A REVIEW PAPER ON ATTENDANCE MANAGEMENT SYSTEM

(Using PaaS Cloud Services)

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Attendance Management System:

Introduction:

An attendance management system is designed in order to keep track of the attendance data of users registered on the platform and it is designed in a way to be flexible to store user data that can be manipulated.

An attendance management system can be used in various environments such as educational institutions and commercial corporations in order to manage related data.
The biggest advantage of using such a system which is deployed over the cloud is that it is very flexible in storage management and the data and services used can be expanded at a very low cost and in an extremely efficient manner.

Existing Systems:

The existing systems uses a manual method to record attendance data and data fetching is either manual search based or if implementation is digital in format, then the search is performed locally and the results are slow to obtain in such formats.

The existing systems are a threat to the data integrity constraint which is a necessary thing to be implemented these days. Data kept in such a format is also accessible to almost everyone publicly, and there is almost no security implementation on the data. In order to secure the data, it is very important to keep the data under a highly secure offloaded site where it is kept encrypted and is not accessible to unauthorized users.

Proposed Solution and Implementation:

The proposed implementation is a cloud service-based Web- Attendance Management System- Application and that is hosted on the cloud using hosting and real-time database management services using the Google Cloud Platform (GCP) Firebase tool and its sub features like GCP Firebase Hosting and GCP Firebase Realtime-Database management. The data is kept protected and is made visible to authorized users only, by the help of internal API's used by Firebase to fetch data.

Disadvantage of proposed solution:

The disadvantage of the proposed solution is just a single-time investment of time and efforts to configure the entire application and its development according to user demands.

System Requirements:

A web client running device whether mobile or a computing device like a personal computer for example a laptop or a desktop. It can also run on IoT-devices for example a Raspberry Pi with web client running capability along with a networking capable OS loaded like Raspbian OS.

Background of the problem:

This project's implementation target solution is to transfer the deferred manual attendance systems to newly adopted cloud technology-based attendance maintenance systems. It is designed to reduce error rates and to make error correction much easier than manual attendance-based systems. Cloud attendance systems ensure data duplicity is avoided wherever possible.

The most important reason to shift this particular solution is to make the data redundant in nature and to make its accessibility device independent. Also, scalability is a feature which manual attendance systems fail to provide which is fixed by introducing this feature in cloud-based attendance managers.

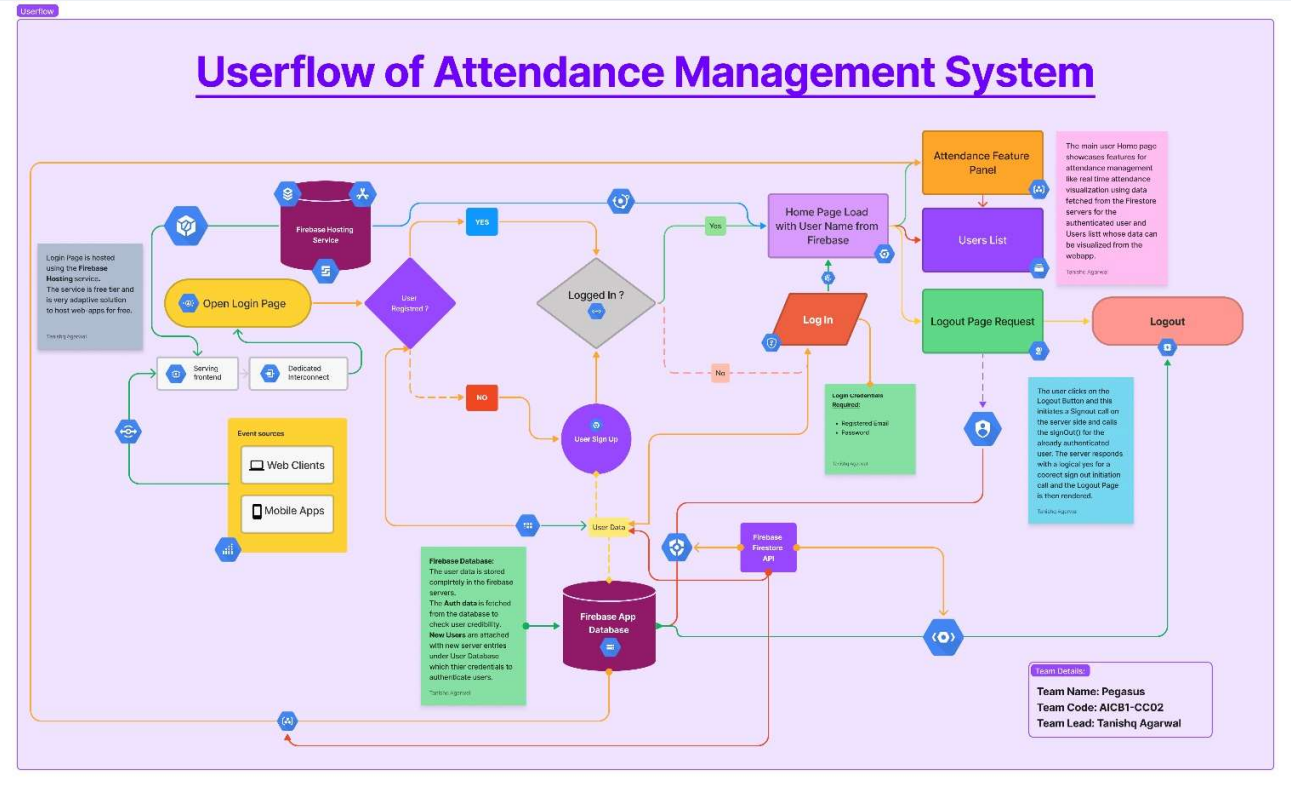
Expected Users:

1. Corporations and Multinational Companies who have an abundance of employees and their attendance data to be maintained on a daily basis.
2. Government requires such platform applications in order to digitize their employee's attendance data.
3. Educational institutions can also use this platform to maintain the attendance of their students and faculty staff.
4. Indian Railways Reservation Ticket Collectors.

Problem Statement:

To develop a Cloud based solution for an Attendance Management platform using PaaS (Platform as a Service).

Userflow Diagram of the entire Application hosted on the cloud:



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