A Project Report
On
Departmental Store Management System

Amit Bhandari
Basanta Maharjan
Brihat Ratna Bajracharya
Kritish Pahi
Manish Munikar
Sushil Shakya

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Acknowledgment

This report is prepared for the partial fulfillment of the course *Object Oriented Analysis and Design* of the 6th semester of Bachelors in Computer Engineering. Best efforts have been made to ensure that this report is accurate and professional as far as possible.

We are very grateful to our subject teacher **Dr. Arun Kumar Timalsina Sir**, for his excellent lectures and tutorials that helped us become familiar with the terminologies and concepts in object oriented approach in software development.

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Sincerely,
Amit Bhandari, *070-BCT-505*
Basanta Maharjan, *070-BCT-511*
Brihat Ratna Bajracharya, *070-BCT-513*
Kritish Pahi, *070-BCT-517*
Manish Munikar, *070-BCT-520*
Sushil Shakya, *070-BCT-547*

Abstract

The course of Object Oriented Analysis and Design (OOAD) is the continuation of the course Software Engineering with emphasis on fundamental concept of object orientation. This course mainly focuses on the software development process in object-oriented framework. It also provide exposure to Visual Object Oriented Modelling languages, specifically Unified Modeling Language (UML). This report is a formal documentation of our OOAD Project done using the theoretical as well as technical knowledge of software development procedure.

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1 Introduction

This project entitled **Departmental Store Management System** is a web based application that manages various activities done in department store. These activities include ordering goods/products from suppliers/producers, entering the new arrival of products into the system, managing those products in the department store and making bills while selling those products to customers. The system can store information of the products in a very structured way. Bills are created and details of each transaction can be viewed whenever required. The interface of the system will be user friendly and as simple as possible yet powerful requiring little training of operating staff.

Our system stores the detail of supplier, product, customer bills, department store staff as main entities. The department store manager regularly checks the product in stock and orders those that are out of stock. Goods and product come from many suppliers. Each supplier supply one or more products but one product is supplied by a unique supplier. These products are then classified into several categories and arranged categorically in separate racks. Details of every products (like in which category does it belong to, where it is located, available number, price) etc. are recorded and maintained in central database. An employee is assigned to enter the necessary information about the product into the database system of the store. A customer uses the system in order to find the product he is searching for and he gathers all the products he wishes to buy and brings it at the payment section of the store. An employee then enters the product codes of the customer purchase into the system and bill/invoice is prepared by the system. A customer makes the payment. Each transaction is stored in database for future references. So this is all about the workflow of our system.

As already mentioned above, this is a web based application system. A web-based application is any application that uses a website as the interface (the “front-end”). Users access the application from any computer connected to the Internet using a standard browser, instead of using an application that has been installed on their local computer. Almost any desktop software can be developed as a web-based application. With web-based applications, users access the system via a uniform environment—the web browser. While the user interaction with the application needs to be thoroughly tested on different web browsers, the application itself needs only be developed for a single operating system. There’s no need to develop and test it on all possible operating system versions and configurations. This makes development and troubleshooting much easier.

2 Objectives

We can categorize our objectives into two main categories. They are:

2.1 Academic Objectives

- To fulfill the partial requirement of our course.
- To explain and illustrate the fundamental concept of object orientation.
- To learn about Visual Object Oriented Modelling languages, specifically UML.
- To develop software/application following object oriented analysis and design.

2.2 Software Objectives

- To implement the concept of object orientation and build a software for store management system.
- To build an easy interface for our system.
- To use UML diagrams to make overview of the system and use it to implement in code.

3 Literature Review

Departmental Stores is *one spot shopping*. It is widely acceptable and fast gaining business also known as Universal Suppliers.

Unlike online virtual store, in departmental stores, the items required by every family are available under a single roof. Departmental stores specializes in satisfying a wide range of goods and products of the consumers and residential needs and at the same time offering them a choice of multiple services at variable price points. It avoids the need to visit different places to purchase different kinds of products from several places.

A typical Departmental Stores have following criteria for betterment of service to public:

- Individual department are established as per different types of goods to be sold.
- Each Department is an independent unit ie. the sections operates independently under single management.
- Departmental Stores provides maximum shopping convenience to its customers.
- It keeps huge stock of fresh goods which highlight latest fashions and trends followed by different manufacturers.

The main aim of every departmental store is to provide and fulfill all requirements of their customers at one place along with comforts and facilities, which a small scale retailer cannot provide.

Buying, Supervision, accounting, advertising and external communications are the basic operations of Departmental Stores handled directly by the central management of the store. Imagine handling all the Accounting, Supervision, Communications operated by the staffs, which is very monotonous for day to day operations of the stores.

To avoid these tedious tasks, a software system could be employed to take over these task of Accounting as Cashier, Supervise the stock as Supervisor, making the deal with all Suppliers. Cashier making bills manually for the goods purchased is a traditional approach which is outfit for modern departmental stores to handle large customers and services.

On the other hand to keep daily record of stock available for each products under all categories is almost impossible for any operators. Hence via this software system, it could keep the daily track of the goods (products) sold and the new arrival of goods from the suppliers so that there is surplus inventory to avoid being “out of stock” at the time of purchase.

4 The Application

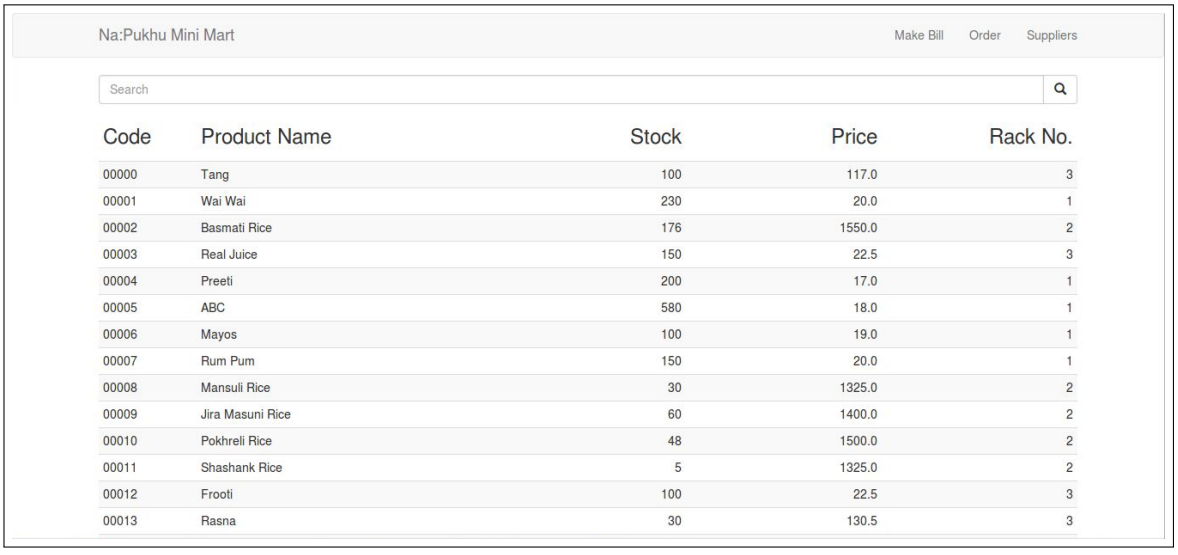
The application consists of four web pages:

1. Home Page
2. Make Bill Page
3. Order Page
4. Supplier Page

Below figures show some screenshots of the application. All the functionalities are explained accordingly.

4.1 Home Page

This page displays the list of products that are available in the department store. It displays code, name, stock, price and the rack number of the product. There is a search bar where user can search for the product he is looking for. With this search bar he can find out in which rack he should look for in order to find the product.



Code	Product Name	Stock	Price	Rack No.
00000	Tang	100	117.0	3
00001	Wai Wai	230	20.0	1
00002	Basmati Rice	176	1550.0	2
00003	Real Juice	150	22.5	3
00004	Preeti	200	17.0	1
00005	ABC	580	18.0	1
00006	Mayos	100	19.0	1
00007	Rum Pum	150	20.0	1
00008	Mansuli Rice	30	1325.0	2
00009	Jira Masuni Rice	60	1400.0	2
00010	Pokhreli Rice	48	1500.0	2
00011	Shashank Rice	5	1325.0	2
00012	Frooti	100	22.5	3
00013	Rasna	30	130.5	3

Figure 4.1: Home page

4.2 Make-Bill Page

This page is used in order to prepare the bill for the products bought by the customer. A staff simply enters the product code and quantity in the designated areas and the product

gets added into the bill. Once all the products are added, the staff commits and the bill gets stored into the database. There is also a reset button available for resetting the whole bill.

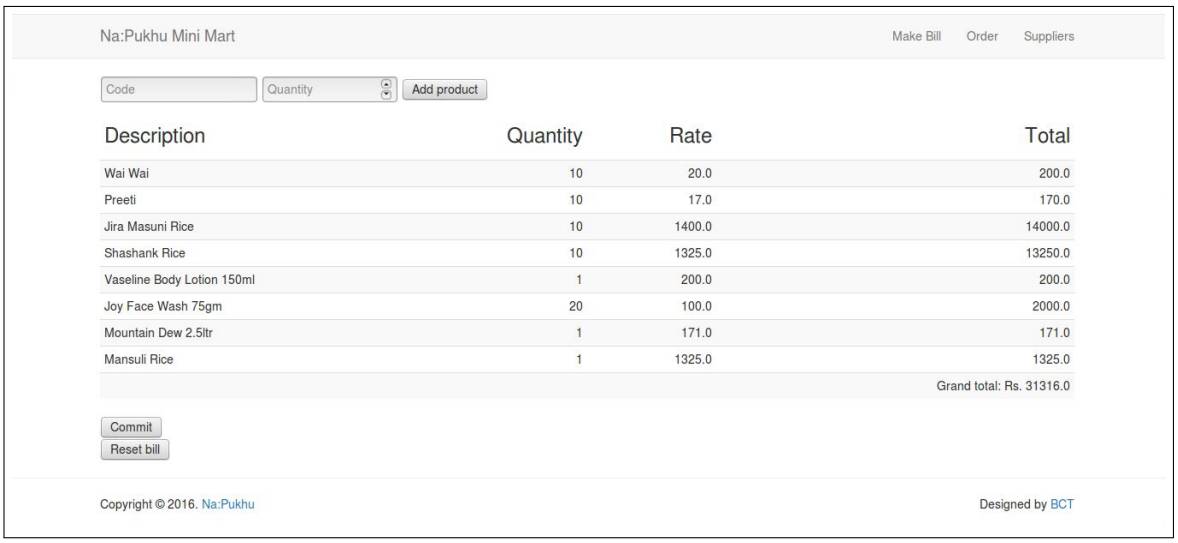


Figure 4.2: Make-bill page

4.3 Order Page

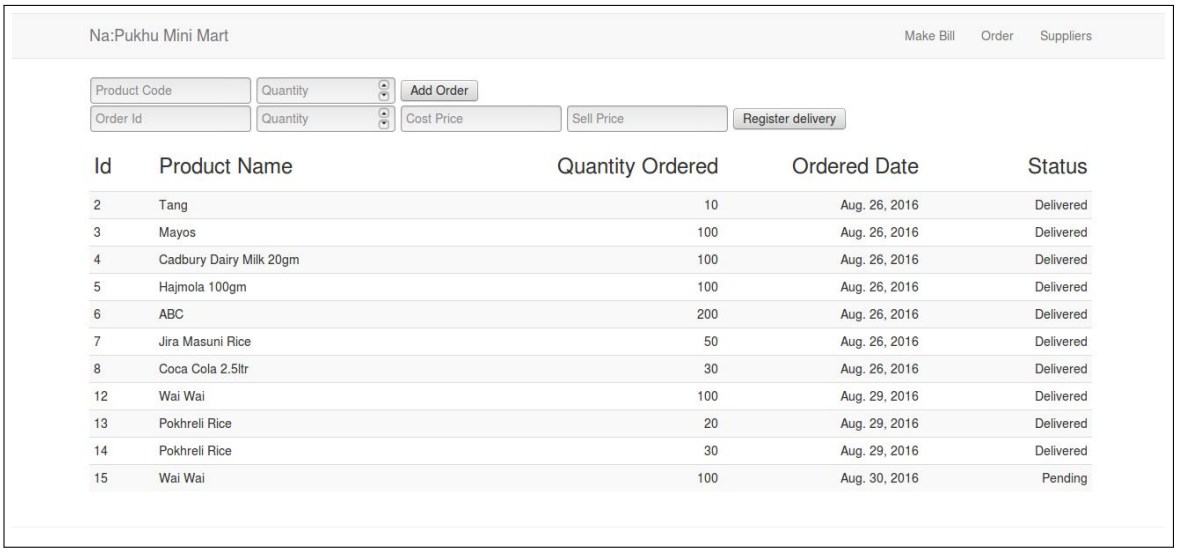
This page is used to record the orders given to the product supplier as well as the delivery made by the supplier. The page shows a list of recent orders. The order contains the id, product name, quantity ordered, ordered date and status. Once the order is recorded, it gets displayed in the list of orders and its status is "pending" by default. After the delivery is made by the supplier, the delivery detail is entered and thus the status of the pending order changes to "delivered".

4.4 Supplier Page

This page displays the list of suppliers that are associated with the department store. It displays the name, address, contact number of the supplier.

4.5 View-Bill Page

We actually visited *Na: Pukhu Mini Mart* (located near Bhaktapur Mini Bus Park, Itachhen) to know about managerial operations of the store and required attributes for our database. This visit was helpful in understanding practical approaches to manage a store.



Id	Product Name	Quantity Ordered	Ordered Date	Status
2	Tang	10	Aug. 26, 2016	Delivered
3	Mayos	100	Aug. 26, 2016	Delivered
4	Cadbury Dairy Milk 20gm	100	Aug. 26, 2016	Delivered
5	Hajmola 100gm	100	Aug. 26, 2016	Delivered
6	ABC	200	Aug. 26, 2016	Delivered
7	Jira Masuni Rice	50	Aug. 26, 2016	Delivered
8	Coca Cola 2.5ltr	30	Aug. 26, 2016	Delivered
12	Wai Wai	100	Aug. 29, 2016	Delivered
13	Pokhreli Rice	20	Aug. 29, 2016	Delivered
14	Pokhreli Rice	30	Aug. 29, 2016	Delivered
15	Wai Wai	100	Aug. 30, 2016	Pending

Figure 4.3: Order page

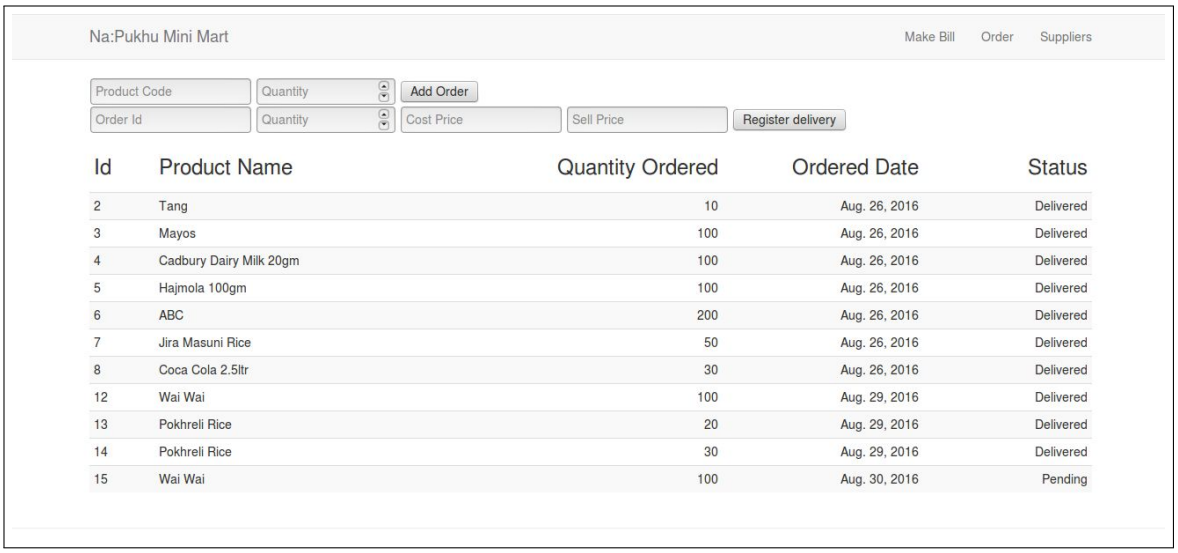


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Figure 4.4: Order page

Later section of this report contains Use Case and Class Diagram of the project that gives overall overview of the system. …

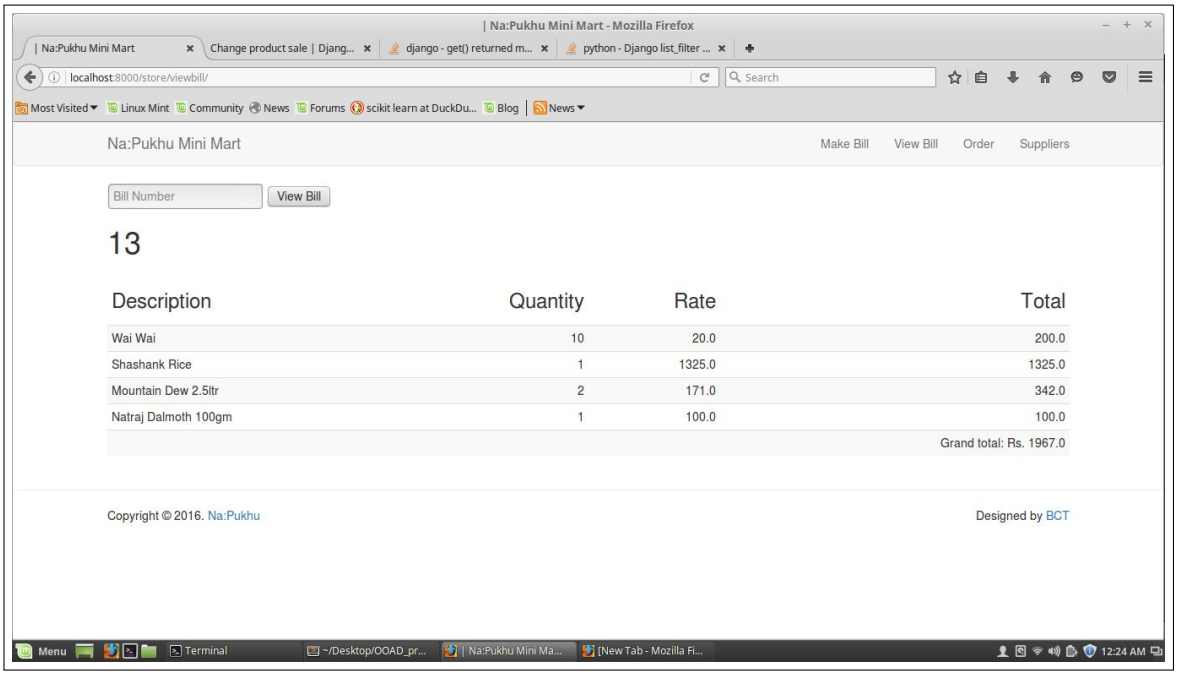

Figure 4.5: View-bill page

5 Conclusion

For this project, we made various UML Diagrams. Programming is done in Django (Python) using MySQL for database. Project was completed in time and we were able to fulfill mentioned objectives. In this technological era, we have built an application that helps to manage operations and activities of departmental store in digital form.