**New Era University**

College of Computer Studies

Computer Science Department

In Partial Fulfillment of the Requirements in

CS 314 Intelligent System

**Reports Management for Product Sales Development Using Data Mining**

Submitted by:

Antonio, Glydel

Caballero, Robert Russel

Parcia, Mark Anthony S.

Pegollo, Angel III C.

**CLASS SCHEDULE**

WED(5:00pm-7:00pm)

Submitted to:

**Prof. Yumie M. Pasiol**

Instructor

1. **Introduction**

Data mining is one of the main or important steps of the knowledge finding in databases process and it is considered as significant in reports management. Enterprise report management supports handling and storage of reports and documents. Purchasing of a customer has its pattern. Patterns can then be seen as a kind of summary of the input data, and may be used in further analysis. Data mining step might identify multiple groups in the data, which can then be used to obtain more accurate prediction results. Collecting information from previous record would help the management to increase profit and customers. From the large quantity of numerical data, it should be analyze from the collected data through statistical computation. Another way of analyzing numerical data is the graphical representation. Chart represented on graphs helps measuring the extent of change in one variable when another variable changes by a certain amount that will give the precise picture of the problem.

Company’s sales may depend on the behavior of certain market factors. Source of information are the customers. They are basis to know their likely purchases during the period under a given set of conditions where sale forecast is likely to be used as an analysis to determine a strategy to figure out the complimentary products to sell.

Companies need a system that provides foundation to make a development of company’s sales. Ensuring prospects is cost-efficient and effective.

The system provides an output of reports in graphs and offer recommendation from the given input of the user. Recording the number of products sold in a day that can be viewed in days, weeks, and months. Each system provides an intended role which separated in three parts the first one is for the data input that came from the customer’s choice, the second part is consider as the storage of every transaction that is generated to the system and the last part is where only the administrator can access the data reports of which have security boundaries.

1. **Statement of the Problem**
2. How will statistical computing, data mining & graphical representation be implemented?
3. How will the existing inventory system determine the data results?
4. How will the data be collected?
5. **Objectives of the Study**

The main objective of the study is to develop, design and evaluate a system using R / Java Programming and Data Mining for a sales report.

Specific Objectives:

1. To integrate Reports Management for Product Sales Development.
2. To develop product analysis system to an existing inventory system.
3. To evaluate a sales report using Data Mining.
4. **Significance of the Study**

Below are the ones who will benefit on the system and the study.

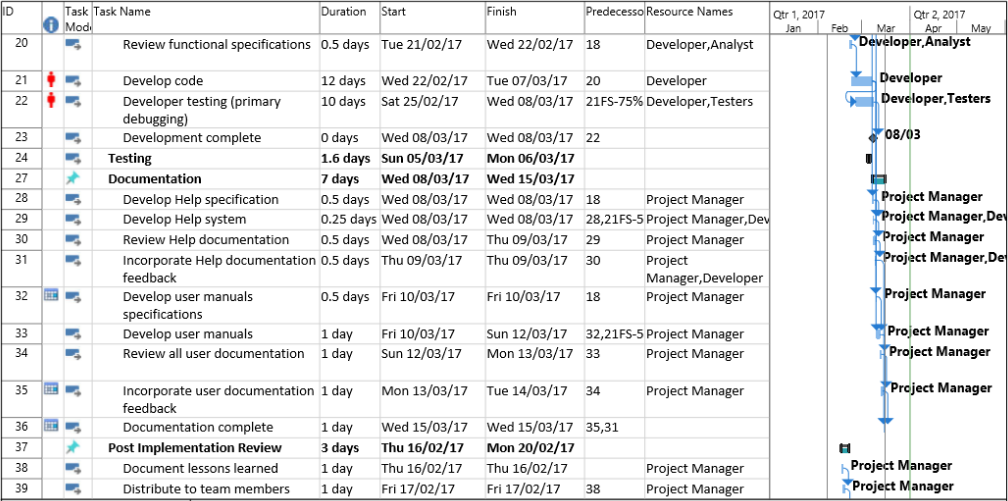
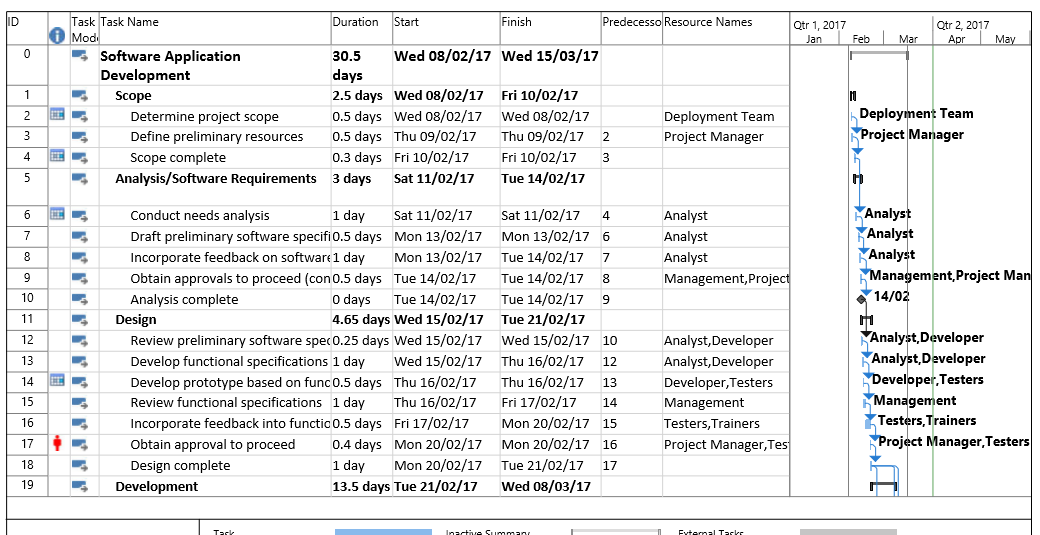
**Companies** – the company will know the best and worst items to sell on their business.

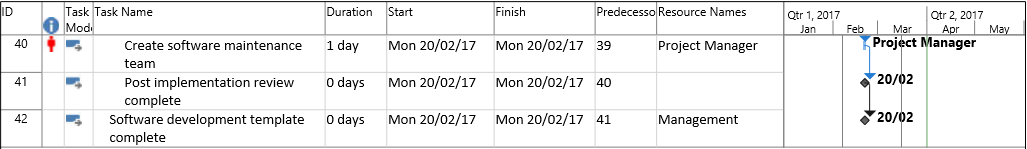
**Future Researchers** – researchers can make the system as basis of their study and can further improve the system.

1. **Scope and Limitation**

The system generates reports in line graph and offer recommendation from the input. Comparing the products sold in days, weeks, months and years depending on the choice of the owner. It also highlights the products that are in-demand and gets out of stock quickly.

1. **Gantt Chart**

****



1. **Software Development Life Cycle**

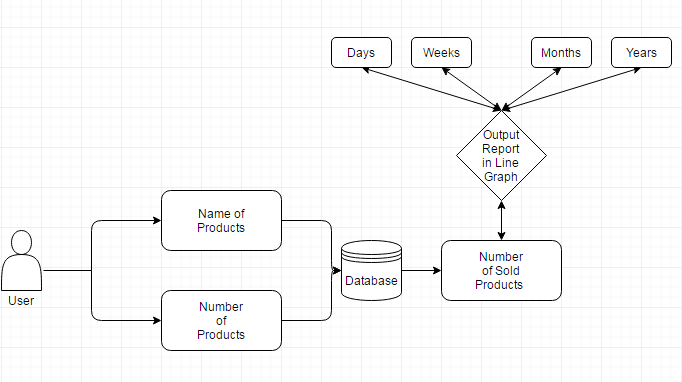
The researchers used Agile SDLC Model for the combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by quick delivery of working software product.

Agile uses an adaptive approach where there is no detailed planning and there is sharpness on future tasks only in respect of what features need to be developed.

Also, researchers believe that every project needs to be handled differently and the existing methods need to be modifying to best suit the project requirements.



1. **Conceptual Framework**



**Figure 1.1 The process of the system**

As shown in the Figure 1.1 which is the flow/ process of how the system will work. First proponents are aiming to use an existing system that focused on product management, ordering system or any existing system that is related to inventory system. The system works as a monitoring system that has the objectives to prevent, produce, increase the production of the products and also to manage those in demand items so the company can maintain the sales of the company.

In every product that is purchased and stored to the database of an inventory system as the history of the transaction. This system will extract all the data from the database of the existing application which is an inventory system. The system will analyze those products that is in demand to the customer, those data will be stored to its own database and calculate those number of sold products and provides a graphical representation of the sales which is analyzes the highest & lowest percentage of the numbers of sold product. It can also identify the sales report from the past days, weeks and years.

1. **Functional Requirements**

Each function of the system or the specific screen functions are identified below.

1. Interface Requirements
   * 1. (1) Screen 1: Employee/Manager Login Frame
2. Screen 2: Ordering System - where data requests are entered.
   * 1. (1) Inventory System Frame- where users are able to add, update and delete.
     2. (1) Screen 1: Login System accept employee accounts

(2) Screen 2: Graph display data diversity.

(3) Screen 3: Report can print data

(4) Screen 4: Sales report stored in the history

1. Business Requirements
   * 1. Data must be entered before a request can be approved.
     2. All employee’s will be trained to use the system
     3. Changes from the item products must be approved by clicking the request approval.
2. Regulatory/ Compliance Requirements
   * 1. The database will have a functional relationship to all process.
     2. The system will limit access to authorized users.
     3. Administrator must secure the daily reports of the products
3. Security Requirements
   * 1. Members of the Employee’s Group can enter request but cannot approved or delete requests
     2. Members of the Manager’s Group cannot enter request but can manage data from data base can add, update, and delete of an item and it also cannot approve the request.
     3. Members of the Administrators Group or the owner cannot enter request but can manage data from the database. The one who as privilege to approved, delete, or update the requests.
4. **User Requirements**

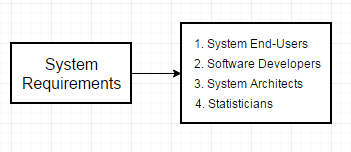
The proponents will provide a guide on how the user will understand the flow of the system in the easiest way. The system itself must have the best possible design on the User Interface, the functionality of each part of the system must be analyzed and well-tested that affects user’s interest in using the software application.

* User can transfer the results of transactions in 24 hours to the administrators.
* User can ADD an item to the inventory system which they can add new item with a specific information.
* User can DELETE an item to the inventory system which they can remove item from the database.
* User can UPDATE the data from the inventory system which automatically update data from the Point of Sale System.
* User can generate a graphical representation of sales report in every transaction.
* Provides a printed output of the sales report.

1. **System Requirements**

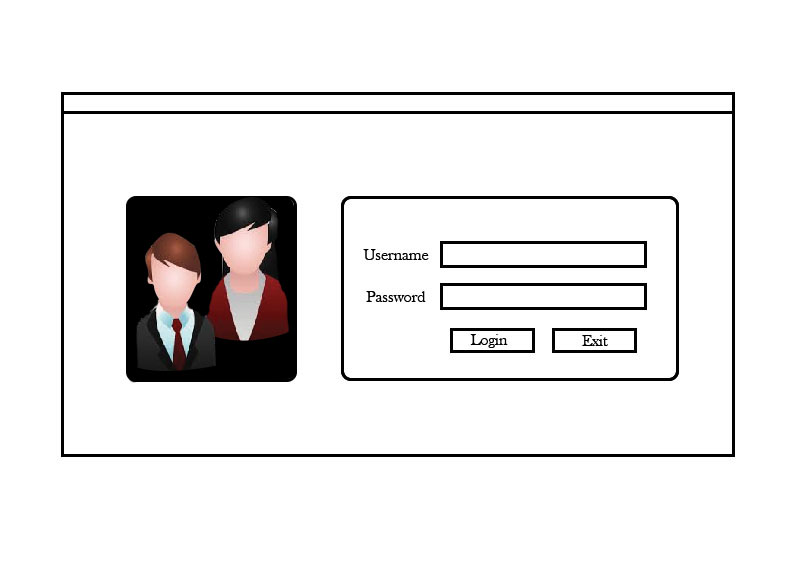
System Requirements Specification

1. On each end of the day, a summary of each sold products and their overall sales percentage shall be generated.
2. A graphical representation of the report will be generated and shall automatically be stored in a database for future use.
3. The graph report can be viewed depending on the user in day, week, month or year.
4. On each last working day of the month, a summary of the most sold product, least sold product and most demanded product shall be generated.
5. The system shall suggest a certain product on what to buy and least to buy after a summary is generated.
6. The access to all generated reports shall be restricted to unauthorized users, and can only be accessed by authorized users listed or known by the system.

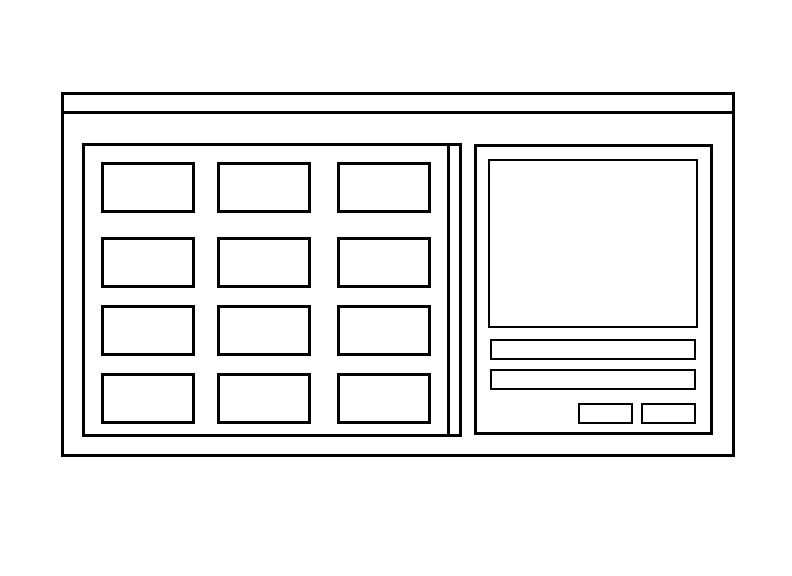


1. **User-Interface Design**

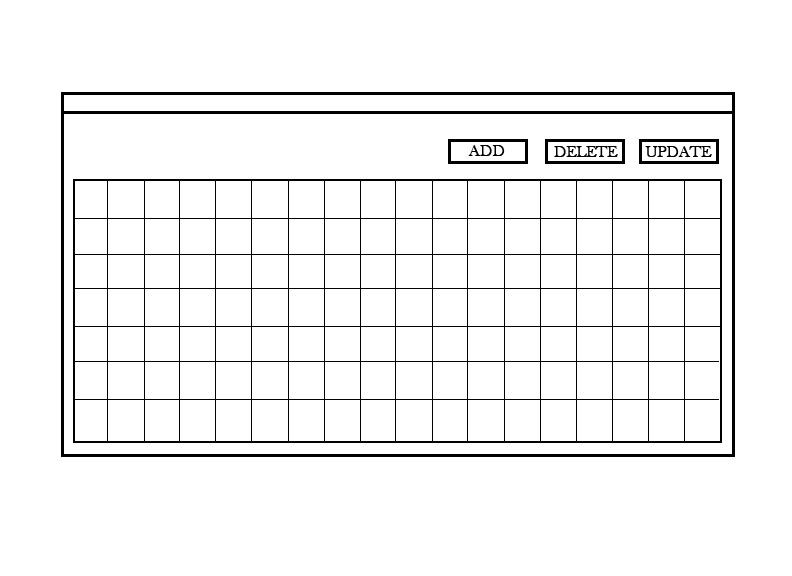
(1) Employee/ Manager Login

****

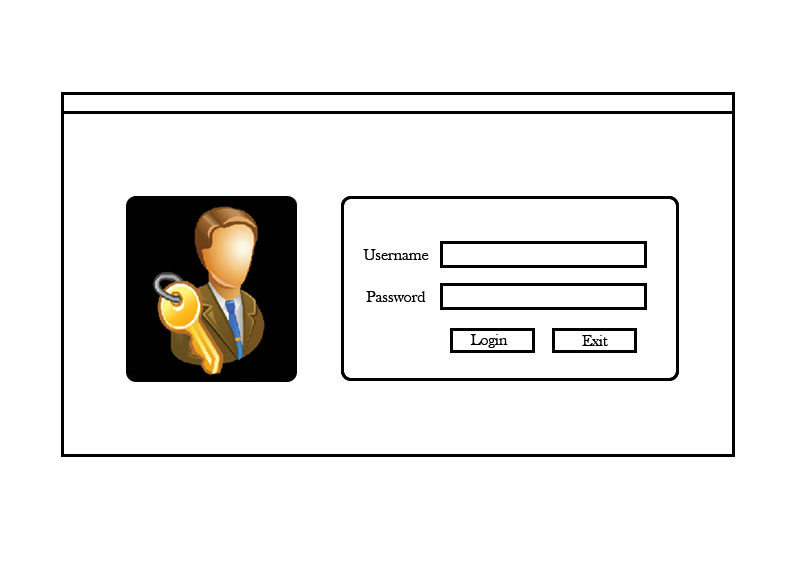
(2) Ordering System

****

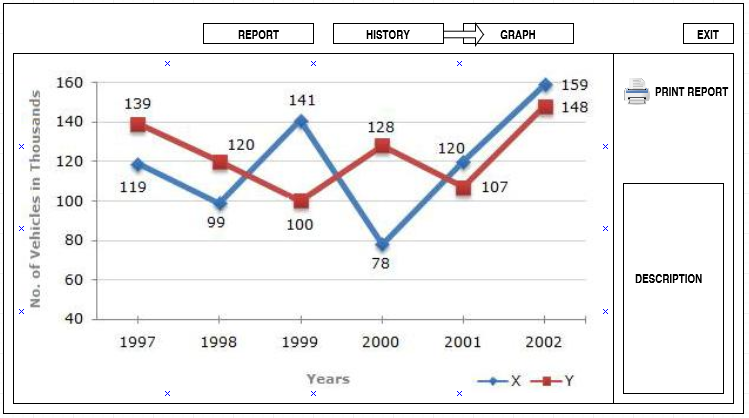
(3). Inventory System

****

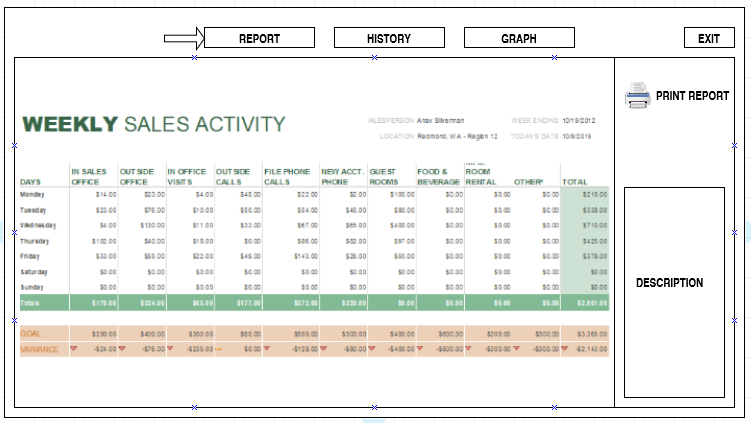
(1) Owner Login Frame



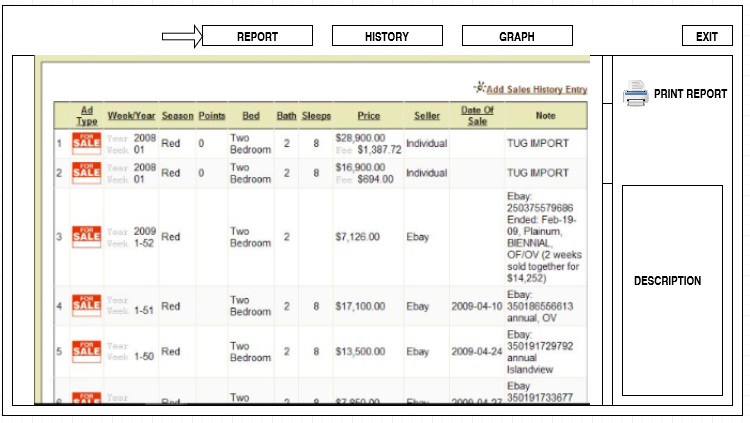
(2) Graph Frame

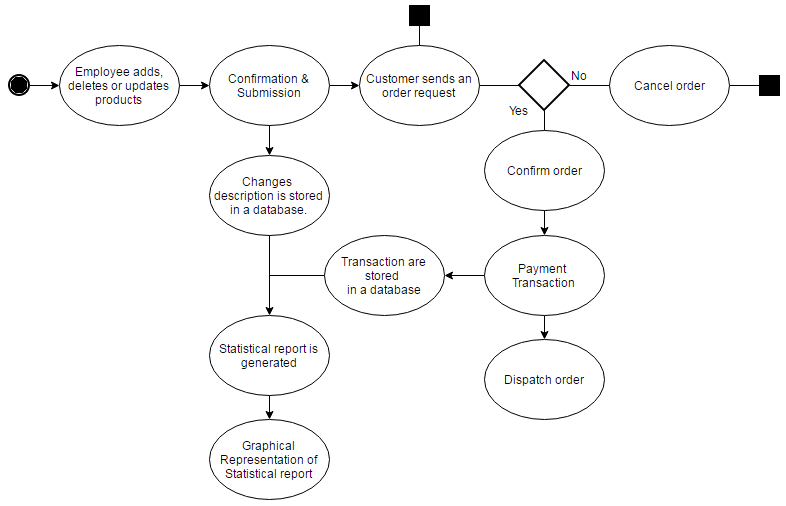
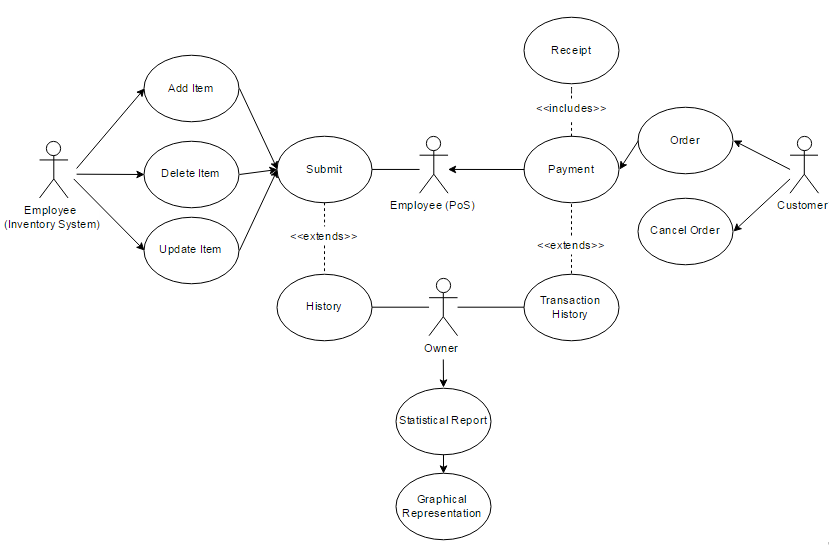


1. Report Frame



4) History Frame



1. **Unified Modeling Language**
2. Activity Diagram
3. Use-Case Diagram