

# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

IIT GUWAHATI



## CS243: SOFTWARE ENGINEERING LABORATORY

Resource Management Project

*By:*

Sai Anirudh	120101064
Devesh	120101020
Anand Keshri	120101009
Akshay Verma	120101007
Animesh Karmakar	120101010

# **ACKNOWLEDGEMENTS**

We extend our profound gratitude to our project guide Mr P K Das and project TA Avinash, for their interest, guidance and suggestions throughout the course of the project. We feel honoured and privileged to work under them. They shared their vast pool of knowledge with us that helped us steer through all the difficulties with ease. This project would not have been possible without their guidance and we would like to thank them for everything they have done for us.

# Contents

<b>1</b>	<b>Introduction</b>	<b>4</b>
<b>2</b>	<b>Scope of document</b>	<b>4</b>
<b>3</b>	<b>Objectives of project</b>	<b>4</b>
<b>4</b>	<b>Technical Report</b>	<b>4</b>
4.1	Model Followed . . . . .	4
4.2	Programming Languages Used . . . . .	4
4.3	Global variables . . . . .	5
4.4	Methods . . . . .	5
4.4.1	filldatagrid() . . . . .	5
4.4.2	addvendor() . . . . .	5
4.4.3	deletevendor() . . . . .	5
4.4.4	issuestock() . . . . .	5
4.4.5	refresh() . . . . .	6
4.4.6	Query processing functions . . . . .	6
4.4.7	Combobox and Listbox functions . . . . .	6
<b>5</b>	<b>DataTables</b>	<b>6</b>
<b>6</b>	<b>Inputs and Outputs</b>	<b>6</b>
<b>7</b>	<b>List of Services</b>	<b>7</b>
<b>8</b>	<b>Flow of Program</b>	<b>7</b>
<b>9</b>	<b>Feasibility Study</b>	<b>7</b>
9.1	Economic Feasibility . . . . .	7
9.2	Technical Feasibility . . . . .	7
9.3	Environmental Feasibility . . . . .	8
<b>10</b>	<b>Requirements, limitation, assumptions or constraints</b>	<b>8</b>
<b>11</b>	<b>Scope of improvement</b>	<b>8</b>
<b>12</b>	<b>References and Web Links</b>	<b>8</b>

# **1 Introduction**

All businesses involve inventory and need to manage it efficiently to ensure smooth running of the business activities and profitability. To manage inventory efficiently, business owners need to develop a good inventory management system . Building a sound inventory management system usually incur high cost marketing department to be automated in which the sales done by the sales representative to the customers and sales of which product they have sold and how many were sold and under which team, all this information is Managed and Stored in their respective records in the system which includes Customer records, Individual Sales, Team Sales, report generation of individual and team sales monthly based and weekly based as well and payroll and etc.

## **2 Scope of document**

Developing a Resource Management depends on the type of organization we are dealing with. All the human and non-human resources have been studied and considered in the project for its management like purchase, replacement, removal, etc.

## **3 Objectives of project**

The main objective of this project is to develop a Resource Management System that keeps track of all resources used in an organization like network, human resources, computing, etc.

## **4 Technical Report**

### **4.1 Model Followed**

We followed the water-fall model, since we know all the requirements and we already had the existing model in the market.

### **4.2 Programming Languages Used**

The coding has been done in Visual C++. C++ is based on the concept of OOPS (Object Oriented Paradigm) which thereby enhances the functionality

of the program with many reusable components like functions etc. and support various encapsulation and inheritance mechanisms which make software easy to read and make it more maintainable in the long run.

For the database requirement, My SQLworkbench has been used. Visual C++ can manipulate the database easily using the My SQLworkbench, as is the requirement of the situation. My SQL workbench provides DBAs (Database Administrators) and developers an integrated tools environment:

1. Database Design & Modelling
2. SQL Development
3. Database Administration
4. Delivers visual tools for creating, executing, and optimizing SQL queries

### **4.3 Global variables**

‘username’ is used to remember the current user in the session.

### **4.4 Methods**

#### **4.4.1 filldatagrid()**

Fills the data grid with the query. It supports data grid with employee contacts, history, issued stock, manufacturer, overall stock, pending requests, tempaddedproducts, tempmanufacturer, tempissued product and user details.

#### **4.4.2 addvendor()**

This is used to add vendor.

#### **4.4.3 deletevendor()**

This is used to delete vendor.

#### **4.4.4 issuestock()**

This is used to issue stock.

#### **4.4.5 refresh()**

This is used refresh the data grid.

#### **4.4.6 Query processing functions**

There are several function for processing queries like validating login, querying the requests that are pending.

#### **4.4.7 Combobox and Listbox functions**

Combo and listbox are used so that user cant enter garbage values. There are function written to fill the combo and list boxes.

## **5 DataTables**

1. employee contacts - Contains employee details like email, phone number and id.
2. history - Contains all the activities like add, delete products.
3. issued stock - Contains the list of issued stock.
4. manufacturer - Contains the list of manufacturers and the item they are selling.
5. overall stock - Contains the stock we have.
6. pending requests - Contains the requests to be reviewed by the Admin.
7. tempaddedproducts - Contains the temporary added products, which will be added to actual table after validation by admin.
8. tempmanufacturer - Contains the temporary added manufacturers which will be added to actual table after validation by admin.
9. tempissued product - Contains the temporary issued products, which will be added to actual table after validation by admin.
10. user details - Contains user details like username, password, employee id and his privileges.

## **6 Inputs and Outputs**

Input entered is filled in the respective tables and is accessed in data grid using the SQL queries.

## **7 List of Services**

1. Add a new item/delete to the product.
2. Add a new item/delete to the vendor.
3. Issue an item.
4. Add employee.
5. Automatic notification System.

## **8 Flow of Program**

The program starts with a login screen. This allows the user to login as an Admin or a data entry operator.

Admin has all the rights in the software. Admin can add new products or remove existing products. he can also add new data entry operators or can remove them. He can review the products and vendors. All activities of Data Entry Operator can be reviewed by Admin and can undo it.

Data entry Operator can add products and vendors. But when he adds a vendor it has to be reviewed by Admin.

## **9 Feasibility Study**

The feasibility of the product is a question that conforms the reality to the ideas. Feasibility test is critical. The dimensions that define the feasibility of the project are:

### **9.1 Economic Feasibility**

The cost incurred in making this software is one long time investment and it's maintainability is very easy. The product being complemented by a user manual and documentation is reusable and open to new changes.

## **9.2 Technical Feasibility**

The software is a newly developed application so it does not need any other software or hardware. The technical feasibility is high the software can be deployed on any machine having My Sql workbench and the software requires minimum hardware requirements.

## **9.3 Environmental Feasibility**

The software is simple and any user can use it with no difficulties at all. The user need not be trained in using the software or having any past experience of working in the software because it is very user friendly and easy to use.

## **10 Requirements, limitation, assumptions or constraints**

1. Runs on Windows 7 and 8 only.
2. User should know how to use a windows based system and has basic knowledge of computer.
3. Needs .NET 4.0 or above framework for working
4. Needs MySQL server installed.

## **11 Scope of improvement**

We can overcome some limitations like the following:

1. Add Customer and automatic Transaction facilities.
2. Add facilities of monthly review by graphs and charts.

## **12 References and Web Links**

1. Channel 9
2. Google
3. Icon converter
4. PlanetSourceCode



5. MSDN
6. Youtube
7. Snagit
8. Google Images