



# TRIBHUVAN UNIVERSITY INSTITUTE OF ENGINEERING PULCHOWK CAMPUS

A Project Report On  
“College ERP”  
(DBMS Project)

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Any helpful suggestions regarding our project from teachers and friends would be kindly appreciable.

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## **Abstract**

Today's world is being attracted and totally influenced by web based applications. Hence taking this in mind, we have developed a project on Database Management System to practical implement the database system to our real life. Hence this project named 'College ERP' is resource management software for Colleges Universities with objectives of Absolute control on college processes through 100 % automation.

'College ERP' provides certain salient features like E-enabling to facilitate information access for Students, Teachers and Management, 24X7 availability, Personalized Services for Students, Teachers and Management, Improved Communication and much more.

In this project, we have basically covered the major resource planning of college i.e. Human Resource Planning like students, teachers and management. 'College ERP' can be broadly divide into three sections viz. Management, Teachers and Student parts and under this sections depending upon the user we have provided different functionality for efficient college processing.

Administrator related to management section is the major person who can handle the entire database and make any modifications if he feels it is to be modified. His task is to approve or reject the user account as per the profile posted .Administrator also controls major part of college activities like articles, projects, time table, academic calendar, exam schedule, subject syllabus and others. In order to perform paperless transaction of different academic college activities between teachers and student, this software can be milestone.

This project Maintains common platform for Student, Teachers and Management.

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## Introduction

**College ERP** is a web based application that is totally designed to personalize services for Students, Teachers and Management and maintain common platform.

Keeping and managing records of students, staffs and resources have always been a tedious and complicated job in University Colleges. Extra time and effort are wasted in performing the job. Management side need to go through different records (usually recorded in paper files) to manage and to track different human resources of colleges. This job always being a challenge and extra effort for the administrator (Here department in our campus). Students have to move to either department or to respective teachers to collect different resources like timetable, exam routines, notices , tutorials, assignment, messages, subject syllabus etc and much more. Similar case is with other staffs of colleges like notices, routines, notices, application, etc. These are only few problems related to resource planning in our university colleges.

College ERP is the solutions for above mentioned problems. In our project, we have created a bridge between staff, teachers and students so that resource of college would be managed efficiently and effectively. There will be Absolute control on college processes through 100 % automation. E-enabled to facilitate information access for Students, Teachers, Management. As the application is web based so 24X7 availability so is improved Communication. It will provide different facilities to students (E-tutorial and assignments, Download and upload facility ,message services, article and projects posting, online exam schedules and time tables etc) teachers (online assignment, tutorials and notice posting etc).

The overall purpose of 'College ERP 'is to manage the resources of College and make the college processes automates efficiently and easily.

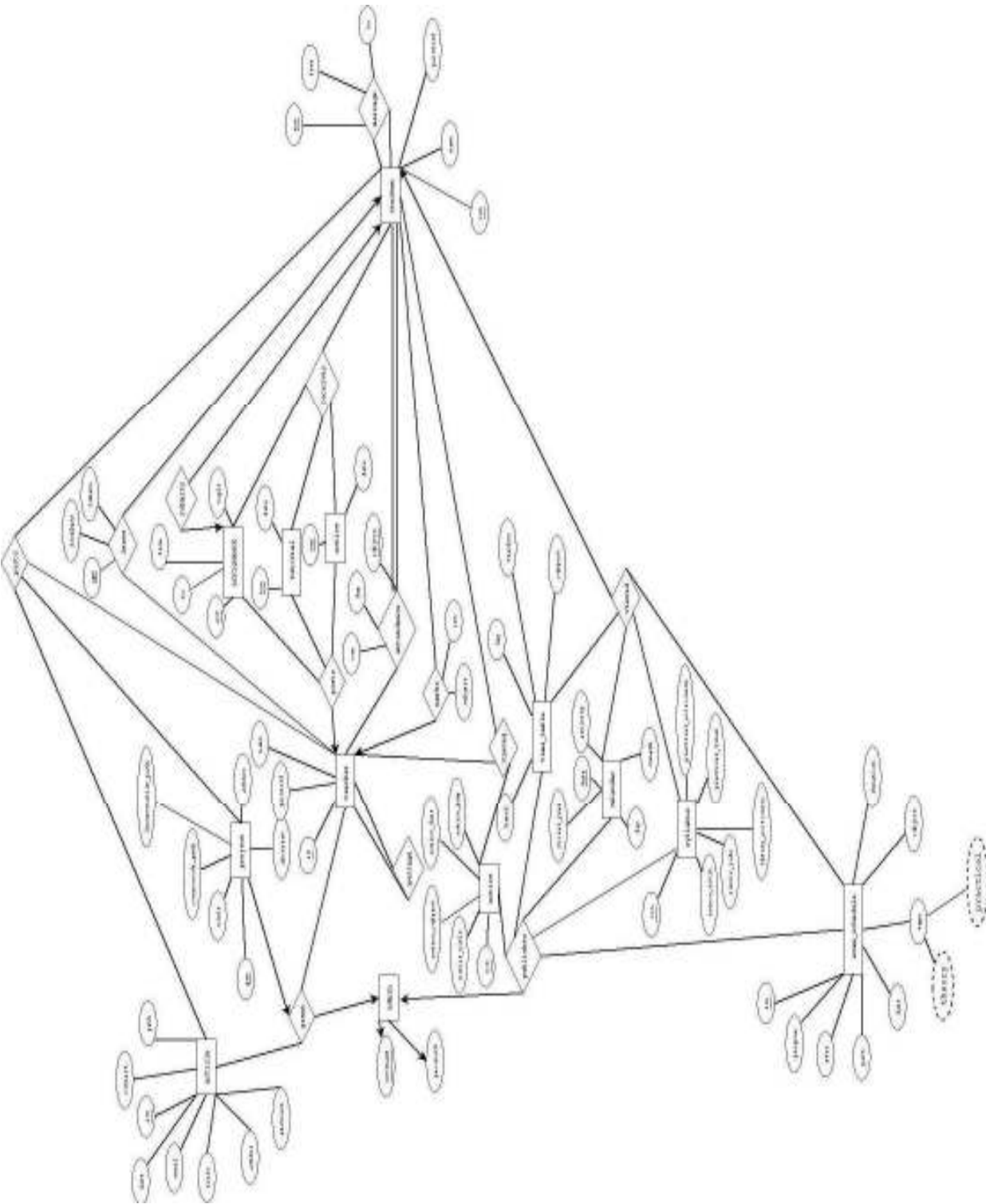
## **Objectives**

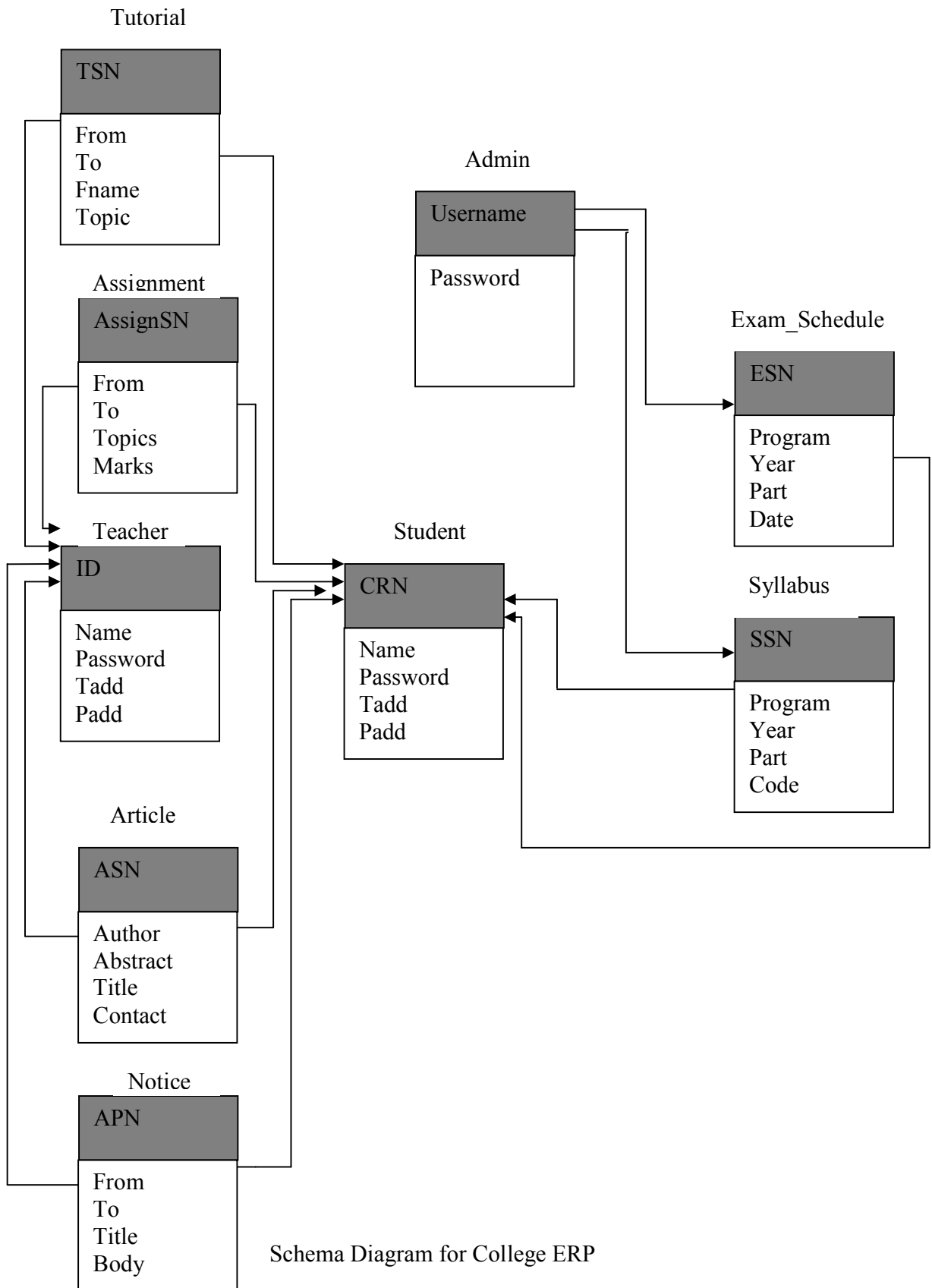
The main objectives of our projects are:-

- Absolute control on college processes through 100 % automation
- Secure Admin Management system
- Maintain 24X7 availability
- Personalize Services for Students, Teachers and Management.
- Maintain common platform for Student, Teachers and Management
- Maintain easy command, control and improved communication.
- Simple and easy to implement and maintenance free environment.
- Build college dynamic portal
- Download and upload articles, result, date sheet, homework, assignment
- Send and receive feedbacks, notices
- Secure shared and personalized web based service.
- Manage students attendance
- Availability of real-time information.
- Paperless transactions.

# Project Description

## 1. ER DIAGRAM





Schema Diagram for College ERP



### 3 DATABASE, ENTITIES AND RELATIONS

#### **A. Management Database:**

##### 1. profile entity

The administrator has to be verified so we store his/her records. Their records are added in the management database and their attributes are.

- username
- password

Primary key is username.

##### 2. article entity

The submitted articles from teachers and students are viewed by the administrator and the administrator has the authority to publish or reject the submitted post. This entity holds the information about articles

- asn
- title
- abstract
- author
- email
- date
- contact
- path
- permission

Primary key is asn (article serial number) and foreign key is author.

##### 3. calendar entity

The academic calendar is prepared and posted by the administrator so that other user can view the calendar. The attributes of the calendar entity are

- fiscal\_year
- date

- day
- activity
- remark

Primary key is date

#### 4. exam\_schedule entity

The exam schedule for different batch and parts are posted by the administrator and viewed by the other users.

- esn
- program
- year
- part
- date
- type
- subject
- total\_marks
- duration

Primary key is esn and foreign key is program, year and part.

#### 5. notice entity

The notice posted by the administrator contains general information about the different college activities .It's attributes are

- nsn
- notice\_title
- notice\_date
- notice\_subject
- notice\_body

Primary key is nsn

### 7. syllabus entity

Contains the record of the applicants who had been to work. Its attributes are

- csn
- program
- year
- part
- course\_title
- course\_code
- theory\_final
- theory\_assessment
- practical\_final
- practical\_assessment

Its primary key is csn and foreign key is program, year and part.

### 8. tt entity

This entity contains the record of timetable for the student studying in the college

- batch
- day
- teacher
- subject

### 9. project entity

The submitted academic projects from students are viewed by the administrator and the administrator has the authority to publish or reject the submitted post.

This entity holds the information about project

- psn
- category

- title
- abstract
- date
- author
- email
- contact
- documentation\_path
- source\_code\_path
- permission

The primary key is psn and foreign key is author.

## **B. Teacher Database**

This database holds the datum regarding teachers.

### 1. Profile entity

The teacher needs to be verified so we store his/her records.

- id
- password
- post
- name
- dob
- email
- sex
- bg (blood group)
- contact
- tadd (temporary address)
- padd (permanent address)
- path ( for photo upload)
- subject (associated)

The primary key is id.

## 2. assignment Entity

The assignment posted by the teacher contains assignment task to be performed by students and the assignment posted by students can be viewed.

- asn
- to
- from
- subject
- topic
- marks
- content
- date
- deadline

Primary key is 'asn' and foreign key is 'to'.

## 3. attendance Entity

Teachers keep the track of the class attended students.

- sub
- year
- month
- day
- crn
- attend

The foreign key is crn.

## 4. leave Entity

The leave application from student is granted or rejected by the teacher.

- apn
- staffid

- studentid
- fromDate
- toDate
- subject
- reason
- sendDate
- ch (check)

The primary key is 'apn' and foreign key are staffid and student id.

#### 5. message Entity

Teachers can communicate through e-mails.

- msn
- to
- from
- content
- date
- subject
- chk (check)

The primary key is 'msn' and foreign key 'to' and 'from'

#### 6. notice Entity

Teachers post message to their respective classes to convey the information.

- nsn
- to
- from
- subject
- content
- date

The primary key is 'nsn' and foreign key 'to' and 'from'

## 7. marks Entity

Teachers enter marks of their respective subject (final and assessment) which can be viewed by corresponding students.

## **C. Student Database:**

This database holds the datum regarding students.

### 1. profile entity

The student needs to be verified so we store his/her records.

- crn
- tu ( registration number)
- password
- name
- dob
- email
- sex
- bg (blood group)
- contact
- tadd (temporary address)
- padd (permanent address)
- path ( for photo upload)
- reg\_date

The primary key is 'crn'

### 2. attendance Entity

Student can view their attendance on selected year, month and day on different subject.

- sub
- year
- month

- day
- crn
- attend

The foreign key is crn.

### 3. message Entity

Students can communicate through e-mails.

- msn
- to
- from
- content
- date
- subject
- chk(check)

The primary key is 'msn' and foreign key 'to' and 'from'

### 4. tutorial Entity

Student download tutorial of their respective teachers.

- tsn
- to
- from
- subject
- topic
- date
- fname ( file path for tutorial)

The primary key is 'tsn' and foreign key 'to' and 'from'



#### 4. CONSTRAINTS

- Every user should be administrator, teacher or student.
- Each must have their unique id.

#### 5. INTERACTIONS WITHIN THE SYSTEM

Our designed database has following interactions with the system.

- **Database Users:**

There are three types of database users

- o **Administrator:**

Administrator interaction has following sessions:

- o Authentication:

This session allows the administrator to enter the system by verifying the Id and password.

- o User Deregistration:

This session allows the administrator to deregister the limited users.

- o Database management:

The administrator is capable of handling the entire database. He is allowed to add categories, and modify the database.

- **Teachers:**

Teacher interaction has following sessions:

- o Authentication:

This session allows the teachers to login to the teacher account by verifying the ID and password.

- o Placement and removal of notices, assignment and tutorial:

This session allows the teachers to place new notices, assignment and tutorials and delete those that are of no use.

- o Keep students' record:

Teacher keeps the record of the student through marks, attendance, leave application etc.

o Communicate through messages:

Teachers share their message via email.

- **Students:**

Student' interaction has following sessions:

o Authentication:

This session allows the student to login to the student by verifying the ID and password.

o View their profile and edit it.

o Viewing and submission of assignment and tutorial:

This session allows the students to view and submit assignment and tutorials and delete those that are of no use.

o View records:

Students can view records of attendance, progress report, exam schedule, subject syllabus, time table, calendar etc.

o Communicate through messages:

Students share their message via email.

## **Limitations**

As this project is based on Enterprise Resource Planning of College, so it is difficult to cover all areas of ERP so it has certain limitations. The limitations of our projects are listed below.

- It doesn't cover all portion of management like economic resource like salary, fee etc and physical resources like lab management, library management.
- In College ERP application, the student must be able to give their exam online and tracking of student activities by teaches and management remotely should be possible but our project lacks this feature.

## **Future Enhancement**

As this is first project on database, so it's not perfect from all the angles. For making this project a complete and practical, there is need of modifications to be made in it and some features to be added in it.

Some of the future enhancements of our projects are listed below.

- Improving the managerial part in economic field like payroll, student fee etc.
- Including different field of college like library management, lab management, extra-curricular activities management etc.
- Including online admission of student and online examination.

## **Conclusions**

After the completion of this project, we became familiar with database management system and learnt the different features required during developing a pure database management project. Designing this project, we got great knowledge in web based development tools such as PHP, MYSQL, CSS and JAVASCRIPT. It has powerfully implemented the complete databases to make the site dynamic as far as possible.

Finally our entire goal of developing this project was successfully achieved.

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