COMPUTERISED COLLOCATE PARTICULARS AND DATA OF THE DEPARTMENT

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ABSTRACT

The "COMPUTERISED COLLOCATE PARTICULARS AND DATA OF THE DEPARTMENT" focuses on the collection, storage, and organization of the student's personal data and academic data for reference and future use.And the data stored in the database can be accessed in the website through links.This website is created as a visual display of the department's staff, student council information, the activities of the department, including to the student's data.

This website contains hyperlinks which connects the data stored in the cloud database to the website and is made available for the viewers to access. In order to create a website that provides the best display features, provides an easy platform to edit, update and manage the website we have used "WORDPRESS" which is a content management system (CMS) that allows one to host and build websites.

WordPress has a very simple user interface model, easy to navigate through the workspace, provides access to the features and adds them to the website, to make it more vibrant and user friendly. And the database of the website is a cloud database "GOOGLE DRIVE". Google Drive to provide an easy to navigate database platform and organize the uploaded data.

Keywords: Content Management, Data Collection, Google Drive, Student Database, Word Press.

SOFTWARE SPECIFICATION

Front End - The software used for this project is an online website creator called "WORDPRESS". It is a content management system (CMS), software used to build, modify, and maintain websites and blogs.

Back End - The software used as the back end, that is the storage section is the "GOOGLE DRIVE". It is a cloud-based storage solution that allows you to organize, upload, download, access, and save files online anywhere from any smartphone, tablet, or computer.

SOFTWARE DESCRIPTION

Front End

Content Management System

A content management system (CMS) offers a way to manage large amounts of web-based information that escapes the burden of coding all of the information into each page in HTML by hand. content management systems are important to libraries because the sheer mass of their public web presence has reached the point where maintenance is a problem. [2]

WordPress- Online Free Content Management

WordPress is a content management system (CMS) that enables you to create and host websites. WordPress contains different plugins and various templates, so you can customize any website to fit your business, blog, portfolio, or online store. It has an option to create a free website with the basic functions and components, which makes it convenient for students who want to learn how to use the application or someone who wants to open a business.

To give a comparison HTML (Hypertext Markup Language) is a coding language that is used to create web pages from scratch, whereas WordPress, is a content management system where you can upload files and publish content without coding.

Easy to manage your website's content as much as you want, whenever you want. With the intuitive WordPress content management system, one can log in from any modern browser and make changes to the website without programming knowledge. Posts can be scheduled to display at specific dates/times so that one can create content ahead of time and schedule it to be published. One can create pages and different posts, it keeps them as drafts and can be published anytime.

Combined with our managed business hosting services, it is made use of proven development approaches to building websites to help avoid break-ins often associated with CMS driven websites. One lock down your website to remove potentially dangerous entry points commonly used by hackers as well as malicious visitors. Web nodes are fire-walled and upgraded on an ongoing basis. One can easily add /edit /remove additional editors to give others within the organization the ability to manage the website content.

WordPress is initially designed as a blogging platform, in the last several years WordPress has changed itself as a useful content management system. One of the main advantages of WordPress is the large number of plug-ins released by independent developers. In fact, every aspect of web site regarding the creation, organization and search engine optimization can be now handled with the use of WordPress plug-ins. [3]

Free

The user will need to acquire web hosting and a domain name before creating a website but the WordPress platform itself is free to download and use. WordPress provides an option to create a free website with the basic features and elements or select a yearly payment plan and create a dynamic website of your preference.

Scalable Platform

WordPress can manage websites of any size as long as the web hosting plan has the necessary resources. Once the website is launched, WordPress provides additional features so you don't have to change platforms, as it provides options to create any number of pages and posts and various plugins are available to buy and activate to be open to the access of many other features to enhance the website.

Easy to Use

WordPress requires less technical knowledge when compared to coding a website from scratch. Tweaking it with coding is still an option, but it is possible to build beautiful, fully functional websites with just the graphical user interface, as it provides simple and approachable software to work with. Because of this even non-web developers and programmers can create their desired website with ease.

Highly Flexible and Customizable

WordPress provides many applications like creating blogs and an online portfolio. WordPress also welcomes community developers. As a result, many theme and plugin options are available in the official WordPress library and third-party depositories, where you can have access to many additional add-ons to get the desired functioning and supplementary features.

Given below are a few examples of the different types of websites the on can build with WordPress:

Commerce Website

An e-commerce website allows people to buy and sell goods and services and make payments through an online payment system. You can download and install a WordPress e-commerce plugin to extend the functionality of WordPress to create an online store.

Membership Website

Word press asks you to create an account with a username and password to save, organize and access the content. You can log in and log out of your account at any time. To access pages or posts, users must log in or pay for the content. WordPress gives customers with membership access to additional features

Business Website

Many businesses can create their own website to promote their business. Word Press is the best option to to create websites to promote businesses and customers by letting them know what are the different services and products offered.

Portfolio Website

Show off your artwork, design skills, and more with a portfolio website built on WordPress as it provides trendy designs, page layouts, and templates.

Learning Website

Students can take online courses, track their progress, download resources, and much more from an e-learning website. WordPress provides a special option to offer online courses from the created website in WordPress.

Blog

A blog is a type of website where people can share thoughts, photos, reviews, tutorials, recipes, and a lot more. Some blogs operate mainly as news filters, collecting various online sources and adding short comments and Internet links.

Forum Website

A forum website is a site in which the users can interact, share reviews, rate, and give queries. There are many forum websites that run on WordPress. This is useful for small-scale businesses and large companies, to share their ideas and thoughts.

Back End

Google Drive - Cloud Storage

Google Drive is a cloud storage and collaboration service used by hundreds of millions of users around the world. Quick Access is a new feature in Google Drive that surfaces the most relevant documents when a user visits the home screen. Our metrics show that users locate their documents in half the time with this feature compared to previous approaches. [5]

Google Drive is a file storage and synchronization service developed by Google. Google Drive is available on both online and offline cloud platforms. Google provides options to create, share and save google sheets, forms, docs, and slides. And all the documents, presentations, and worksheets created using the Google drive are saved in the Google drive too But when compared to competitors like DropBox and Apple's iCloud service, Google Drive's popularity is built on useful collaborative tools and built-in integration with Google's suite of products and services. Using the Gmail account we can access Google Drive, which by default provides access to a certain amount of free storage. Google also provides a guide that covers all the basics, from how to use Google Drive to upload and access files on any device, to all the tools that make collaboration with others quite simple and easy.

As the Drive provides privacy for the data stored as well, personal information is protected as each drive is created by a unique email id as the username and a password that is used to access the drive. Hence the data can be accessed by the people who have the login details. Another feature is that google drive can be accessed from anywhere with an internet connection and a suitable device that provides the application. Google drive provides built-in storage of 15 GB which is quite sufficient. Google drive provides the option to share the documents as links and data in a protected manner, when sharing the document one can make changes in the access settings, which restricts the editing options and applies the read-only option for the selected documents.

Key Features

Cloud storage services can be used to store, access and distribute data via remote infrastructure in overseas jurisdic- tions (rather than on their personal devices such as computers that are within the reach of local law enforcement agencies) to avoid the scrutiny of law enforcement agencies (Biggs and Vidalis, 2009). [4]

Comprehensive Search

Drive can recognize images and even text in scanned documents, easier. Google drive provides the option to search items by the file or document name, the item type, the ownership, and more.

Storing Files

By default, Google gives you 15 GB of free storage space across Gmail, Google Drive, and Google Photos. If you ever hit that limit, you can always pay for more space by upgrading to a Google One account. It is shared across Google Photos, Gmail, and Google Drive.

Arrangement And Categorization

The Drive provides the ability to create files and folders to store the data in an organized manner for easy access and has a search bar to search for a particular file name in a large file or folder.

Compatibility With Most Devices

You are not limited to using a single device to access Google Drive. You can use different gadgets and devices to access your storage anywhere. The unlimited number of options makes google drive very useful and efficient.

Sharing Files

Files in the drive are private you change the access rights. But at any time, you can invite others to view, edit, or download files and documents. People can share files and data with others with just a few clicks. With this option, people can work as a group. Google Drive provides an option to set security for your documents and provide permission to access, edit or view those files. Google Drive ensures safety and security.

Secure Storage

As for security, data stored in the cloud is secure from accidental erasure or hardware crashes, because it is duplicated across multiple physical machines; since multiple copies of the data are kept continually, the cloud continues to function as normal even if one or more machines go offline. If one machine crashes, the data is duplicated on other machines in the cloud [6].
Drive files are protected by an AES256 or AES128 encryption, the same security protocol used on other Google services. The data is encrypted with the transport layer security (TLS) standard before it leaves a user's device and uploads to Google's cloud. The data is un-encrypted and re-encrypted with 128-bit advanced encryption standard (AES) when it reaches Google.

Easy To Navigate

The layout of Google drive is well laid out with easy access options to upload files and folders, access the uploaded data and documents, and options to share the documents. With tabs displaying the recent documents and shared documents.

Accessing Files From Anywhere

Google Drive can be accessed anywhere, in any system as long as you have your gmail account to sign in. The files can be accessed on any system, phone, desktop, tablet, etc. Offline access is also available.

Ability To Edit

Google drive provides the option to edit files in the storage space itself. The documents stored in the drive can be edited by opening them using Google Spreadsheets, Google Docs and Google Slides, and many others.

Quick Files Search

Google drive provides the option to search for files and docs using filters and keywords. Google drive has the ability to store thousands of documents and also provides quick file search options, to locate the required file more efficiently.

SYSTEM STUDY AND ANALYSIS

Cloud Computing

One of the primary uses of cloud computing is for data storage. With cloud storage, data is stored on multiple third-party servers, rather than on the dedicated servers used in traditional networked data storage.When storing data, the user sees a virtual server—that is, it appears as if the data is stored in a particular place with a specific name. But that place doesn't exist in reality. It's just a pseudonym used to reference virtual space carved out of the cloud. In reality, the user's data could be stored on any one or more of the computers used to create the cloud. The actual storage location may even differ from day to day or even minute to minute, as the cloud dynamically manages available storage space. But even though the location is virtual, the user sees a "static" location for his data—and can actually manage his storage space as if it were connected to his own PC.[6]

Existing System

The idea of creating a Computerized Collocate Particulars of the Department in the form of a website for the Department is original in comparison to the pre-existing software or data present. This idea was made with an initiative for the enhancement of data management and categorization of the student data for easy access and viewing options. The department had a pre-existing website which due to rare updates and other factors is not active and out of access at the moment.

This website was created on a basis to provide a web application to display data about the department as well as provide a platform to store and display data, with an easy-to-use and access back end, which is the cloud drive. In comparison with the previous application, the

newly created website is much more advanced in features, storage options, and file management and provides an eye-catching visual display to the viewers. Various other Institutions, Colleges, and School websites based on this similar concept were taken as a reference in creating and building this project.

PROPOSED SYSTEM

The proposed system is a website, The website will have displayed the basic information of the department, with the faculty information and the student council of the department. It holds photos of the department, and the activities conducted along with the photos of the various events. The website will also hold the student information of the department which enables easy and protected access to data by the faculty of the department.

Advantages of The Proposed System

Accessible Data

This data is static and constant and can be accessed from anywhere, as the data will be stored online. It can also be downloaded and saved as a copy on any hard drive like a desktop/pc or a laptop. Either one can access the data from the website for viewing purposes or the data can be accessed from the cloud drive with the login id and password for editing purposes. Cloud storage allows users, customers and companies to store their information and data within the cloud without using local systems. These data and information can be accessed perfectly via client services and network connectivity. One of the essential advantages of cloud storage is that clients such as users, customers, and companies can obtain and access their data from different device locations. [1]

Data Updation

The data of the students on the website can be updated by moving the data from the current section to the next section after each academic year and the section of the first year is cleared to give empty storage space. These updates are done in the Cloud database, which is google drive. The data update can also be done for the department activities and events, where old events data and documents can be replaced by the new events documents, and the selected events according to the staff interests can be displayed on the website.

Management

Data management is made easier since the data is well organized and collocated. In the cloud drive, individual folders have been created, where the data is stored correspondingly. Hence, staff and students would find it easier to manage the website and the data stored in the cloud drive.

Security

There is a username and password to enter into the WordPress editing page of the website and google drive also has a login id and password which provides secure restricted access to the collected and stored data and assures the privacy of information. This guarantees that data is always protected and cannot be acquired by any unknown user or permit unauthorized access.

Cloud storage has both financial and security- associated advantages. Financially, virtual resources in the cloud are typically cheaper than dedicated physical resources connected to a personal computer or network. [6]

Website Data

The website will hold a large amount of data, which consists of word and pdf documents along with excel sheets and scanned documents. The WordPress editing platform has a small amount of inbuilt storage. In this database, the required documents are uploaded and linked to the website. This inbuilt storage holds documents and images that don't have to be regularly checked or altered and don't need to be monitored.

The other documents that have to be edited regularly and altered will be uploaded on google drive and linked to the website, which enables easy access to the documents. All the files and documents that are linked or uploaded to the website are protected with the view option only, which does not allow the viewer to make any changes in the documents, hence providing security.The security of cloud storage can also extend to the entire storage service process, involving software, hardware, data, security of the network and private security for clients, etc. Cloud storage tends to merge with cloud security that is more robust. [1]

PROJECT DESCRIPTION

Module Description
The website consists of two modules:
Public access
Password protected
Public Access
The website is created to give the viewers a description and an introduction of the Department, its staff and student council, and the various activities and events conducted. The viewers can access the reports of various events and activities. The website also has a gallery page to display photos of the students and the department.

Password Protected

The information collected from the students by the Department is considered private and confidential. Hence this section of the website is protected with a password, which can be accessed only by the staff of the department. This section of the website holds the student's academic details, their personal information, and the Attendance of the students of that academic year along with the personal information of the Alumni, that is the passed-out IT graduates.

Website Design
The Home Page

On the homepage, there is a section/paragraph to talk about the website and the various pages created can be accessed by a button feature that is available on the homepage. It will hold the information of the department, the information of the department faculty, and the student council of the department. It will hold a few images of the department, its faculty, and students.

The homepage will have the various links:
- About us
- Department staff and student council
- Department activities, events, and achievements
- Student Details
- Alumni

Below that, the aim and the objective of the department will be displayed, followed by the invitations to the events which take place in that month

The About Us Page

The About us page holds the basic information about the department. It gives a brief description of the starting point of the department, department infrastructure, the department staff, and student council, the activities conducted for the students, and contains a few images of the department.

Staff And Student Council

The Staff and Student council page holds the information of the Department staff along with their images and name where each image is liked with that respective staff's documentation of their qualifications and research work. Below that is the student council of the Department, which will hold the images of the students, their names, and their respective years.

Achievements

The achievements section will hold the various achievement done by the students of the department. This section of the website displays images and reports of the event that the students have participated in and accomplished. These sections can be altered according to the staff's requirements and the students' new achievements and participation.

Alumni Corner

The Alumni page holds a few words and statements of the passed out It graduates to talk about their learning experience in the IT department, the things they have learned, the knowledge gained, and the relationships and skills built along the way in their three years of study perusing their Undergraduate Course.

Course Details Page

This button holds a link to a document of the details of the course, which is saved on the WordPress Database, as it requires occasional alterations. This page is given so the viewer can get to know what is taught by the department to the students.

Gallery Page

The gallery page displays several random images of the department, the staff, students, and the infrastructure. This is displayed for the viewers to get a glimpse at random special moments and certain infrastructure of the department.

Department Activities

The department activities section will hold the data of the various events which were conducted in the department. The data for each event will be saved under those two sections

First the category of the event, for example here we have included the categories. Each of these categories will have sub-sections of the academic years. And finally, each academic year will hold the name of the events along with their respective reports. Under the specific year, the list of events will be displayed in the order of months.

This page will hold the various webinars, sessions, workshops, competitions, and IVs conducted by the department. Each activity will have an attached report to give a brief description of the event.

Each report can be accessed by clicking on the link which opens up the docs for viewing which also can be printed.

All the documents will be saved on google drive where you can make changes like uploading new documents, deleting documents, and editing them. The editing feature is only available for the admin that is the department staff and the student council.

The website will have a section that will have the various activities, events, webinars, competitions, and workshops conducted in that academic year along with the report of each event. As all the data is stored on the drive and the website is used to display these stored data, the faculty can decide what data should be displayed and the reports that are not necessary can be removed from the website.

The department activities section will hold the data of the various events which were conducted in the department. The data for each event will be saved under that academic year, along with its respective reports. Under the specific academic year, the list of events will be displayed in the order of the month. Similar to the workshops and other events, a link is provided for each of the events when clicked will display the report for viewing.

Student Batch Section

Student Details

This page is a secured page that is protected from the eyes of the common viewers of the website and is only accessible by the department staff. The sections hold the personal details, the academic details of the students, and the attendance of the students. This page is segregated into sections - 1st Years, 2nd Years, 3rd Years, and the Alumni.

Each Section holds the details of the students in the form of excel sheets and can be viewed on the website for immediate use. The data is initially collected from the students using the google form, and the collected data is saved as google sheets. The use of excel sheets is greatly beneficial as it provides various features to categorize, group edit, search, etc., and Google forms are also very helpful and efficient as it facilitates, data collection as it collects the data and stores the data in excel sheets. These sheets and forms are stored on google drive which can be accessed by the staff when there is a need to edit the data.

Alumni

The Alumni section of the website will hold all the data of the Alumni members of the department, this data will be stored under the year of that batch (E.g.: 2019 - 2022). The data

can be edited and updated according to those certain conditions and changes in time, as the data is stored in google drive.

This section also includes editing, removing, and adding options. This page leads to the database for the Alumni members which will hold any kind of data in the form of sheets or documents in a particular section of the database

Cloud Database Design

The cloud database used in this project is GOOGLE DRIVE. A Google Drive is created using a Gmail account, and therefore we have created two google accounts to provide protected storage for the students' details and the department activities. The safety of storage includes physical security of storage media and security of information. Cloud storage security, as a general network form of storage, involves authority, certification, auditing, encryption etc. Automatic redundant replications make recovery easy once a failure occurs. [1]

Two Email IDs have been created, one which is accessed by the teachers and students, while the other is accessed only by the teachers which are with respect to the data in each of the google drives. The Drive which can be accessed by the students will hold the various department activity reports. The Drive which can be accessed by the Staff will hold the information of the students

All these details are categorized in files in google drive to provide easy access and navigation through the cloud drive.

The student batch section of the website will have the personal information and the academic details of that student. The data will be stored according to the individual students, or the academic data will be saved according to the respective classes.

Once a batch completes their education, their data will move to the alumni section which will hold the data of the various batches according to the passing years, that is the starting year to the graduation year of the students (E.g.: 2019 - 2022)

Upload And Download Options

The website's database, which is google drive holds a data upload and download section, where any document can be uploaded, or any data can be edited as well based on the changes required to be made. Data can be shifted between the folders according to the requirements

CONCLUSION

To conclude the website created under the topic Computerized Collocate Particulars and Data of the Department are designed to provide a simple and efficient display of the department details, activities, achievements, and events, also the storage of data using the software WORDPRESS an online website creator and the database GOOGLE DRIVE which is a cloud-based storage solution. Hopefully, this project provides a solution to the data storage, collection, and management issue of the department while also giving a website that is vibrant, approachable, descriptive, and easy to manage and update.

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