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Software Requirements Specification

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Point-of-sale system

Team: The QUADS

Members: Samikshya Luitel

Amit Pathak

Jenita Kawan

Umanga Mulmi

1.Introduction

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**Purpose**

**Introduction**

The main purpose of this project is to provide a web application for small business owners and other retailers

That serves as a point of sale. This web application is a simplified pos which makes daily transactions

including adding Inventories, accepting payments and managing a team of employees easier.

**Scope**

The “Cash Register” is a web application which helps business owners to deal with their daily transactions like

Adding an inventory, making a cash or credit transaction, checking employee shifts etc. This web application

 a POS system which takes orders and accepts payments, organize inventories and manage a team of

Employees. This system will improve the worker’s efficiency since this kind of POS system is easy to

Understand and use. This Application can be used in various outlet store and other places which requires the

POS system. The administrator can customize the inputs depending on the need.

Scope

**Overview**

The cash register web app is an interactive computer program-built web technology using the languages

like the HTML, CSS, MySQL which will be storing the files in the Database and files and will be

manipulating data CRUD(create, read, update and delete) and used by the store with same or multiple location

or also can be used by multiple or single user at a same time at two different locations. The description of

the language used are as follows:

1.  HTML:  Hypertext Markup Language is a text-based approach in designing the web page we used to create the web app. This markup language is used to tell the web browser how to display and edit the images, text and the color used in displaying the images and others.

2.   CSS: Cascading Style Sheets goes side by side with the HTML it basically describes the web browser how the elements are to be displayed by the web browser. The CSS defines the color textures, add the layout effects in the HTML’s text. The CSS can also be used to add the same effect on all the different webpages at the same time making it easier to work at the same time. As our cash register is web app totally based on the webpages the minimum requirements for the page to run are as follows:

Operating System: Windows, Mac OS, Linux

Web Browser: Google Chrome, Internet Explorer, Mozilla Firefox

**Overall Description**

The web application that we are designing will be beneficial for any small business owners willing to make

their daily transactions revolving around payments and inventories easier and efficient. Any environment

with a stable Internet connection works good for our web application. There is no additional setup that needs

to be made in order to run this application.

The anticipated users for this application are mainly small business owners. This application can even be

used by Retail business owners. The web application is basically a POS therefore, anyone whose daily life

revolves around accepting payments and managing a team of employees by assigning different roles can be

the users of this system.

**Product perspective**

Our web application basically serves the point of sale system which refers to the place where transactions

take place within a store. Our web application is one of the POS terminals designed to facilitate a store’s

necessary operations at the point of sale. The most basic function of such point of sale is simply allowing

customers to pay for their items. However, our web application performs additional functions like managing

inventories and employees. This type of numerous POS exists in the market. Our web application is an add-on

to the existing system with the main purpose of making the transactions simple and easier.

The system will be entirely web based and supports three major functionalities; Employee Clock in/out,

Product register and administrator control. It will have multiple users registered but can be used by one user

at a time. The GUI will consist of three grids to control the major functionalities using mouse and keyboard.

The web application database will store the employee identification number to record their working hours

shift and also, the inventory of various products. The product register will be able to add various products

from the database in one transaction and add the total price of all products to be bought will be shown at the

bottom of the screen. The administrator control will work using the assigned admin id and will control the

functions like adding and removing employees and managing the inventory database.

**Product functions**

The major functions of our web application are explained below:

1. **Accepting payments**: As a part of POS system, the main function of our web application is accepting

 payments from the customers. The payment can be in the form of cash or card. If the payment is in

the form of cash, the option to keep the cash in the register will be displayed. If the customer chooses

to pay using a card, an option to swipe or insert the card will be provided the customer in the connected

pin pad.

1. **Defining employee roles**: In this web application, the various roles of the employees can be pre-defined

to manage the team of employees. The employees can be divided on the basis of their roles like

administrators, manager and cashiers. The administrator has the authority of update the inventories,

add and delete Inventories, check the shifts of the employees etc. The manager has the authority to

check the shifts of the Cashiers, manage shifts etc. The cashiers have the authority to receive payments

from the customers.

1. **Managing inventories**: This web application allows the system administrator to manage inventories.

The administrator can add, delete and update the inventories anytime as per his requirement.

**User characteristics**

**General characteristics of the intended users**

The users for this application can be categorized into three subgroups. They are listed below:

**Administrator**

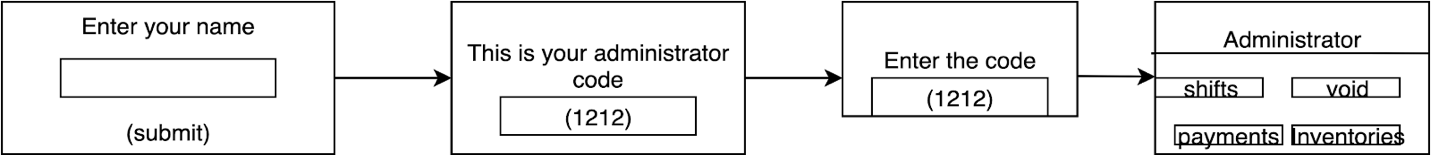
Administrator is the person who will have the right to control everything in the system. While setting up as

administrator for the first time, the system will ask for his full name. After the name is set, a pin code will

appear in the screen. This pin needs to be entered every time the administrator tries to login otherwise, he

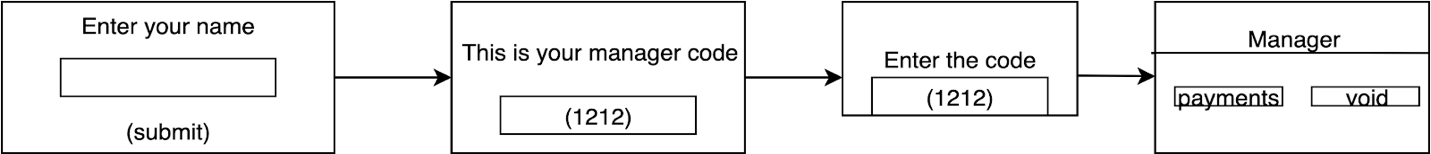
will not be able to access the system. As an administrator, he will be able to update the inventory of the store,

manage employee shifts, receive the payments from customers, authorize manager for the employee shifts.

[](https://www.draw.io/?page-id=fWlRATEiqCHnJ2b5uzlt&scale=auto#G1WEIBaoVx0OahlHOXBmA80O_LmVbZtkq-)

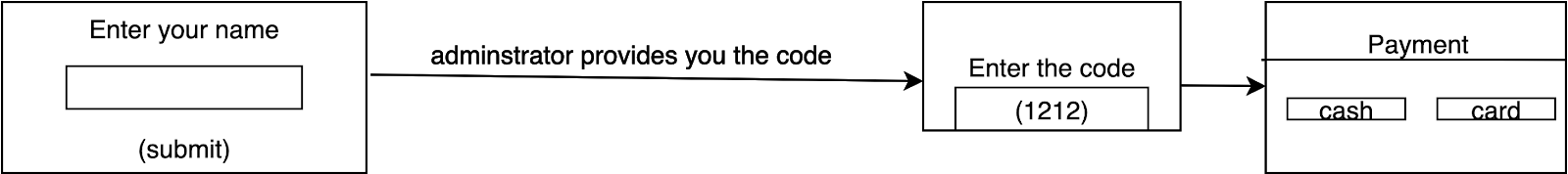
**Manager**

Manager in the system is created by the administrator only. While setting up the manager for first time, the system will ask for his/her full name as well. The manager will be assigned with certain pin code by the administrator which s/he will need to log in the system. The managers can be changed depending on their work shifts. Once the manager is created, they will have authority to accept payments, void any transactions

.[](https://www.draw.io/?page-id=noL12HJ_MdzMALL3NhHl&scale=auto#G1MmIfz4kNzE43ZYF0ZYAZwktnTV-JEZ8S)

**Cashier**

Cashier in the system will also be created by the administrator as the manager. In the beginning of the setup, s/he will be asked with full name and then a pin code will be provided by the administrator. Cashier in the system will have minimal features. He can only accept payments from the customers.

[](https://www.draw.io/?page-id=bt62ve3nZWHgjB3L7SEf&scale=auto#G17wR66fsVQx-Sz_9dkzsGunVt_cxJ3uxM)

**Constraints**

As the total application is based on the web app there are a lot of constraints in application. The constraints that we have discovered in the program are as follows:

1. Security: There Is no major implementation of the security status that has been adapted in the program. The application may have all the important and vital information of the store and the employee. But lack of the total security measure can it prone to data leaks and misuse of the application.
2. Designing the Web page : The designing of the web page  to fit the image, text and diagram of certain color and front to appear at the same position at the same place all the time regardless of the number of times opened by various users by using the multiple different types of browser.
3. Design flexibly:   This Account for the fact that the user can zoom in the webpage stretch out the application and distort the design used in the application arranged in the different user-friendly way possible to them. Changing the text and diagram as the characteristics zoom in and out the various effects of the various parts of the app.

The description of items that will limit developer’s option are as follows:

1. No description of the system can be sold if it is not updated in the inventory of the system. Only the

            Selected items that are in the inventory can be sold and proceed.

1. Certain Pin used in the system cannot be reset. If some employee forgets the pin number than

          There is no way back to retrieve the pin number back.

**Assumptions and dependencies**

The Assumption that we thought while creating the project and also after the program is completed

are as follows:

1. Time limitation: We assumed we have a fixed amount of time to finish the work. Also, as our first application on the web app so simple logic error and different problems will appear on the system.
2. The client is responsible to enter all the inventory in the system. The client is also responsible to create account for all the employee, admin and managers separately.
3. The client is responsible for final content of Quality insurance.

The Dependencies of the program are as follows:

1. The front face design should be done prior to doing the back-side coding of the application.
2. User should input all the inventory list before using the application
3. There should be well planned documentation between the group members and the customer about how to describe the needs of the software and how it is going to work as well as how it will work on various different cases of the application.

**Specific Requirements**

**External interface**

External interface can be divided into four subdivisions. They are briefly described below:

**User interface**

We will be designing our user interface really simple in order to avoid any kind of unnecessary confusion. For the front end of UI, we will be using HTML to design the web page and CSS, Java script for adding the functionalities. Similarly, for the back end, to store our data, we will be using MYSQL. And to fit the variable screen sizes in the register, we will be using the resolution according to the layout of our system.

**Hardware Interface**

None

**Software Interface**

Operating system: For this project, we have chosen Windows Operating System as it is user friendly and

easy to use.

Database: For the database management, we are using MySQL for this project experience using SQL.

We will be using python for our other core functionalities

Our web application supports all kind of major web browsers like Safari, Google chrome, Internet explorer

**Functional requirements**

1. Accepting the inventory: The function should be able to add and record the inventory item name and price in the system so when it is recalled the second time it can be easily tracked and used easily.
2. Cashing the sale item: When the customer tries to bring the item for the sale the cashier should be able to cash a sale. The cashier should be able to cash a sale by searching the item and adding it to the customers transaction.
3. Login of the employee: The employee must be able to login and using their own password and login name. The employee must be able to use the authorized given rights and function to cash the sale.
4. Producing the report: The web app must be able to create the report till date and it must also store the data in the application. It must be able to store the application in the database. The program must be able to print the data on the basis of the monthly report daily report and other various report of the inventory as possible.

**Performance requirements**

1. Error handling

        Error message should pop up along with the presence of error. This will aware the user about the

        existing problem immediately. For an example, if a cashier tries to void any transaction, it should display

        message saying “ERROR”.

1. Response time

         The web app should not take more than 5 seconds to load the initial screen.

1. User friendly

        This web app is easy to use so even an inexperienced person will not have much difficulties using it.

**Other requirements**

1. Quality requirement:

The web app will be easy to navigate, and its various button will be clear and easy to understand.

The performance of the system will be fast and very responsive with minimal lag.

1. Security requirements:

Any kind of authentication should be saved in the system and should always need permission from

User to gain access to the system.

**References**

“What Are the System Requirements for Using the Web App?” *Browse Products*, support.logmeininc.com/gotowebinar/help/what-are-the-system-requirements-for-using-the-web-app-g2w090012.

Nicasio, Francesca. “Everything You Need to Know About POS Terminals.” *Vend Retail Blog*,19 Feb. 2019, <https://www.vendhq.com/blog/pos-terminals/>.

“Why It Looks Like That: Constraints in Web Design - Hop Studios.” *Hop Studios: Web Design and ExpressionEngine Development Consulting*, https://www.hopstudios.com/blog/item/why\_it\_looks\_like\_that\_constraints\_in\_web\_design.