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Work Prism: A Work Compliance system

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Abstract— **In organizations and colleges, there is a huge flow of a variety of tasks or activities which becomes difficult for users to manage the task and complete it on time. Many times user also forgets to complete a certain task from a given set of tasks. Thus, this research presents the development of an automated task management system for organizations and colleges to monitor the tasks and send alerts to the users regarding the task so that it gets completed on time. There are many such systems available in the market but they are not cost-effective and lack with some of the major functionalities like monitoring tasks using interactive dashboards. Through this system, the higher authorities (CEO in Organization, Principle in Colleges) can assign the task to the lower authorities and can monitor each and every activity in the organization. Monitoring the status of each task will help to improve the productivity of the overall organization. An important benefit of this proposed system is that the user-friendly design helps the task assigner and user to interact and accomplish various types of tasks online with ease, also the system is generic and can be further used for project management, colleges, Schools, and Organizations. Users can also interact with the difficulties while completing the task to the assigner using a comment section. The system admin maintains a database system, which can add the users to the system and can assign roles (CEO/Director/Project Manager/) to the user. This system helps to maintain the overall workflow of the organization.**

Keywords- *work compliance, alerts, monitoring Task, Assign Task.*

INTRODUCTION

A good task management, the ability in setting goals and priorities, and monitoring the use of time, can increase the productivity and reduces the stress, resulting in work efficiency, and academic success. From this expanded perspective, researchers can see that the real value of task management is to improve lives in all its dimensions. One of the benefits of a task management system is that all the important tasks can be completed before a deadline and the workflow can be maintained. The majority of time management experts recommend task prioritization as an effective task management practice to reduce missing and delaying deadlines.

WorkPrism - A work compliance system is used to automate the process of admin and user management and user task. This system will provide a platform for all the faculty members to communicate and execute various college related task. The work is under observation of the higher authorities. The project provides online platform to accomplish day to day task in a college department. The proposed system will help the users and assigners to communicate with each other. The system easily assigns tasks so as to avoid all the time-consuming and unnecessary meetings. The higher authorities can periodically share all the details regarding the tasks with the faculty. The management of assignment or task is easy from both ends. This software provides facilities to assign tasks, set deadline the users of this software. HOD maintains a database system and is responsible for the performance of the system. HOD have authority to control the entire system. IT Infrastructure is privileged user who overlook over Task module. The purpose for developing this project is to generate a platform where Head of Department can do operations like assign and view operations. HOD, principal are privileged users who can add/modify a task. WorkPrism enables users to organize and prioritize projects efficiently and with flexibility.

LITERATURE REVIEW

Automated Management System using Analytical Hierarchy Process, by Sonya Meitarice , Mumtaz Begum Peer Mustafa, Dedek Okta Andi. In order to continually monitor the work performance of university students, this research describes the research and development of an automated task management system that uses Analytical Hierarchy Process (AHP) measurement. The next methodology was used to accomplish the goal of this study. The research first finds appropriate indicators of

ineffective time management, the best time management strategies for college students, and an appropriate approach for creating the suggested system.

[2] **An Interactive Dashboard for Monitoring the spread of COVID-19 in Sudan**, by Alaa M.O. Abdelsamad Azza Z. Karrar. In this paper an interactive dashboard was created in this study to track the COVID-19 situation in Sudan The Federal Ministry of Health in Sudan updates their official website and Facebook page with non-electronic paper-based reports about the COVID-19 status. The inadequacy of the data representation and display in these reports makes it difficult to track the status of COVID-19. It facilitates a thorough, understandable, and aesthetically appealing perception of the actual condition by the general public and health authorities. Tableau was used to construct the dashboard (the public version). Making decisions about the spread of COVID-19 in Sudan requires having access to key information, which the created dashboard and visual analysis offer.

[3] **Survey Paper: Framework of REST APIs,** by Sujan YM, Dr Shashidhara H R, Dr.Rohini Nagapadma. In administrative setup, discussions are a remarkable concept to represent complex conversations between a consumer and one or more administrations. The REST building approach forces the characteristics of clients, servers, and their relationships in REST structures, which significantly influences conversations in such frameworks. REST API are mostly utilised in cloud computing, the Internet of Things, and micro services, among other areas. Representational state transfer (REST) is a sort of software architecture that is used in web services and provides more flexibility. REST controls how the API appears.

[4] **Online Task Management System(OTMS),** by Girishma Hedaoo, Priyanka Thoke, Raksha Tabhane, Shubham Meshram, Swapnil Kumbhalkar, Prof. Mukesh Barapatre. In this paper, the Online Task Management System was created to handle the daily operations of a college department. The project offers an online platform to carry out routine departmental tasks and deliver information about the work to a designated user. The user-friendly architecture of the proposed system has the important advantage of facilitating easy online interaction and job completion between the administrator and user. A database administrator is in charge of upkeep and system performance. The system may be controlled by the admin. Users are not authenticated to see administrative tasks.

[5] **A Study on Task Management System,** by Jyothi N S, A Parkavi. In this paper, a study on task management system is presented. A number of tasks, activities, personnel, budgets, and deadlines are involved in every project or event. Regardless of how big or little the project is, its execution plan and the sequence in which the activities are completed determine whether it will succeed or fail. It takes a lot of talent to do this properly, but the effort spent developing effective project management skills can pay off greatly and aid in completing projects on schedule and within the restrictions of available resources. Being able to plan, schedule, and assign jobs effectively makes it simple for one to ensure the project's success. This is where the Eisenhower decision matrix is useful. Teams can easily communicate and define tasks using the "Eisenhower matrix" with the aid of task matrixes. This suggested remedy aids the project management team and other team members in efficiently organising tasks.

PROPOSED SYSTEM

Our Proposed System is a Web application and an Android application. It is an application which helps an organization maintain the work flow by assigning tasks, Monitoring assigned tasked which helps in the smooth functioning of the organization.

a. System Architecture

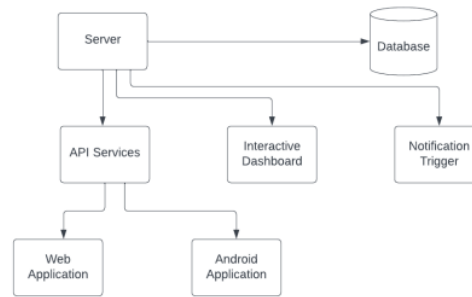The major components of our application are shown in Fig.1

Fig. 1. System Architecture

The system has a client-server architecture, where user request a web-page to the server and server sends the data or file as a response back to the user. All the resources and services are managed by the server.

The RESTFUL API's are implemented and kept on server to serve the data from database to web and android applications. The user has to communicate with the database through API's, so there is no direct communication between user and database. The data can be fetched and sent to the database using the GET and POST method of API's.

The Interactive Dashboard helps to monitor all the task flow in an organization or college. The Dashboard gets the data from database and allows a user to filter and visualize/analyze the task status and user performance.

The Notification Trigger is a service which sends alert emails regarding the tasks and its deadline to the user using SMTP protocol. This will help user to complete its task before deadline.
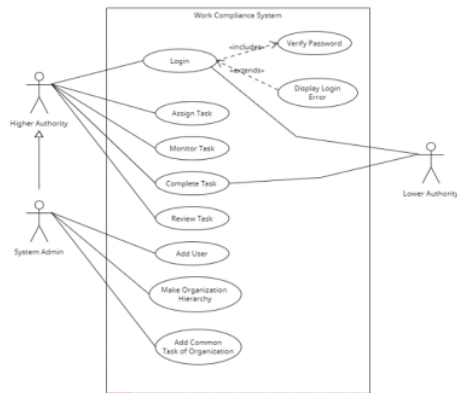
b.UML Diagrams
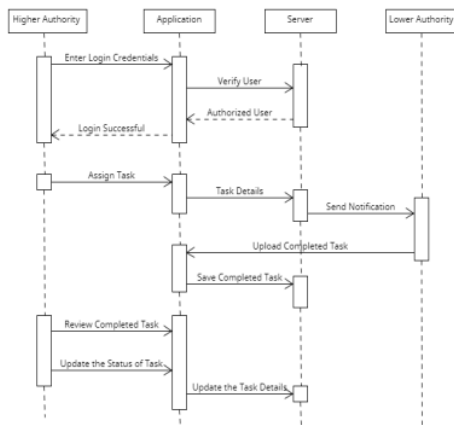
Fig.2 Use Case Diagram

Fig.3 Sequence Diagram

c. Additional Features

After going through various similar projects, we realized that many projects are missing some features which can help to make the application more engaging, user friendly and improve the user experience. Following are some additional features of our application:

- Better User Interface and User Experience

- A Responsive Application that will deliver an excellent user experience on Mobile Devices.

- Monitoring of the task using visual interface.

- Generic Application used for various organizations like colleges, companies, school and also for project management.

- Dark Mode

MATHEMATICAL MODEL

The mathematical representation of the proposed system focuses on the function of assigning tasks to user.

Suppose Employee Z wants assign a task.

E- Set of all the employees to whom Z can assign tasks $E=\{E_1, E_2\ldots\ldots, E_n\}$

Let J denote the task to be assigned $J=\{T,D\}$

(T-Task, D-Deadline)

EJ- Set of all currently assigned tasks to Ei

eg: E1J -set of all currently assigned tasks to employee E1- $\{E_1J_1, E_1J_2, \ldots\ldots E_1J_n\}$

Let A denote "Assign the task" function,

A: Z*J*E*EJ

Thus, employee Z assigns task J to an employee from set E after checking the tasks currently

assigned to that employee(Ei) from set of all currently assigned tasks(EiJ)

CONCLUSION

We introduce Work Prism – A work compliance system which helps us manage the workflow of the organization. The administration, user, and task management processes are automated using the Work Compliance System. The top authorities are monitoring the work. The initiative offers an online workspace for a college department's daily tasks. The suggested program will facilitate communication between academics and higher authorities. The system distributes assignments quickly in order to prevent all the time-consuming meetings thar are pointless. Task management is simple on both ends. The department's head assigns the duty to the faculty. The users of this software can assign tasks, send messages, send notifications and view notifications. Through this work, we have emphasized the project's architecture. The goal of this project is to provide an efficient work management system in an organization.

ACKNOWLEDGMENT

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