"Tamso Ma Jyotirgamay"

COLLEGE TASK MANAGEMENT SYSTEM

For the Diploma of Engineering
In Computer Technology

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2021-22

CERTIFICATE

This is to certify the thesis entitled **"College Task Management System"** which is being submitted here with for the award of the **'Diploma in Computer Technology'** of Maharashtra State Board of Technical Education (MSBTE), Mumbai. This is the result of the original research work and contribution by **Chavan Avinash M., Morgaonkar Tanaya M., Shelke Adinath B**. under my supervision and guidance. The work embodied in this thesis has not formed earlier for basis of the award of any degree or compatible certificate or similar title of this for any other diploma/examining body or university to the best of knowledge and belief.

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DECLARATION

We hereby declare that we have formed, completed the project entitles **"College Task Management System".** It has not previously submitted for the basis of the award of any diploma or other similar title for any diploma board or university.

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ABSTRACT

College Task Management System deals with the management of the tasks that are assigned to various staff members of organization. To manage the tasks assigned to the staff members of our college we decided to create a task management system for our college where the principal can see, manage and track the tasks assigned to staff. This would help the in charge to manage all the tasks at one go.

In this system the principal would be the administrator and he/she would be the one who can add staff members to the system, can assign tasks, manage the tasks, track the tasks and manage all the users. Next there would be clerk who can assign tasks but cannot manage users. At last there would be staff members who would see the specific tasks assigned to them only.

No user would be able to see each other's tasks. The staff members would have the option to update the status of the tasks to progress or completed and this would reflect to the clerk as well as the principal.

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1. INTRODUCTION

1.1 Introduction

In our institute or in any institute all the paper works are done by the clerk and the office staff. As these works or protocols aren't always for a single person or faculty in that college, it has to go through various stages. So, it takes a lot of time and we also can't track the actual progress of that task i.e how much task is done at a particular time. It has the issues like if one person from that task completion process hasn’t completed the task then other people who have to complete their work for that task after that person have to wait and in this way the process gets elongated.

Other issue we should take a note of is if someone from the staff is not able to come in the institute and some of his work or any approval is important for completion of that task then that work would be pending until he comes to the institute. So, using our task manager we can overcome this problem easily that even if that person wouldn't come to institute, he can perform his task or work on our application form wherever he is.

In short, our system would help to reduce the paper work and ultimately reducing the headache to manage all the paper and keeping them safe and storing them somewhere physically.

1.2 Necessity

The Task Management System is necessary for managing various tasks assigned to the various staff members by just sitting on a desk. Managing the task online is an efficient way rather than using the traditional paper-based system.

Managing tasks become easy and handy due to the use of Task Management System.

1.3 Objectives

1. To provide an easy interface.
2. To provide an efficient way to manage the tasks.
3. To reduce the paper work.

1.4 Theme

The main purpose of our College Task Management System is to reduce the paperwork that is done in current register-based system. Our project will provide and efficient and high performing way to manage the tasks from anywhere and anytime.

1.5 Software and Hardware Requirements

For the best use of this College Task Management System, we require some basic configuration of the system. This include some software and hardware requirements. Those are mentioned below.

1.5.1 Software Requirements

1 Windows 7 and above

2 XAMPP

3 Web Browser (Recommended Google Chrome)

1.5.2 Hardware Requirements

1 Computer System or Smartphone

2 Minimum 4 GB RAM

3 Internet connection

2. LITERATURE SURVEY

2.1 Definition of web-application

A Web application (Web app) is an application program that is stored on a remote server and delivered over the Internet through a browser interface. Web services are Web apps by definition and many, although not all, websites contain Web apps. According to Web.AppStorm editor Jarel Remick, any website component that performs some function for the user qualifies as a Web app.

Web applications can be designed for a wide variety of uses and can be used by anyone; from an organization to an individual for numerous reasons. Commonly used Web applications can include webmail, online calculators, or e-commerce shops. Some Web apps can be only accessed by a specific browser; however, most are available no matter the browser.

History

Tim Berners-Lee, a British scientist, invented the World Wide Web (WWW) in 1989, while working at CERN. The Web was originally conceived and developed to meet the demand for automated information-sharing between scientists in universities and institutes around the world.

CERN is not an isolated laboratory, but rather the focal point for an extensive community that includes more than 17 000 scientists from over 100 countries. Although they typically spend some time on the CERN site, the scientists usually work at universities and national laboratories in their home countries. Reliable communication tools are therefore essential.

2.2 What is Task Management System

Task management software is used to manage your tasks, help with the estimation and scheduling, track dependencies, resources and milestones and help you make decisions when changes in priority are needed.

From managing simple to-do lists to helping teams work and collaborate better, there are many different types of task management software and it is important to understand what your

needs are to make sure you truly get a tool that is going to improve your productivity rather than create more work that it saves!

2.3 Overview

Our system manages the tasks assigned to the various staff members of an organization. In our system Principal is the administrator who can add staff members to the system, moreover he can assign tasks, manage tasks, track the progress of the tasks and manage all users i.e staff members.

Our system provides confidentiality in such a way that no user can see each other's tasks or edit them. This system provides ability to update the status of the task. It would also reflect the progress of tasks.

While adding the tasks, the administrator or the clerk has the option to attach a file with the task. This file can be accessed by the staff member to whom the task is assigned to. He can follow the guidelines in the file and complete his task. Then he can update the status of his task and can upload a report or a file regarding the task to the system.

Now once the staff member has updated the task, the administrator or the clerk can see the updated status of the task and can also have access to the uploaded file.

2.4 Ways to host a website

Those two ways are:

1. Local Hosting
2. Internet Hosting

2.4.1 Local Hosting

When you call an IP address on your computer, you try to contact another computer on the internet but when you call the IP address 127.0.0.1 then you are communicating with the local host. Localhost is always your own computer. Your computer is talking to itself when you call the local host. Your computer does not always directly identify the local host. Within your

personal network localhost has a separate IP address like 192.168.0.1. (for most cases) which is different from the one you use on the internet.

This is usually dynamically assigned by the internet service provider (ISP). Localhost can be seen as a server that is used on your own computer.

This term is generally used in the context of networks. Localhost is not just the name for the virtual server but it is also its domain name. Just like .example, .test, or .invalid, ., .localhost is a top-level domain reserved for documentation and testing purposes. While accessing the domain, a loopback is triggered. If you access “http://localhost” in the browser, the request will not be forwarded to the internet through the router. It will instead remain in your own system. Localhost has the IP address 127.0.0.1. This refers back to your own server.

2.4.2 Internet Hosting

An Internet hosting service is a service that runs servers connected to the Internet, allowing organizations and individuals to serve content or host services connected to the Internet. A common kind of hosting is web hosting. Most hosting providers offer a combination of services - e-mail hosting, website hosting, and database hosting, for example. DNS hosting service, another type of service usually provided by hosting providers, is often bundled with domain name registration. Dedicated server hosts, provide a server, usually housed in a datacentre and connected to the Internet where clients can run anything they want (including web servers and other servers). The hosting provider ensures that the servers have Internet connections with good upstream bandwidth and reliable power sources Another popular kind of hosting service is shared hosting. This is a type of web hosting service, where the hosting provider provisions hosting services for multiple clients on one physical server and share the resources between the clients. Virtualization is key to making this work effectively.

2.5 Front-end

Front-end is a part of a website that the user interacts with directly is termed the front end. It is also referred to as the ‘client side’ of the application. It includes everything that users experience directly: text colors and styles, images, graphs and tables, buttons, colors, and navigation menu. HTML, CSS, and JavaScript are the languages used for Front End

development. The structure, design, behaviour, and content of everything seen on browser screens when websites, web applications, or mobile apps are opened up, is implemented by front End developers. Responsiveness and performance are two main objectives of the Front End. The developer must ensure that the site is responsive i.e. it appears correctly on devices of all sizes no part of the website should behave abnormally irrespective of the size of the screen.

2.5.1 HTML

HTML stands for Hypertext Markup Language. It is used to design the front-end portion of web pages using a markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. The markup language is used to define the text documentation within the tag which defines the structure of web pages.

2.5.2 CSS

Cascading **S**tyle **S**heets, fondly referred to as **CSS**, is a simply designed language intended to simplify the process of making web pages presentable. CSS allows you to apply styles to web pages. More importantly, CSS enables you to do this independant webpage. CSS is easy to learn and understand, but it provides powerful control over the presentation of an HTML document.

2.5.3 JavaScript

JavaScript is a lightweight, cross-platform, and interpreted scripting language. It is well-known for the development of web pages; many non-browser environments also use it. JavaScript can be used for Client-side developments as well as Server-side developments. JavaScript contains a standard library of objects, like Array, Date, and Math, and a core set of language elements like operators, control structures, and statements. It is designed to run as a scripting language in a host environment, and it is up to the host environment to provide mechanisms for communicating with the outside world. The most common host environment is the browser. In the recent years, JavaScript has become the most popular server-side scripting language. As JavaScript is used for server-side as well as front-end, it is really efficient to use JavaScript in our webpages

2.6 Back-end

Backend is the server-side of the website. It stores and arranges data, and also makes sure everything on the client-side of the website works fine. It is the part of the website that you cannot see and interact with. It is the portion of software that does not come in direct contact with the users. The parts and characteristics developed by backend designers are indirectly accessed by users through a front-end application. Activities, like writing APIs, creating libraries, and working with system components without user interfaces or even systems of scientific programming, are also included in the backend.

2.6.1 MySQL

MySQL is an open-source relational database management system (RDBMS). It is the most popular database system used with PHP. MySQL is developed, distributed, and supported by Oracle Corporation.

2.6.2 PHP

PHP started out as a small open source project that evolved as more and more people found out how useful it was. Rasmus Lerdorf unleashed the first version of PHP way back in 1994. PHP is a recursive acronym for "PHP: Hypertext Preprocessor".

PHP is a server-side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.

It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.

2.7 Current system in use

The registers currently in use has various columns including serial number, subject, letter number, progress, date, sign of clerk, sign of O.S., sign of co-ordinator, sign of principal.

So, the register here is the one place to get all the information we need about the tasks. It contains the date of the task, to whom the task is assigned, signatures of respective staff to

approve the task or notice, serial number representing the number of the task in the register. It was well organised on the register. We took a photo of the register for future reference.

If we had to know the staff to whom the task was assigned then we would have to check the specific task in the register. It seems easy for few tasks, but throughout the academic year, the entries of the tasks get on increasing and then you would realise that it's not handy to find a specific task in the register full of similar tasks.

Also, the use of paper means it is not an environmentally friendly system to manage the tasks. The paper works mean headache to the manager. In today's world it is not supposed to be efficient to handle papers to do some work. Everything is going online and digital. So, we though there must be a digital system that could be operated by sitting in front of the computer and the manager could manage all the tasks assigned. This would really ease workload of everyone.

3. SYSTEM DEVELOPMENT

3.1 Spiral Model

The spiral model combines the iterative nature or prototyping with the controlled and systematic aspect of the waterfall model in providing the potential for rapid development of incremental version of the software. In this model the software is developed in a series of incremental releases with the early stages being either paper models or prototypes. Later iterations become increasingly more complete versions of the product. As illustrate in Fig, the mode is divided into number of task regions.

Depending on the model it may have 3-6 task regions (frame activities) our case will consider a '6-task region' model.

These regions are:

1. The customer communication task – to establish effective communication between developer and customer.
2. The planning task – to define resources, time line and other project related information.
3. The risk analysis task- to assess both technical and management risks.
4. The engineering task – to build one or more representations of the application.
5. The construction and release task – to construct, test, install and provide user support (e.g. documentation and training).
6. The customer evaluation task – to obtain customer feedback based on evaluation of software representation created during the engineering stage and implemented during the installation stage.

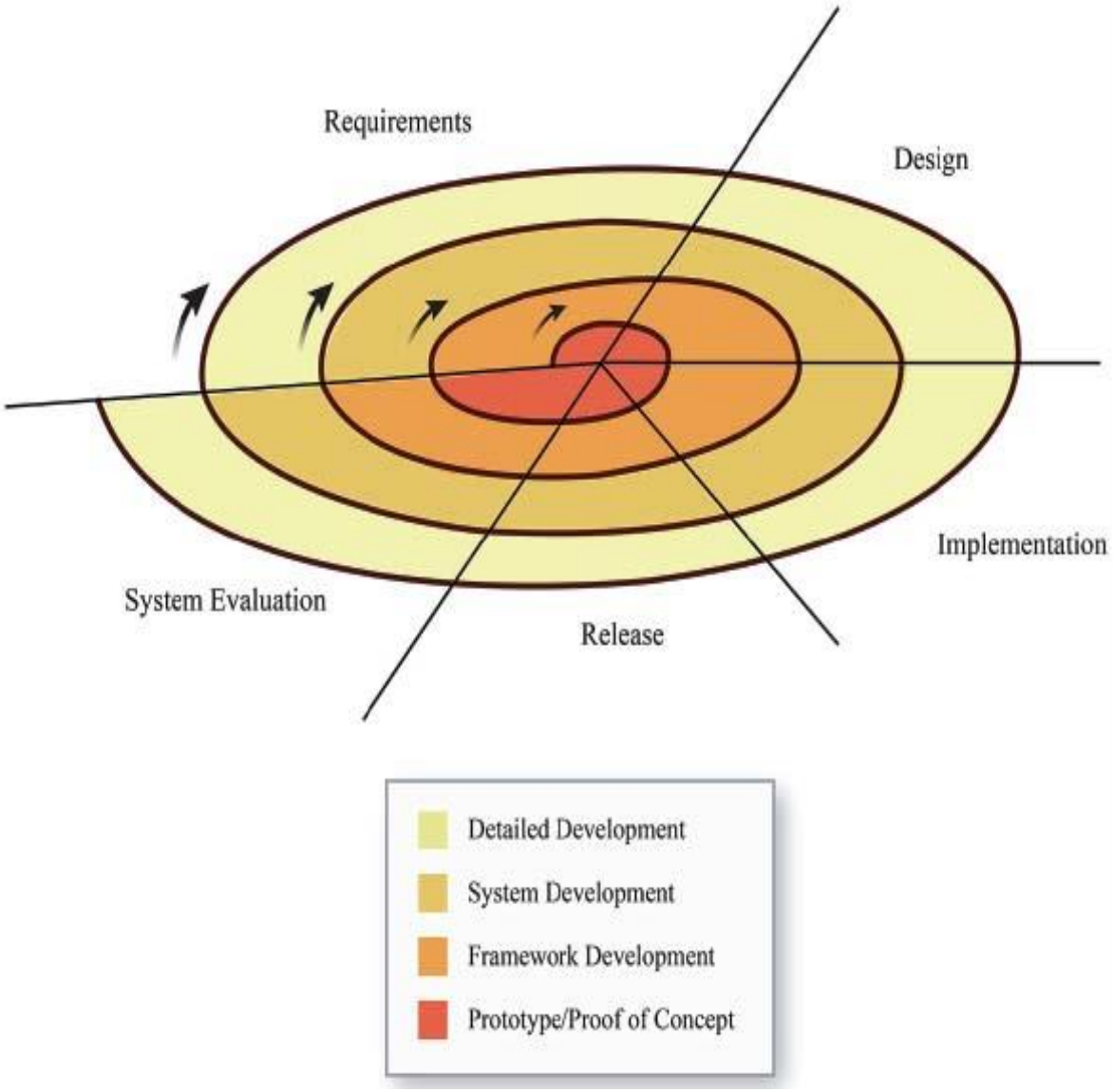

Figure 3.1 – Spiral Model

Advantages of the Spiral Model

The spiral model is a realistic approach to development of large-scale software products because the software evolves as the process progresses. In addition, the developer and the client better understand and react to risks at each evolutionary level.

The model uses prototyping as a risk reduction mechanism and allows for the development of prototypes at any stage of the evolutionary development.

It maintains a systematic stepwise approach, like the classic life cycle mode, but incorporates it into an iterative framework that more reflect the real world.

If employed correctly, this model should reduce risks before they become problematic, as consideration of technical risks are considered at all stages.

Disadvantages of the Spiral Model

Demands considerable risk-assessment expertise.

It has not been employed as much proven models (e.g. the WF model) and hence may prove difficult to ‘sell’ to the client (esp. where a contract is involved) that this model is controllable and efficient. [More study needs to be done in this regard]

For creating our system, we required the following tools and technologies.

1. XAMPP
2. VS Code
3. Google Chrome
4. HTML
5. CSS
6. JavaScript
7. MySQL
8. SQL
9. PHP

3.2 XAMPP

3.2.1 Introduction to XAMPP

XAMPP is an abbreviation where X stands for Cross-Platform, A stands for Apache, M stands for MYSQL, and the Ps stand for PHP and Perl, respectively. XAMPP is one of the widely used cross-platform web servers, which helps developers to create and test their programs on a local webserver. It was developed by the Apache Friends, and its native source code can be revised or modified by the audience. It consists of Apache HTTP Server, MariaDB, and interpreter for the different programming languages like PHP and Perl. It is available in 11 languages and supported by different platforms such as the IA-32 package of Windows & x64 package of macOS and Linux.

3.2.2 Components of XAMPP

As defined earlier, XAMPP is used to symbolize the classification of solutions for different technologies. It provides a base for testing of projects based on different technologies through a personal server. XAMPP is an abbreviated form of each alphabet representing each of its major components. This collection of software contains a web server named Apache, a database management system named MariaDB and scripting/ programming languages such as PHP and Perl. X denotes Cross-platform, which means that it can work on different platforms such as Windows, Linux, and macOS.

Many other components are also part of this collection of software and are explained below.

1. Apache **:** It is an HTTP a cross-platform web server. It is used worldwide for delivering web content. The server application has made free for installation and used for the community of developers under the aegis of Apache Software Foundation. The remote server of Apache delivers the requested files, images, and other documents to the user.
2. PHP **:** It is the backend scripting language primarily used for web development. PHP allows users to create dynamic websites and applications. It can be installed on every platform and supports a variety of database management systems. It was implemented using C language. PHP stands for Hypertext Processor. It is said to be derived from Personal Home Page tools, which explains its simplicity and functionality.
3. phpMyAdmin **:** It is a tool used for dealing with MariaDB. Its version 4.0.4 is currently being used in XAMPP. Administration of DBMS is its main role.
4. OpenSSL **:** It is the open-source implementation of the Secure Socket Layer Protocol and Transport Layer Protocol. Presently version 0.9.8 is a part of XAMPP.
5. XAMPP Control Panel **:** It is a panel that helps to operate and regulate upon other components of the XAMPP. Version 3.2.1 is the most recent update. A detailed description of the control panel will be done in the next section of the tutorial.
6. Mercury **:** It is a mail transport system, and its latest version is 4.62. It is a mail server, which helps to manage the mails across the web.
7. Tomcat **:** Version 7.0.42 is currently being used in XAMPP. It is a servlet based on JAVA to provide JAVA functionalities.
8. Filezilla : It is a File Transfer Protocol Server, which supports and eases the transfer operations performed on files. Its recently updated version is 0.9.41.

3.2.3 Features of XAMPP

XAMPP is regularly updated to the latest releases of Apache, MariaDB, PHP and Perl. It also comes with a number of other modules including OpenSSL, phpMyAdmin, MediaWiki, Joomla, WordPress and more. Self-contained, multiple instances of XAMPP can exist on a single computer, and any given instance can be copied from one computer to another.[9] XAMPP is offered in both a full and a standard version (Smaller version)

3.3 Visual Studio Code

3.3.1 Introduction to visual studio code

Visual Studio Code is a code editor in layman's terms. Visual Studio Code is "a free-editor that helps the programmer write code, helps in debugging and corrects the code using the intelli-sense method". In normal terms, it facilitates users to write the code in an easy manner. Many people say that it is half of an IDE and an editor, but the decision is up to to the coders. Any program/software that we see or use works on the code that runs in the background. Traditionally coding was used to do in the traditional editors or even in the basic editors like notepad! These editors used to provide basic support to the coders.

Some of them were so basic that it was very difficult in writing basic English level programs in them. As time went by, some programming languages needed a specific framework and support for further coding and development it, which was not possible using these editors. VI Editor, Sublime Text Editor, is one of the many kinds of editors that came into existence. The most prominent and which supports almost every coding language is VISUAL STUDIO CODE.

3.3.2 Features of Visual Studio Code

1. Support for multiple programming languages: Supports multiple programming languages. So earlier, programmers needed Web-Support: a different editor for different languages, but it has built-in multi-language support. This also means it easily detects if there's any fault or cross-language reference, it'll be able to detect it easily.
2. Intelli-Sense: It can detect if any snippet of code is left incomplete. Also, common variable syntaxes and variable declarations are made automatically. Ex: If a certain variable is being

used in the program and the user has forgotten to declare, intelli-sense will declare it for the user.

3. Cross-Platform Support: Traditionally, editors used to support either Windows or Linux or Mac Systems. But Visual Studio Code is cross-platform. So it can work on all three platforms. Also, the code works on all three platforms; else, the open-source and proprietary software codes used to be different.
4. Extensions and Support: Usually supports all the programming languages but, if the user/programmer wants to use the programming language which is not supported then, he can download the extension and use it. And performance-wise, the extension doesn't slow down the editor as it rums as a different process.
5. Repository: With the ever-increasing demand for the code, secure and timely storage is equally important. It is connected with Git or can be connected with any other repository for pulling or saving the instances.
6. Web-Support: Comes with built-in support for Web applications. So web applications can be built and supported in VSC.
7. Git Support: Resources can be pulled from Git Hub Repo online and vice-versa; saving can be done too. Resource pulling also means cloning the code which is made available on the internet. This code can later be changed and saved.

3.3.3 Advantages of Visual Studio Code

There are many advantages over any other IDE; they are as follow:

1. Cross-platform support:

Window

Linux

Mac

2. Light-weight

3. Robust Architecture

4. Freeware: Free of Cost- probably the best feature of all for all the programmers out there, even more for the organizations.

6. Many users will use it or might have used it for desktop applications only, but it also provides great tool support for Web Technologies like; HTML, CSS, JSON.

3.4 Front-end

3.4.1 HTML

Introduction to HTML

The Hypertext Mark-up Language or HTML is the standard mark-up language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as <img /> and <input /> directly introduce content into the page. Other tags such as <p> surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags but use them to interpret the content of the page.

HTML Layout

Page layout is the part of graphic design that deals with the arrangement of visual elements on a page. Page layout is used to make the web pages look better. It establishes the overall appearance, relative importance, and relationships between the graphic elements to achieve a smooth flow of information and eye movement for maximum effectiveness or impact.

Page Layout Information:

Header**:** The part of a front end which is used at the top of the page. <header> tag is used to add header section in web pages.

Navigation bar: The navigation bar is same as menu list. It is used to display the content information using hyperlink.

Index / Sidebar**:** It holds additional information or advertisements and is not always necessary to be added into the page.

Content Section**:** The content section is the main part where content is displayed.
Footer**:** The footer section contains the contact information and other query related to web pages. The footer section always put on the bottom of the web pages. The <footer> tag is used to set the footer in web pages.

Important HTML Tags

<a> for link

<b> to make bold text

 for bold text with emphasis

<body> main HTML part

 for break

 it is a division or part of an HTML document

<h1>... for titles

<i> to make an italic text
<img> for images in document
 is an ordered list, <ul> for an unordered list
 is a list item in bulleted (ordered list)
<p> for paragraph
 to style part of text

3.4.2 CSS

Introduction to CSS

Cascading Style Sheets, fondly referred to as CSS, is a simply designed language intended to simplify the process of making web pages presentable.[7] CSS allows you to apply styles to web pages. More importantly, CSS enables you to do this independent of the HTML that makes up each web page. CSS is easy to learn and understand, but it provides powerful control over the presentation of an HTML document.

CSS Features

Opportunity in Web designing**:** If anyone wants to begin a career in web designing professionally, it is essential to have knowledge of CSS and HTML.

Website Design: With the use of CSS, we can control various styles, such as the text colour, the font style, the spacing among paragraphs, column size and layout, background colour and images, design of the layout, display variations for distinct screens and device sizes, and many other effects as well.

Web Control**:** CSS has controlling power on the documents of HTML, so it is easy to learn. It is integrated with the HTML and the XHTML mark-up languages.

Other Languages**:** Once we have knowledge of some basics of CSS and HTML, other associated technologies like Angular, PHP, and JavaScript are become clearer to understand.

Important Properties of CSS

1. Display
2. Width and Height
3. Margin and Padding
4. Border
5. Floats
6. Clearing Floats
7. Color
8. Background
9. Font

Ways to add CSS

There are three ways to add CSS to HTML. You can add inline CSS in a style attribute to style a single HTML element on the page. You can embed an internal stylesheet by adding CSS to the head section of your HTML doc. Or you can link to an external stylesheet that will contain all your CSS separate from your HTML.

Here's another way to summarize the three ways you can add CSS to HTML:

Inline CSS: Requires the style attribute placed inside an HTML element.

Internal CSS**:** Requires the <style> element placed inside the head section of an HTML file.

External CSS**:** Requires the <link> element placed inside the head section of an HTML file.

These are the three ways to add our CSS to our webpages.

3.4.3 JavaScript

Introduction to JavaScript

JavaScript is a lightweight, cross-platform, and interpreted scripting language. It is well-known for the development of web pages; many non-browser environments also use it. JavaScript can be used for Client-side developments as well as Server-side developments. JavaScript contains a standard library of objects, like Array, Date, and Math, and a core set of language elements like operators, control structures, and statements. It is designed to run as a scripting language in a host environment, and it is up to the host environment to provide mechanisms for communicating with the outside world. The most common host environment is the browser.

Features of JavaScript

According to a recent survey conducted by Stack Overflow, JavaScript is the most popular language on earth. With advances in browser technology and JavaScript having moved into the server with Node.js and other frameworks, JavaScript is capable of so much more.

Following are some features of JavaScript,

1. Validating User's Input
2. Simple Client-side Calculations
3. Greater Control
4. Generating HTML Content
5. Detecting the User's Browser and OS
6. DOM Manipulation

3.5 Back-end

3.5.1 MySQL

What is MySQL

MySQL is an open-source relational database management system. As with other relational databases, MySQL stores data in tables made up of rows and columns. Users can define, manipulate, control, and query data using Structured Query Language, more commonly

known as SQL. MySQL's name is a combination of "My," the name of MySQL creator Michael Widenius's daughter, and "SQL".

A flexible and powerful program, MySQL is the most popular open-source database system in the world. As part of the widely-used LAMP technology stack (which consists of a Linux-based operating system, the Apache web server, a MySQL database, and PHP for processing), it's used to store and retrieve data in a wide variety of popular applications, websites, and services.

3.5.2 SQL

What is SQL

SQL is Structured Query Language, which is a computer language for storing, manipulating and retrieving data stored in a relational database. SQL stands for Structured Query Language. SQL lets you access and manipulate databases. SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987.

3.5.3 PHP

What is PHP

PHP started out as a small open-source project that evolved as more and more people found out how useful it was. Rasmus Lerdorf unleashed the first version of PHP way back in 1994.PHP is a recursive acronym for "PHP: Hypertext Pre-processor". PHP is a server-side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites. It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.

It is powerful enough to be at the core of the biggest blogging system on the web (WordPress)! It is deep enough to run large social networks! It is also easy enough to be a beginner's first server-side language! When it comes to the purpose of the programming languages, there are two main types: domain-specific and general-purpose languages.

The domain-specific languages are used within specific application domains. For example, SQL is a domain-specific language. It's used mainly for querying data from relational databases.

Why PHP

PHP (Hypertext Preprocessor) is known as a general-purpose scripting language that can be used to develop dynamic and interactive websites. It was among the first server-side languages that could be embedded into HTML, making it easier to add functionality to web pages without needing to call external files for data.

Generally speaking, PHP is a solid choice for any technology stack that will be using server-side rendering to generate HTML templates for both static and dynamic web pages on your website. It's also suitable for building plugins and tools that will be used alongside other technologies within a web application such as the WordPress ecosystem.

PHP is a widely used server-side programming language that's become increasingly fast and powerful over the years. PHP works well with HTML and databases, making it a great language for anyone interested in building dynamic web applications. Though its reputation is mixed, PHP is still extremely popular and is used in over 75% of all websites where the server-side programming language is known.

Following are some advantages of using PHP,

1. Easy to learn and use
2. It's open source
3. It's versatile
4. It's enjoying strong community and support
5. It's fast and secure
6. It is well connected by databases
7. Scalable and flexible'
8. Fast and dynamic
9. Used everywhere
10. Rich back-end frameworks
11. Great Community
12. It is interpreted
13. Fater than server-side scripting languages

3.6 Design

3.6.1 Principal Dashboard Snapshot

As the principal is the administrator of our system, he has the highest authority in the whole system. He has authority to view his profile, add task, view all tasks, task enquiry, update a task, adding user, etc.

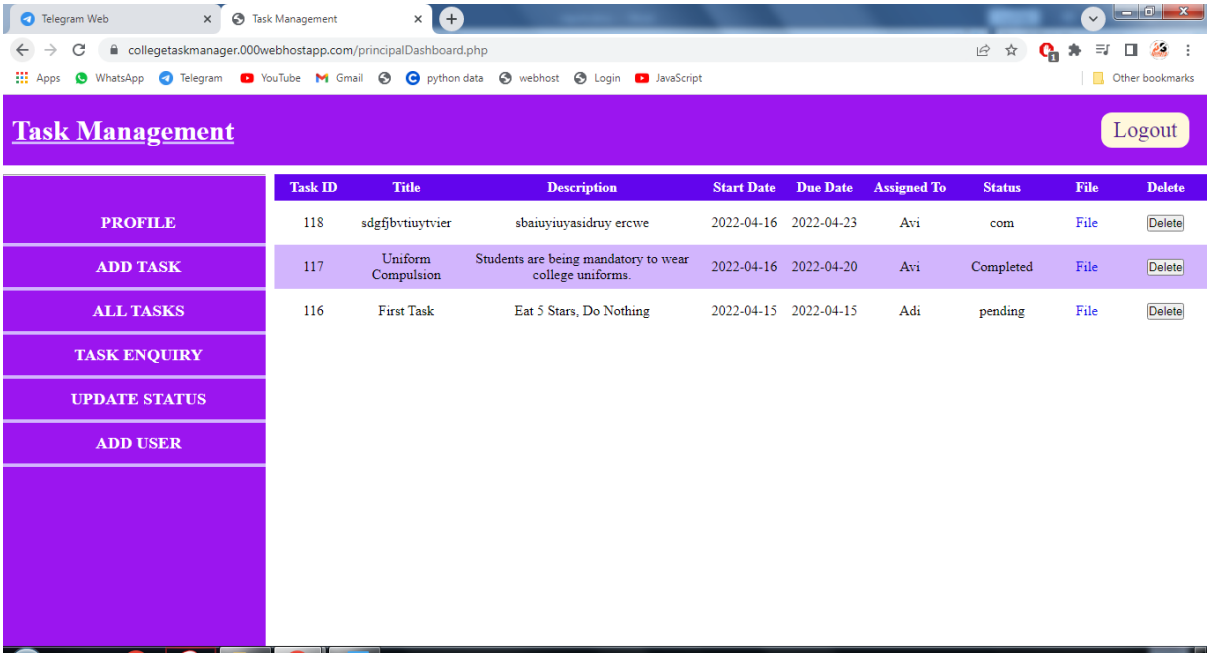

Figure 3.2 Principal Dashboard Snapshot

3.6.2 Clerk Dashboard Snapshot

Clerk is the second person with the most authority in our system. He has all the authorities that principal has except adding a user to the system. Adding user to the system is a critical authority, hence, it is not given to clerk.

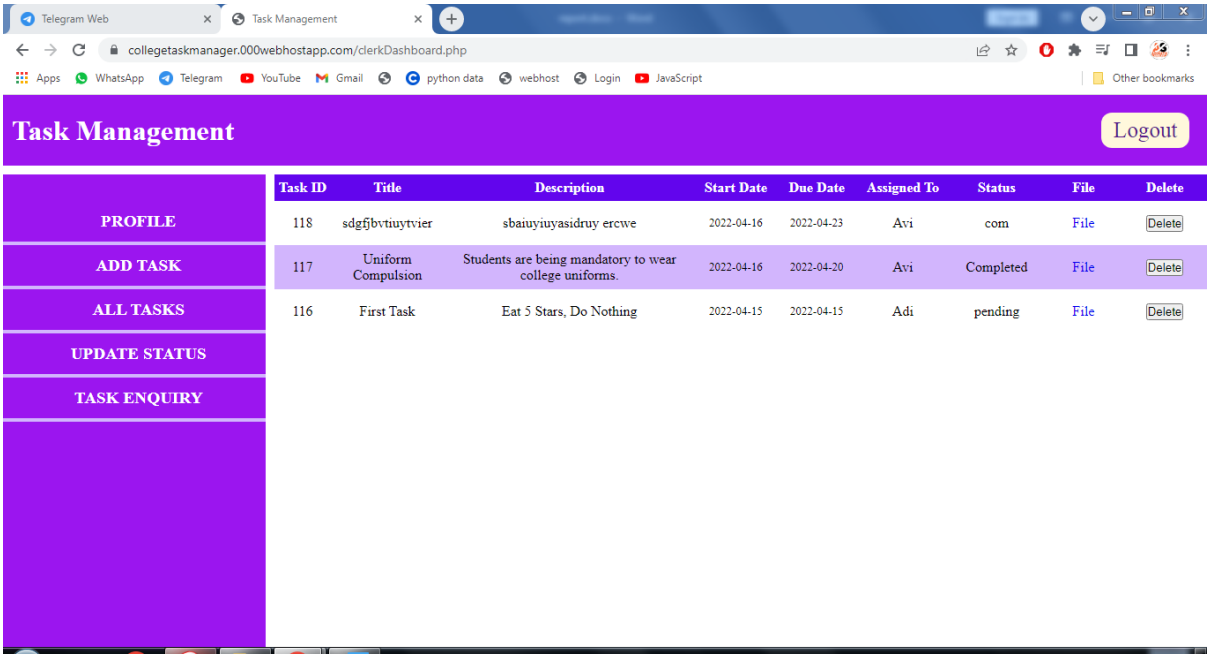

Figure 3.3 Clerk Dashboard Snapshot

3.6.3 Staff Dashboard Snapshot

Staff is the third and last entity in our system with the least authority. This entity has been granted with the authorities that are needed to perform operations on his work. Staff has authorities like viewing his profile, viewing all tasks assigned to him, updating a task assigned to him.

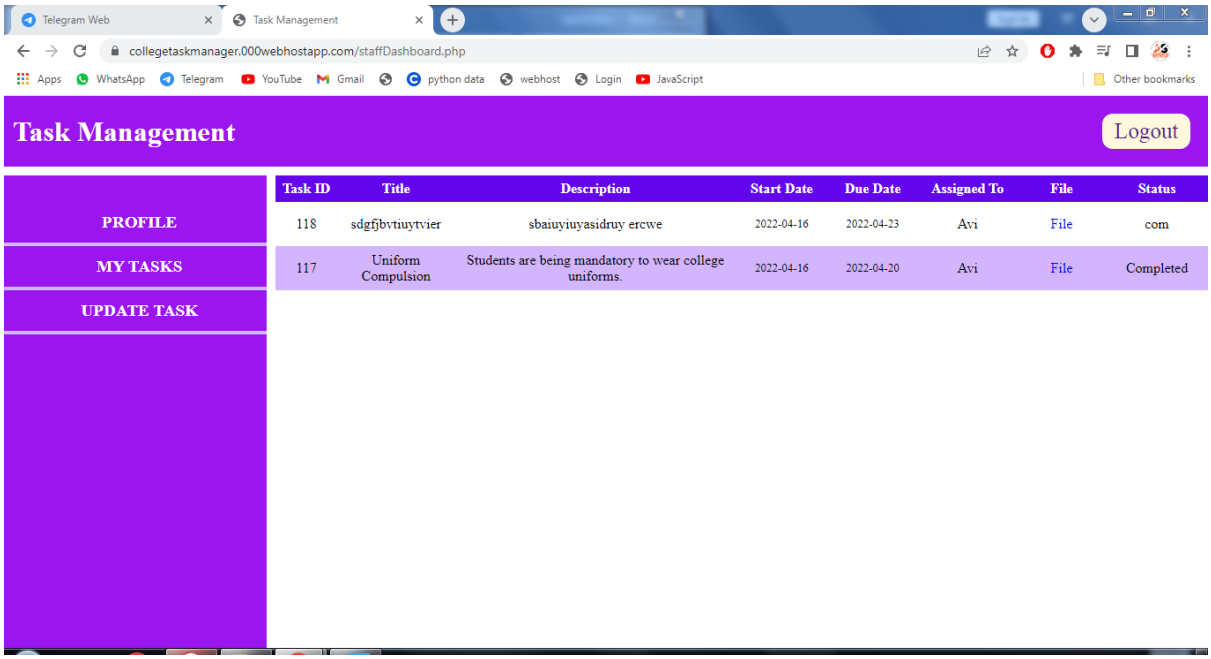

Figure 3.4 Staff Dashboard Snapshot

3.6.4 Profile Snapshot

Profile is an option that is available in all the three entities of our system. Profile window shows the user his information. This information includes name, user id, contact number.

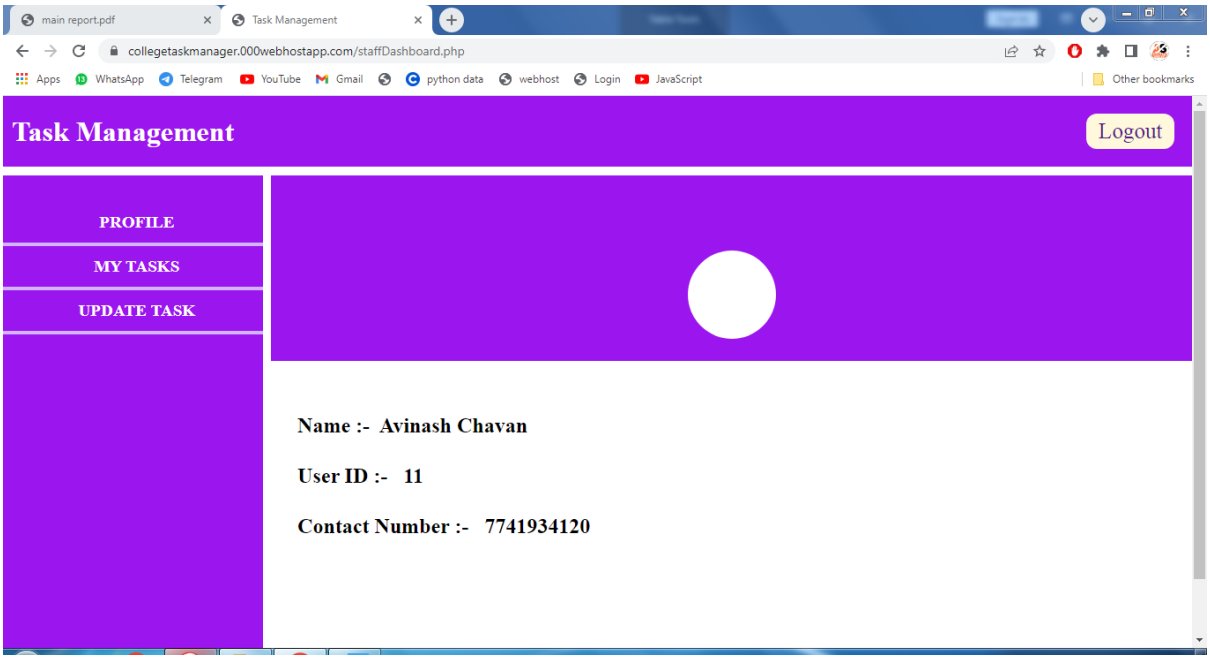

Figure 3.5 Profile Snapshot

3.6.5 Add Task Snapshot

Add task window is a window that is available to only principal and clerk. This window is used to assign a task to particular user of the system. This window ask for various parameters required to add a task to the system.

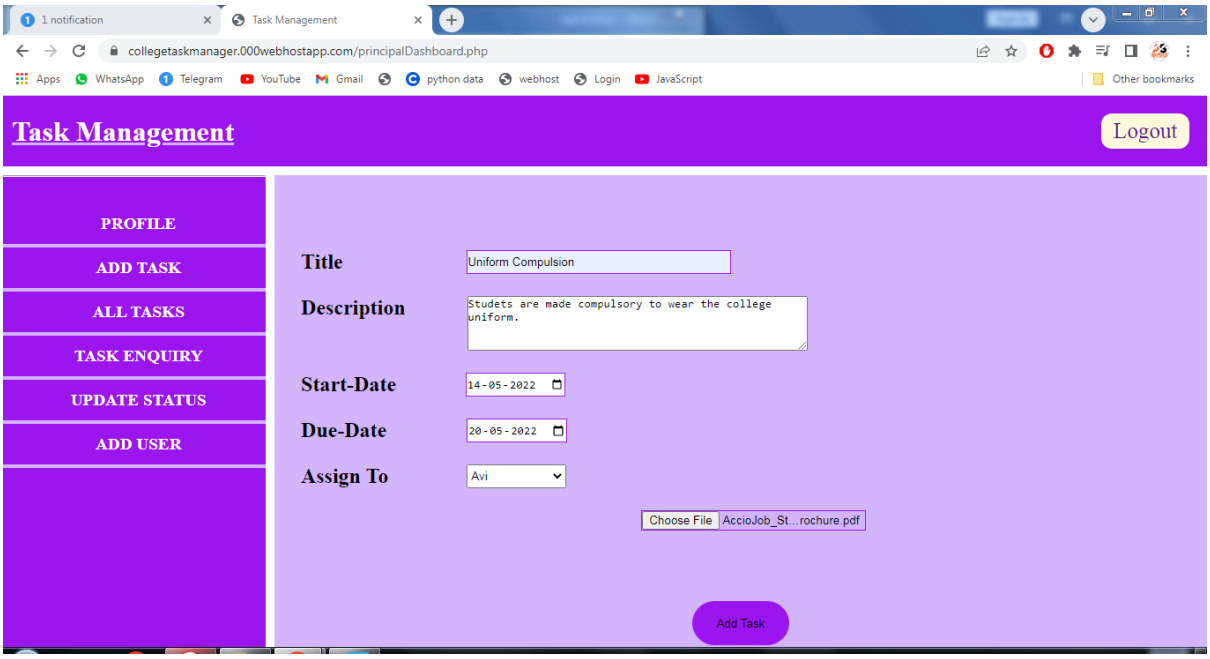

Figure 3.6 Add Task Snapshot

3.6.6 All Task Snapshot

This window is available to the principal and clerk. This window shows all the tasks that are currently in the system. In this system, we can see each and every task that is stored in the database. This window shows the task along with the task id, title, description, start date, end date, assigned to, file, etc.

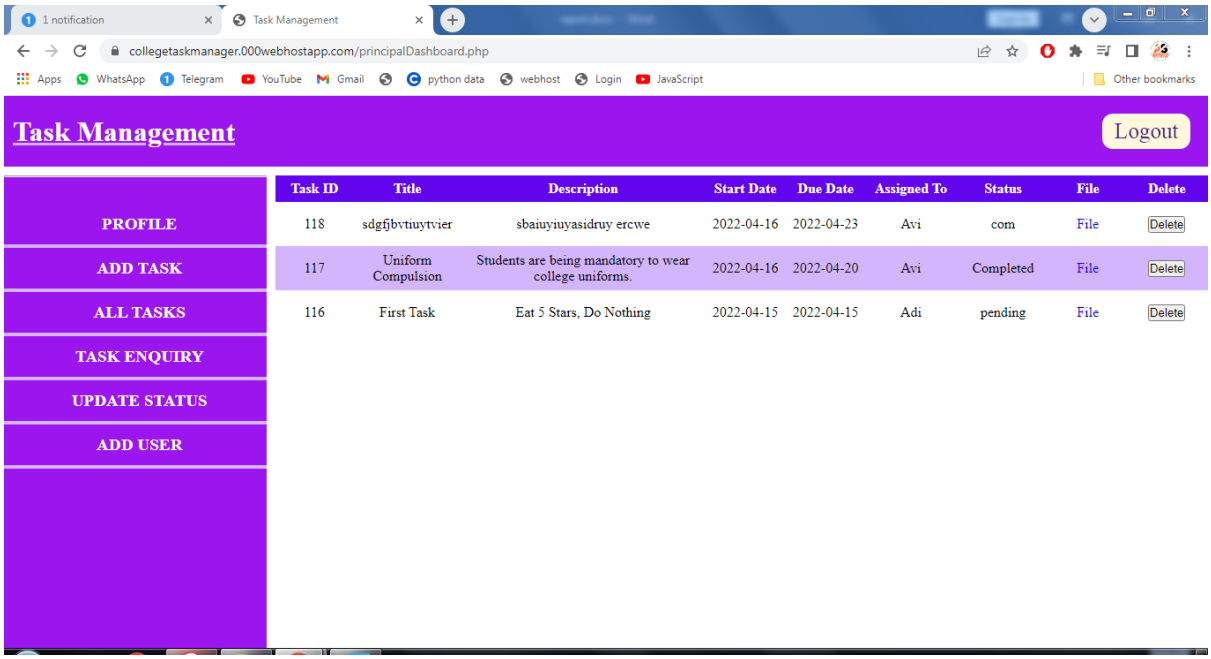

Figure 3.7 All Task Snapshot

3.6.7 Task Enquiry Snapshot

This window is available to the principal and clerk. This window is used to track the progress of task that is assigned to the particular staff member. This window asks for the parameter task id. After entering the task id, the system scans for the task and shows the progress of the task.

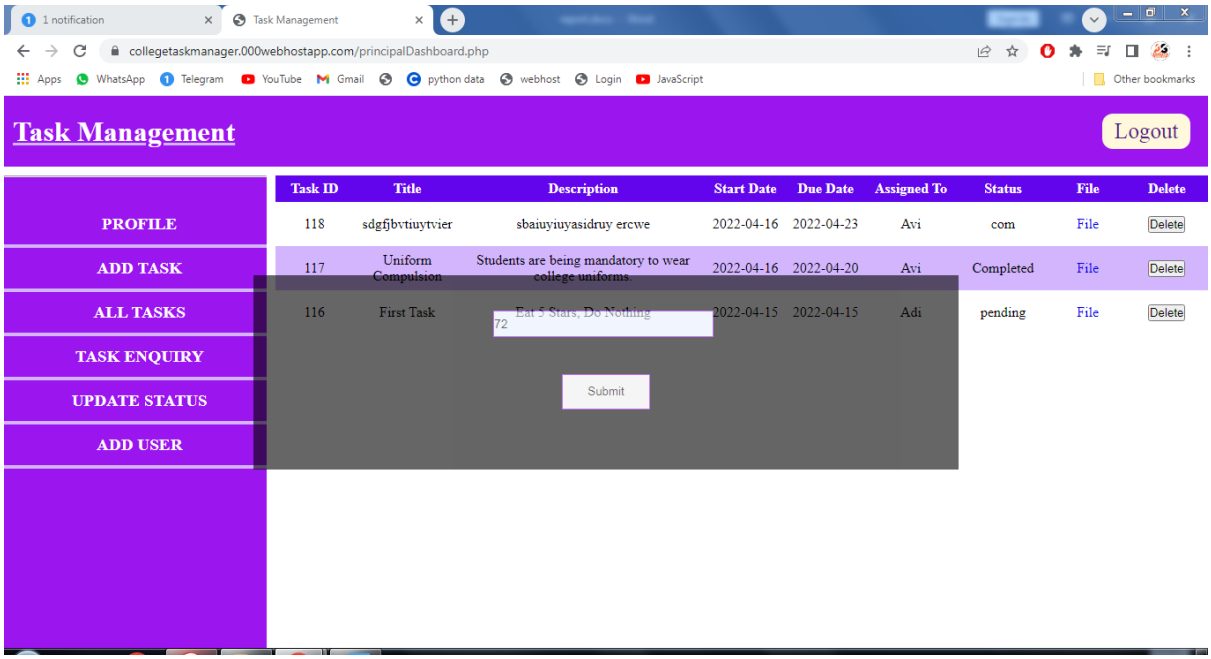

Figure 3.8 Task Enquiry Snapshot

3.6.8 Update Snapshot

This window is available to every entity in our system. The work of this window is to update the progress of the task. But user can only update the tasks assigned to himself. This provides confidentiality and integrity.

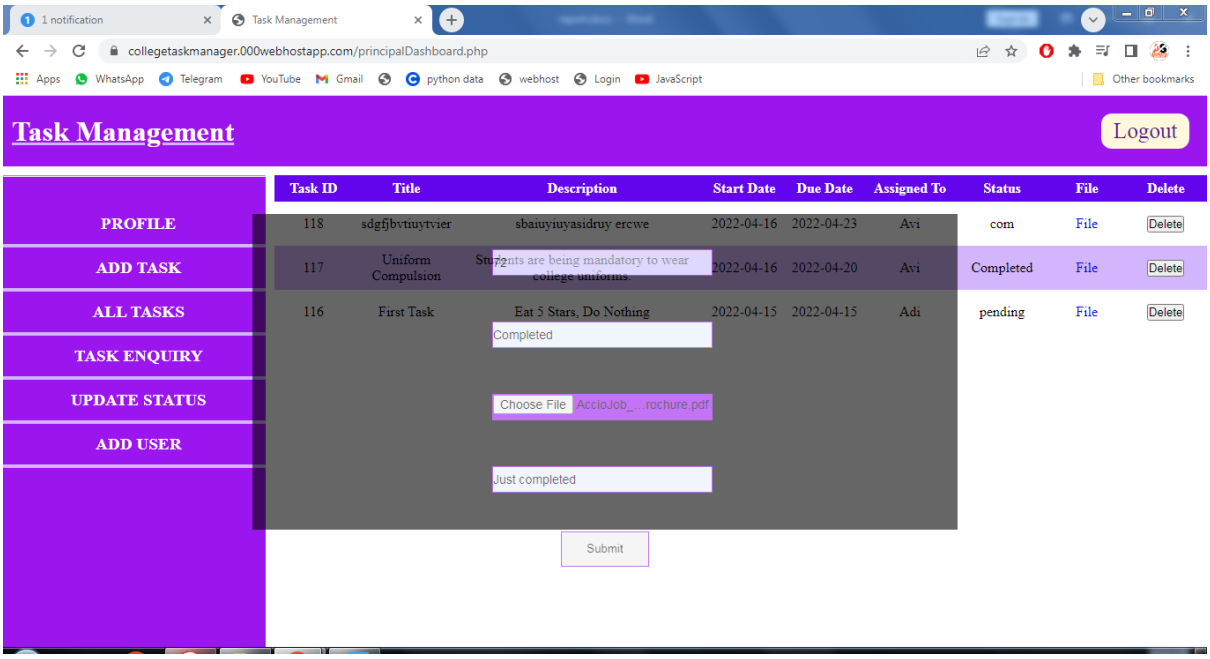

Figure 3.9 Update Task Snapshot

3.6.9 Add User Snapshot

Add user window is a window that is used to add a user to the system. This authority is only available to the principal. This window asks for parameters like username, password, contact, etc.

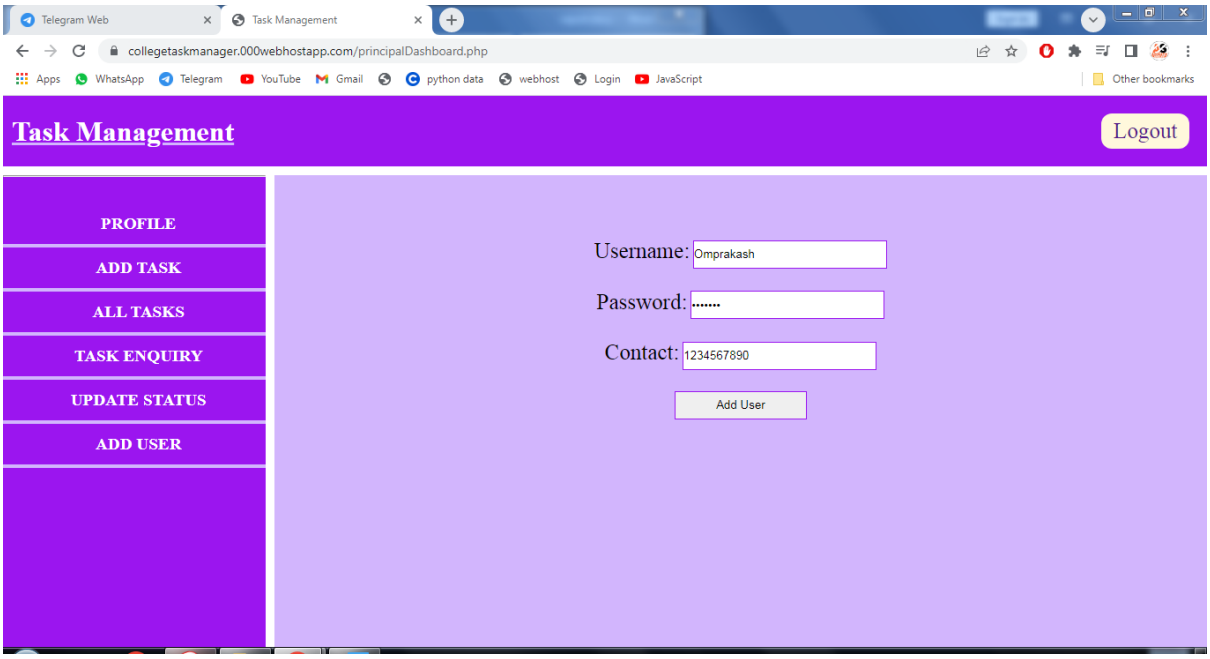

Figure 3.10 Add User Snapshot

4. PERFORMANCE ANALYSIS

4.1 Use Case Diagrams

4.1.1 Principal Use Case Diagram

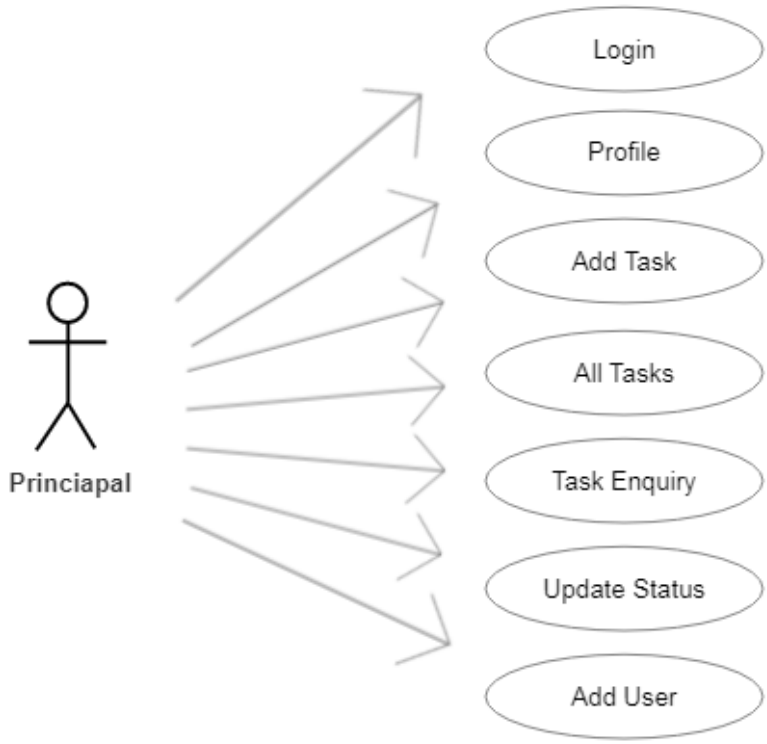

Figure 4.1 Principal Use Case Diagram

4.1.2 Clerk Use Case Diagram

Figure 4.2 Clerk Use Case Diagram

4.1.3 Staff Use Case Diagram

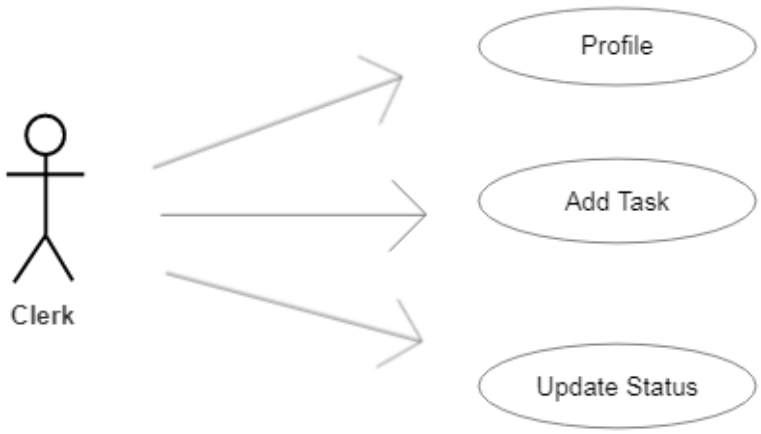

Figure 4.3 Staff Use Case Diagram

4.2 Process Diagrams

4.2.1 Principal Process Diagram

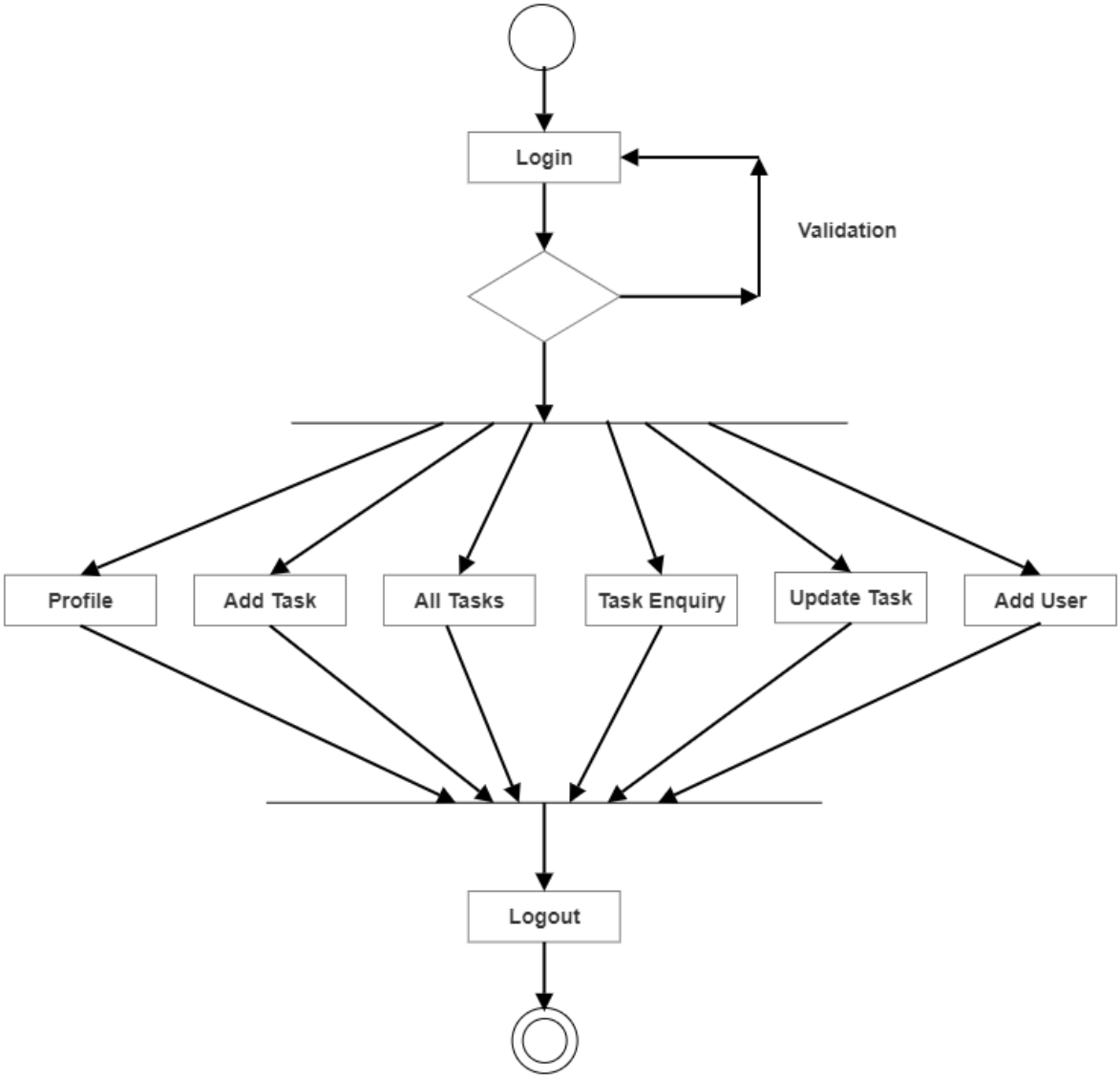

Figure 4.4 Principal Process Diagram

4.2.2 Clerk Process Diagram

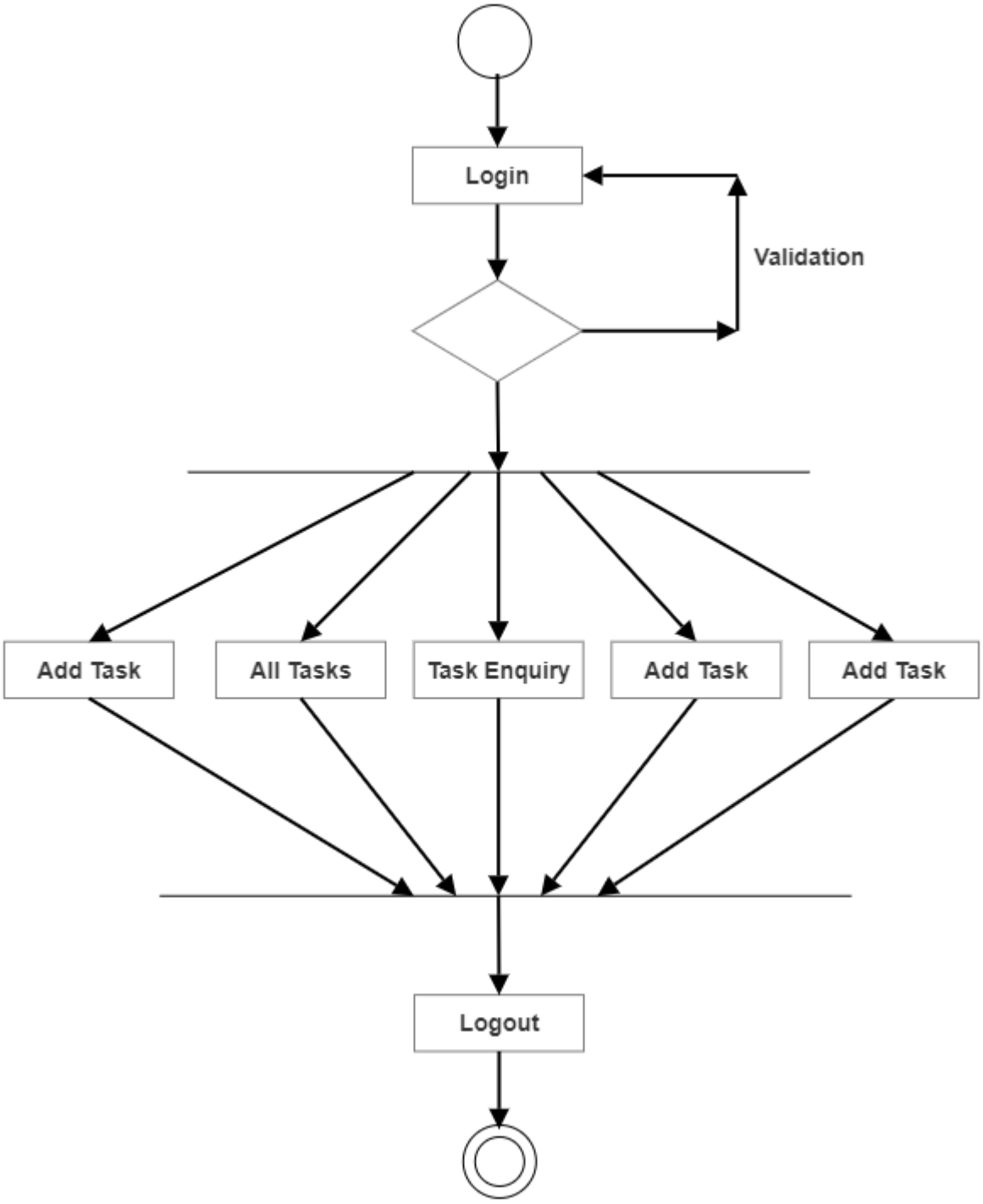

Figure 4.5 Clerk Process Diagram

4.2.3 Staff Process Diagram

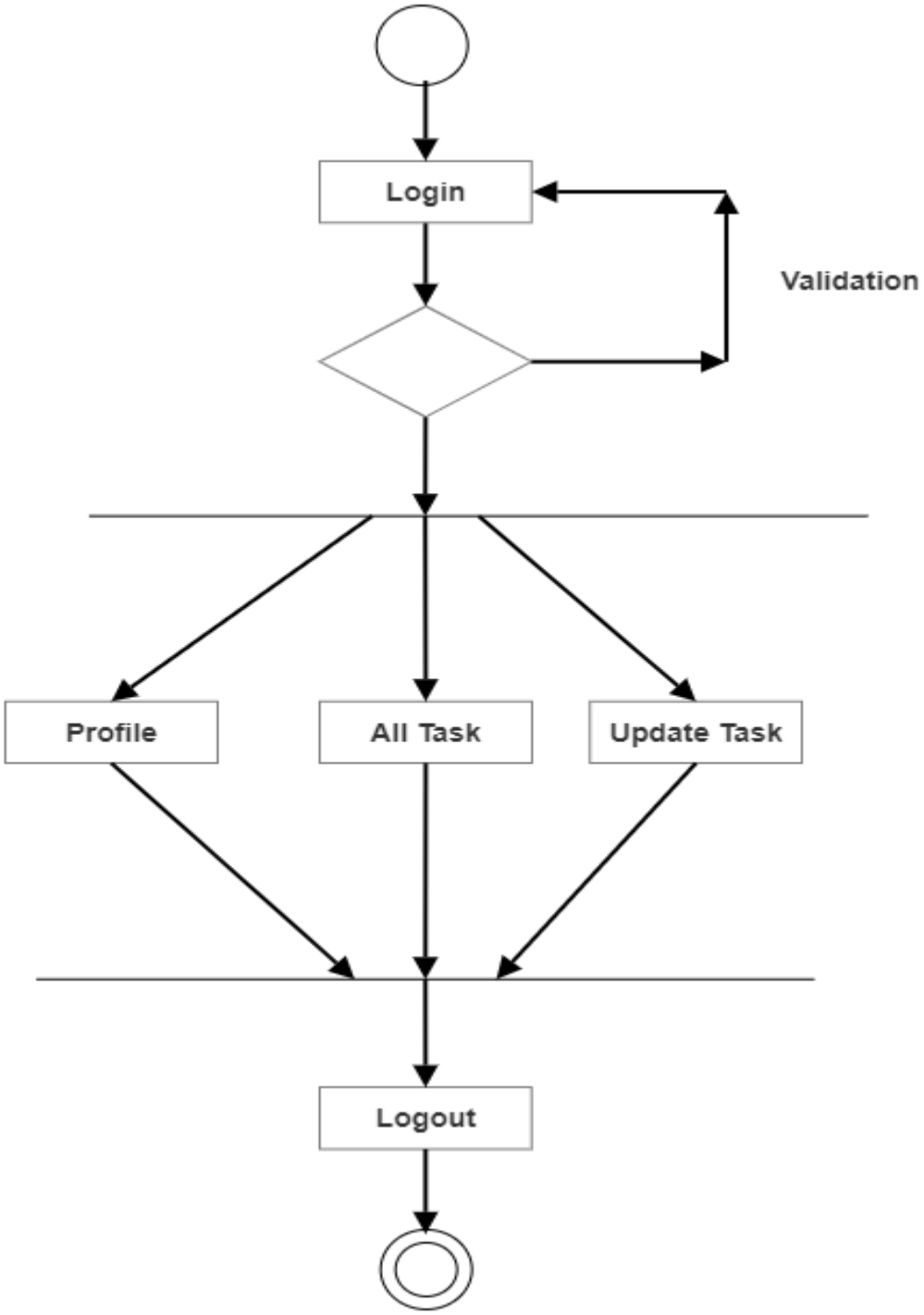

Figure 4.6 Staff Process Diagram

5. CONCLUSION

5.1 Conclusion

So, we conclude that the system we made which is our QR code-based entry and exit attendance system is easy to use and maintain all the records. For using our system user just have to scan their unique QR code which will be generated by our system and the entry exit status will get stored in our system, that is, directly on the database.

Our system provides features as we can access all the records of a certain person and we can also access the records of a specific day.

In short as we told previously, we made all those features work in our system now it is totally ready to use and it is easy for any user to manage it.

5.2 Future Scope

Our system currently will be used for staff as well as students. Our project can be modified and updated in such a way that the parents of the students will get the notification of the entries and exits along with the date and time.

Another aspect in which our project can be enhanced is, our project can have a better GUI hence making it easier to use by the administrator.

Applications

1. Colleges
2. Schools
3. Companies
4. Organizations

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APPENDICES

Index Login Page

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Login</title>
    <style>
      h1{
          font-size: 55;
          text-decoration: underline;
           position: relative;
           animation: myfirst 5s linear 2s infinite alternate;
         }
           @keyframes myfirst {
           from {left: 1100px;}
           to {left: 0px;}
         }
```

```
body {
   background-color: rgba(48, 47, 47, 0.479);
  background-image: url('YCIP_b.png');
  background-repeat: no-repeat;
    background-size: 100% 100%;
    background-position: center;
}
.box {
  background-color: rgb(48 47 47 / 48%);
  width: 30vw;
  height: 40vw;
  display: block;
  justify-content: center;
  margin-left: 27pc;
  margin-top: 65px;
  border-style: solid;
  border-color: cornflowerblue;
}
.head {
  text-align: center;
  font-size: 25px;
  padding-top: 0.5px;
}
.name {
```

```
  display: block;
  box-sizing: border-box;
  color: black;
  font-size: x-large;
  margin-left: 12px;
}
.pass {
  display: block;
  box-sizing: border-box;
  color: black;
  font-size: x-large;
  margin-left: 12px;
}
.inputName {
  width: 28vw;
  height: 4vw;
  margin-left: 1px;
  border-style: solid;
  border-color: cornflowerblue;
  font-size: 20px;
}
.inputPassword {
  width: 28vw;
  height: 4vw;
```

```
      margin-left: 1px;
      border-style: solid;
      border-color: cornflowerblue;
      font-size: 20px;
    }
    h3 {
      text-align: center;
    }
    .button {
      display: block;
      border: 0;
      font-size: 20px;
      padding: 14px 40px;
      border-radius: 30px;
      background-color: cornflowerblue;
      margin-left: 7em;
      margin-top: 36px;
      box-shadow: 0 12px 16px 0 rgba(0, 0, 0, 0.24),
        0 17px 50px 0 rgba(0, 0, 0, 0.19);
    }
  </style>
</head>
<body>
  <div class="main">
```

```
      <form action="login.php" method="post">
        <div class="box">
          <div class="head">
            <h2>Login</h2>
          </div>
          <div class="name">
            <p>Username</p>
            <input name="name" placeholder="Enter Name" class="inputName" type="text"
required>
          </div>
          <div class="pass">
            <p>Password</p>
            <input name="pass" placeholder="Enter
Password"class="inputPassword"type="password" required/
          </div>
          <div class="btn">
            <input class="button" type="submit" />
          </div>
        </div>
      </form>
    </div>
  </body>
</html>
```

ACKNOWLEDGEMENT

It is really a pleasure to have helping and co-operative teachers throughout the career of diploma here in Yashwantrao Chavan Institute of Polytechnic. Here we met some of the best people and teachers in our life who are always helpful in our studies as well as our lives. In this Capstone Project subject, we got valuable guidance of Mr. Deshmukh J.V. So, we would like to thank him from deep of our hearts. He motivated us and helped us throughout our journey of diploma here. He was a great guide for us in this project. He helped us throughout the development of project.

We would also like to thank our class co-ordinator, Mr. Dhase G.N., who had a great impact on our education life here in this institute. In this project development he gave us a direction and a roadmap to design and code our project. He was always there when we needed any help.