

**CSE1005 SOFTWARE ENGINEERING LABORATORY**

**ONLINE BILLING SOFTWARE**

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## **ONLINE BILLING SOFTWARE**

### **Problem Analysis**

#### **Overview of the project:**

In the past, most places of business had larger crowds, and customers frequently had to wait up to an hour just to get their money. Even the smallest businesses are adapting to new technologies, and the traditional methods of creating invoices from scratch have been replaced by the "Web based Billing Program," a web-based software that automates the billing and management of a network of department stores.

This project consists of a number of modules, including the register/login, admin, bill management, report generating, and giveaway modules. Customers may read bills, business owners can store or download invoices for new businesses, and firm owners can build up online bill management systems. It is built on a nationwide network of department stores. Additionally, it helps clients create, update, and calculate bills and invoices without having to manually list them.

#### **Why computerized?**

The current procedures involve a lot of paperwork and manual labor.

- a. Large amounts of data are challenging to manually manage and preserve.
- b. It's difficult to create reports from the data that's already available.
- c. Time-consuming and involves a lot of paperwork.
- d. lack of data modification capability.

#### **By computerizing**

It results in a safe, dependable, quick, and efficient management system for keeping bills/invoices or calculating entire bills. Additionally, it keeps digital records of data that can be stored for a specific amount of time and gives owners simple access to monthly, weekly, or yearly summary reports.

**Identification of project scope:**

- a. The application is made to keep track of data from a wide range of businesses.
- b. Order confirmation invoices to customer's devices.
- c. Provides an easy billing pattern solution.
- d. Bill/Invoice creation is instantaneous.
- e. On a regular basis, generates report summaries for the owners.
- f. At times, a user-giveaway feature will be planned with a bill /invoice generation.

**Task involved:**

- Feasibility study:
  - a. Technical Feasibility
  - b. Behavioral Feasibility
  - c. Economic Feasibility
- Risk identification
- Implementation of security system
- Database management system
- Password and login management system

**OBJECTIVE:**

The major goal of this project is to generate and handle invoices quickly in order to reduce the amount of paperwork and time required to manually manage vast amounts of data. Customers and business owners gain from this effort. By giving owners summary reports, this programme enables the maintenance of all items with their shorthand notations, offering a practical solution to the billing pattern with Secured User Authentication and Validation. Additionally, use the giveaway generator when deals or discounts are offered.

- a. Generating and Managing Invoices in a matter of few seconds.
- b. Maintain all the products with their shorthand notation.
- c. Provides summary reports to the owner monthly or weekly and yearly.
- d. Provides a convenient solution to the billing pattern.
- e. Make an easy to use environment for owners and customers.
- f. Secured User Authentication and Validation.
- g. User Giveaway generator.

#### 1.4 Infrastructure:

S. No.	Tools / Technology needed	Description and uses	Type
1.	HTML5	Appearance of website	Front-end Software
2.	CSS3	Adding style and presentation to the web-pages	Front-end Software
3.	JavaScript	Adding interactive user behavior to web pages	Front-end Software
4.	Bootstrap	front-end framework used for UI	Front-end Software
5.	PHP	Server side programming and interactive with phpMyAdmin	Back-end Software

<b>6.</b>	MySQL	For the purpose of a web database and logging application	Database Software
<b>7.</b>	phpMyAdmin	Management of databases, tables, indexes, permissions	Database Software
<b>8.</b>	Lucid chart	a web-based proprietary platform to collaborate on drawing charts and diagrams	Design Tool Software
<b>9.</b>	Heroku	a container-based cloud Platform as a Service to deploy, manage, scale apps	Cloud Platform Software
<b>10.</b>	Visual Studio Code	a code editor redefined, optimized for building, debugging web apps	Desktop Software
<b>11.</b>	Chrome	a cross-platform web browser	Software
<b>12.</b>	Windows 10	an operating system for building apps	OS
<b>13.</b>	PC / Laptop	Intel based processor-run computer system, which have keyboard and mouse as input devices.	Hardware

## **SOFTWARE REQUIREMENT ANALYSIS AND PLANNING**

### **Description of individual phase/module:**

#### **User characteristics:**

##### **Administrator:**

The registered department store owners who have registered using this application can be monitored and contacted by the administrator.

##### **Registered user:**

The owner can then choose from the available items, add quantities, and print a bill for the buyer. The cost of a bill submitted on a particular date will be calculated by the online tool. If the owner needs to change the customer's information, they can do so on the Manage Bills page (involving edit, updating, delete details). For every bill paid, the Giveaway generator generates a giveaway for a random number of customers.

#### **General Constraints:**

Constant stable internet connection is required for WBS.

#### **Assumptions and Dependencies:**

WBS needs a steady, reliable online connection, and irregular updates might cause difficulties and issues when it comes to purchases and credits.

#### **Functional Requirements:**

##### **1)Signup/Registration:**

###### **Description:**

It displays the signup page for creating account.

**Input:** Store name, e-mail, mobile number., password, gstin/uin **Output:**

It creates account.

##### **2)Login:**

###### **Description:**

It displays the login page.

**Input:** E-mail and password

**Output:** The homepage displays for the user.

### **3) Bill generation:**

**Description:**

It creates bill for the specified products.

**Input:** Bill number, mode, name, mobile number., address, e-mail, item, code, quantity, price

**Output:** It generates bill.

### **4)Product shorthand notations:**

**Description:**

It displays the page for creating shorthand for the product.

**Input:** Product code, product name, price

**Output:** Gives the shorthand representation for the product.

### **5)Logout:**

**Description:**

User gets logged out.

**Input:** Nil

**Output:** Gets logged out

## **Identify individual module deliverables 1**

### **Signup / Registration Module:**

If a client wishes to create an invoice or manage, download, or print a bill, he or she must first register. Unregistered users are unable to do the above tasks.

### **2 Login Module:**

The user logs in to the online application using a valid user id and password that has been successfully validated in order to manage invoices.

### **3 Bill Generation Module:**

Every logged-in user will be able to create and generate invoices, as well as store current bills, print, and download those generated bills.

#### **4 Product shorthand notations Module:**

Every product has a shorthand representation of the entire product label. These shorthand notations can be found on user invoices, and users can search for them.

#### **5 Logout Module:**

Users can logout after doing the following required processes and all session activities will be preserved in the database.