**RV College of Engineering®, Bengaluru – 59**

**Department of Computer Science and Engineering**

**Database Design Laboratory (18CS53)**

# Synopsis

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| **TITLE: PRODUCT DISTRIBUTION** | | |
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# Introduction

Distribution of products is a huge process and it involves a lot of middlemen. Tracking of the products and the middlemen involved in the process is important so that the customers can track their orders easily and also will help in reducing the frauds involved. This project aims at digitizing the invoices so that the middlemen can easily track the invoices related to a company, distributor or suppler. Since most of the invoices are scanned PDFs, OCR will be used to extract the information from the PDFs and put it in a database. Apart from OCR part, the user can also create receipts on the website and store it in a database and share it with distributors, retailers or company. The users can also request the products from the company or distributors.

# Existing System

The current system involves sending the invoices to the distributors from the company. Most of the invoices are scanned PDFs, therefore the distributors hire people to fill these details in an Excel sheet. This process is extremely tedious and error prone. It is also difficult to find the invoices related to a company.

# Proposed System

This project aims at simplifying the current process by extracting details from the invoice PDF using OCR and storing the information in a database so that the middlemen can easily search and track the invoices. This also reduces the time, effort, and errors due to manual work of filling data in an Excel sheet.

# Relational Database Structure

Four different types of users are there for the current scenario. The entities are as follows,

1. **Company** – Company will have many distributors who will be distributing the products to retailers.

2. **Product** – The products in the receipt are separate entities and they will have relationship between the company, invoice, retailer, and distributor.

3. **Distributors** – Each distributor is again associated to many companies and retail stores.

4. **Receipts** – This is the receipt given by the company to the distributors. The distributors can give their own receipts to the retailer.

5. **Retailer** – Each retailer will receive products from many distributors.

# RDBMS AND NoSQL Integration

The company, distributor and retailer data are stored in the RDBMS. The invoice, products details are stored in a NoSQL database. A receipt associates every pair of other mentioned entities (company, distributor, and retailer). These relationships are specified by the middlemen at each stage.

# Societal Concern

This system reduces the cost, errors, and ensures that the data can be easily tracked. Using the GUI, the middlemen can easily filter the invoices according to the company, distributor, and retailer.