An Design of AI based leave scheduling and managing Application

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Abstract— The online Staff Leave Management System is used to automate the process of leave applications and their approvals. It mainly deals with details of all institutional staff both teaching and non-teaching of various departments and also their leave maintenance. A staff can submit a leave application after verifying his/her current leave balances which will be shown by based on status module. The HOD and Principal verifies the submitted leave and checks the available leave balances for accepting or rejecting the leave. Admin will generate the report for leave management of staff. This system is being developed to convert a traditional process of leave management into automated system that can be process by android devices, where multi-user access is allowed. The AI based system will work with AI to find the available staff for the possible load adjustment from time schedule.

Keywords— leave management, Notification management, Timetable Management, Adjustment of work Load

I. INTRODUCTION

An educational institute is an institution which provide education at all level of starting school, colleges (Bachlor) to specialized courses (master) , including research. An educational institution refers to an administrative unit with a principal or other head, which has teachers and other personnel in its service (role of employers), and which is liable to keep books and compile other documentation, in which students are registered, whose activities are regulated by a legal act or decree, which follows a national curriculum, and which is financed and controlled by a public authority. An educational institution does not refer to a school building or facility. A new educational institution is established, an educational institution is abolished or merged with another educational institution at the decision of the organizer of education (maintainer of the educational institution) or a public authority. Statistics Finland has assigned an individualized educational institution ID to each educational institution. Educational institutions are classified according to a classification of types of educational institutions i.e University of applied science education, vocational education, primary education, secondary education, higher education and teachers & other staff.

II. RELATED WORK

In the existing leave record management system, every college and Department follows the manual procedure in which faculty enters information in a record book. At the end of each month, the total leaves of each members or staff which is a time taking process and there are chances of losing data or possibility of having errors in the records. This increases the paperwork & maintaining the records becomes tedious.

In the existing system, staff not only has to follow manual procedure for taking leave but also has to suffer through lots problems and formality for the approval of leave. The existing system comprises of a system in which details are to be manually handled and this is not user friendly.

Need for New System

1. To decrease the paperwork and enable the process with efficient, reliable record maintenance by using centralized database, thereby reducing chances of data loss.
2. To reduce the problem of staff for taking leave and also to save the time required for it.
3. To reduce the possibility of losing data related to leave and to reduce the mistakes that will happen at the time of record maintenance.

III. METHODOLOGY

This proposed system is used for the employee leave management. In which employee/staff will apply for leave application but before this, they have to do adjustment of his/her work load with the respective staff. Once the staff approves his request of adjustment of work load which will be based on AI concept. Then the leave is forwarded. In this module, head of department (HOD) will have permission to look after data of every employee of their department. HOD can approve leave through this application and can view leave information of every individual. Same thing will happen with principal, he can also approve or reject the leave of any staff and he can also view the generated report based on staff leave.

Objectives

- To automate the existing leave management in educational institutes.
- In this system staff can easily apply for leave and he/she don't have to wait for long time for the

approval of leave and can do replacements of respective staff for better scheduling of work load.

- To decrease the paper work, to provide easier maintenance of a leave record and also to reduce chances of data loss.
- To provide user friendly frontend for the user to interact with the system.

Methodology

1. Staff will Login into his account.
2. He / She will go for the "Apply Leave Section".
3. He / She will select the appropriate faculty for his adjustment of work which will be based on AI and the request will sent.
4. The request will be received by the respective faculty member.
5. If faculty approves the adjustment, the request will be forwarded to the HOD and then Principal at a time.
6. As soon as HOD and Principal approves leave, they will get the notification about the approval of leave. Then leave will be granted to respective application 7.If the leave are left then staff will be applicable to take leave from the leave record, otherwise not.

IV.   WORKING

In our system there will be employee who is working in organization to hold those employee there will be particular HOD of a particular department. Director is assign to check the leave record of particular department. Admin has all records of all employees. Employee will first apply for leave then leave form will sanctioned from a particular department HOD. Then it will submitted to a department register, then further submitted to the admin leave register they enter into staff attendance register, they will upload it into E-Time software.
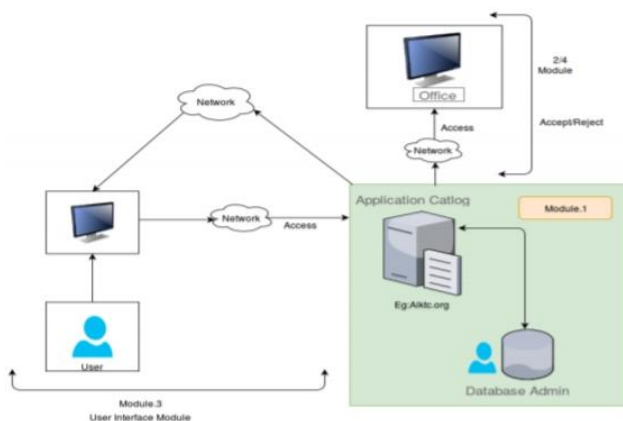

Figure 1. Architecture of staff leave management system.

a) Admin

Admin will provide the username and password to the staff. Admin can create or delete account of user. Admin can generate leave report of the user.

b) HOD

This module handles the administrative functions of a department. If any leave applications received from the department staff, HOD is able to accept /reject those applications.

c) Principal

This module is higher authority for all principal can view the generated leave report of staff. If any leave applications received from the department staff, HOD is able to accept/reject those application.

d) Databse

This module manages data efficiently and allows users to perform multiple tasks with ease. It stores organizes and manages a large amount of information within a single software application.

e) Leave Balance

This module will display the remaining leaves of staff.

f) Report Generation

This module will generate report of total leaves of staff.

g) Staff

Staff can send a leave application to the higher authority with a reason for leave and number of days. Staff can also view the balances leave.

V.   CONCLUSION AND FUTURE SCOPE

The leave management system is very useful for college to maintain leave record easily without losing any kind of data, as it stores in database. It also maintain the leave application of the staff and handling of the leave by the higher authorities. The higher authorities may accept or reject leave applications requested by the staff thus this system maintains the access amount of job done by college to maintain the record of leave. It will also reduce paper work and consume time required to take leave.

1. This application can be easily implemented using their needs and problems.
2. This proposed system will be used in educational institute for rest of the college and in other companies.
3. In the future, the summarized data generated by this system can be further provided to different departments, for example, Finance, Accounts for direct calculation of salaries.

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