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# Automation System for Agricultural Products

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**Abstract -** *Automation system is developed for reducing paperwork and human efforts, Automation Software provides effective automated data acquisition and control systems such as Web based system and ERP systems. The implementation of an Automation System for companies that manufacture the products from raw material, which performs all the task such as Inventory, Import and Export of Products, Employee' information and Bar code Generation for products. The ERP implementation system can help in provide better service to the customer and the organization and deliver good quality products to the customer.*

***Key Words***: **Automation System, Agricultural Products, ERP System, Barcode Generator, Sales & Purchase, Profit & Loss, Payroll, Inventory.**

## 1. INTRODUCTION

The development of computer based automation system is the need of every company working in different sectors.ERP is an acronym for Enterprise Resource planning it is a software system which is helpful for any organization. If we consider the ERP system as organizational point of view then we get clear idea about what it is. There are various processes that are essential to running a business including activities such as Inventory and Orders Management, Accounting, Human Resource, Customer Relationship management (CRM), Billing and Payroll management.

### 1.1 Background

These days, not all companies specialized automation tools for their work. They are still using the notebooks and registers to keep the records for maintaining logs and every small detail about work to capture.

### 1.2 Aim & Objectives

The project aim is reduce human effort for maintaining manual ways to keep the details about company. To help the company to maintain and manage all their records and information digitally in the computer system via Automation Software as well as provide features like payroll, inventory management and fingerprint based attendance system.

Main objectives of system are.

I. Help the company in automating the whole manual processing and reducing human efforts.
II. To provide high quality and user friendly system for company.
III. Bar code generation facility provided which generates bar codes for company products
IV. Inventory management is used to keep track of all material required in company.
V. Payroll management of employees is used to calculate the attendance and salaries.
VI. Fingerprint based Attendance System for Security purpose.

## 2. LITERATURE SERVEY

### 2.1 Related work

Most of company systems use paper based methods for keeping the records of material in stocks of company. As in paper records the raw material required for company can be inaccurate and confusing if more than one people handle the paperwork.

Thus, we have implemented the project to keep track of all raw materials in company. Where it came from, what is quantity? , Date till raw material is good for product.

Companies use manual registers for their employees, to record their attendance at work. And at end of month they check the registers for salary calculations.

So, we have a payroll system to maintain all the employee attendance and calculate the salary with taxes at end of each month.

Companies have the records of sales and purchases in form of hand written bills .These bills are stored in different files. These files are important for company. They can be misplaced, mishandled or get damaged easily.

Therefore, our projects keep the digital bills as well with company's manual hand written bill. System can thus calculate profits and losses of company using bills.

### 2.2 Problem statement

The Automation System affects organizations. It should improve operations efficiency, simplify business processes, and make working easier for employees.

## 3. PROPOSED SYSTEM

In proposed system, Fingerprint based attendance system module added to it which works as per data flow diagram shown below:

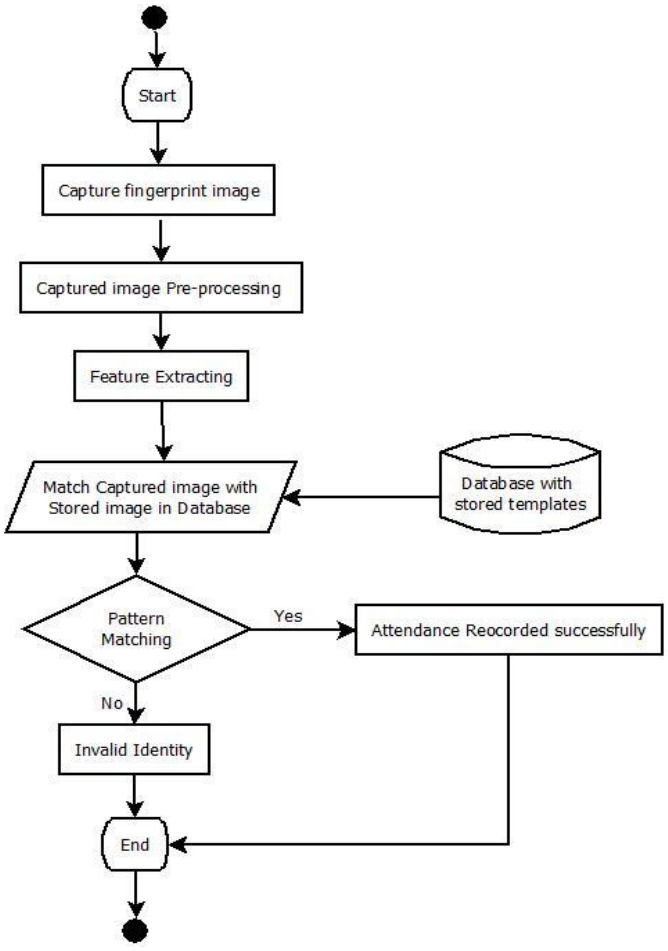


Fig: Fingerprint based attendance dataflow.

**Working:** Finger print based attendance system requires a biometric device which is known as 'Fingerprint Reader.' It allows us to capture the image of fingerprints. Captured fingerprint is then processed through quality assessment feature which will checks that the image is as per required structure or not. If it is as per requirement then processed for further steps otherwise it asks for new sample of fingerprint. When an image is passes the quality assessment test, Feature extraction process is performed on it in which only fingerprint portion is get contrasted and forwarded towards pattern matching phase in which the image captured by fingerprint reader is matched with the sample stored on the database. If the pattern matched successfully it registers the attendance of an employee otherwise ends or requests for new template of fingerprints from an employee.

On successful pattern match it will shows the identified identity of an employee with his or her details as well as the date and time at which the attendance will get recorded.

### 3.1 Proposed Architecture

Proposed system architecture consists of following modules:

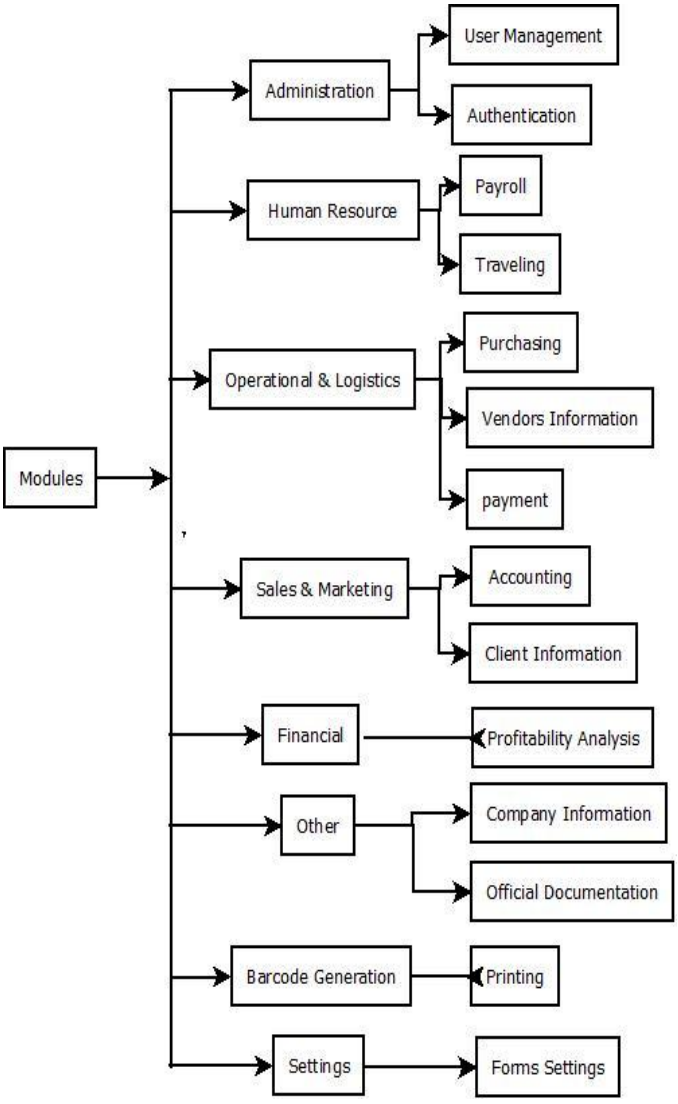


Fig: Architectural Diagram of system

## 4. MODULE IMPLEMENTATIONS

**Administration:** In administration module user enter the user information in registration form with secured password. When user entered the all user details in registration phase, these user registration data stored in data base and used during login phase for verification. This module provides facilities to admin to give privileges to different category of users.

**Human Resources:** In Human Resources module HR store the employee information in database with their delay expense. The payroll system generates the employee salary according to base salary plus expense with their attendance and works.

**Operations and logistics:** The company consists of three departments such as repining chamber, Rarshtriya Krushi Yojana, banana wafers unit. The Operations and logistics module provide facilities to these three departments to store information about purchasing row material or goods from farmer. This module creates farmer account and store accounting information.

**Sales and marketing:** In sales and marketing module the accountant store the client with sale information. These modules generate invoice and clients bill.

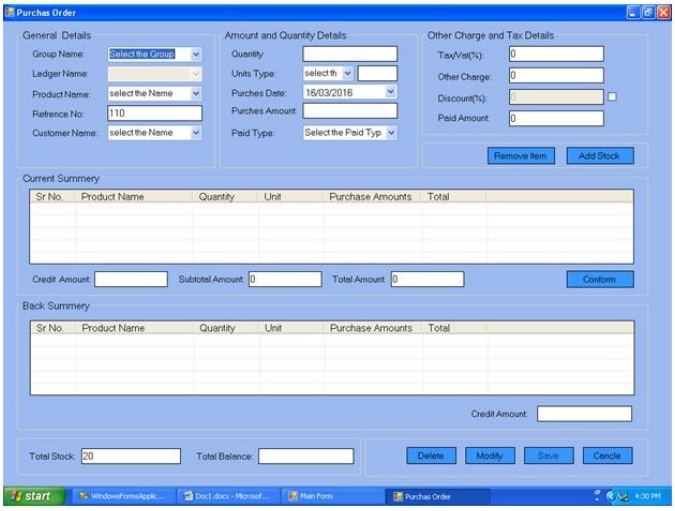


Fig: Purchase Order Module Screenshot

**Financial:** The financial module provides way to analysis protect and gain according to expense. We can and cost of product according to expense and purchasing prices of goods before sealing.

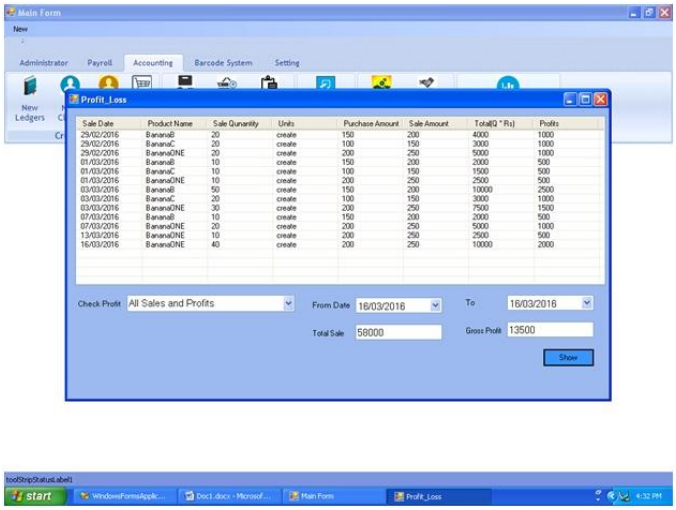


Fig: Profit-Loss Module Screenshot

**Other Module:** In Other module user enter the company information in database through company info form and this information used in the billing and different reports.

**Rarshtriya Krushi Yojana (RKVY):** These modules interact with Farmer, for purpose of national Krushi Yojana and the module store information of farmer as per requirement of government. These government facilities also provide way of export the product to others countries or states. So RKVY module stores all sales or other financial information.

**Bar code Generator**: The Bar code Generator also provides bar code to particular to recognize specific product .It also provide printout specific export or sales boxes of payment.

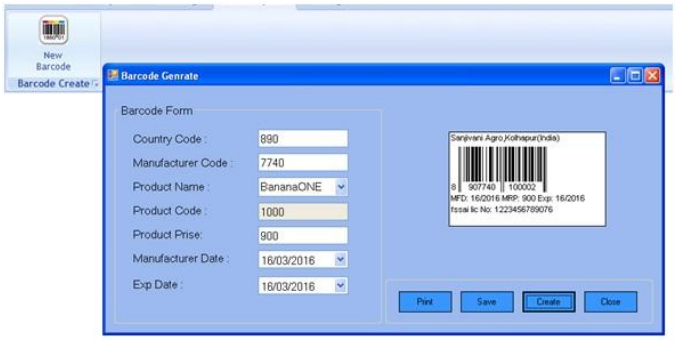


Fig: Barcode Generator Module Screenshot

## 5. CONCLUSIONS

Automation system for company is going to be developed for automatic salary calculation, employee and product registration, import and export segments handling, bar code generation, Separate modules are being used for different units of company. The task which has to be done manually or using some calculation software is to be done by our automation system.

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