

A
Project Report
On
JSM CONTROL
Submitted in partial fulfillment for the award of degree of
Bachelor of Technology
In
Computer Science & Engineering



Submitted By

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21BCON114

Project Guide

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JECRC University
Jaipur, Rajasthan
2023-24

TABLE OF CONTENTS

Candidates Declaration-----	3
Bonafide Certificate-----	4
Vision and Mission-----	5
Program Outcomes (POs)-----	6-7
Program Education Objectives (PEOs) -----	8
Program Specific Outcomes (PSOs)-----	8
Course Outcomes (COs)-----	9
Mapping: COs and POs-----	9
Acknowledgement-----	10
Abstract-----	11
List of Figures-----	12
List of Tables-----	13
1.INTRODUCTION-----	14
1.1 Purpose -----	15
1.2 Project Scope-----	16
2. REQUIREMENT ANALYSIS-----	16
2.1 Hardware Requirement-----	16
2.2 Software Requirement -----	16
2.3 Functional Requirement-----	17
2.4 Non Functional Requirements -----	18
3. SYSTEM DESIGN-----	19
3.1 DFD -----	22
3.2 Sequence Diagram/Activity Diagram-----	25
3.3 Use case Diagram -----	27
3.4 Control FlowDiagram-----	24
4. SOURCE CODE-----	25
5.SCREEN SHOTS-----	32
6. TESTING -----	37
7. FUTURE SCOPE OF PROJECT-----	40
8.CONCLUSION-----	42
9. REFERENCES-----	43



CANDIDATE'S DECLARATION

We, hereby declare that the work presented in this project entitled "**JSM Control**" in the partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Computer Science & Engineering at JECRC University, Jaipur is an authentic work of our own.

We have not submitted the matter embodied in this project work anywhere for the award of degree of Bachelor of Technology in Computer Science & Engineering.

Student Name-Tanisha Khandelwal

Univ. Roll No.-21BCON114

Date:15 MAY,2024

Place:Jaipur

BONAFIDE CERTIFICATE

This is to certify that the project entitled "**JSM CONTROL**" is the bonafide work carried out by Rashi Khanna, Tanisha Khandelwal, Ritika Rajpoot, Parth Upadhyay students of B.Tech. in Computer Science & Engineering at JECRC University, during the year 2023-24 in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Computer Science & Engineering and the project has not formed the basis for the award previously of any degree, diploma, fellowship or any other similar title.

Name of Guide : Ms. Laxmi Poonia

Place:Jaipur

Date: 15 may,2024

VISION OF CSE DEPARTMENT

To become renowned Centre of excellence in computer science and engineering and make competent engineers and professionals with high ethical values prepared for lifelong learning.

MISSION OF CSE DEPARTMENT

1. To impart outcome based education for emerging technologies in the field of computer science and engineering.
2. To provide opportunities for interaction between academia and industry.
3. To provide platform for lifelong learning by accepting the change in technologies.
4. To develop aptitude of fulfilling social responsibilities

PROGRAM OUTCOMES (POs)

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with

society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

The PEOs of the B.Tech (CSE) program are:

PEO1: To provide students with the fundamentals of Engineering Sciences with more emphasis in computer science and engineering by way of analyzing and exploiting engineering challenges.

PEO2: To train students with good scientific and engineering knowledge so as to comprehend, analyze, design, and create novel products and solutions for the real life problems.

PEO3: To inculcate professional and ethical attitude, effective communication skills, teamwork skills, multidisciplinary approach, entrepreneurial thinking and an ability to relate engineering issues with social issues.

PEO4: To provide students with an academic environment aware of excellence, leadership, written ethical codes and guidelines, and the self-motivated life-long learning needed for a successful professional career.

PEO5: To prepare students to excel in Industry and Higher education by educating Students along with High moral values and Knowledge.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Ability to interpret and analyze network specific and cyber security issues in real world environment.

PSO2: Ability to design and develop Mobile and Web-based applications under realistic constraints.

COURSE OUTCOMES (COs)

On completion of project Graduates will be able to-

- CO1: Gather, organize, summarize and interpret technical literature with the purpose of formulating a project proposal.
- CO2: Design/Develop the solution using latest technologies and communicate via modern tools.
- CO3 Understand and develop the professional, social ethics, and team management principles.

MAPPING: CO's & PO's

Subject	Code	L / T / P	CO	P	P	P	P	P	P	P	P	P	P	P
				O	O	O	O	O	O	O	O	O	O	O
			1	2	3	4	5	6	7	8	9	1	1	1
Project	8CS7-50	P	Graduates will be able to: gather, organize, summarize and interpret technical literature with the purpose of formulating a project proposal.	3	3	3	2	2	2	1	2	1	2	2
		P	Graduates will be able to: Design/Develop the solution using latest technologies and communicate via modern tools.	3	3	3	2	2	2	1	2	2	2	2
		P	Graduates will be able to: Understand and develop the professional, social ethics, and team management principles.	3	3	3	2	2	2	1	2	2	2	2

ACKNOWLEDGEMENT

We wish to express our deep sense of gratitude to our Project Guide **Ms. Laxmi Poonia**, JECRC University, Jaipur for guiding us from the inception till the completion of the project. We sincerely acknowledge him for giving his valuable guidance, support for literature survey, critical reviews and comments for our Project.

We would like to first of all express our thanks to **Mr. Arpit Agrawal** Director of JECRC, for providing us such a great infrastructure and environment for our overall development.

Words are inadequate in offering our thanks to **Mr. Kamlesh Lakhwani Sir and Ms. Bhavna Sharma Ma'am**, HOD of CSE department, for consistent encouragement and support for shaping our project in the presentable form.

We also like to express our thanks to all supporting CSE faculty members who have been a constant source of encouragement for successful completion of the project.

Also, our warm thanks to **JECRC University**, who provided us this opportunity to carryout, this prestigious Project and enhance our learning in various technical fields.

**Student Name-Tanisha Khandelwal
Univ. Roll No.-21BCON114**

ABSTRACT

Universities are complex ecosystems comprising academic departments, administrative offices, student services, and more. Coordinating these entities efficiently is crucial for delivering a seamless educational experience and optimizing institutional performance.

So to help the students we are making a QR code that will link you to a website that can streamlines the course selection process by providing comprehensive course catalogs, feestructure ,information about faculty like what are there teaching subjects, there sitting, there mail id and phone no and there photo, and registration assistance.

List of Figures

1. Level 0 DFD	21
2. Level 1 DFD	21
3. Level 2 DFD	22
4. Sequence Diagram	22
5. Use case diagram	23
6. Control flow diagram	24

List of Tables

1. Hardware Requirement	17
2. Software Requirement	17

1.INTRODUCTION

In today's dynamic educational landscape, universities face complex challenges in managing diverse operations ranging from academic planning to administrative tasks. Universities are complex ecosystems comprising academic departments, administrative offices, student services, and more.

Coordinating these entities efficiently is crucial for delivering a seamless educational experience and optimizing institutional performance.

So to help the students we are making a **QR code that will link you to a website or a website** that can streamlines the course selection process by providing comprehensive course catalogs, feestructure ,information about faculty like what are there teaching subjects, there sitting, there mail id and phone no and there photo, and registration assistance.

What is a JSM Control System?

An JSM Control system is a Website of an ERP system that integrates core business processes and functions into a centralized platform, enabling seamless data flow and real-time information access across departments. For universities, an ERP system serves as a comprehensive solution to manage academic, administrative, and financial processes efficiently.

1.1PURPOSE:

The purpose of an JSM CONTROL is multifaceted, as it serves to address various needs and challenges faced by organizations:

- 1. Academic Management:** Facilitating course planning, scheduling, and student enrollment processes. It ensures academic programs align with institutional goals while providing students with a seamless registration experience.
- 2. Faculty Information:** Students don't need to search for faculty's or HOD's cabin or their email id, as with this website they will get all the information here collectively.
- 3. Financial Management:** Enables Students to check detailed fee structure before admission . It ensures fiscal transparency, compliance with regulations, and optimal resource allocation across departments.
- 4. Human Resource Management:** Automates payroll processing, employee onboarding, performance evaluation, and workforce planning. It enhances HR efficiency while fostering a conducive work environment for faculty and staff.
- 5. Analytics and Reporting:** Provides actionable insights through advanced analytics and reporting tools. It enables data-driven decision-making, performance monitoring, and strategic planning at both departmental and institutional levels.

1.2PROJECT SCOPE

In-Scope Components

- List the modules or functionalities that will be included in the ERP system implementation.

- Specify the core business processes that will be addressed by the ERP system, such as finance, human resources, inventory management, etc.
- Define any customizations or configurations required to meet organizational needs.

4. Out-of-Scope Components

- Identify any modules or functionalities that will not be included in the initial implementation phase.
- Clarify limitations or constraints, such as budgetary constraints, time constraints, or technical limitations, that may impact the scope of the project.

2.REQUIREMENT ANALYSIS

2.1 Hardware Requirement:

NAME OF COMPONENTS	SPECIFICATIONS
1.Processor	Intel Quad-Core
2.Hard Disk	1 TB
3.RAM	8gb
4.Monitor	LED IPS

Table1

2.2 Software Requirement:

NAME OF COMPONENTS	SPECIFICATIONS
1. OS	WINDOWS 11, WINDOWS 10
2. Languages	HTML,CSS,JS,python
3. Browser	Google Chrome
4.SDK	Microsoft VS Code
5.Scripting Language Enable	JavaScript
8. UI/UX	Figma

Table 2

2.3 Functional Requirements:

1. User Management

- User Authentication
- User Roles and Permissions
- User Profile Management

2. Core Business Processes

- Finance and Accounting
- Human Resources
- Supply Chain Management
- Customer Relationship Management (CRM)

3. Integration and Data Management

- Data Integration
- Data Migration
- Data Quality Management

4. Reporting and Analytics

- Standard Reports
- Ad Hoc Reporting
- Business Intelligence (BI)

5. Workflow Automation

- Alerts and Notifications

6. Mobility and Accessibility

- Mobile Access
- Offline Capability
- Cross-Platform Compatibility

8. Security and Compliance

- Data Security
- Role-Based Access Control (RBAC)

9. Scalability and Performance

- Scalability

- Performance Optimization

10. Support and Maintenance

- Technical Support
- Software Updates.

2.4 Non-Functional Requirements

1. Performance

2. Reliability

3. Security.

4. Usability

5. Compatibility

6. Compliance

7. Maintainability

3 SYSTEM DESIGN

CollegeERP

Welcome Trisila

Attendance

Marks

TimeTable

Reports

Enter Attendance

Enter Marks

View TimeTable

Generate Reports

Type here to search

127.0.0.1:8000/info/teacher/6/marks.list/

CollegeERP

Attendance

Name	Status	Action
Internal test 1	Marked	Edit Marks
Internal test 2	Marked	Edit Marks
Internal test 3	Marked	Edit Marks
Event 1	Marked	Edit Marks
Event 2	Marked	Edit Marks
Semester End Exam	Not Marked	Enter Marks

Logout

7:35 PM 11/15/2018

7:36 PM 11/15/2018

3.1DFD(DATA FLOW DIAGRAM)

- Level 0 DFD

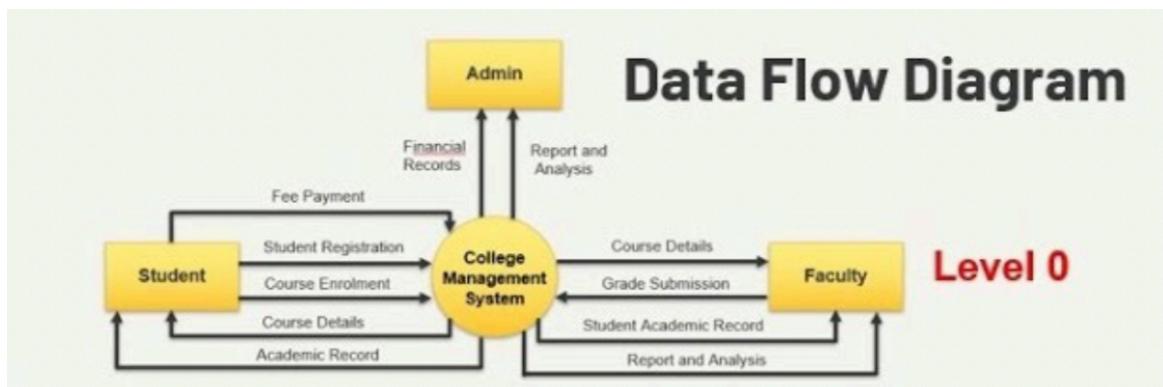


FIG 1

- Level 1 DFD

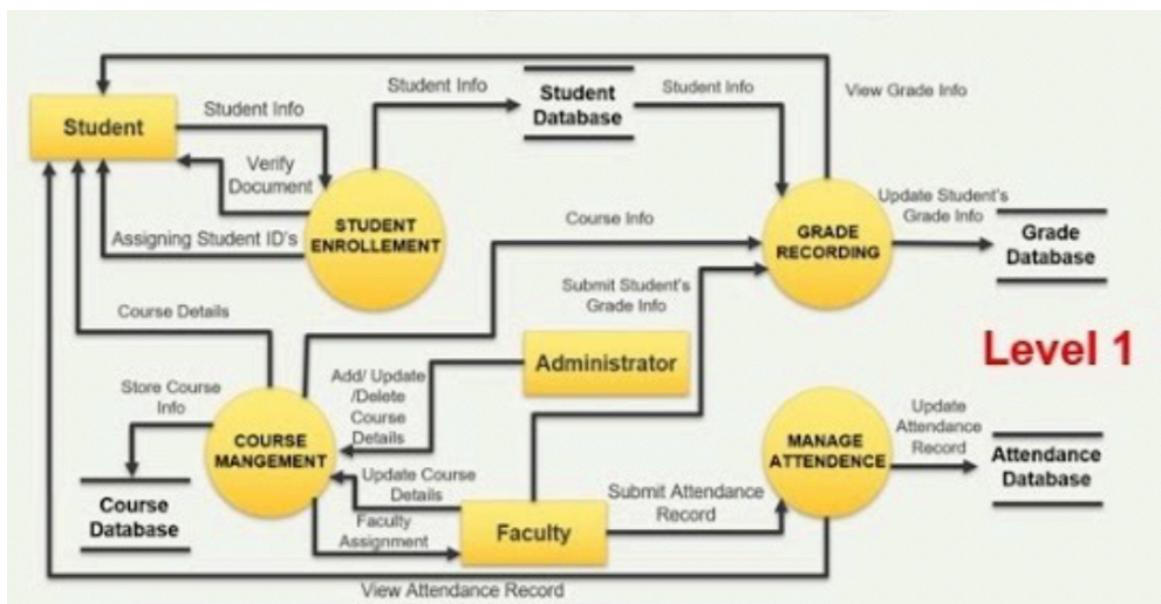


FIG 2

- Level 2 DFD

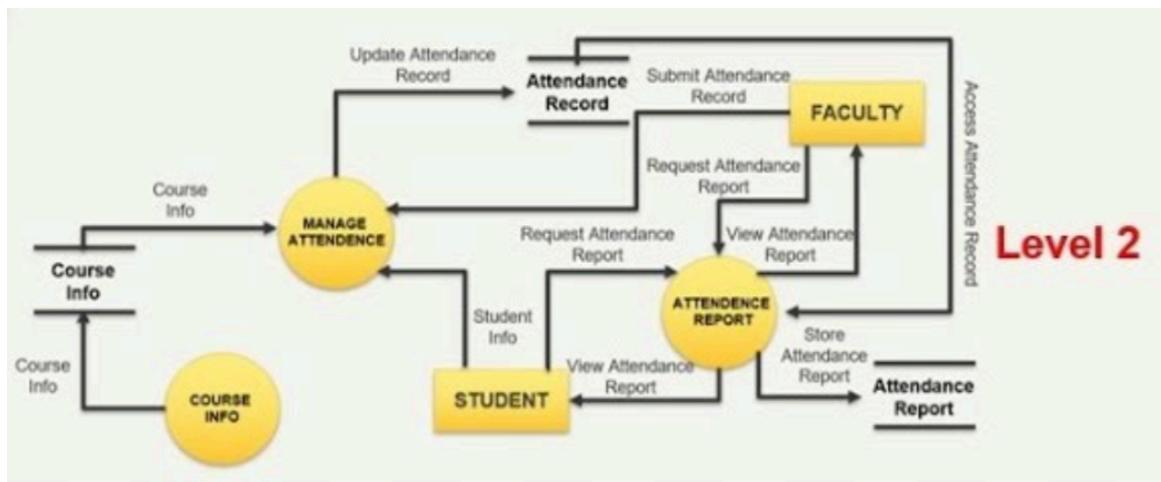


FIG 3

3.2 Sequence Diagram

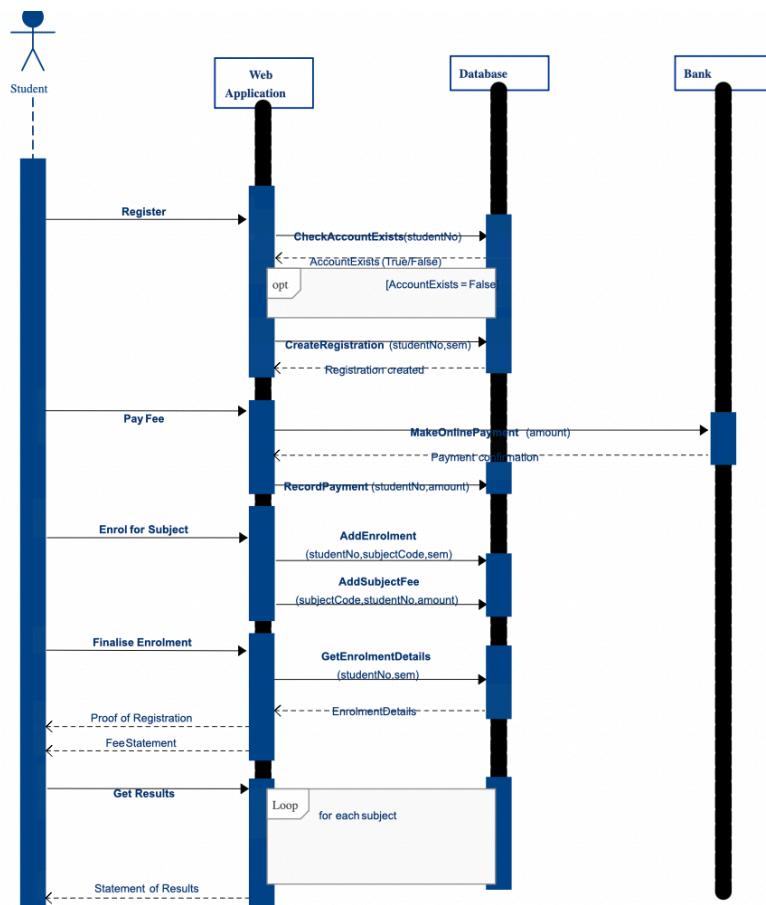


FIG 4

3.3 USE CASE DIAGRAM

A use case diagram is a graphical representation of the interactions between actors (users or external systems) and a system under consideration. It illustrates the various ways in which users interact with the system to accomplish specific tasks or achieve certain goals. Use case diagrams are part of the Unified Modeling Language (UML) and are commonly used in software engineering to capture and communicate system requirements.

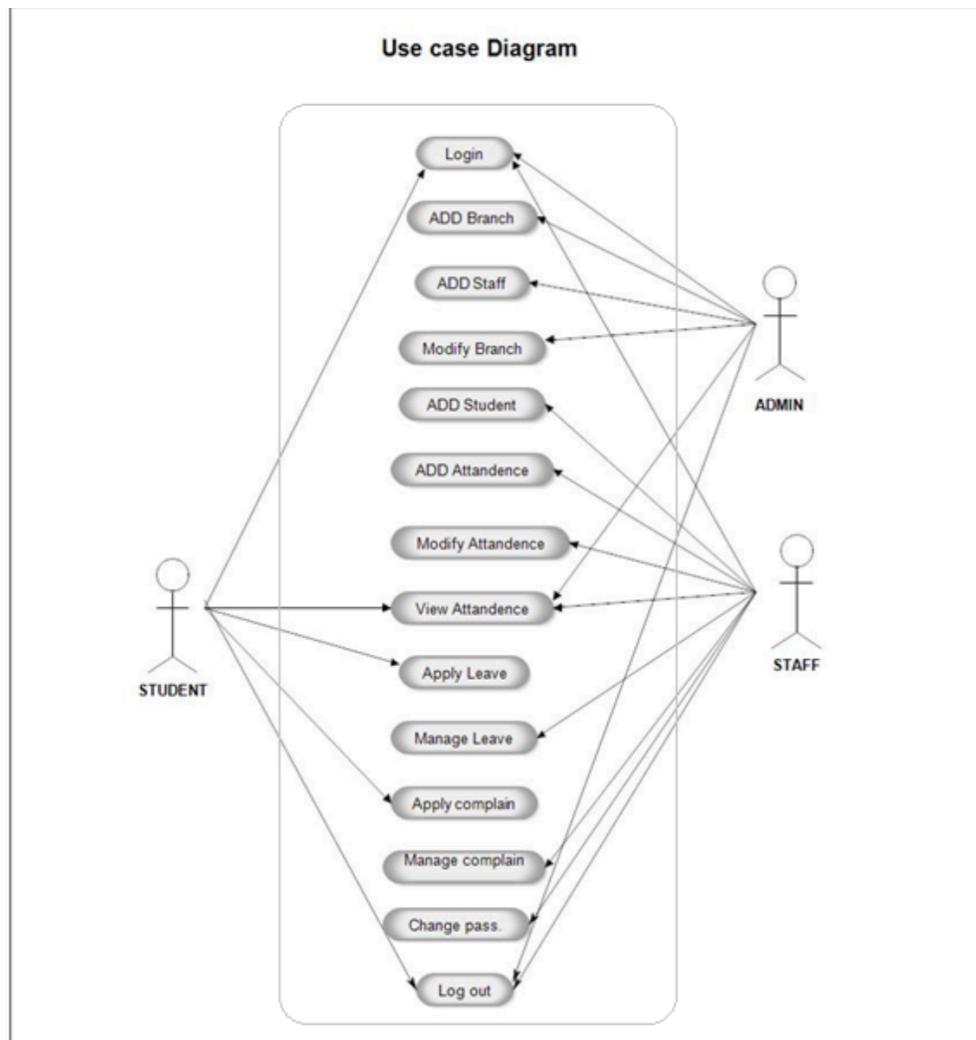


FIG 5

3.4 CONTROL FLOW DIAGRAM

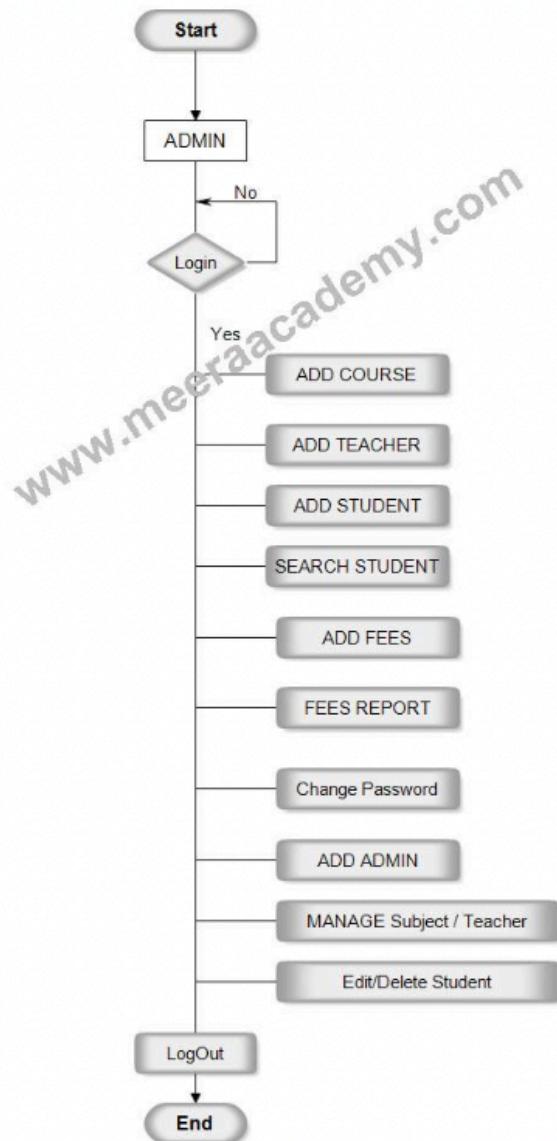


FIG 6

4 SOURCE CODE

JSM CONTROL

A college management system built using Django framework. It is designed for interactions between students and teachers. Features include attendance, marks and time table.

Installation

Python and Django need to be installed

```
pip install django
```

Usage

Go to the College-ERP folder and run

```
python manage.py runserver
```

Then go to the browser and enter the url [http://
127.0.0.1:8000/](http://127.0.0.1:8000/)

Login

The login page is common for students and teachers. The username is their name and password for everyone is 'project123'.

Example usernames:
student- 'samarth'
teacher- 'trisila'

You can access the django admin page at <http://127.0.0.1:8000/admin> and login with username 'admin' and the above password.

Also a new admin user can be created using

```
python manage.py createsuperuser
```

Users

New students and teachers can be added through the admin page. A new user needs to be created for each.

The admin page is used to modify all tables such as Students, Teachers, Departments, Courses, Classes etc.

For more details regarding the system and features please refer the reports included.

```
from rest_framework import serializers

from info.models import *

class DetailSerializer(serializers.ModelSerializer):
    class Meta:
        model = Student
        fields = '__all__'

class AttendanceSerializer(serializers.ModelSerializer):
    class Meta:
        model = AttendanceTotal
        fields = '__all__'

class MarksSerializer(serializers.ModelSerializer):
    class Meta:
        model = Marks
        fields = '__all__'
```

```

class TimeTableSerializer(serializers.ModelSerializer):
    class Meta:
        model = AssignTime
        fields = '__all__'
from django.test import TestCase

# Create your tests here.
from django.urls import path, include
import apis.views as api_view
from django.contrib import admin

urlpatterns = [
    path('details/', api_view.DetailView.as_view()),
    path('attendance/', api_view.AttendanceView.as_view()),
    path('marks/', api_view.MarksView.as_view()),
    path('timetable/', api_view.TimetableView.as_view()),
]
from django.shortcuts import render
from info.models import *
from rest_framework.response import Response
from rest_framework.views import APIView
from rest_framework.authtoken.models import Token
from rest_framework.permissions import IsAuthenticated,
AllowAny
from rest_framework.pagination import PageNumberPagination
from itertools import chain
from rest_framework import serializers, status
from rest_framework.generics import ListAPIView
from django.db.models.signals import post_save
from rest_framework.generics import get_object_or_404
from rest_framework import generics
from rest_framework import mixins
from rest_framework import status
from django.db import Sum, Count
from django.conf import settings
import apis.serializers as api_ser

class DetailView(APIView):
    """
    Returns user's info.
    """
    permission_classes = [IsAuthenticated, ]

    def get(self, request):
        try:

```

```

        # fetching token sent in request header by the
user.
        us = Token.objects.filter(user=request.user)
        if(us):          # checking for authentication
using token authentication.

                # getting user from in-built user model
class.
                user =
User.objects.filter(auth_token=us[0]).first()
                # getting student from student model by
filtering based on user that we got.
                details = Student.objects.get(user=user)
serializer = api_ser.DetailSerializer(
                    details, context={'request': request})
# Serializing the data into Json format.
                return Response({'data': serializer.data, },
status=status.HTTP_200_OK)
            else:
                return Response({'message': 'User not
authenticated'}, status=status.HTTP_400_BAD_REQUEST)
        except Exception as e:
            return Response(str(e),
status=status.HTTP_400_BAD_REQUEST)

```

```

class AttendanceView(APIView):
    """
    This view is used to return user's attendance
    that is to check user's attendance.
    """
    permission_classes = [IsAuthenticated, ]

    def get(self, request):
        try:
            token =
Token.objects.filter(user=request.user).first()
            if(token): # checking for authentication using
token authentication.
                # getting user from in-built user model
class.
                user = User.objects.get(auth_token=token)
                # getting student from student model by
filtering based on user that we got.
                stud = Student.objects.get(user=user)
                # using ass_list and att_list we get the
classes assigned to that user
                ass_list =
Assign.objects.filter(class_id_id=stud.class_id)

```

```

        # and respectively their attendance
        att_list = []
        for ass in ass_list:
            try:
                a = AttendanceTotal.objects.get(
                    student=stud, course=ass.course)
            except AttendanceTotal.DoesNotExist:
                a = AttendanceTotal(student=stud,
course=ass.course)
                a.save()
            att_list.append(a)
        serializer = api_ser.AttendanceSerializer(
            att_list, many=True, context={'request': request})      # Serializing the data into Json format.
        return Response({'user_attendance':
serializer.data, }, status=status.HTTP_200_OK)
    else:
        # returning not authenticated message when
        user isn't authenticated with status code 400.
        return Response({'message': 'User not
authenticated'}, status=status.HTTP_400_BAD_REQUEST)
    except Exception as e:
        return Response(str(e),
status=status.HTTP_400_BAD_REQUEST)

```

```

class MarksView(APIView):
    """
    This view is used to return user's marks
    that is to check user's marks in different subjects as
    given by the teacher.
    """
    permission_classes = [IsAuthenticated, ]

    def get(self, request):
        try:
            token =
Token.objects.filter(user=request.user).first()
            if(token): # checking for authentication using
token authentication.
                user = User.objects.get(auth_token=token)
                stud = Student.objects.get(user=user)

                # using ass_list and sc_list we retrieve all
the subjects assigned
                ass_list =
Assign.objects.filter(class_id_id=stud.class_id)
                # and then their respective marks. Store
them in a dictionary and return it to the user.

```

```

        sc_list = []
        for ass in ass_list:
            sc = StudentCourse.objects.get(
                student=stud, course=ass.course)
            sc_list.append(sc)
        sc_total = {}
        for sc in sc_list:
            for m in sc.marks_set.all():

sc_total[m.studentcourse.course.name] = m.marks1
    return Response({'user_marks': sc_total, },
status=status.HTTP_200_OK)
else:
    return Response({'message': 'User not
authenticated'}, status=status.HTTP_400_BAD_REQUEST)
except Exception as e:
    return Response(str(e),
status=status.HTTP_400_BAD_REQUEST)

class TimetableView(APIView):
    """
    This view is used to check user's class timetable
    It returns the respective class' timetable to which the
    user is assigned.
    """

    permission_classes = [IsAuthenticated, ]

    def get(self, request):
        try:
            token =
Token.objects.filter(user=request.user).first()
            if(token): # checking for authentication using
token authentication.
                user = User.objects.get(auth_token=token)
                stud = Student.objects.get(user=user)
                asst = AssignTime.objects.filter(
                    assign_class_id=stud.class_id)
                serializer = api_ser.TimeTableSerializer(
                    asst, many=True, context={'request':
request}) # Serializing the data into Json format.
                return Response({'user_marks':
serializer.data, }, status=status.HTTP_200_OK)
            else:
                return Response({'message': 'User not
authenticated'}, status=status.HTTP_400_BAD_REQUEST)
        except Exception as e:

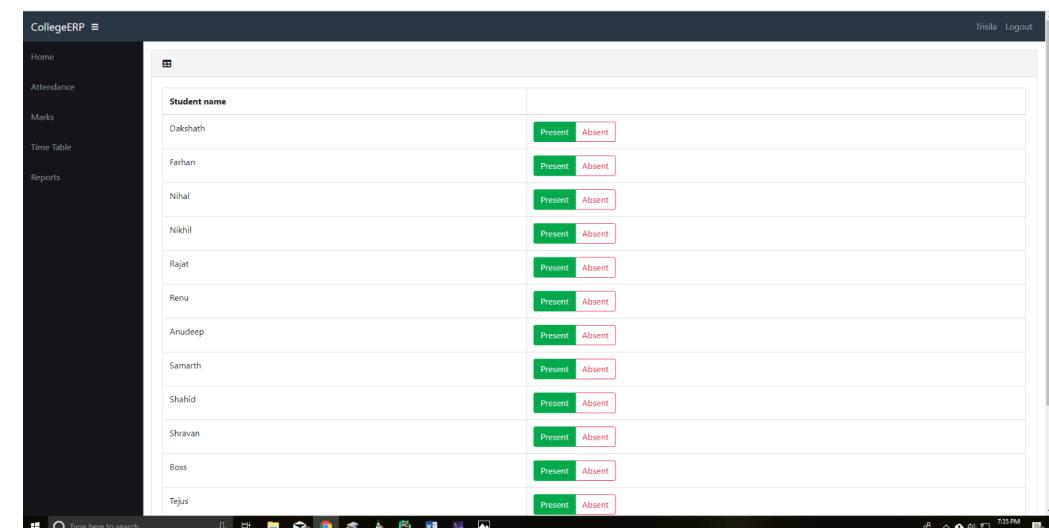
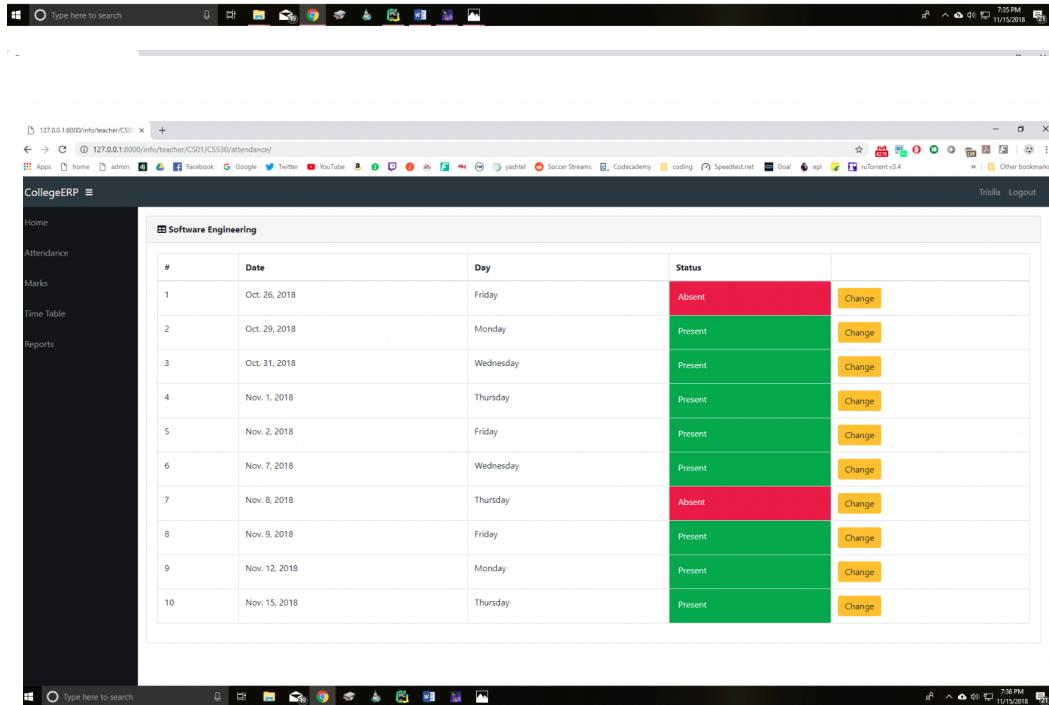
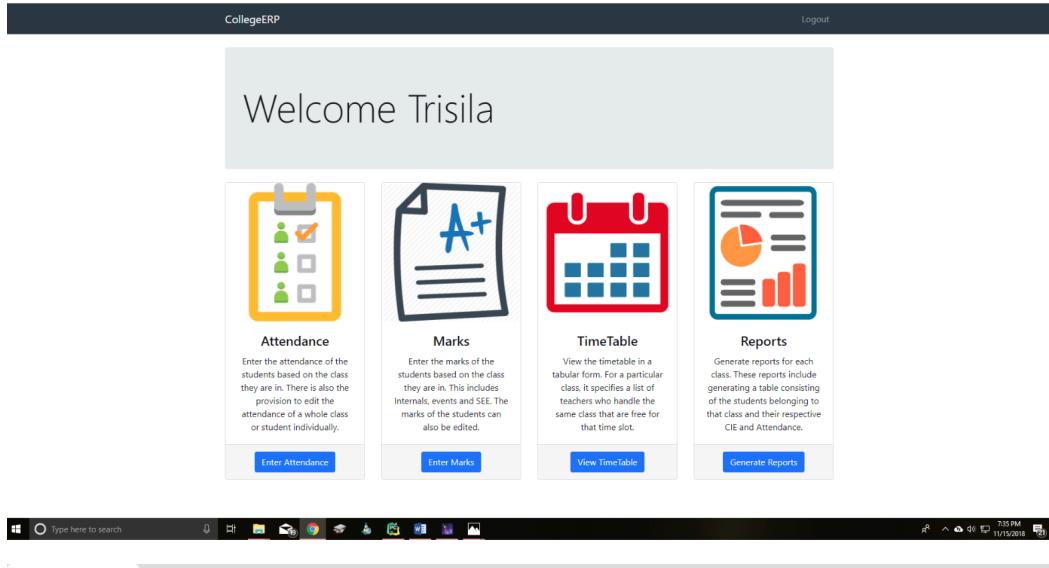
```

```
        return Response(str(e),
status=status.HTTP_400_BAD_REQUEST)
#!/usr/bin/env python
import os
import sys

if __name__ == '__main__':
    os.environ.setdefault('DJANGO_SETTINGS_MODULE',
'CollegeERP.settings')
    try:
        from django.core.management import
execute_from_command_line
    except ImportError as exc:
        raise ImportError(
            "Couldn't import Django. Are you sure it's
installed and "
            "available on your PYTHONPATH environment
variable? Did you "
            "forget to activate a virtual environment?")
    ) from exc
execute_from_command_line(sys.argv)
```

5 SCREEN SHOTS OF EXECUTION OF CODE

Teacher portal



CollegeERP

Attendance

Attendance

USN	Student name	Attended classes	Total classes	Attendance %	Classes to attend
CS01	Dakshath	8	10	80.0	0
CS02	Farhan	10	10	100.0	0
CS03	Nihal	7	10	70.0	2
CS04	Nikhil	8	10	80.0	0
CS05	Rajat	10	10	100.0	0
CS06	Renu	10	10	100.0	0
CS07	Anudeep	8	10	80.0	0
CS08	Samarth	8	10	80.0	0
CS09	Shahid	10	10	100.0	0
CS10	Shravan	7	10	70.0	2
CS11	Boss	10	10	100.0	0
CS12	Tejus	9	10	90.0	0
CS13	Vijeth	8	10	80.0	0

CollegeERP

Attendance

Attendance

Name	Status	Action
Internal test 1	Marked	Edit Marks
Internal test 2	Marked	Edit Marks
Internal test 3	Marked	Edit Marks
Event 1	Marked	Edit Marks
Event 2	Marked	Edit Marks
Semester End Exam	Not Marked	Enter Marks

CollegeERP

Attendance

Attendance

Student Name	Total Marks	Action
Dakshath	20	20
Farhan	20	15
Nihal	20	12
Nikhil	20	19
Rajat	20	14
Renu	20	12
Anudeep	20	15
Samarth	20	9
Shahid	20	8
Shravan	20	7
Boss	20	15
Tejus	20	14
Vijeth	20	12

Screenshot of a web browser showing the CollegeERP system. The URL is 127.0.0.1:8000/info/teacher/C50/t_timetable/. The page displays a weekly timetable for a student named Samarth. The timetable shows classes from Monday to Saturday across various time slots (7:30 - 8:30, 8:30 - 9:30, 9:30 - 10:30, Break, 11:00 - 11:50, 11:50 - 12:40, 12:40 - 1:30, Lunch, 2:30 - 3:30, 3:30 - 4:30, 4:30 - 5:30). Courses listed include CSSA SE, CSSB DBMS, and CSSA SE.

Student Portal

Screenshot of a web browser showing the Student Portal. The URL is 127.0.0.1:8000/info/student/C50/. The page displays a welcome message "Welcome Samarth". Below the message are three cards: "Attendance" (View Attendance), "Marks" (View Marks), and "TimeTable" (View TimeTable).

Screenshot of a web browser showing the Student Portal. The URL is 127.0.0.1:8000/info/student/C50/attendance/. The page displays a table of attendance data for various courses. The table includes columns for Course ID, Course name, Attended classes, Total classes, Attendance %, and Classes to attend.

Course ID	Course name	Attended classes	Total classes	Attendance %	Classes to attend
CS510	Database Management System	4	6	66.67	2
CS520	UNIX	0	0	0	0
CS530	Software Engineering	8	10	80.0	0
CS540	Computer Networks	0	0	0	0
CS550	Language Processor	0	0	0	0
MAS10	Linear Algebra	0	0	0	0

CollegeERP

Software Engineering

#	Date	Day	Status
1	Oct. 26, 2018	Friday	Present
2	Oct. 29, 2018	Monday	Absent
3	Oct. 31, 2018	Wednesday	Present
4	Nov. 1, 2018	Thursday	Present
5	Nov. 2, 2018	Friday	Present
6	Nov. 7, 2018	Wednesday	Present
7	Nov. 8, 2018	Thursday	Present
8	Nov. 9, 2018	Friday	Present
9	Nov. 12, 2018	Monday	Absent
10	Nov. 15, 2018	Thursday	Present

CollegeERP

Marks

Course ID	Course name	Internals 1	Internals 2	Internals 3	Event 1	Event 2	SEE
CS510	Database Management System	0	0	0	0	0	0
CS520	UNIX	0	0	0	0	0	0
CS530	Software Engineering	9	15	10	15	15	0
CS540	Computer Networks	0	0	0	0	0	0
CS550	Language Processor	0	0	0	0	0	0
MA510	Linear Algebra	0	0	0	0	0	0

CollegeERP

Timetable

	7:30 - 8:30	8:30 - 9:30	9:30 - 10:30	Break	11:00 - 11:50	11:50 - 12:40	12:40 - 1:30	Lunch	2:30 - 3:30	3:30 - 4:30	4:30 - 5:30
Monday			C5540		C5510	C5530	C5550				
Tuesday					MA510	C5510	C5540		C5520	C5550	
Wednesday					MA510	C5520	C5530				
Thursday									C5540	C5530	C5510
Friday			MA510		C5520	C5550	C5530				
Saturday	MA510	C5510			C5540	C5520	C5550				

Admin Page

Screenshot of the Django administration site showing the main dashboard. The sidebar on the left includes sections for 'AUTHENTICATION AND AUTHORIZATION' (Groups, Users) and 'INFO' (Assigns, Classes, Courses, Depts, Marks, Students, Teachers, Uses). The 'Recent actions' panel on the right lists recent operations such as adding Env Teacher, creating courses like Environmental Science, and assigning students to classes.

Screenshot of the Django administration site showing the 'Change class' form for a Computer Science class. The form includes fields for Id (CS5A), Dept (Computer Science), Section (A), and Sem (5). Below the form is a table of student records:

USER	USN	NAME	SEX	DOB	DELETED?
dakshath	CS01	Dakshath	Male	1998-01-20	Today
farhan	CS02	Farhan	Female	1998-11-01	Today
nihal	CS03	Nihal	Male	1998-01-01	Today
nikhil	CS04	Nikhil	Male	1998-01-23	Today
rajat	CS05	Rajat	Male	1998-11-11	Today

Screenshot of the Django administration site showing the 'Assigns' list page. The table displays assignments:

CLASS ID	COURSE	TEACHER
Computer Science : 3 A	Digital System Design	Guru
Computer Science : 3 A	Discrete Math	Rosapamala
Computer Science : 3 A	Computer Organisation	Chandrashekhar
Computer Science : 3 A	Data Structures	Sheela
Computer Science : 3 A	Object Oriented programming	Shalini
Computer Science : 3 A	Environmental Science	Env Teacher
Computer Science : 3 A	Fourier Series	Usha
Computer Science : 3 A	Database Management System	Manimala
Computer Science : 5 A	UNIX	Manjula
Computer Science : 5 A	Software Engineering	Trisila
Computer Science : 5 A	Computer Networks	Anikumar
Computer Science : 5 A	Language Processor	Varsha
Computer Science : 5 A	Linear Algebra	Manjunath
Computer Science : 5 B	Database Management System	Trisila
Computer Science : 5 B	UNIX	Shalini
Computer Science : 5 B	Software Engineering	Chandrashekhar
Computer Science : 5 B	Computer Networks	Srimathi
Computer Science : 5 B	Language Processor	Guru
Computer Science : 5 B	Linear Algebra	Manjunath

6 TESTING

6.1 Test Plan

6.1.1 Introduction

Testing is important in order to overcome the drawbacks if any) in the restaurant website and online food ordering system, to check out the functionality of the basic features provided by the website and make changes accordingly.

The website will be there after available to the public and updates can be made in future as per customer requirements.

The testing will be done by novice user i.e.: black box testing) and other web developer (i.e.: white box testing).

6.1.2 Test Items

Test items - images, location, buttons, check box, labels, icon

6.1.3 Features to be tested

- Accessibility
- Coding standards
- Compatibility
- Functional
- Navigation
 - > login validation,
 - > adding items to cart
 - > database connectivity
- Security
- Usability
- Scalability

6.1.4 Features not to be tested

It is the intent that all of the individual test cases contained in each test plan will be performed.

However, if time does not permit, some of the low priority test case may be dropped.

6.1.5 Approach/Strategy

The testing will be done manual and is priority based, the features

like,login; updating; and database connectivity are given high priority. Only these three features will be explained in detail in this report under both standard testing methods (black box and white box respectively).

Novice users will test the following

- > Login validation
- > updating

Client (has web development knowledge) will test the database connectivity:

6.1.6 Item or Feature Pass/Fail criteria

For novice user's if any of the feature doesn't respond or won't work, then they can label it as fail and then the developer will look into the code and modify accordingly.

For testing database connectivity, the client will inspect and report the working of the feature.

6.1.7 Test Environments

- Software requirements
 - 1. The PC is connected to internet
 - 2. VS code
- Hardware requirements
 - 1. 512 GB RAM
 - 2. 1024x768 monitor resolution with 24 bit colour
 - 3. Graphics processor that is Direct 9-capable

6.1.8 Features and Function Test Report

- Accessibility

The website is available to everyone who has access to internet.

Website is vibrant and easy to use

- Compatibility

Size of the website, and alignment of the icons changes with respect to the size of browser screen.

The content is clear and image quality is nice.

Cross browser support.

- Coding standards

Each unit of code has been inherited or copied from the most appropriate object class or template.

Each and every module is very nicely organized and easy to understand.

- Security

The website has basic security standards for the safety of user.

- Functional

The buttons and icons on the website are working accordingly and has fast response.

- Navigation

The navigation throughout the various categories and menu items is smooth.

- Usability

The dishes are categorized nicely and the price is shown besides the image of dish and add to cart button is also nearby the image for easy access.

FUTURE SCOPE OF PROJECT

Advanced Analytics and AI Integration:

- Incorporating advanced analytics and artificial intelligence (AI) capabilities into the ERP system to analyze student data, predict academic performance, and provide personalized recommendations for student success.
- Utilizing AI-powered chatbots or virtual assistants to provide real-time support and guidance to students, faculty, and staff, enhancing user experience and productivity.

Enhanced Student Engagement and Experience:

- Implementing interactive learning platforms and virtual classrooms within the ERP system to facilitate collaborative learning, multimedia content delivery, and interactive assessments.
- Integrating social networking features and student engagement tools to foster communication, collaboration, and community building among students, faculty, and alumni.

Personalized Learning Pathways and Adaptive Education Models:

- Implementing personalized learning pathways and adaptive education models within the ERP system to tailor educational content, assessments, and interventions to individual student needs and learning styles.

- Integrating learning analytics and cognitive computing techniques to analyze student performance data, identify learning gaps, and recommend targeted interventions for academic support and enrichment.

Ethical Use of Data and Privacy Protection:

- Implementing robust data governance frameworks and privacy-preserving technologies to ensure the ethical use of student and faculty data within the ERP system, comply with regulatory requirements, and safeguard user privacy and confidentiality.
- Providing transparency and accountability mechanisms for data collection, usage, and sharing practices, empowering users to control their data and make informed choices about privacy preferences.

CONCLUSION

In conclusion, the JSM CONTROL system project represents a pivotal initiative for our university, poised to revolutionize our operational efficiency, enhance stakeholder experiences, and propel us into the future of higher education. Through meticulous planning, rigorous analysis, and collaborative efforts, we have laid the groundwork for a transformative system that will streamline our processes, empower our users, and position us as a leader in the field.

With a comprehensive understanding of our organizational needs and stakeholder requirements, we have defined a robust scope for the ERP system, encompassing a wide range of functional and non-functional requirements. From core business processes to advanced analytics, from user engagement to compliance and security, our ERP system is designed to meet the diverse needs of our university community while adhering to the highest standards of quality and integrity. As we embark on the implementation phase, we are committed to leveraging best practices, harnessing cutting-edge technologies, and fostering a culture of collaboration and innovation. With a dedicated team of experts and stakeholders, we will navigate the challenges ahead, adapt to changing circumstances, and overcome any obstacles that may arise along the way.

Looking ahead, the future of our ERP system is bright and promising. With ongoing enhancements, continuous improvement, and strategic alignment with our institutional goals, our ERP system will evolve into a dynamic platform that drives excellence, fosters innovation, and enables us to achieve our mission of academic advancement and student success.

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