



Programming Languages 2 Projects

Dr. Mohammed El-Said & Dr. Soha

Project 1: College Examination Management System

This system can install in Colleges to Mange Exams.

This system contains the following modules:

1. Administrative Module

- a) Admin has username and password and can alter them.
- b) Admin manages students and lecturers (Add, Delete, update, List, search).
- c) Admin manages Subjects and assign them for students and lecturers.

2. Lecturer Module

- a) Lecturer manages and designs his exams (Add, Delete, update, List)
- b) Lecturer puts the exam of subject and its duration and true answer for some questions like single and multiple choice.
- c) System calculate the final degree for each student.
- d) Lecturer can make reports about students and their degrees.

3. Student Module

- a) Student can access only exams for his registered subjects.
- b) Student can enter exam for once.
- c) Student can see his degree and corrected exam.

4. User Module

- a) All Users can login and logout.
- b) Users can Update their Information except ID.



Project 2: Task Management System

Task management is an important process that allows supervisors to monitor the time that employees spend on a task, the ongoing and completed tasks, and an employee's workload and performance. This information can be used to balance workloads, forecast bottlenecks and guard against delays and missed deadlines.

It mainly contains important modules like

1. Admin Module

- a) (Add, update, delete) users.
- b) (Add, update, delete) employees.
- c) (Add, update, delete) employees' type.
- d) (Add, update, delete) tasks Phases [pending, under work, test, evaluation, canceled, ...]
- e) (Add, update, delete) Projects or customers.
- f) Login and logout.

2. Tasks Module

- a) Tasks page (code, title, description, assigned employee, task phase, project, priority, creator name, start date, end date, estimation hours, ...).
- b) Tasks log (from time, to time, assigned employee, task) contains actual time that employee spend in the task.
- c) Calendar show all employees tasks and phases.
- d) Every employee can see only his tasks.
- e) The leader can manage the tasks (create, show all, evaluation, reassign task, change any filed in the task).

3. Employee Module

- a) Timecards (allow recording the attendance and departure of employees).
- b) Mission and Permission Request.
- c) Page to approve / disapprove mission and permission request.
- d) Leave types (Record Types of Vacations)
- e) Leave Request.



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Project 3: Courses Management System

This system helps to manage student, instructor and rooms in any educational place. It mainly contains important modules like

1. Admin Module

- a) Login and logout (when login student, instructor, and admin see view different for each other).
- b) The Admin can (Add, Update, delete) student or instructor and users.

2. Courses Module

- a) (Add, delete, update) parent courses.
- b) Show all Instructor.
- c) Show all students.
- d) Create page to save courses with its details (instructor, room, branch, price, parent course, price, students, and grades of course, start date, days of course, end date).
- e) Report to display courses that near to start.
- f) Report to display courses that near to end.

3. Student Module

- a) See his grades of specific course.
- b) Make survey about specific course.
- c) See all courses and update his information.

4. Instructor Module

- a) Can add grades and publish.



Project 4: Parking Guidance System

It Consists of: -

1-Customer Module

- a. Enables customer to print ticket for entry station with entry id, plate number, transaction date
- b. Enables customer to pay in exit station for parking hours with entry id.

2-Operator in Entry Station

- a. Enables operator to monitor free spots in Parking
- b. Enables operator to advise customer with free spot.

3-Operator in Exit Station

- a. Enter ticket id to calculate total parking hours

4- Admin Module

- a. Enables admin to add spots in parking.
- b. Enables admin to view total spots in parking.
- c. Enables admin to add / update / delete users with different roles
- d. Enables admin to view shifts report with payment
- e. Enables admin to view parked cars report



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Project 5: Project Management System

It Consists of: -

1-Employee Module

- a. Enables employee to enter entry time and exit time to calculate working hours over month.
- b. Enables employee to request vacation.
- c. Enables employee to view penalties.
- d. Enables employee to view assigned tasks to him over project.
- e. Enables employee to check assigned task when finishing it.

2-Team Leader Module

- a. Enables leader to manage employees
- b. Enables leader to assign tasks
- c. Enables leader to view completed tasks

3-Project Manager Module

- a. Enables PM to view percentage of completion of project.
- b. Enables PM to make reporting to team leader about specific employee.

4- Admin Module

- a. Enables admin to view all projects.
- b. Enables admin to add / update / delete users with different roles.



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Project 6: Bug Tracking System

It Consists of: -

1-Tester Module

- a. Enables tester to define bug name, bug type, priority, bug level, project name, bug date, status.
- b. Enables tester to assign bug to developer.
- c. Enables tester to attach screenshot of bug.
- d. Enables tester to monitor open and closed bugs
- e. System will send email automatically to assigned developer with bug details.

2-Developer Module

- a. Enables developer to view assigned bugs
- b. Enables developer to change status of bug after finishing it.
- c. System will send email automatically to tester when developer changed status of bug to complete.

3-Project Manager Module

- a. Enables PM to check performance of developers and testers.
- b. Enables PM to monitor open and closed bugs.

4- Admin Module

- a. Enables admin to view all bugs of project.
- b. Enables admin to add / update / delete users with different roles.



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Project 7: Electricity Billing System

It Consists of: -

1-Old Customer Module

- a. Enables customer to pay a bill with meter code
- b. Enables customer to enter monthly reading of meter
- c. Enables customer to complain about bill with meter code.
- d. System will send email automatically if customer didn't pay within 3 months.

2 - New Customer Module

- a. Enables customer to fill all information
- b. Enables customer to attach copy of contract (apartment, ...)
- c. System will send email automatically to notify customer when meter is ready.

3-Operator Module

- a. Enables operator to collect payments from customer
- b. Enables operator to print bill with meter code
- c. Enables operator to view bills of specific region.
- d. Enables operator to validate reading with real consumption.
- e. Enables operator to define tariff for customer.
- f. Enables operator to stop meter and cancel subscription for customer.

4- Admin Module

- a. Enables admin to view all bills of specific regions.
- b. Enables admin to view total collected.
- c. Enables admin to make consumption statistics for specific region.
- d. Enables admin to add / update / delete users with different roles.



Project 8: Event Management System

It Consists of: -

1 - Customer Module

- a. Enables customer to create account.
- b. Enables customer to book an event with full details.
- c. System will send email automatically to notify customer with reservation number and password to login.
- d. Enables customer to manage booking
- e. Enables customer to contact with project manager

2 – Project Manager Module

- a. Enables PM to receive customer requests
- b. Send customer requests to service provides and follow them
- c. Enables PM to contact with customers
- d. Enables PM to show bill for customer.

3 – Service Provider Module

- a. Enables SP to receive customer requests from PM
- b. Enables SP to price value of request and resend it to PM
- c. Enables SP to determine ready date for request.

4- Admin Module

- a. Enables admin to receive requests from customer and resend requests to PM
- b. Enables admin to add / update / delete users with different roles.



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Project 9: Hyper Market Management System

This system can install in Large Markets to Manage sales and purchase. users of the system have different types with different roles.

This system contains the following modules:

1. **Administrative Module**

- a) Admin has username and password and can alter them.
- b) Admin manages employees (Add - set unique id, password and type to - new employee, Delete, update, List all Employees, search).

2. **Marketing Module**

- a) Marketing employees can make reports about products (make queries).
- b) Marketing employees make special offers and send them to inventory management.

3. **Inventory Management Module**

- a) Inventory employees (Add, Delete, Update, List, Search) Products.
- b) System Must send notification when amount of product reduces at special range - set by inventory employees- OR when expiry date of product gets close.
- c) Manage the Damages items and sales Return.

4. **Sales Module**

- a) Seller can (search for product, list all products, make and cancel order).

5. **User Module**

- a) All Users can login and logout.
- b) Users can Update their Information except ID.
- c) *Users can see all previous actions -optional-.*



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Project 10: Health Club Management System

This system can install in any Health Club or Gym.

This system contains the following modules:

1. Administrative Module

- a) Admin has username and password and can alter them.
- b) Admin manages coaches and members (Add, Delete, update, List, search).
- c) Admin manages Billing.
- d) Admin can make reports about members.
- e) Admin assign members to their coaches.
- f) System Must send notification when subscription of member end.

2. Coach Module

- a) Coach can put plan and timeline schedule for his members.
- b) Coach can send message for his All members.

3. Member Module

- a) Member can see end date of subscription.
- b) Member can see his Coach and his Schedule.
- c) System Must send notification when subscription of member end.

4. User Module

- a) All Users can login and logout.
- b) Users can Update their Information except ID.



Project 11: Restaurant Management System

This system can install in any restaurant.

This system contains the following modules:

1. Administrative Module

- a) Admin has username and password and can alter them.
- b) Admin manages Employees (Add, Delete, update, List, search).
- c) Admin manages Meals (Add, Delete, update, List, search).
- d) Admin can make reports about customers and Employees (make queries).
- e) Admin make special offers, marketing, loyalty, and reward programs.

2. Employee Module

- a) Employee manages Customers (Add, Delete, update, List, search).
- b) Employee can make and cancel order.
- c) Employee manages Billing.
- d) System Must send notification when offers added.
- e) System Must send notification that set gifts to Customer when their payments reach at specific range.

3. Customer Module

- a) Customer can register at marketing, loyalty, and reward programs.
- b) All Payments, orders of Customer save to customer profile.
- c) All gifts and special offers that customer get save to his profile.

4. User Module

- a) All Users can login and logout except customer.
- b) Users can Update their Information except ID.



Project 12: Inventory Management System

You are asked to build an application used in Supermarkets and pharmacies

1. **Product Module**

- a. Add, update and delete products
- b. Search products by name, dates (production and expiration) or categories (type)
- c. Notify user for products with near expiration dates and which its quantity will expire soon.

2. **Admin module**

- a. Add, update and delete product categories.
- b. Add, update and delete supplier
- c. Generate reports and statistics for product(s) or category(ies) of products
- d. Add offers for specific products for interval (start date, end date)
- e. Generate profit report

3. **Client module**

- a. Register on the system and edit their data.
- b. Request a purchase order for specific product and generate order invoice.
- c. Generate order(s) report
- d. Notification by email for purchase order



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Project 13: Hotel Reservation System Project

You are asked to build an application used in Hotels by hotel's receptionist, the system should have the following modules

1. **User Module**
 - a. Add, update and delete employees
 - b. Add, update and delete customers
 - c. Add, update and delete rooms and its service
2. **Room management module**
 - a. Enter user/guest date if not available
 - b. Filter rooms via different options (if room is busy or not, room type, room service)
 - c. Assign room to guest.
 - d. View near checkout client (client with checkout within two days)
 - e. Utilize other service module to assign client to other service.
 - f. Detailed bill/invoice for each client
3. **Other service module**
 - a. Add, update and delete service (Service name, description, price, etc....)
 - b. Generate statistical report for service usage



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Project 14: Learning management System

You are asked to build a learning management system which composed of the following modules:

1. User module

- a. Add, update and delete users
- b. Add, update and delete user type
- c. Add, update and delete user privilege (can view/update lectures, can submit assignments, etc....)
- d. Block users from access content

2. Course module

- a. Add, update and delete course
- b. Add, update and delete Assignment (this include assignment due date, assignment type, etc. ...)
- c. Add update and delete lecture
- d. Generate reports about how students doing in each course.

3. Exam module

- a. Add, update and delete exams and its questions
- b. Assign students to exams based on registered courses.
- c. Correct exams and generate results
- d. Generate exam statistics (pass percentage, percentage of A+)