Amrita Vishwa Vidyapeetham
Amrita School of Engineering, Coimbatore
Department of Computer Science and Engineering

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15CSE302 Database Management Systems
L T P C- 2 0 2 3

Project Based Course

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Review dates

Date	Review	Evaluation Criteria
11-Sep-20	Project Review 1 and Online exam	1.Abstract 2.ER diagram 3.UI 4.Documentation 5.Viva
9-Oct-20	Project Review 2 and Online Exam	1.Normalisation 2.Creation and of tables with constraints 3.Populating tables with relevant records 4.UI 5.Documentation 5.Viva
20-Nov-20 /Online exam date released by DyCOE	Project Review 3 and Online exam	1. Final Demo with UI and DB connectivity 2. Documentation 3. Viva

Weekly Plan

Week No	Task
Week 1	Group Formation. Project Allocation.
Week 2	Understanding the abstract and revising. (The project group can revise the abstract) **Submission of revised abstract**.
Week 3	Identification of schemas. **Submission Schema Diagram**
Week 4	Database design using ER Model. Identifying Entity sets, Relationship sets.
Week 5	**Submission of ER diagram.** **Presenting the design of database with ER diagram.**
Week 6	**Extending the ER diagram with Extended E-R feature**
Week 7	**Submission of Revised ER diagram with Extended Features.**
Week 8	Identifying the functional dependencies. Normalization upto third normal forms
Week 9	Normalizing to higher normal forms. Creating Database.
Week 10	Completion of creation of database and insertion of records.
	Presenting database implementation, normalization done and incorporating various complicated queries.
Week 11	**Submission of a report based on the Normalization done on the database design.** UI design
Week 12	Completing connecting front end with back end for all the database operations.
Week 13	**Project Demo**
Week 14	Adding PL/SQL functions, cursors and triggers
Week 15	

Project Title

Group Members:

Rollno	Name

Objective: What will you trying to accomplish over the course of this project? If you're stating this on a previous statement or belief, or if you're involving other people's research, be sure to cite your sources in the footnotes.[1]

Software:
UI design:
Database:

Introduction: Your introduction will likely be viewed alongside the abstract The introduction doesn't have to exist independently from the rest of the document. Ideally, it will do what any introduction does: it will introduce the project topic, the questions, and the method of your implementation. It may also hint at the state of the art.

Abstract: Brief overview about how you are planning the project

[1] This is your first footnote.

Abstract

#1. Smart Health Care Provider

A health provider company has multiple offices in many different states. It has

- Emergency Care 24x7
- Support Groups
- Support and Help Through calls

Many doctors work for this company, and each doctor takes care of multiple patients. Some doctors just work in one office, and others work in different offices on different days. The database keeps information about each doctor, such as name, address, contact phones, area of specialization, and so on. Each patient can be assigned to one or more doctors. Specific patient information is also kept in the database (name, address, phones, health record number, date of birth, history of appointments, prescriptions, blood tests, diagnoses, etc.). Customers can schedule and cancel appointments and order prescription drugs either over the phone or using the company Web site. Some restrictions apply — for example, to see a specialist, the patient needs an approval from his/her primary physician; to order a prescription the patient should have at least one valid refill left, and so on.

Business Rules:

Patients should be able to access the database using a Web browser to order prescriptions and make appointments. This is all that patients may do in the database. Doctors and nurses can browse information about their patients, write and renew prescriptions, schedule blood tests and X-Rays, and so on. Administrative staff (receptionists, pharmacy assistants) can schedule appointments for patients, fill prescriptions, and run specific reports.

Tables:

- Doctors
- Patients
- Appointments
- Prescriptions
- Test_Reports

Output:

- Details of In-patients.
- Details of doctors on duty.
- Treatment details of patients.
- Discharge summary of patients.
- Billing.

Abstract

#2. Order Management System

A typical database for a company that sells building materials might be arranged as follows: The company must have at least one customer. Each customer in the database is assigned one or more addresses, one or more contact phones, and a default salesperson who is the liaison between the customer and the company. The company sells a variety of products. Each product has a price, a description, and some other characteristics. Orders can be placed for one or more product at a time. Each product logically forms an order line. When an order is complete it can be shipped and then invoiced. Invoice number and shipment number are populated automatically in the database and can not be changed by users. Each order has a status assigned to it: COMPLETE, SHIPPED, INVOICED, and so on. The database also contains specific shipment information (bill of lading number, number of boxes shipped, dates, and so on). Usually one shipment contains one order, but the database is designed in such a way that one order can be distributed between more than one shipment, as well as one shipment can contain more than one order. Some constraints also exist in the database. For example, some fields cannot be empty, and some other fields can contain only certain types of information. This order management system could have three different user groups: Sales department clerks' function is to enter or modify order and customer information; shipping department employees create and update shipment data; warehouse supervisors handle products. In addition, all three user groups view diverse database information under different angles, using reports and ad-hoc queries.

Business Rules:

(1) One shipment contains one order.
(2) To have three different users - Sales department clerks, shipping department employees, warehouse supervisors

Tables:

- Customer
- Salesperson
- Products
- Orders
- Shipment
- Employees

Output:

- Order details of customers,
- Product details/warehouse information.
- Salesperson_wise order details.
- Billing for customers.

Abstract

#3. Painting Hire Business Management System

A local business woman has decided to start her own Internet business, called Masterpieces Ltd, hiring paintings to private individuals and commercial companies. Because of your reputation as a database designer she has called upon your services to design and implement a database to support her new business. At the initial planning meeting, to discuss the design, the following user requirements were requested. The system must be able to manage the details of customers, paintings and those paintings currently on hire to customers. Customers are categorized as B (bronze), S (silver), G (gold) or P (platinum). These categories entitle a customer to a discount of 0%, 5%, 10% or 15% respectively. Customers often request paintings by a particular artist or theme (eg animal, landscape, seascape, naval, still-life, etc). Over time a customer may hire the same painting more than once. Each painting is allocated a customer monthly rental price defined by the owner. The owner of the painting is then paid 10% of that customer rental price. Any paintings that are not hired within six months are returned to the owner. However, after three months, an owner may resubmit a returned painting. Each painting can only have one artist associated with it. Several reports are required from the system.

Business Rules

- Owner submitting and resubmitting the paintings.
- Customer hiring the painting.
- Discount process.

Tables:

Customer_information
Category_discount_information
Painting_information
Owner_information

Output:

Three main output expected are

- For each customer, a report showing an overview of all the paintings they have hired or are currently hiring
- For each artist, a report of all paintings submitted for hire
- For each artist, a returns report for those paintings not hired over the past six months

Abstract

#4. Automation of Targeted Public distribution system

Ref: https://pdsportal.nic.in/Files/PDS-metadata.pdf

Targeted Public Distribution System (TPDS) was started by Government with focus on the poor. TPDS is operated under the joint responsibility of Central Government and State Governments /Union Territory (UT) Administrations. The Central Government is responsible for procurement, allocation and transportation of food grains up to the designated depots of the Food Corporation of India (FCI). The operational responsibilities for lifting and distributing the allocated food grains within the States/UTs, identification of eligible families, issuance of ration cards to them and supervision over distribution of allocated food grains to eligible card holders through the Fair Price Shops (FPSs) are that of the State/UT Governments. TPDS offices are the food and civil supply offices in a state which are directly responsible for day to day TPDS operations.

Business Rules:

Tables:

Output::

Abstract

#5. Renewable Energy Monitoring

Ref: https://www.scadacore.com/applications/renewable-energy-monitoring/

Remote renewable energy installations can be monitored and controlled in real-time. The system should be fully-featured with powerful trending capabilities, alarm callouts, exports, and much more. With an internet connection to your solar, wind, or geothermal energy controllers, User should be able to readily connect and collect data for your installation.

- Remotely monitor temperature, power output, and more, in real-time
- Control your installation remotely, anytime, anywhere
- Hosted web-based system allows you to access your data on your desktop or on your mobile device
- Real-time Voice, SMS, and/or Email alarm callouts
- Manage large-scale installations with GPS tracking

Business Rules:

Tables:

Output:

Abstract

#6. Automation of Grievance Redress Mechanism

https://pgportal.gov.in/Home/RedressMechanism

Grievance Redress Mechanism is part and parcel of the machinery of any administration. No administration can claim to be accountable, responsive and user-friendly unless it has established an efficient and effective grievance redress mechanism. In fact, the grievance redress mechanism of an organization is the gauge to measure its efficiency and effectiveness as it provides important feedback on the working of the administration.

The grievances of public are received at various points in the Government of India .There are primarily two designated nodal agencies in the Central Government handling these grievances. These agencies are:- Department of Administrative Reforms & Public Grievances is the nodal agency in respect of policy initiatives on public grievances redress mechanism and citizen centric initiatives. The role of Department of Administrative Reforms and Public Grievances consists primarily to undertake such citizen-centric initiatives in the fields of administration reforms and public grievances in the Government so as to enable the Government machinery to deliver quality public services to the citizen in a hassle-free manner and eliminate the causes of grievance.

The grievances received by the Department are forwarded to the concerned ministries/Departments/State Governments/UTs, who are dealing with the substantive function linked with the grievance for redress under intimation to the complainant. The Department 'takes up' about 1000 grievances every year depending upon the seriousness of the grievance and follows them regularly till their final disposal. This enables the Department to evaluate the effectiveness of the grievance redress machinery of the concerned government agency.

On the basis of the grievances received, Department identifies the problem areas in Government which are complaint-prone. These problem areas are then subjected to studies and remedial measures are suggested to the Department/Organisation concerned.

Business Rules:

Tables:

Output:

Abstract

#7. Rural water supply and sanitation system

https://projects.worldbank.org/en/projects-operations/project-detail/P132173

The Rural Water Supply and Sanitation Project seek to improve access by rural populations to safe potable water and to support implementation of a program to supply water to rural populations. There are four components. For the first component, new and rehabilitated and improved water supply facilities will be installed in communities, villages, and groups of villages of stated populations. The community participation approach will integrate the provision of safe drinking water, sanitation services, and health and hygiene education. The second component consists of making sanitation investments; constructing safe wastewater and excreta disposal systems; using appropriate technology; a hygiene education program; and providing public installations on a pilot basis, such as block latrines for schools, small sewer collectors, and community septic tanks, as well as lagoon-type wastewater treatment. The participatory approach, component three, will include community mobilization and health education, carried out mainly by local personnel. The fourth component will help provide technical back-stopping, monitoring, and evaluation for the decentralized project implementation by enlisting the services of local and international consultants.

Business Rules:

Tables:

Output:

Abstract

#8. Course Review Portal

Abstract: Universities offer a variety of electives to students. It is often difficult or overwhelming for a student to pick the right elective. To make the elective selection process easier for students, develop a course review portal database project, which collects review or feedback of courses from students who have previously attended the courses and neatly presents it in a review page. Apart from that, it must provide general information about a course which includes the learning outcome and the syllabus of the course. Along with this, it should allow students to post questions regarding a course and allows faculties to answer them. To see how a particular course helps in a job or work environment, feedback is gathered from alumni students through the mail, compiled together and displayed as insights of the course.

Objective: This platform makes it easier for students to discover what a course has to offer and thus make help them to make the rightful choice.

Business Rules:

Tables:

Output:

Abstract

#9. Smart Attendance Manager

Abstract: Attendance is the concept of people, individually or as a group, appearing at a location for a previously scheduled event. Measuring attendance is a significant concern for many organizations, which can use such information to gauge the effectiveness of their efforts and to plan for future efforts. Develop smart attendance manager database project which will help to generate it automatically as we marked the attendance and also helps to save time. It avoids the complexity of setting and managing the attendance manually. Students will be notified if they have low attendance.

Objective: Using this system, things will become easier, no more paperwork, no more confusion, generate attendance report easily and easily accessible by faculties and students.

Business Rules:

Tables:

Output:

Abstract

#10. Traffic Monitoring System

Abstract: Traffic congestion in cities is a major problem mainly in developing countries, to counter this, many models of traffic system has been proposed by different scholars. Different ways have been proposed to make the traffic system smarter, reliable and robust. The traffic jam is a daily-life problem in any metropolitan city. With the rise of standard of living, the number of vehicles is increasing at an exponential rate. In response to this, many researches are done in developing an intelligent traffic system, i.e., a traffic system which is involved in a much closer interaction with all the components of a traffic including vehicles, drivers, and even pedestrian. It not only provides safety at intersections and prevents traffic jam, but manages the traffic as a whole. Developed countries like America, Japan, and U.K. have already implemented ITS on their roads and still many researches are going on to make traffic systems more advanced and suitable for developing countries also.

Objective: To avoid traffic jam.

Business Rules:

Tables:

Output:

Abstract

#11. Online Course Portal for a University

This project aims at creating a Courses portal for a campus/organization. This allows registered users of the system to join a course available in the site and access the materials published for the course. People can register themselves as students of a course or Faculty for a course. When a person registers himself as a Faculty, an approval mechanism should be triggered which sends an email to the Administrator for approving the person as a Faculty. There will be an admin approval page where admin can approve the faculty members for the course. The course home page should contain the title of the course and a brief description. There will be a discussion board for each course where students can interact, an announcement section, which contains the latest announcements, and a course content section which gives the links for the material available for the course. For faculty members there will be an extra link for uploading the course content in a zip file format. The course content should be html pages, which should be uploaded in the zip file format. There should be a mechanism for the faculty members to create a test for the course specifying the test title and a set of multiple-choice questions and duration of time of the test.

Business Rules

(1) There will be a Course Portal home page where there will be a registration link as well as a login screen is available.
(2) There are three types of users in the system – Administrator, Faculty dent (for a course).
(3) The administrator should be able to do the following - Create a Course, by providing the course title and description, Approve Faculty members for a Course, Delete the members of a Course and Publish announcements.
(4) A page to view all the feedbacks received.

Tables

(1) Course Information.
(2) Faculty Information.
(3) Student Information.
(4) Registration details.
(5) Administrator detail.
(6) Test and score.
(7) Announcements.
(8) Feedbacks.

Output

(1) Course details view, faculty details view, student details view.
(2) Registration details view – course wise, student wise, faculty wise.
(3) Discussion forum details.
(4) Material list.
(5) Test report.

Abstract

#12. Web based Application for Insurance Services

Insurance is a contract for payment of a sum of money to the person assured on the happening of the event insured against. Usually the contract provides for the payment of an amount on the date of maturity or at specified dates at periodic intervals or at unfortunate death, if it occurs earlier. Among other things, the contract also provides for the payment of premium periodically to the Corporation by the assured. Insurance is universally acknowledged to be an institution which eliminates `risk', substituting certainty for uncertainty and comes to the timely aid of the family in the unfortunate event of death of the breadwinner. This system provides five types of Insurance services, which includes Life Insurance, medical Insurance, Motor Insurance. Home Insurance, Travel Insurance. This system project follows Internet mode i.e. the details can be viewed and updated by the officials of the company online.

Business Rules

Online Insurance Service has the following features

1) A User can view the details of various policies and schemes offered by the Insurance Company.
2) New Users can register with the site so that he can get information online.
3) An existing policyholder can view his policy details and calculate the premium.
4) The web site provides information about the new strategies and subsidiary schemes of the company.
5) Provides loan facility for policyholders and online payments.

Tables

(1) User details
(2) Policy details
(3) Premium details
(4) Online Payment
(5) Loan

Output

(1) Policy details of a user.
(2) Payment history and pending dues of user.
(3) Loan status

Abstract

#13. Online Examination system

The Purpose of this project is to conduct the online examinations for Each and every course present in the university. This project comprises of three applications - Question Bank maintenance Application, Exam processing Application and Report Generation Application.

Business Rules

(1) Question Bank maintenance

This application deals with question bank maintenance. This application is supposed to contain the following modules.

• Entry Check: Enables the user to make subject selection and Checks the entry of faculty by using a login form before Entering/Updating questions.

• Question Entry: Enables the authorized faculty to enter new questions in Text/Image format into the database.

• Question Editor: This module deals with modifying existing questions and deleting the questions from the database by the authorized faculty.

• Maintaining the student Details and Course details in the database.

• Creating the tables necessary for Exam conducting application.

(2) Exam Processing

The main purpose of this application is to conduct the exam and to store the results of each and every candidate in a subject wise order. Also the application stores the questions and specified answers of each question for each student in the proof table for future verification. This application is supposed to contain the following Modules.

• Connecting to Database: In this Module, the application connects to the database with the help of user credentials such as Server Name, User id and password. After successful connection to the database it will display the student login form

• Student identification: in this step the candidate will enter his own credentials given by the authority which include roll number, user id and password. After successful login, the candidate will be displayed his question form. With all the required options.

• Submission of results: After answering all the questions, the candidate needs to click on "Submit" button available at the bottom of the question form. This will store the details of questions and answers of each candidate and compares with correct answers and soon it will display the marks report to the candidate.

(3) Report Generation:

This application serves the authority to make a report of the examination results course wise (or) Semester wise (or) Roll number wise. The facility for the authority to store the results in an excel file is also included in the application. This application comprises of the following Modules.

• Entry Screen: This module will display all the subject codes of each and every semester/Course, for which the examination is conducted.

• Marks Report for Each Course: This module will generate the marks reports Subject wise / Semester wise/Course wise.

• Transferring report to excel file: This enables the authority to take an excel copy of the reports that are generated.

Tables:

(1) Course
(2) Student
(3) Exam
(4) Question bank

Output: (as mentioned in the report generation module)

Abstract

#14. Smart Time Table System

This project introduces a practical timetabling algorithm capable of taking care of both strong and weak constraints effectively, used in an automated timetabling system. So that each teacher and student can view their timetable once they are finalized for a given semester but they can't edit them. Timetable Generation System generates timetable for each class and teacher, in keeping with the availability calendar of teachers, availability and capacity of physical resources (such as classrooms, laboratories and computer room) and rules applicable at different classes, semesters, teachers and subjects level. Even though most college administrative work has been computerized, the lecture timetable scheduling is still mostly done manually due to its inherent difficulties. The manual lecture-timetable scheduling demands considerable time and efforts. The lecture-timetable scheduling is a Constraint satisfaction problem in which we find a solution that satisfies the given set of constraints. A college timetable is a temporal arrangement of a set of lectures and classrooms in which all given constraints are satisfied. Creating such timetables manually is complex and time-consuming process. By automating this process with computer assisted timetable generator can save a lot of precious time of administrators who are involved in creating and managing course timetables.

Business Rules

(1) Separate timetable for the individual class, faculty and labs are to be generated automatically by this system.
(2) No slot clashes occur
(3) Faculty replacement is also to be made possible by listing out the available faculty who are eligible to be assigned as temporary faculty until a replacement faculty is assigned.

Tables

(1) Faculty information
(2) Course information
(3) Lab information
(4) Class room information
(5) Allocation
(6) Faculty replacement.

Output

(1) Time Table – class wise, faculty wise, course wise and lab wise

Abstract

#15. Online food Ordering system

There is a lot of scope for online food ordering business and we can tap it to the max extent possible as everyone has access to an online ordering facility via the internet. Food business usually will have high demand and hence online business prospect for food ordering should be profitable. The purpose of this project is to provide an easily accessible interface wherein the customer can view and place the order easily. The customer can register initially with minimum details and will be allowed to check the menu items before ordering them, adding them to cart and submit the order. The system records the details in the database so that it will be easy to retrieve later. The users of the system also include employee/admin who will handle info related to product addition and assigning vehicle for placed orders.
The users of the system include the customers and the employees. The employees of the system are responsible for updating the menu items as well as the delivery of the item to a particular address. The customers will visit the website, check for the items available in the menu, order for one or more items in the menu. All the activities such as ordering items online, delivery of the items by employees, the vehicle used to deliver the items etc. will be recorded in the database for all the events.

Business Rules:

Tables:

- Customer
- Employee
- Orders
- Products
- Vehicle
- Cart

Output:

Abstract

#16. Online Car Rental system

The purpose of this project is to develop a system design especially for large, premium and small car rental business. The car rental system provides complete functionality of listing and booking car. Admin can add a car, manage booking car and rent and also view feedback and enquiry. User can view information of available car, booking car, easily get the car on rent and also give feedback and can do enquiry.

MODULE SPECIFICATION

View Available Cars: It is a system design especially for large, premium and small car rental business. The user can view Available cars and user can book for that car.

Booking Car: The user can view available cars as well as book the car.

Car on rent: The Customer can easily get the car whenever they need to on the rent with use of this system.

Feedback: The customer will give the feedback to the admin.

Enquiry: The inquiry can easily be done by user.

Add Car: The Admin can add the car so that the user can see the available cars and book the car.
Manage Rent: The Admin can manage the rent so that the user can see the rent and book the car.
View Feedback: The admin easily view the feedbacks and solve the query.
Payment details: The rent and the payment details of the car.

Business Rules:

Tables:

- Admin
- User
- Enquiry
- Feedback
- Car detail
- Rent detail
- Payment detail

Output:

Abstract

#17. Dairy procurement system

Dairying is a source of income for millions of rural milk producers, which contributes towards strengthening the livelihoods of small holder milk producers who form majority of India's milk production system. The aim of this project is to develop a dairy procurement system.

The milk procurement activity in brief:

i. Milk procurement area is identified.
ii. **Societies** are created in each village. These societies are managed by villagers.
iii. Milk producers/ **Farmers** become ***members*** of the societies.
iv. **Quality of milk** is checked at the time of taking milk from the members. Members ***contribute milk*** in morning and evening time.
v. Optimized **routes** are designed by plant to ***collect milk*** from societies. **Vehicle** is sent to all societies to collect milk.
vi. Milk is ***delivered*** to the dockyard of the dairy plant at both times or one time as per the policy of plant. Again **milk quality** is checked at the dockyard.
vii. **Payment** is ***made to*** farmers based on the quality of milk as per the policy of plant (weekly/ fortnightly/ 10 Days etc.)

Business Rules:

Tables:

- Admin
- Society
- Farmer
- Milk received
- Bills
- Vehicle

Output:

Abstract

#18. Travel rating and exploring system

Travel Rating and Exploring application enable users to view the information of various places. Admin will add all the information about the various places. The user can search the place details with a category like international and national. Users can view all the details of the places and they can give the description and rating to the place. All the details of places which include the description and ratings can be viewed by guest users.

Admin needs to enter valid credentials to get a login. Admin can view all the details of registered users and need to activate every user. Admin can add all the details of the places. The user needs to get registered with the application and need to be authorized by admin. The user can get login by entering unique username and password. The user can view all the details of the places by selecting the category. The user can give description and rating to the selected place. Guest users can search the details of the places by selecting the category. The guest user can view all the details of the place including description and rating has given by registered users.

Business Rules:

Tables:

- Admin
- Users
- Guest
- Places
- Package
- Description & Rating

Output: