DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING.
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MIRPUR-2, DHAKA

Project Proposal

Course Title: Distributed Database Management System

Course Code: CSE 418

Project Title: Shop Management System

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1. Motivation

Shop management system is a unique tool for managing shops effectively. The main motivation for choosing this project is to reduce the waste of our valuable time. We know that managing a shop is really difficult for the shop owner. Without properly organized shop customers also don't get their desirable services in time. So, it may create quite a problematic situation. The shop owners may face difficulties at the end of the month for not properly buying or selling records. With this great opportunity to administer owner's categories, products, suppliers, customers, orders, sales, etc. So, in this project, we want to make the system powerful, flexible, easy to use and is designed to deliver real conceivable benefits to shop.

2. Overview

It's a desktop application that keeps track of all the transactions and generates a bill for all the purchased goods.

2.1 Significance of the Project

The aim is to automate its existing manual system with the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy access and manipulation of the same. In real life, it's an important system for both owners & customers. In this project, we may face some difficulties like testing in any shop.

2.2 Description of Project

The shop management system is a computerized system designed and programmed to deal with day-to-day operations. The program can look after records, databases of purchasing, etc. The purpose of the project is to computerize the Front Office Management of the Shop Management System which is user-friendly, simple, fast, and cost-effective. It deals with the collection of customers' information, products information, etc. This project will develop using Oracle database server as Back-end. The key features for this Shop management system include Complete and effective products inventory management. This all-in-one solution helps to manage the shop and save more hours each day by automating and simplifying every day's operations.

2.3 Background of the Project

Nowadays the maximum shop's working process is manual, so the shop is not using any software till now. The management system is paper-based, inventory controls are manual. They are using manual records. They have no selling or payment records using any software. They are not using any system to modify the order list. It's a traditional Shop Management System.

3. Methodology

For our project, we are going to use agile methodology. The Agile methodology is a way to manage a project by breaking it up into several phases. Iterative or agile life cycles are composed of several iterations or incremental steps towards the completion of a project. Iterative approaches are frequently used in software development projects to promote velocity and adaptability since the benefit of iteration is that we can adjust as we go along rather than following a linear path. The agile approach involves constant collaboration and continuous improvement at every stage. Once the work begins, teams cycle through a process of planning, executing, and evaluating. Continuous collaboration is vital.
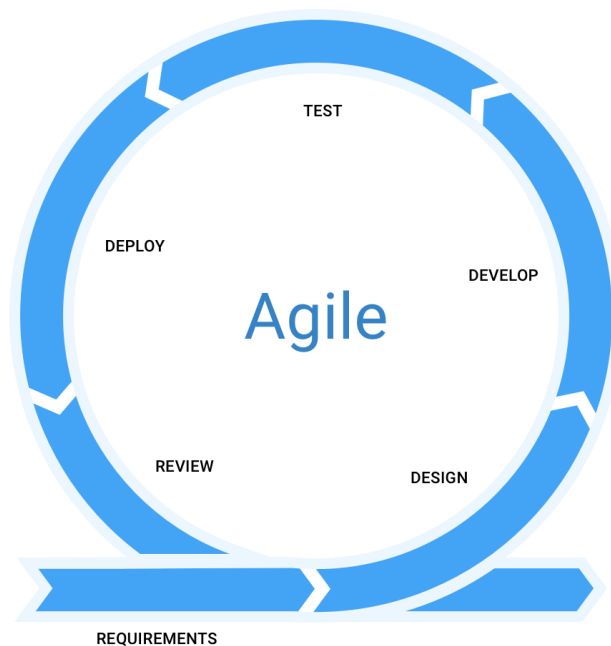
Figure1: Agile Methodology

3.1 Requirements

Before we start designing the project, we need to create the initial documentation that will list the initial requirements. They are:

- The end result that the project is going to achieve.

- The features that it will support.

- The features that it will not initially support.

On further iterations, the Client and the Product Owner review the requirements and make them more relevant.

3.2 Design Phase

There are two ways to approach design in software development — one is the visual design and the other is the architectural structure of the system.

Software Design

During the first iteration, our team will discuss how to tackle these requirements and proposes the tools needed to achieve the best result. For example, we will define the programming language, frameworks, and libraries that the project is going to be using.

UI/UX Design

During this SDLC stage, we will create a rough mock-up of the UI. If the product is consumer-grade, the user interface and user experience are most important.

Further iterations are spent refining the initial design and/or reworking it to suit the new features.

3.3 Development and Coding

The development phase is about writing code and converting design documentation into the actual software within the software development process. This stage of SDLC is generally the longest as it's the backbone of the whole process.

There aren't many changes between the iterations here.

3.4 Integration and Testing

This stage is spent on making sure that the software is bug-free and compatible with everything else that has been written before.

During the further iterations of this SDLC stage, the testing becomes more involved and accounts not only for functionality testing, but also for systems integration, interoperability, and user acceptance testing, etc.

3.5 Implementation and Deployment

The application is deployed either for actual use. Further iterations update the already installed software, introducing new features and resolving bugs.

3.6 Review

Once all previous development phases are complete, we have to review the progress once again made towards completing the requirements.

Afterward, the Agile software development lifecycle phases start anew — either with a new iteration or by moving toward the next stage.

4. Features

We are going to use some features that will make our project more effective.

- This system is for three different users.
- Login option for the user, admin/shop owner, employee.
- Insert, delete, search items.
- Bill generate.

5. Project Planning

We are willing to complete our project within 6-7 weeks. At this time, first, we will analyze our requirements then we will start to work on our project.

Stakeholders of our project:

ID	Name	Designation	Responsibility
17183103020	Syeda Nowshin Ibnat	Team Leader and Back-end Programmer	Team managing, Co-coordinating among members and organize the project works to achieve the goals.
17183103008	Nusrat Jahan Anka	Back-end Programmer	Work with database.
17183103030	Mahmuda Begum	Front-end Designer	Design the front-end of the project.

17183103044	Nawrin Zaman Prova	Front-end Designer	Design the front-end of the project.

Gantt chart for our project:

A Gantt chart is a visualization that helps in scheduling, managing, and monitoring specific tasks and resources in a project.
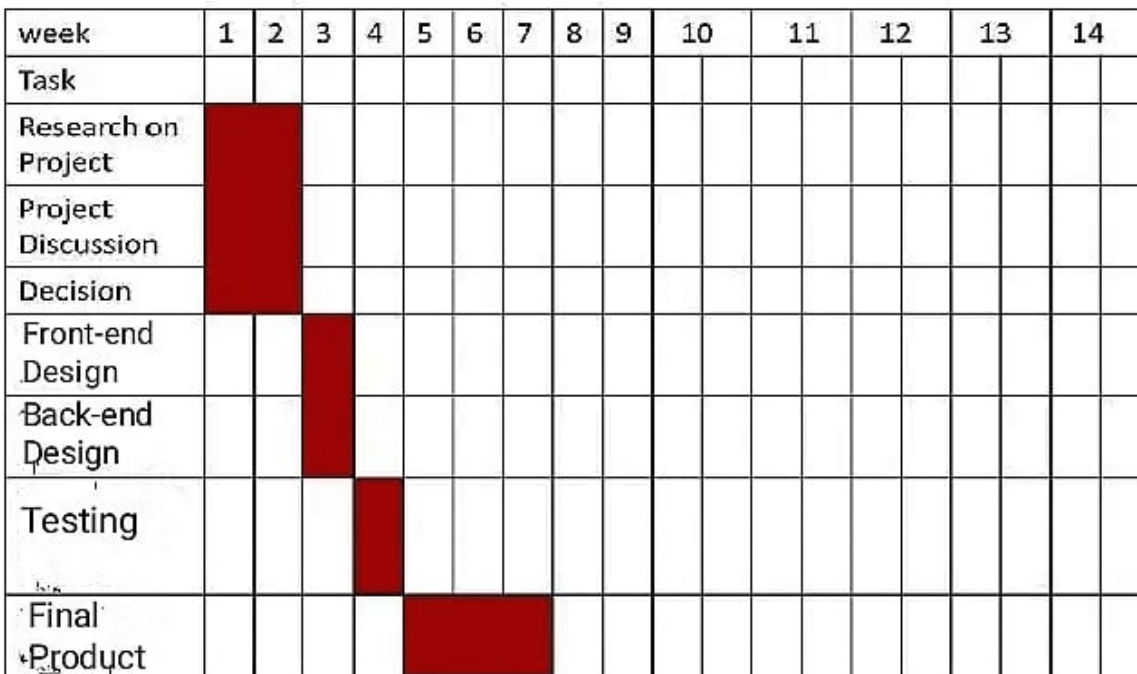
week	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Task														
Research on Project														
Project Discussion														
Decision														
Front-end Design														
Back-end Design														
Testing														
Final Product														

Figure2: Gantt chart for our project planning

6. Hardware & Software requirements

Since our project is a desktop-based application. So, it can run on any desktop.

The basic hardware requirements are:

- Pc/laptop.
- 8GB RAM
- 8GB HDD (normally)

The software /tools and technologies:

- Language: JAVA
- Database: Oracle
- Database Server: Oracle Database Express 11g
- IDE: Netbeans
- Documentation tool: Google docs, slides.

7. Diagrammatic representation of the overall system

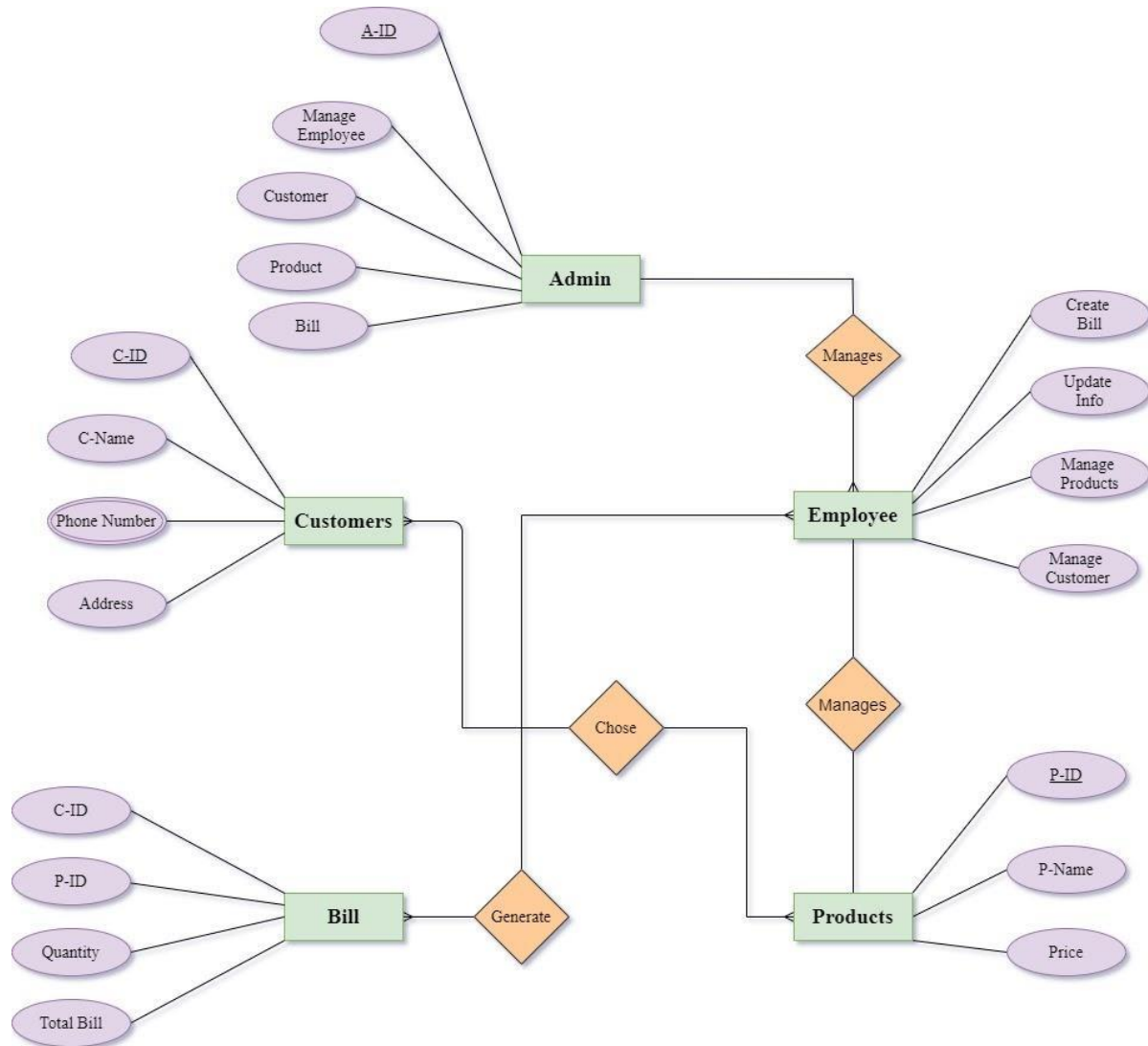Through the ER diagram, we are going to represent our project system.

Figure: E-R diagram of Shop Management System
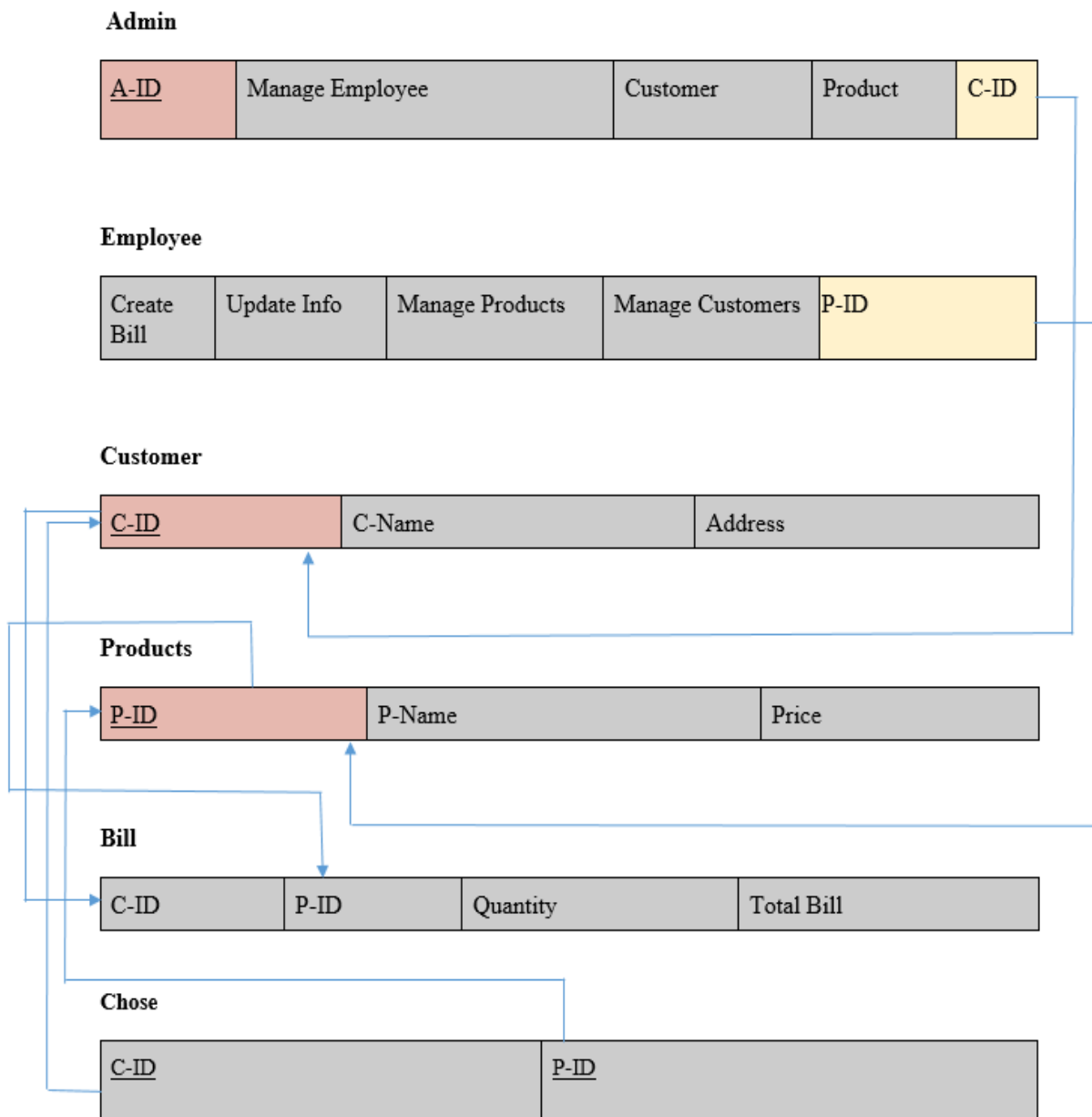
Mapping table from ER diagram

Admin

A-ID	Manage Employee	Customer	Product	C-ID

Employee

Create Bill	Update Info	Manage Products	Manage Customers	P-ID

Customer

C-ID	C-Name	Address

Products

P-ID	P-Name	Price

Bill

C-ID	P-ID	Quantity	Total Bill

Chose

C-ID	P-ID

Figure3: Mapping table from ER diagram

8. Reference

[1] Wikipedia, https://en.m.wikipedia.org/wiki/Java_(programming_language)

[2] W3Schools, https://www.w3schools.com/java/

[3] Github, https://github.com/Jayharer/Shop-management-in-java

[4] Youtube, https://youtu.be/yy6m_qabprk, https://youtu.be/QHYuuXPdQNM