SNOW BASED BVRITH STUDENT LEAVE MANAGEMENT

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Abstract : Leave Management System is designed by using cloud based service now platform. Personal developer instances(PDI) for registered users is created on the Service Now platform. The need of designing such Software is to provide the Administration a better way for scheduling & balancing workload by maintaining leave details of the students[1][2]. It reduces the human efforts of checking the papers for leave request manually and maintaining it in folders and files. Student is allowed to log in /log out in their account for the leave apply by a unique id provided by admin department.. If the student leave is approved by HOD then only student get Email Notifications whether the Leave is accepted or not. Based on Department and Students Reports are generated.[2].

IndexTerms - **Email Notifications, Users, Roles, Modules, Reports.**

I. INTRODUCTION

Leave Management System is very convenient to implement, easy to understand and also easy on implementation. The need of designing such Software is to provide the Administration a better way for scheduling & balancing workload by maintaining leave details of the staff and students. It reduces the human efforts of checking the papers for leave request manually and maintaining it in folders and files.[1]. We have done this using servicenow platform. ServiceNow, Inc. (Service-now in 2011) is an American cloud computing company with its headquarters in Santa Clara, California. It was founded in 2004 by Fred Luddy. ServiceNow is listed on the New York Stock Exchange and is a constituent of the Russell 1000 Index.[3]. However, with changing technology and the advent of cloud, it created its niche as a cross-departmental platform which functions as an enterprise cloud solution which is built on top of all other applications. Its ability to create workflows which automate the process of data extraction makes it a unique offering in today's cloud space. ServiceNow has a raving customer base which returns to its platform each year. Let's now look at the different cloud deployment models and where ServiceNow fits in. The most popular forms of projects in these days is the generation of applications or apps, that can easily run on our mobile phones on any environment like android, windows or IOS. Now a days, the technology is improving drastically. It is being used in every sphere of life. None of the field is left untouched by the growing influence of these mobile applications. The hardware and software capabilities of phones have been improving fastly.. We are able to think that the current mobile phones are as strong as computers and even they are able to compete with computers. In our application Students can easily upload their leave applications online just on one click. The application will directly go to the concerned faculty and respective coordinators of student. This will eliminate the redundant paperwork. This will reduce the frauds in application[3][4]. Thus, a proper and fair distribution of attendance will be given to each and every student. A student thus will not be able to do unethical and wrong things. A proper section for attachments will be provided which will allow students to attach their medical and other documents. Application is quite helpful for maintaining records of students and helps in keeping an eye on the status of the records.[4]. In the existing system, leaves are maintained using the attendance register for staff. The staff needs to submit their leaves manually to their respective authorities. This increases the paperwork & maintaining the records becomes tedious. Maintaining notices in the records also increases the paperwork.

II. SERVICENOW ARCHITETURE:

2.1.SERVICENOW APPLICATIONS:

Applications are a collection of files and data that deliver a service and manage business processes. By default, the Now Platform offers a suite of standard applications such as Incident, Problem, and Change, to provide service management and service automation.

2.2. SERVICENOW PLATFORM:

The Content Management System (CMS) is a ServiceNow application that primarily enables users to create a custom interface for the ServiceNow platform and ServiceNow application. ServiceNow Connect is a real-time messaging platform that connects you to your coworkers, bypassing email and static documents.

2.3. CLOUD INFRASTRUCTURE:

ServiceNow is at its core a cloud-based platform company. In fact, its original ITSM applications ran on its own cloud platform, and as the applications matured, so too did the platform. The Enterprise Cloud thus affords ServiceNow a multifaceted business model.

2.4.EXISTING SYSTEM:

In existing system, the records are manually maintained by the administrative user. The attendance is carried out in the form of hand written registers. It is a difficult job to maintain the record for the user. The human effort is more. This system requires correct feed on input into the respective field. Suppose wrong inputs are entered, the application could get misunderstood and rejected. So the user finds it difficult to use.

The existing system is not user friendly because the retrieval of data is time consuming and data is not maintained efficiently. These systems need to be handle by a specialist for maintaining and updating the system which can again be very costly. It requires more calculations to generate the report so it is generated at the end of the session. All calculations to generate report is done manually so there is some greater chance of errors. The faculty has to suffer a lot through the calculation and if there is a loss of some report then it may cause lots of issues.

In the existing Leave Record Management System, every College/ Department follows manual procedure in which faculty enters information in a record book. At the end of each month/session, Administration Department calculates leaves of every member which is a time taking process and there are chances of losing data or errors in the records.

2.5.PROPOSED SYSTEM:

In proposed system chances of data losing is not possible because data is maintained in the form of database and digitalization of student's information. Every day leaves and notices information is updated in to database using a user friendly GUI. This application is an online application which makes more flexible to access information.
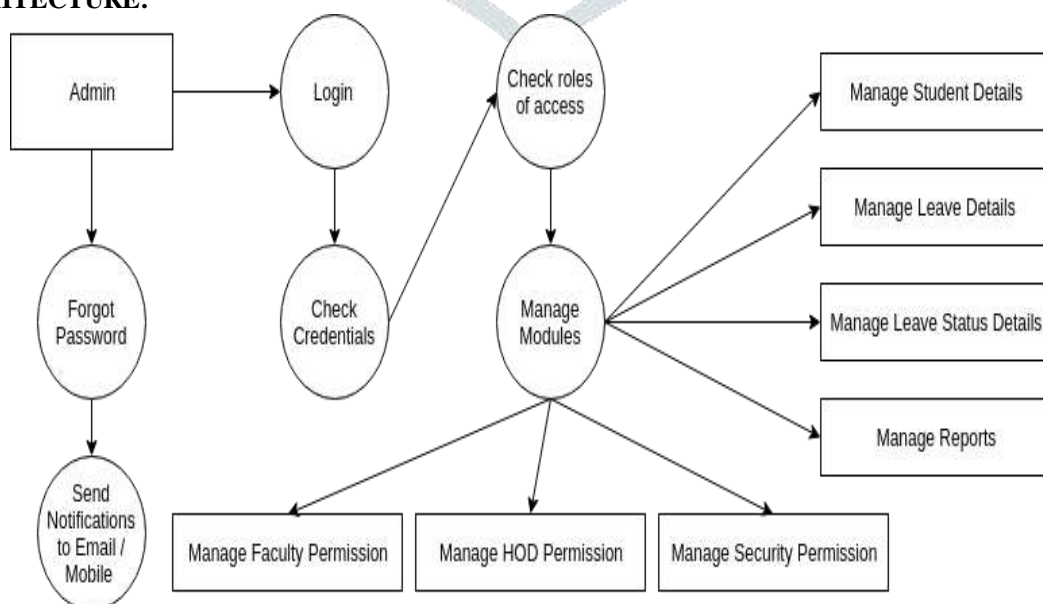
Thus this software also makes the workload less for the department and management class as well as make easy access to the information for the authorized persons. The proposed system automates the existing system. It decreases the paperwork and easier record maintenance by having a Database for leaves maintenance.

The Leave Management System reduces the over work and time duration. It provides a easy, maintained and systematic environment for the higher panel(HOD/Faculty) for the approval of leave. This is a systematic approach that follow a sequence for the leave approval, this will result low overhead of work.[4]

This application is mainly used to get rid of the yellow slip which is used by students and the management in our college. Everything from now goes online. And the data will always be safe in the database for the faster access.

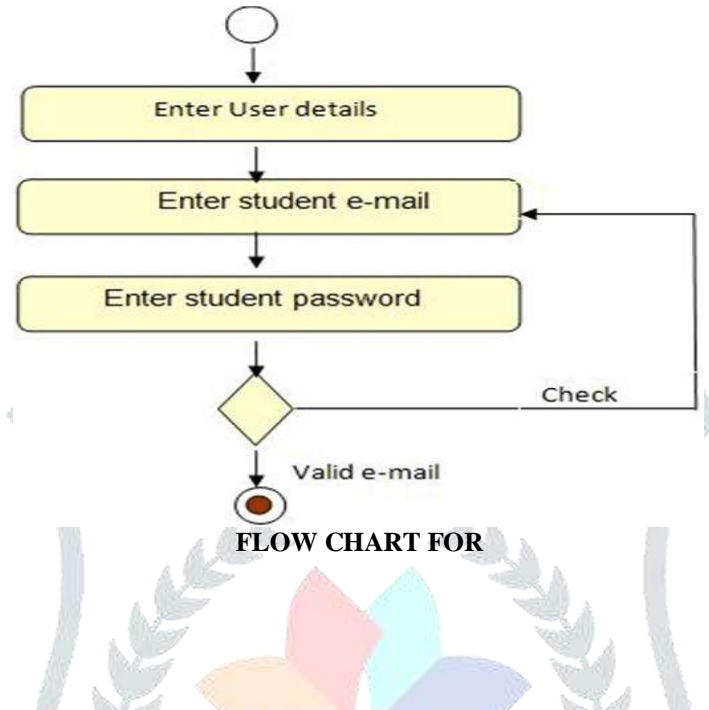**III. DESIGN:**

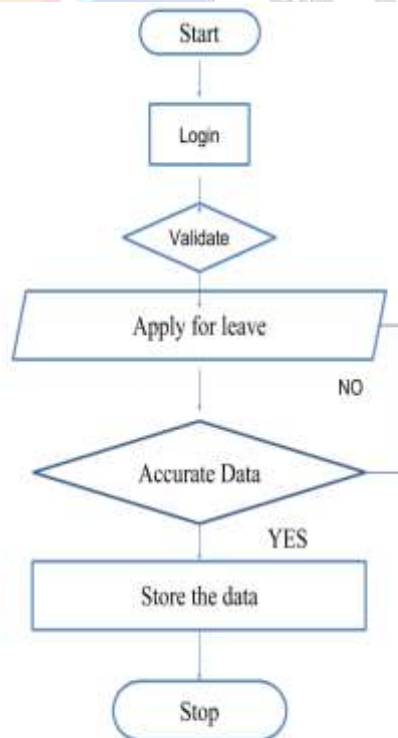IV. **3.1.ARCHITECTURE:**

Figure.1 Architecture of Application

This describes the complete application of BVRITH Student Leave Management. Each and every module is clearly depicted in the figure. The complete flow of the project.
Firstly it starts with the login of Student/Class teacher/HOD/Principal/Security. Then Student has an access to apply the leave and then that application goes to the respective coordinators.

.3.2.FLOW CHARTS:
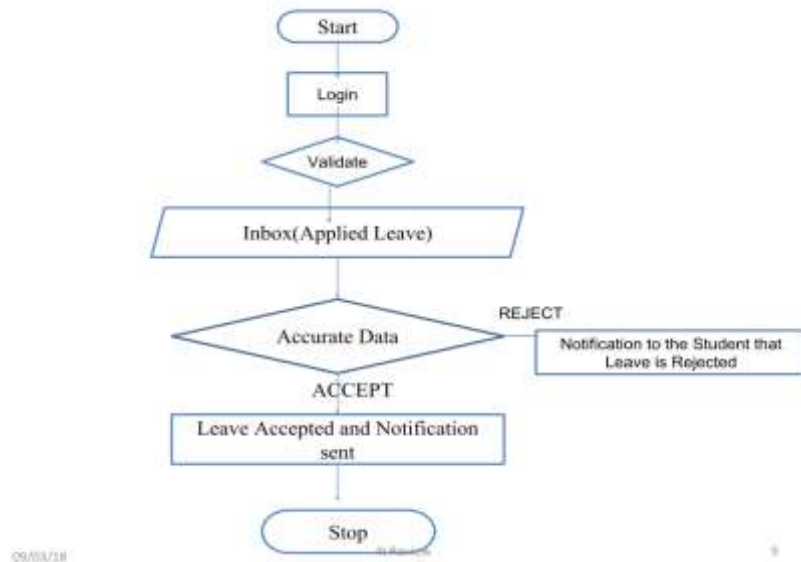
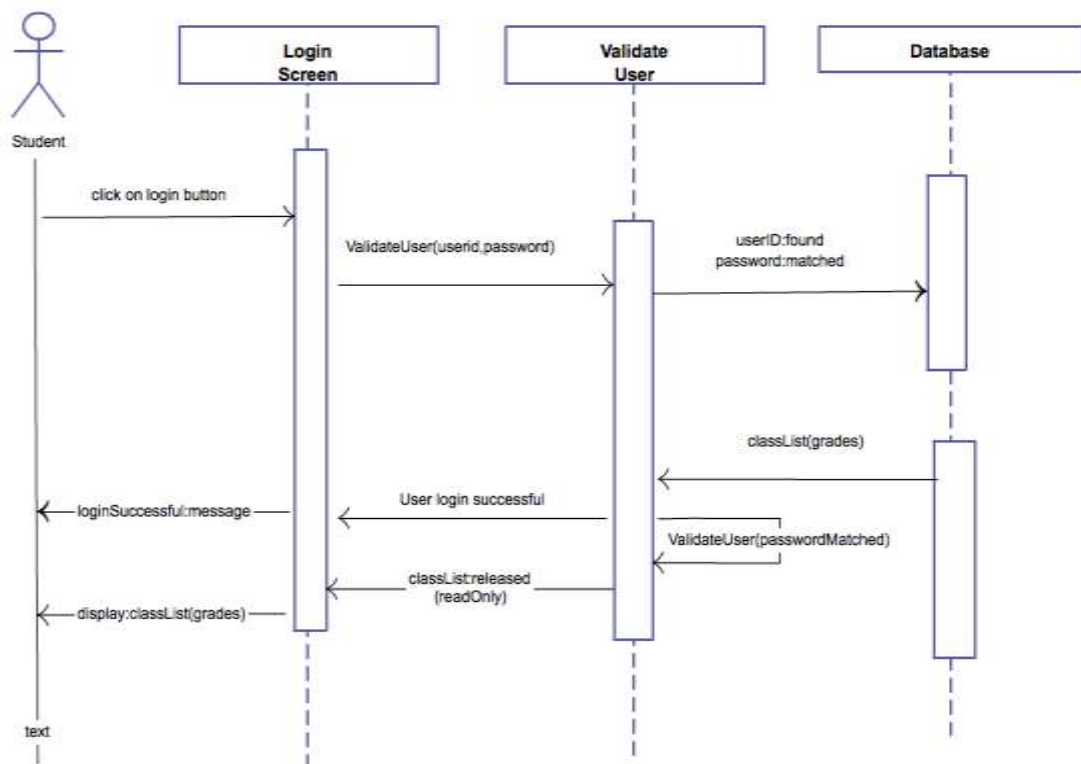**FLOW CHART FOR STUDENT LOGIN:**

FLOW CHART FOR

STUDENTS:

FLOW CHART FOR FACULTY:

SEQUENCE DIAGRAM:

V. MODULES

4.1. ADMIN MODULE:

The initial step which is handled by the admin module is to create a unique user account for each students in the organization. This module handles the administrative functions of the system and is used by the head of the department. Head of the department will enter the leave eligibility of each student. It will give the reports about Department wise and each student wise.[2]

4.2. STUDENT:

Student is allowed to log in /log out in their account for the leave apply by a unique id provided by admin department. In case of emergency student have to show some petition for the leave. Leave is then transferred to Class teacher and then to the HOD for the verification. If the leave is verified by both of them then it is approved. Student can see their leave record in a month or in semester.[2]

If the leave is approved by both of them then students will get a mail regarding the approval of leave. So as per the mail students behave accordingly.

In his module we created a user called Student and assigned the role to the student. We have provided the Apply Leave form only to the Student. We created a view for applying the leave a and assigned Student role to that.[3]

4.3. CLASS TEACHER:

This module is having the primary authority for the approval of the leaves applied by the students. The Class teacher will be the first one to see the leaves and will have the authority for either Accepting it and forwarding it to the next module for approval or reject it directly there itself.[1]

So class teacher will have the highest priority of accepting students leaves and sending them to HOD. And class teacher will be having an access to see the reports and complete data of the Students information.

4.4. HOD:

This module is having the power of leave verification of the students or staff. HOD is able to see the leave record of students and staff. HOD's can verify the leave on the basis of the leave availability of the student and in case of student attendance is the basic criteria. HOD is having authority of approval or disapproval of leave and remark on that. [4]

Among the entire modules HOD module is given more permission. He can view information of his particular departments information and take action based on the reports. He can view information like students leaves, attendance and notifications including reports from Class teacher.[2] He can print reports on daily or monthly basis.

In his module we created a user called HOD and assigned the role to the HOD. We have provided an inbox for them where the student leave records are visible. We created a view for HOD inbox and assigned HOD role to that.

4. 5. PRINCIPAL:

In this module Principal has the access to see the reports of the students and how many leaves from each department, section wise leave report and individual student report. That means principal will be having a view on complete data.[2]

In his module we created a user called Principal and assigned the role to the Principal. We created a view for Principal and assigned Principal role to that.
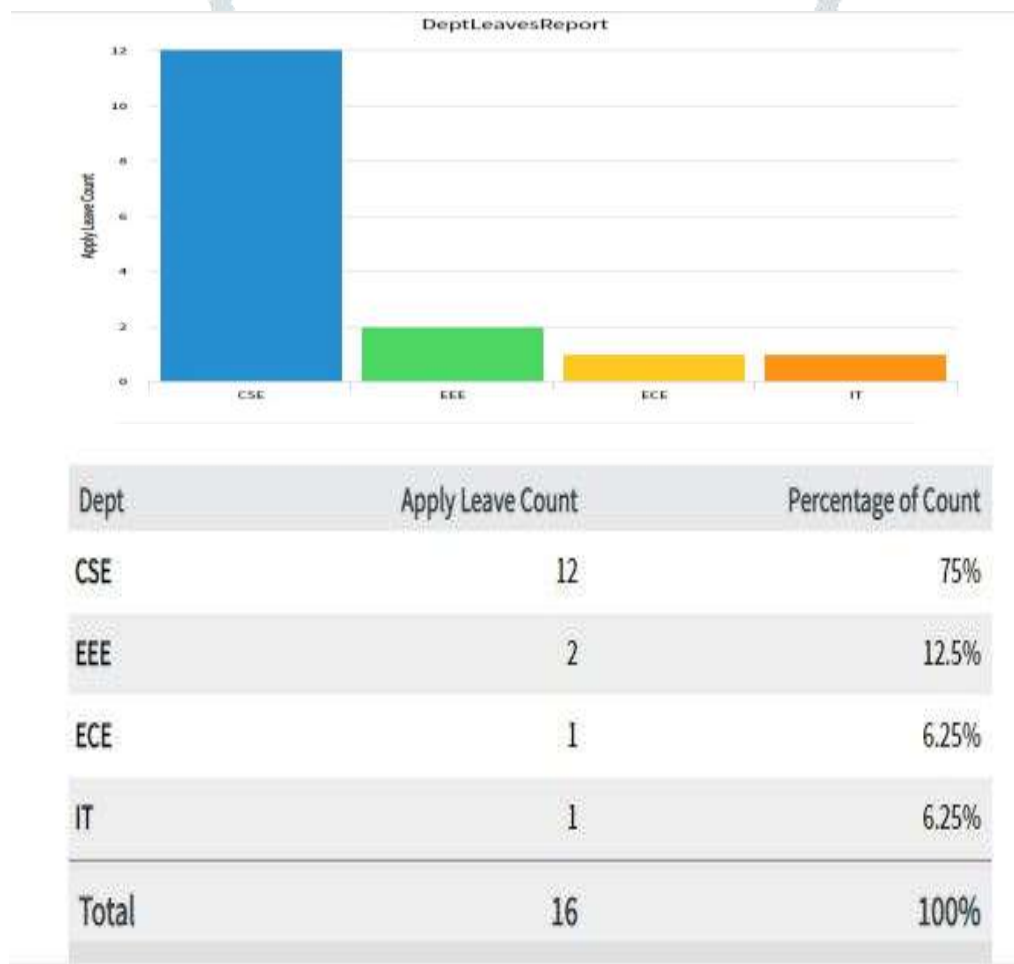
VI. OUTPUTS

Dept	Apply Leave Count	Percentage of Count
CSE	12	75%
EEE	2	12.5%
ECE	1	6.25%
IT	1	6.25%
Total	16	100%

Figure 2. Department wise report.

In this report it will give the information about each department how many students are applied and it will give the count of each department, And provide the information about each department percentage count.[5]

Leave_Report

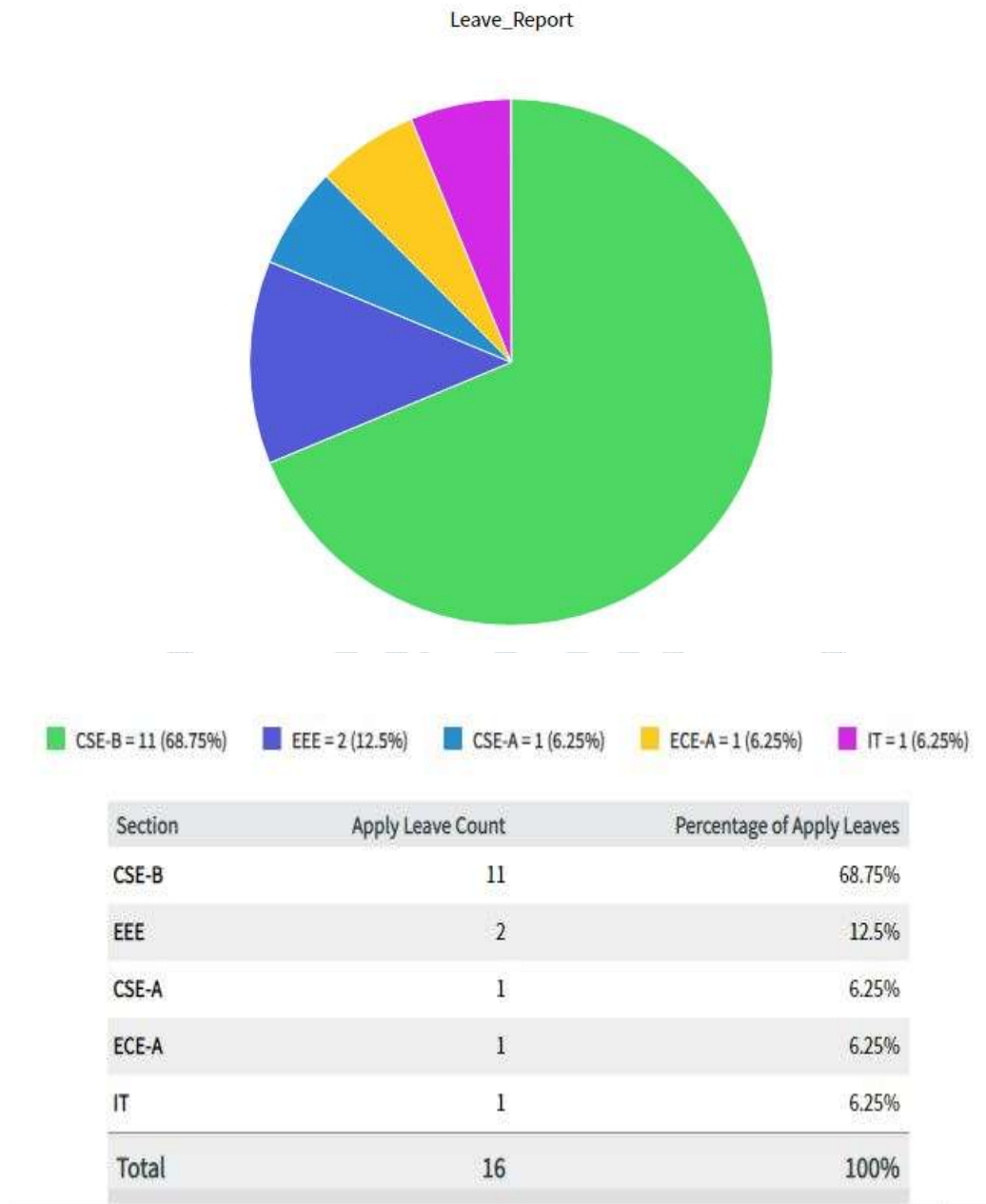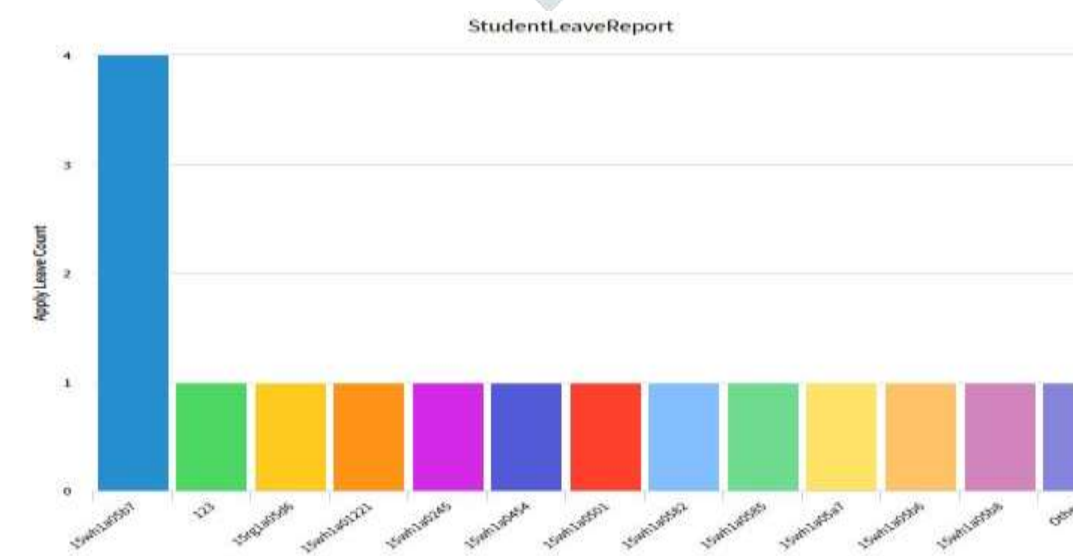| Section	Apply Leave Count	Percentage of Apply Leaves
CSE-B	11	68.75%
EEE	2	12.5%
CSE-A	1	6.25%
ECE-A	1	6.25%
IT	1	6.25%
Total	16	100%

Figure .3. Section wise report.

This is a pie chart of the data of leaves from each department and its respective section. And give the percentage of apply leaves.

Group by [Roll No ▼] Stacked by [-- None -- ▼]

Roll No	Apply Leave Count	Percentage of Count
15wh1a05b7	4	25%
123	1	6.25%
15rg1a05d6	1	6.25%
15wh1a01221	1	6.25%
15wh1a0245	1	6.25%
15wh1a0454	1	6.25%
15wh1a0501	1	6.25%
15wh1a0582	1	6.25%
15wh1a0585	1	6.25%
15wh1a05a7	1	6.25%
15wh1a05b6	1	6.25%
15wh1a05b8	1	6.25%
Other	1	6.25%

Figure.4 Student wise report.

This report gives the analysis of each student individually. It gives their leave count till now and their count of leave percentage.

BVRITH Student Leave of 15wh1a05b7 ⋙ Inbox ×

IT Service Desk <dev66715@servicenowdevelopers.com>
to me, admin

Roll No: 15wh1a05b7, M.Pooja,

of your CSE-B, has applied Leave.

Class Teacher Inbox

Regards

15wh1a05b7

Figure.5 Email Notification.[6]

VII. CONCLUSION

In the existing Leave Record Management System, every College/ Department follows manual procedure in which faculty enters information in a record book. At the end of each month/session, Administration Department calculates leaves of every member which is a time taking process and there are chances of losing data or errors in the records. Now Leave Management System is automated through service now Platform. Different Roles are assigned to users like Admin, Student, Class Teacher etc. It will automate the process of approvals at various stages in Leave Management System. The application is available in open source repository Github [7]. The Application can be extended for Faculty who want to avail Leave.

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