Chhatrapati Shahu Ji Maharaj University

Synopsis Report

on

MEAL STATION

Submitted in Partial Fulfillment of the Requirements
for the Degree of

Bachelors of Computer Application

By

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1 Abstract

The purpose of Meal Station is to automate the existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

Meal Station, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information.

The aim is to automate its existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to manage for good performance and better services for the clients.

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2 Introduction

The "Meal Station" has been developed to override the problems prevailing in the practicing manual system. This website is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

The website is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. Meal Station, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and managing the information of Employee, Canteen, Stock, Customer, Sales. Every Canteen Management System has different Canteen needs, therefore we design exclusive employee management systems that are adapted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also for those busy executive who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

2.1 Objective

The main objective of the Meal Station is to manage the details of Canteen, Employee, Customer, Sales, Item, and Category. It manages all the information about Canteen, Stock, Item Category, and Canteen. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an website to reduce the manual work for managing the Canteen, Employee, Stock, Customer. It tracks all the details about the Customer, Sales, Item, and Category.

Features of Meal Station are as follow:

- It provides a admin interface where only admin can login with their credentials and can manage everything in website
- Admin can add category and update them
- Admin can add items and update items
- Admin can update the stock of the items
- Admin can add or update the banner of the website
- Admin can list the orders and can change status of the items
- Admin can set the opening and closing time of the Canteen so it between the user can order something
- No need to prior technical knowledge to operate on website, it is fully graphical user interface based
- User interface is provided so that user can create their account
- User can check the available categories and items on the canteen and if they are in stock then user can order them
- A card page is provided so user can see the ordered items and can check their status
- User can pay via offline or through qrcode
- It tracks all the information of Employee, Stock and Sales etc.
- Manage the information of Employee
- Shows the information and description of the Canteen, Customer
- All the fields such as Canteen, Customer, Item Category are validated and does not take invalid values
- To increase efficiency of managing the Canteen, Employee
- It deals with monitoring the information and transactions of Sales,
- Manage the information of Canteen,
- Editing, adding and updating of records is improved which results in proper resource management of Canteen data
- Manage the information of Sales
- Integration of all records of Item Category

2.2 Scope

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to Meal Station. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly.

Our project aims at Business process automation, i.e. we have tried to computerize various processes of Canteen Management System.

- In computer system the person has to fill the various forms & number of copies of the forms can be easily generated at a time.
- In computer system, it is not necessary to create the manifest but we can directly print it, which saves our time.
- To assist the staff in capturing the effort spent on their respective working areas.
- To utilize resources in an efficient manner by increasing their productivity through automation.
- The system generates types of information that can be used for various purposes.
- It satisfy the user requirement
- Be easy to understand by the user and operator
- Be easy to operate
- Have a good user interface
- Be expandable
- Delivered on schedule within the budget

3 System Requirements

3.1 Software Requirements

- Operating System : Windows, Linux, Mac, etc.
- Web Browser   : Microsoft Edge, Mozilla Firefox, Chrome, etc
- Fronted : HTML, CSS, Bootstrap,JavaScript
- Technology : PYTHON 3 and above, DJANGO 4.0.4 and above
- Database Server : My SQL [8.0.30] and above

3.2 Hardware Requirements:

- Hard Disk   : 256 MB or above
- Processor : Dual Core or above
- Processor Speed : 2 Ghz and above
- Ram : 4GB and above
- Monitor : Display Panel (1024*76), etc

4 Modules

Modules Descriptions:

- **CafeTeria Module:** Used to managing website setting, database and url mapping

- **Carousel Module**: Used to managing website banner which can be modified by the admin according to the need

- **Category Module**: Used to managing the categories of the canteen which are available and admin can add, edit and delete the category

- **Customer Module:** Used for managing the details of Customer. How the customer can register. What are the validation are required and password encryption

- **Admin Module**: Used for managing the information and details of admins. One admin can add another admin and can modify the privileges to access the data

- **Service Time Module**: Used for managing the canteen open and close time details. Admin can add, update and remove the opening and closing time of the canteen.

- **Order Module**: With the help of this module user can place order and admin can check and update order and it's status.

5 Application Architecture

What is a 3-Tier Architecture?

In the world of software development, 3-tier architecture has become the backbone of modern application design. A 3-tier architecture is an architecture pattern used in applications as a specific type of client-server system. It divides the architecture into three tiers: data layer, application layer, and presentation layer. The 3-tier architecture refers to the logical 3-tier system rather than the physical ones. It adds a "middle tier" between the client and the database. The main functions and business logic of the system are processed in the middle layer, which is the application layer.

The Three Tiers in a 3-Tier Architecture

Presentation Tier

The presentation tier occupies the top level of the application. It sends content to browsers in the web development frameworks, such as CSS, HTML, or JavaScript, and displays information in the form of a graphical user interface (GUI), which allows users to can access directly. It communicates with other layers by putting out the results to the browser and other tiers through API calls.

Application Tier

The application tier is also called the business logic, logic tier, or middle tier. By processing the business logic for the application, it builds a bridge between the presentation layer and the data layer to make communication faster between the presentation and data layer. The application tier is usually coded in C#, Java, C++, Python, Ruby, etc.

Data Tier

Data-tier is composed of persistent storage mechanism and the data access layer. It supports connecting with the database and to perform insert, update, delete, get data from the database based on our input data.

6 Technology Used

6.1 Frontend :

HTML :

HTML is an acronym which stands for Hyper Text Markup Language which is used for creating web pages and web applications. Let's see what is meant by Hypertext Markup Language, and Web page. Hyper Text: Hyper Text simply means "Text within Text." A text has a link within it, is a hypertext. Whenever you click on a link which brings you to a new webpage, you have clicked on a hypertext. Hyper Text is a way to link two or more web pages (HTML documents) with each other. Markup language: A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.

CSS :

Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what reen sizes as well as a variety of other effects.

BOOTSTRAP :

Bootstrap is a free, open source front-end development framework for the creation of websites and web apps. Designed to enable responsive development of mobile-first websites, Bootstrap provides a collection of syntax for template designs.

As a framework, Bootstrap includes the basics for responsive web development, so developers only need to insert the code into a pre-defined grid system. The Bootstrap framework is built on Hypertext Markup Language (HTML), cascading style sheets (CSS) and JavaScript. Web developers using Bootstrap can build websites much faster without spending time worrying about basic commands and functions.

JAVASCRIPT :

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities.

JavaScript was first known as LiveScript, but Netscape changed its name to JavaScript, possibly because of the excitement being generated by Java. JavaScript made its first appearance in Netscape 2.0 in 1995 with the name LiveScript. The general-purpose core of the language has been embedded in Netscape, Internet Explorer, and other web browsers.

6.2 Backend :

PYTHON :

Python is a high-level, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation. Python is dynamically-typed and garbage- collected. It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming. It is often described as a "batteries included" language due to its comprehensive standard library. Guido van Rossum began working on Python in the late 1980s as a successor to the ABC programming language and first released it in 1991 as Python 0.9.0.Python 2.0 was released in 2000 and introduced new features such as list comprehensions, cycle-detecting garbage collection, reference counting, and Unicode support. Python 3.0, released in 2008, was a major revision that is not completely backward-compatible with earlier versions. Python 2 was discontinued with version 2.7.18 in 2020.

6.3 Framework :

DJANGO :

Django is a high-level Python web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel. It's free and open source.

Django is a Python-based web application framework that is free and open source. A framework is simply a collection of modules that facilitate development. They're grouped together and allow you to build apps or websites from scratch rather than starting from scratch. "Rapid development and clean, pragmatic design" are key benefits of Django. When installed on a web server, the Django web framework can assist developers in quickly creating a feature-rich, secure, and scalable web front end.

For example, developers should not create their login screens or login processing. There are far too many possibilities for things to go wrong. Frameworks take care of this for you and handle all the tricky cases.

6.4 Database :

MYSQL :

MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. MySQL is becoming so popular because of many good reasons −

- MySQL is released under an open-source license. So you have nothing to pay to use it.
- MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages.
- MySQL uses a standard form of the well-known SQL data language.

7 References

- Google and Stack Overflow for problem solving
- https://html5.org/
- https://www.w3.org/Style/CSS/Overview.en.html
- https://getbootstrap.com/docs/4.0/getting-started/introduction/
- https://www.python.org/
- https://www.djangoproject.com/
- https://www.mysql.com/