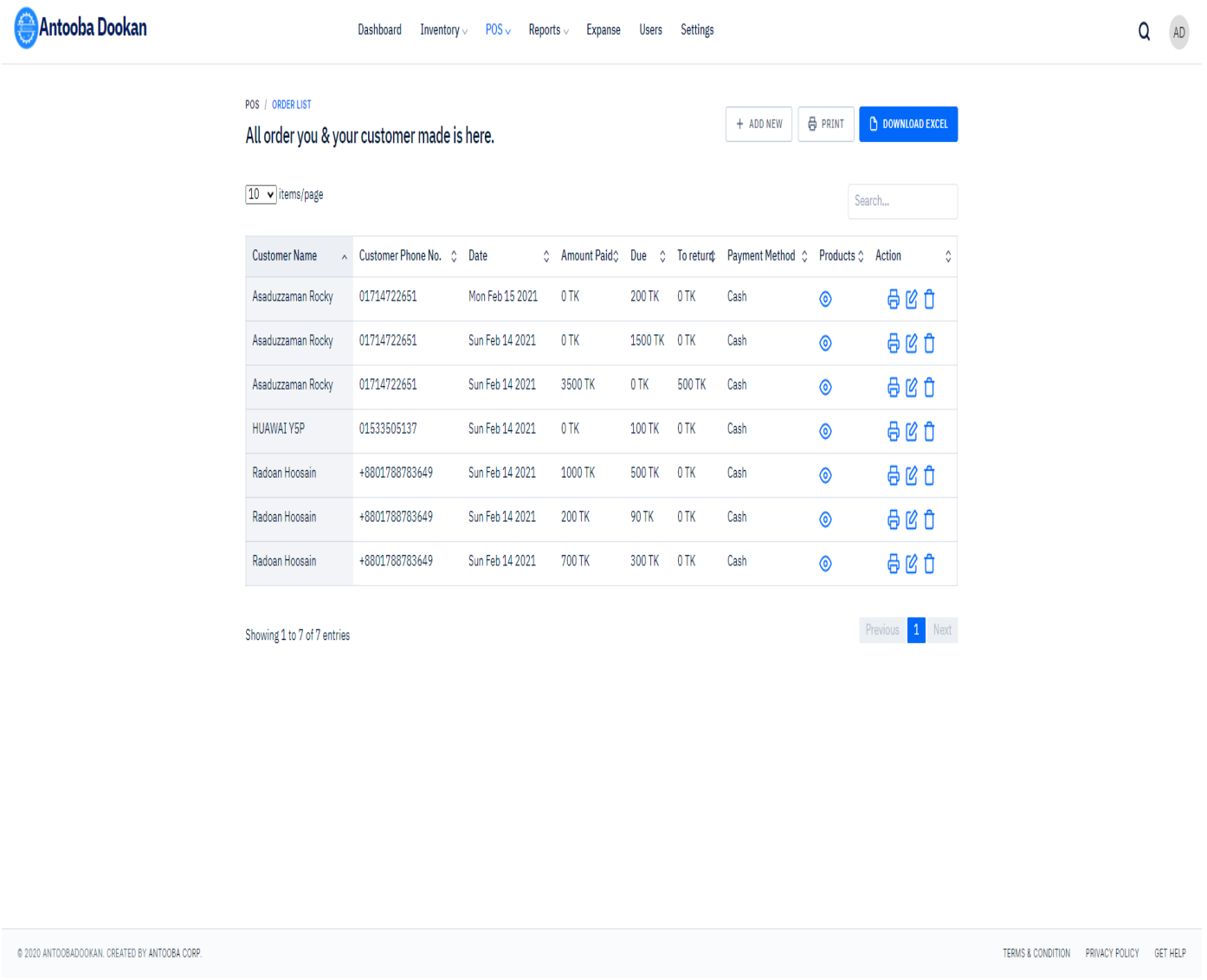


Figure 4.15 Order List

On this page user can see order history. Customer name, phone number, porches date, amount that paid, due, return amount all history user can see in this section. Also, can edit, delete and print.

❖ Customer Report

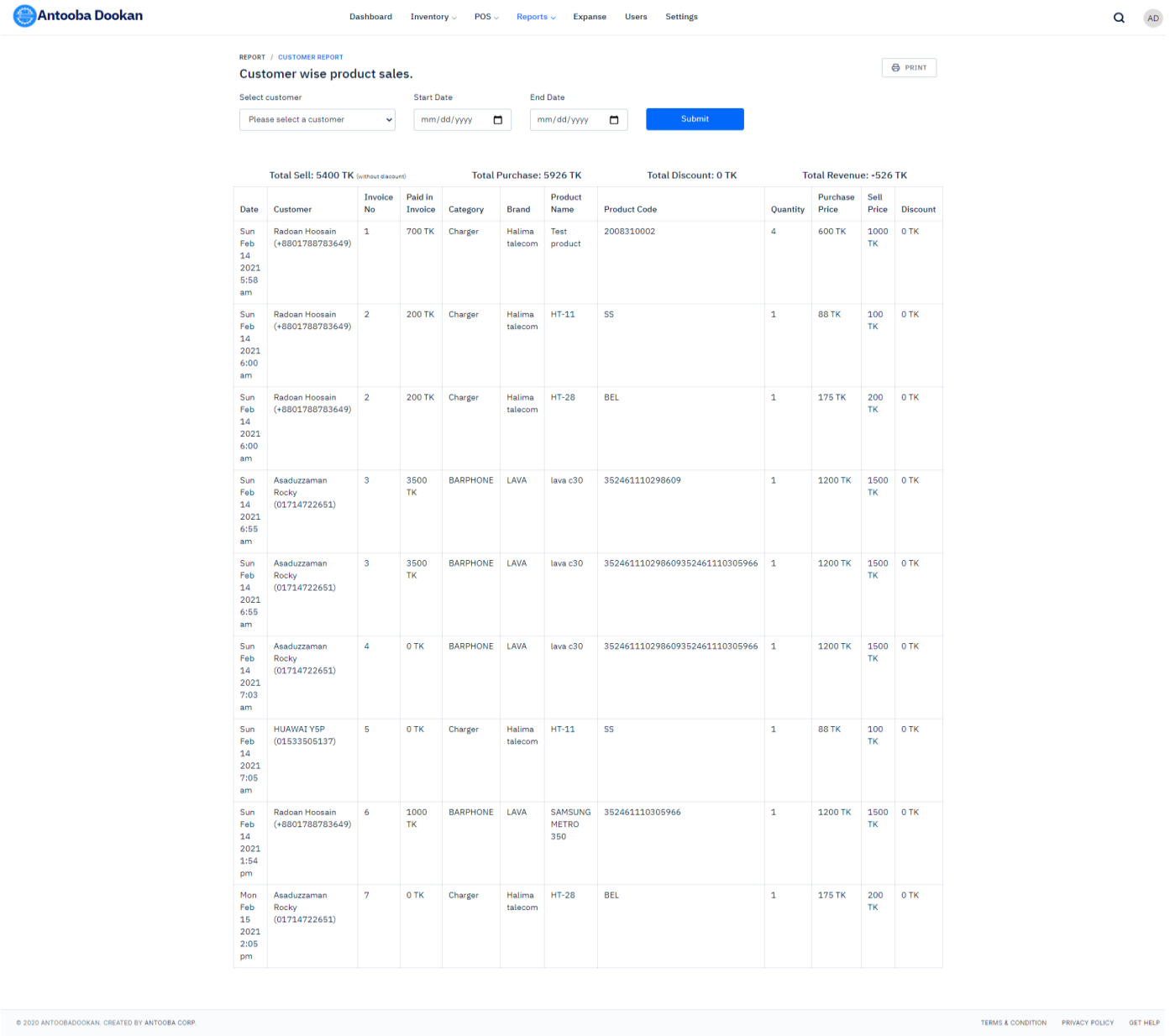


Figure 4.16 Customer Report

This is customer report page. User can see his/her customers details in this section. If owner or user need to check date wise customer history then select date and press submit button .Also user can search a single customer history by select customer name on customer field. In this section user can see customer wise product sales report.

❖ Purchase & Due Report

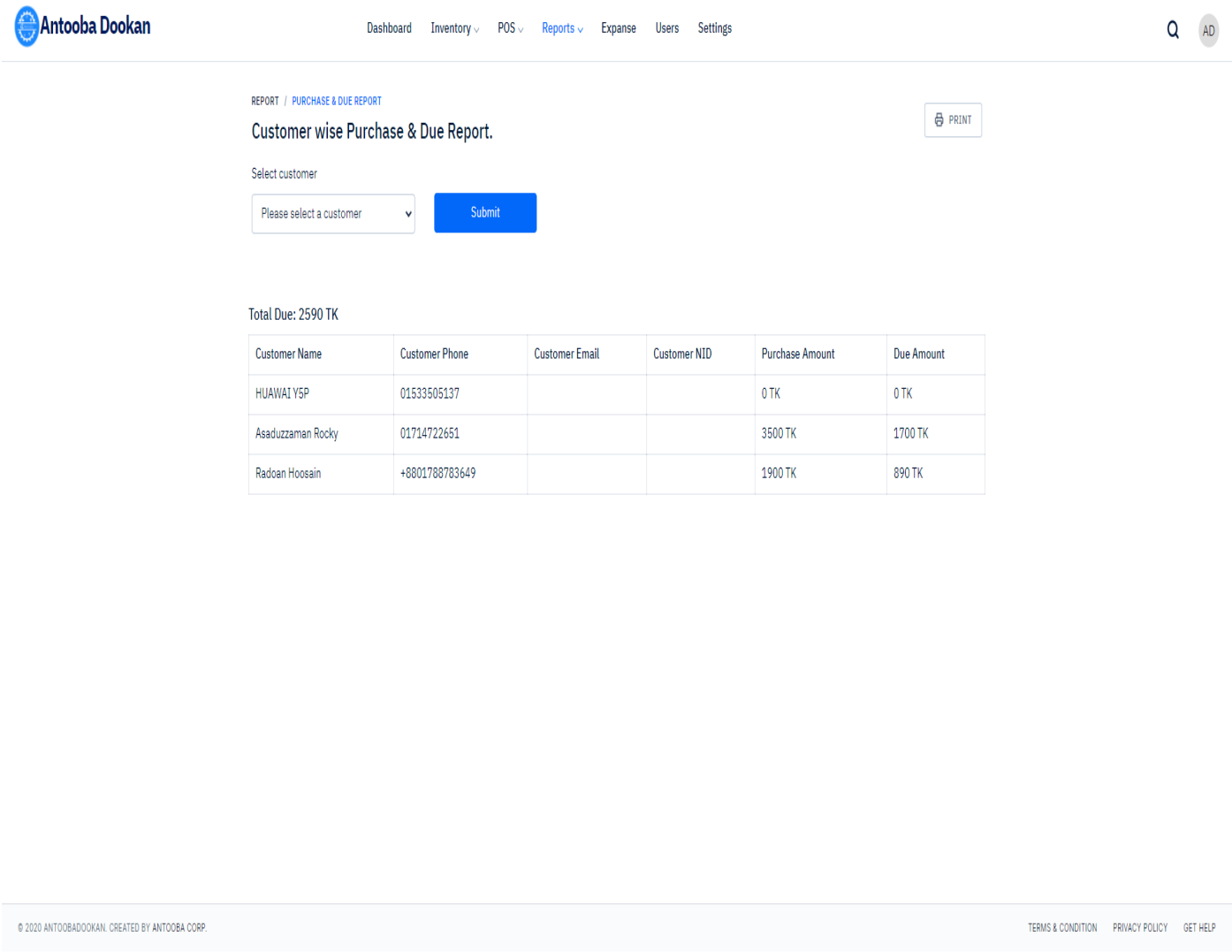


Figure 4.17 Purchase & Due Report

This is customer purchase and due report page. In this page user can view customers purchase amount and due amount. If user need to find any specific customer due report view then select customer name and press search button. User can print the page and collect the data of a page.

❖ Expanse Report

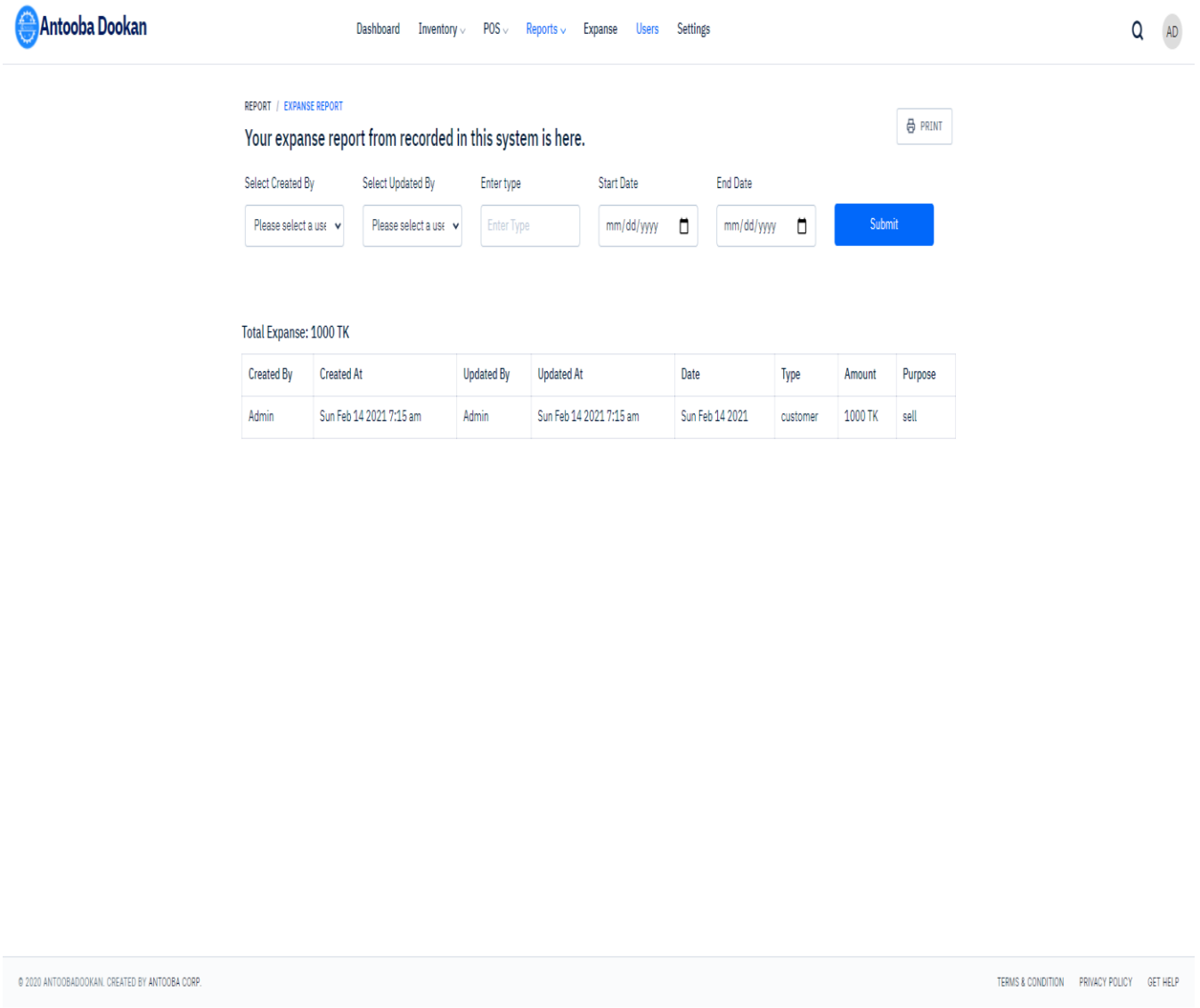


Figure 4.18 Expanse Report

This is expense report page. In this page User can view all the expense report of the shop. Also, can search expense report by date.

❖ Revenue Report

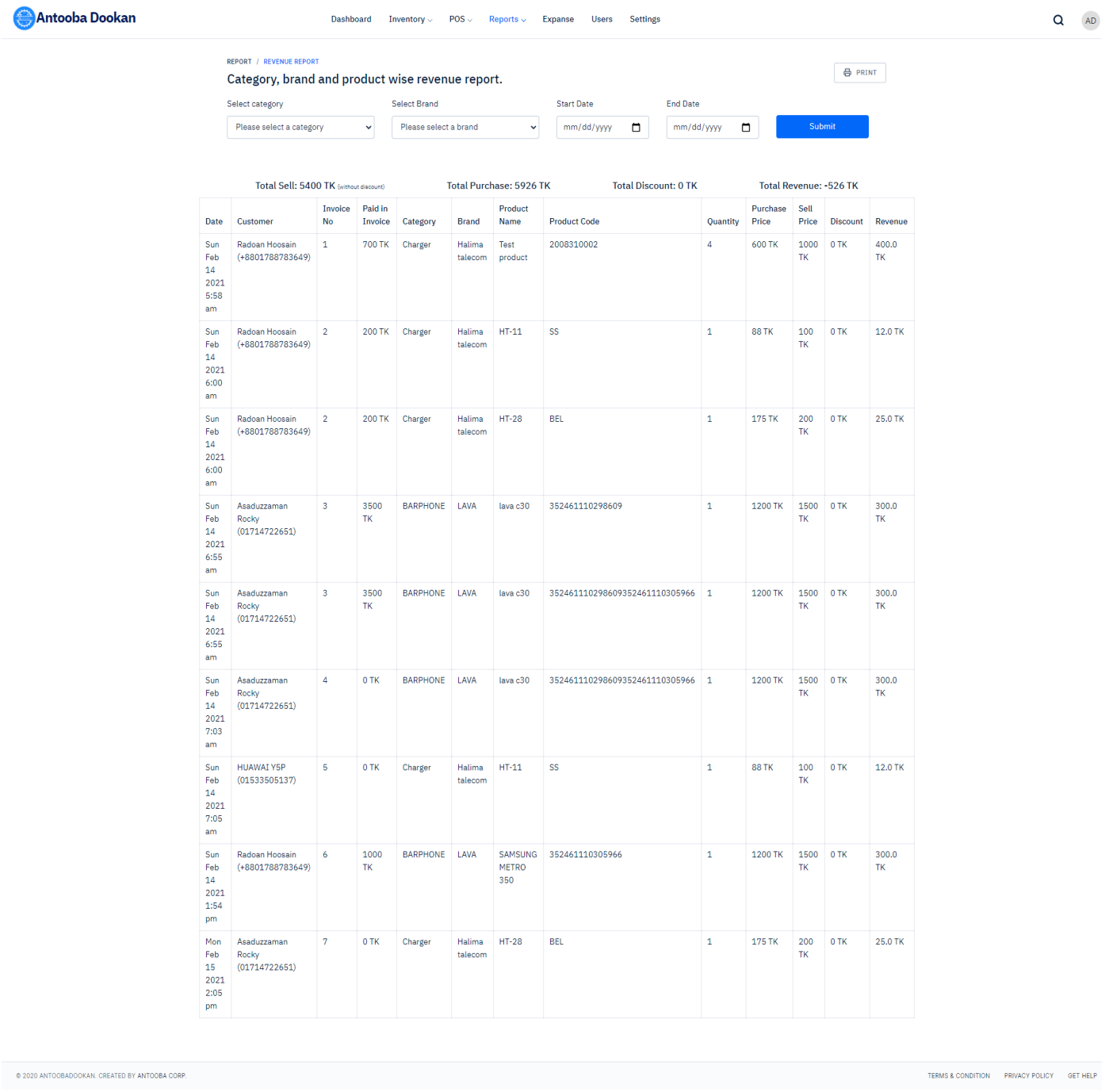
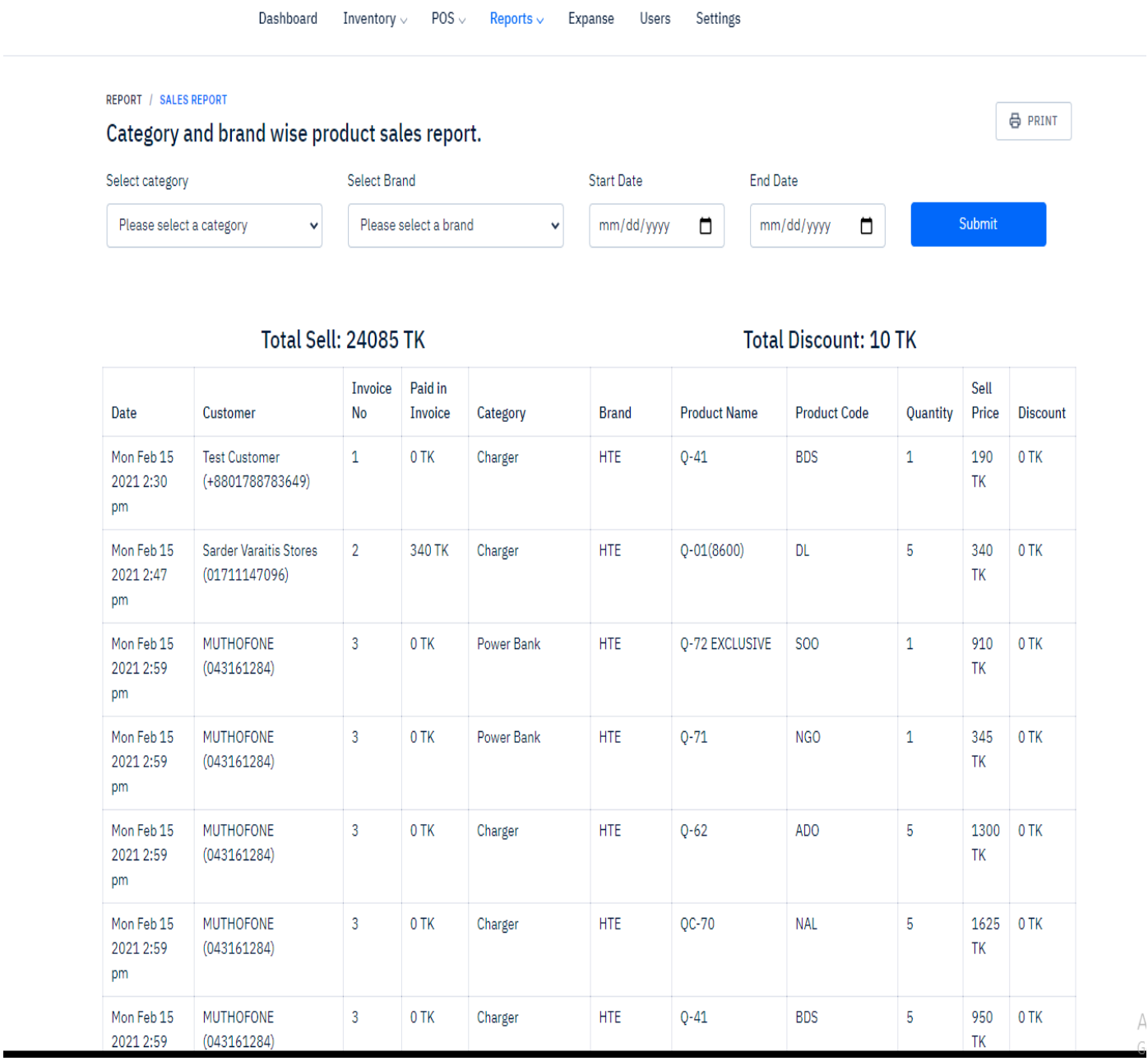


Figure 4.19 Revenue Report

This is revenue report page. In this page owner or user can view the revenue of products that customers purchased.

❖ Sales Report



Date	Customer	Invoice No	Paid in Invoice	Category	Brand	Product Name	Product Code	Quantity	Sell Price	Discount
Mon Feb 15 2021 2:30 pm	Test Customer (+8801788783649)	1	0 TK	Charger	HTE	Q-41	BDS	1	190 TK	0 TK
Mon Feb 15 2021 2:47 pm	Sarder Varaitis Stores (01711147096)	2	340 TK	Charger	HTE	Q-01(8600)	DL	5	340 TK	0 TK
Mon Feb 15 2021 2:59 pm	MUTHOFONE (043161284)	3	0 TK	Power Bank	HTE	Q-72 EXCLUSIVE	SOO	1	910 TK	0 TK
Mon Feb 15 2021 2:59 pm	MUTHOFONE (043161284)	3	0 TK	Power Bank	HTE	Q-71	NGO	1	345 TK	0 TK
Mon Feb 15 2021 2:59 pm	MUTHOFONE (043161284)	3	0 TK	Charger	HTE	Q-62	ADO	5	1300 TK	0 TK
Mon Feb 15 2021 2:59 pm	MUTHOFONE (043161284)	3	0 TK	Charger	HTE	QC-70	NAL	5	1625 TK	0 TK
Mon Feb 15 2021 2:59	MUTHOFONE (043161284)	3	0 TK	Charger	HTE	Q-41	BDS	5	950 TK	0 TK

Figure 4.20 Sales Report

This is sales report page. In this page user can see category and brand wise product sales report. User can also see a single product sales report. Owner or user can easily know his/her most demanding product.

@Daffodil International University

❖ Stock Report

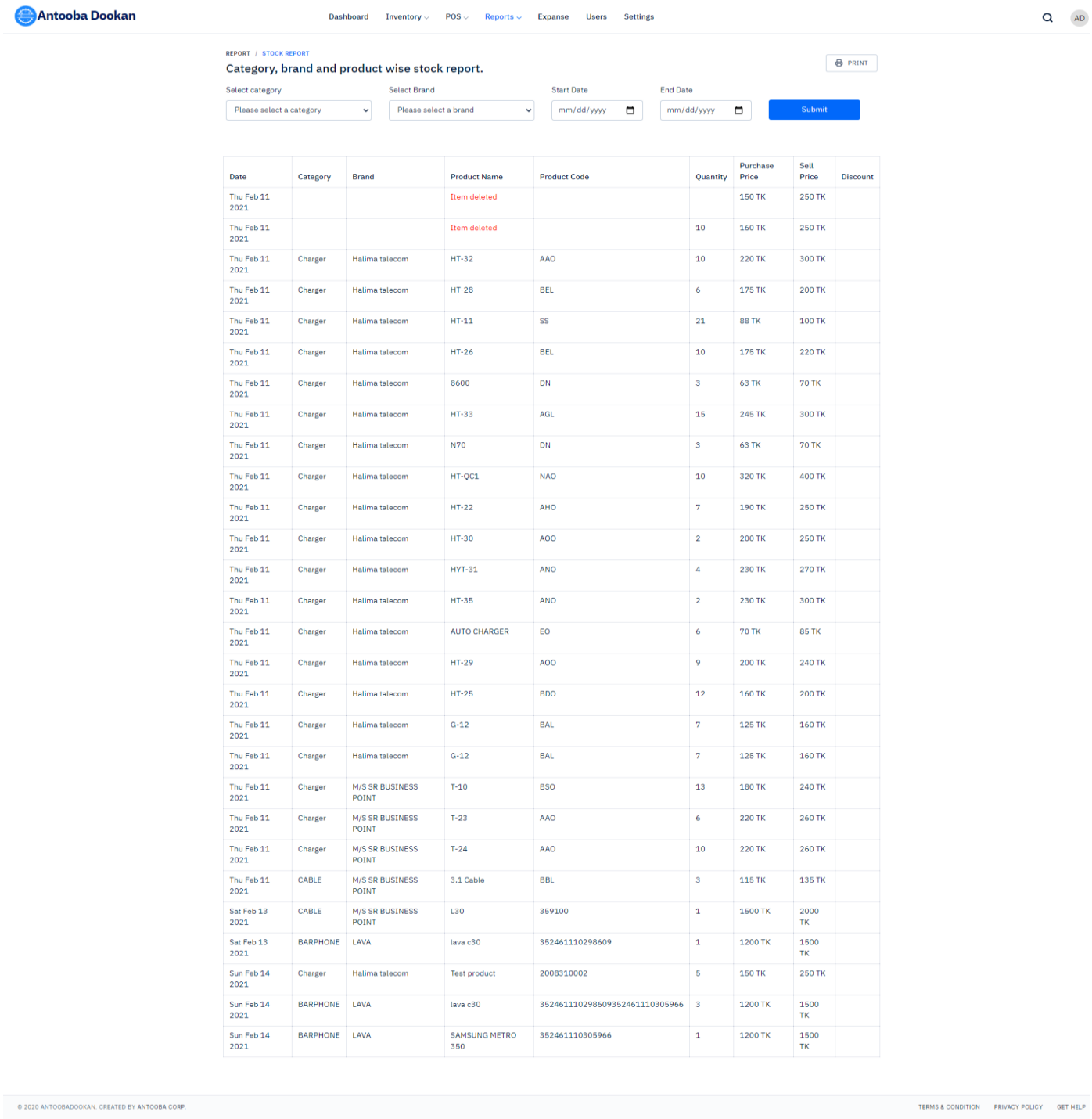


Figure 4.21 Stock Report

This is stock report page. In this page owner or user cab see his/her product

entry date, quantity and others report. If anyone deletes any product, the owner can also see this. User can search a product by select product name or if he/she wants to know the date-wise product entry report then select the date and press the search option.

❖ User List

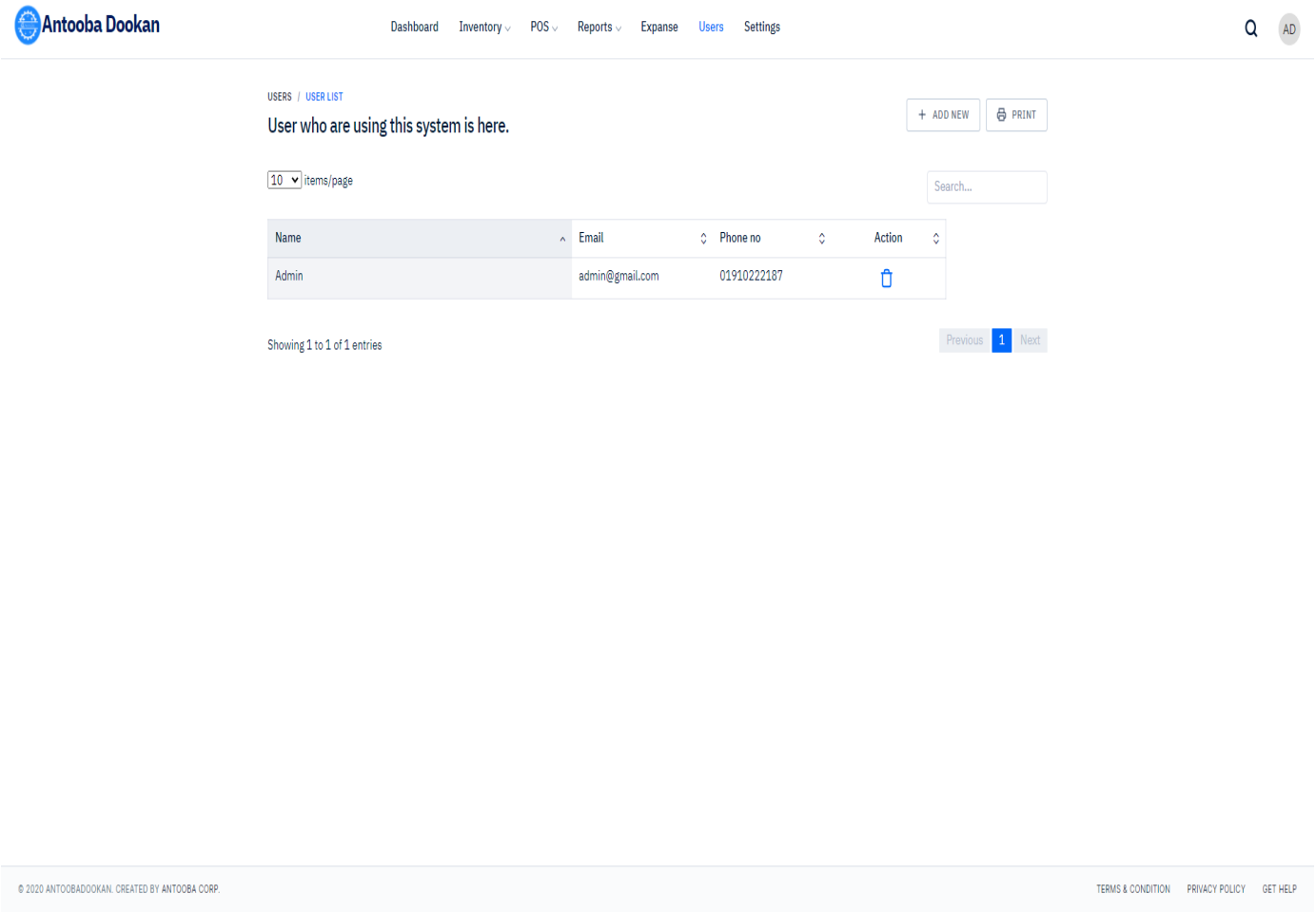


Figure 4.22 User List

This is user management page. In this page admin can add multiple user. Also can set roles of user.

❖ Settings

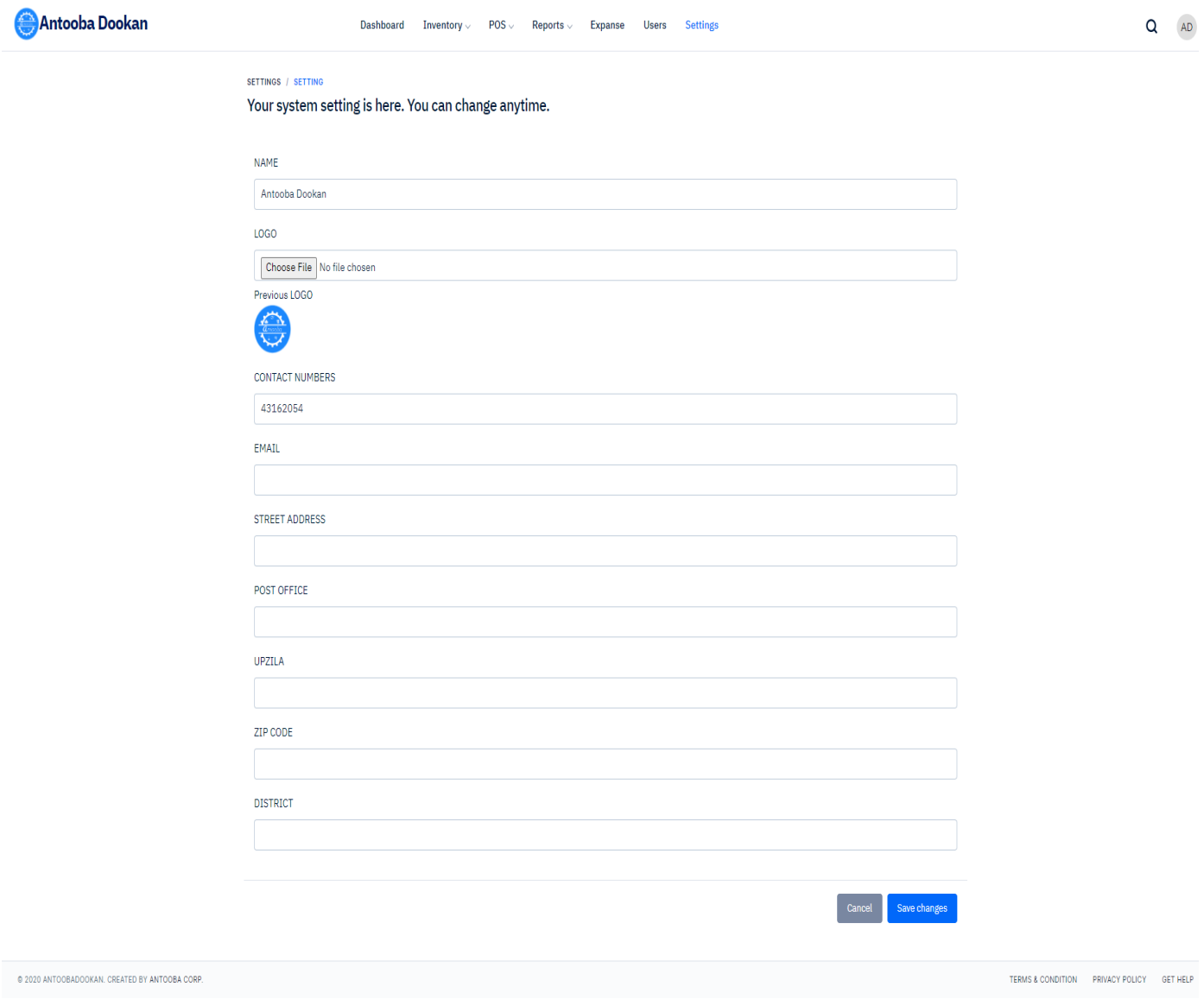


Figure 4.23 Settings

This is settings page of our application. You just need to add your shop name, logo and others details. Name, logo, phone number and address will be printed on the menu card.

CHAPTER 5

Testing and evaluation

5.1 Testing

Testing is an important term of every application. After developing the system, there are many bugs that need to solve. You need to find those bugs. To find those bugs and solve them we use some testing methods.

5.2 Testing list

1. Function Testing
2. Usability Testing
3. Interface Testing
4. Database Testing
5. Load Testing
6. Performance Testing
7. Security testing

Some of the testing part discuss below:

5.2.1 Functionality Testing

FUNCTIONAL TESTING is a type of software testing that validates the software system against the functional requirements/specifications. The purpose of Functional tests is to test each function of the software application, by providing appropriate input, verifying the output against the Functional requirements.

@Daffodil International University

Test Forms are working as probable. That will include-

- ✓ If a user doesn't fill up the mandatory field, then it will show error massage.
- ✓ Products add successfully.
- ✓ Selected product adds to memo successfully.
- ✓ Dashboard works properly.
- ✓ Daily sale, expense dur, earning works properly.
- ✓ All reports generate successfully.
- ✓ Customer add successfully.
- ✓ All data save properly.

Test Cookies are working as expected. When cash is deleted cookies are also deleted.

5.2.2 Usability Testing

Usability testing, a non-functional testing technique that is a measure of how easily the system can be used by end users. Usability testing checks the system speed, product scanning time, memo generate option, print memo quickly and properly etc. It also ensures the system is user friendly.

5.2.3 Database Testing

Database testing is also an important part of our application.

- ✓ Check all the data that saved in database.
- ✓ Check brand, category, products, supplier data that all are saved or not.
- ✓ Its check the response time of query.

5.2.4 Performance Testing

Software quality depends on its performance. High quality software provides high quality performance. So performance increases software quality.

- ✓ Application response time, it depend on internet speeds.
- ✓ Loading time reduce for server-side.
- ✓ Data backup system because of application crash due to maximum load.

5.2.5 Security testing

To satisfy our valuable clint security testing is an important part. Admin site and staff site is different so staff can't see all the important document of the shop. Some steps of this part are :

- ✓ Admin can access staff page but staff can't.
- ✓ Data security.
- ✓ No one can access the system without admin permission.

CHAPTER 6

Conclusion and future work

6.1 Goal

The main object of our project is to make the business process easier. To bring a touch of modernity in every business by eliminating the tradition of tail khata. Transparency can be maintained and long-term accounting can be done. As a result, the business will prosper. Our goal is to modernize every small to large business.

6.2 Limitation

- It doesn't have multiple shop management.
- One time sing up/registration system,

6.3 Future work Plan

- Add employee management system.
- Add bank account to this system.
- Provide specific user history.

6.4 Conclusion

Antooba Bookan is a shop management system, it can be used both online and offline. Accurate business accounts, long-term accounts can be saved. It will help to maintain the business transparency of the employee and the owner. The owner will be able to view the current status of his business and manage the business from anywhere in online. With this software an owner will be able to manage multiple business. It will help in the growth and speed of business.