

# Introduction to Database Systems

## Scouts Group Management System

### Project Proposal Report

#### Team Number: #07

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## Idea 01: (Scouts Group Management System)

### Project Description:

The Scouts Group Absence Management System is a comprehensive web application designed to address the current challenges faced by the Scouts organization in managing attendance, subscriptions, budgets, and generating accurate reports. The existing paper-based system has proven to be inefficient, leading to delayed and inaccurate reporting, and over-dependence on a single individual for data management.

This web application aims to transform the management of the scouts' group by providing a user-friendly platform accessible to various user types, including General Captains, Unit Captains, and Regular Captains. The application allows users to register accounts, log in, and perform a range of functions based on their authority level.

This project is a real-world application, driven by the practical needs of the scouts group. We are proud to highlight that we engaged in consultation sessions with the groups' captains to gather their specific requirements, ensuring that the system aligns with their operational realities. The requirements collected during these collaborative sessions have been documented in detail and will be attached as a supplementary file with the project proposal submission.

### List of systems users:

- **General Captains (قائد عام):** These are the highest authority figures in the scouts group.
- **Unit Captains (قائد وحدة):** Unit Captains have authority within specific units or sectors of the scouts group.
- **Regular Captains (قائد):** Regular Captains are responsible for managing their respective classes or sectors.
- **Headquarter Captains (قائد امين عهدة) [Optional]:**  
This user type may have additional responsibilities related to managing the assets of the scouts group.

## **User Functionalities:**

### **General Captains (قائد عام):**

1. Change the account type of other captains/users.
2. Create new captains with different levels of authority.
3. Create new terms (sessions) for the organization.
4. Create new sectors (classes) and define their details.
5. Create new student profiles, including personal information.
6. Edit, move, and delete terms, captains, and student records.
7. View comprehensive absence statistics for students and captains across all classes.
8. Receive notifications for students or captains with attendance below 50%.
9. Access and manage the current budget, including viewing income and expenses. (optional)
10. Add, delete, or modify expenses and income items related to the organization (optional).
11. Configure the number of real weeks in a term for more accurate statistics (optional).

### **Unit Captains (قائد وحدة):**

1. Record the absence of captains within their unit.
2. Move students between sectors within their unit
3. Access absence statistics
4. receive unit-specific notifications for low attendance.
5. Generate and export detailed attendance reports for their unit.

### **Regular Captains (قائد):**

1. Record student absences, indicating whether a student is absent, attended, excused, or term-excused.
2. Record weekly subscriptions for students within their sector.
3. View their sector's attendance statistics, helping them monitor and improve attendance rates.
4. Give scores to students based on different aspects (optional).

### **Headquarter Captains (قائد امين عهدة) [This user type is optional]:**

1. They can add, remove, or delete assets and equipment associated with the organization.

**List of real-world entities:**

- 1 Captains**
- 2 Terms (Sessions)**
- 3 Sectors (Classes)**
- 4 Students:** Referring to the members of the scouts' group
- 5 Absence Records**
- 6 Notifications**
- 7 Budget (optional).**
- 8 Assets (optional).**
- 9 Income Items: (optional).**
- 10 Expense Items: optional).**
- 11 Detailed Student Data:** Offering a more comprehensive profile for each student (optional).
- 12 Aspect-Based Scores:** Storing scores related to different aspects of students' performance (optional).
- 13 Statistics**
- 14 Real Weeks Configuration: (optional).**

## Idea 02: (Orphanage Management System)

### **Project Description:**

This is a web application that manages an orphanage. We found that the current systems use paperwork or in the best cases use Excel sheets, which is so slow and not accurate due to human error.

We want to make the platform as user-friendly as possible, and accessible to different users.

This is not really our final vision, because we didn't take requirements from a real organization. So, we will adapt this later to work fine with the system of our local Orphanages.

### **List of system users and their functionalities:**

#### 1. Administrator

- Full access to all data and functionalities.
- Can add, modify, and delete records for all entities.
- Can configure system settings and permissions.

#### 2. Staff Member

- Access to their own staff profile and work-related information.
- Can check their work schedule and responsibilities.
- Mark attendance and update shift information.
- View relevant orphan and event details based on their role.

#### 3. Adoption Coordinator

- Access to the profiles of adoptive parents and children.
- Review of application forms, and background checks.
- Ability to update and maintain adoptive parent records.
- Access to adoption status and documentation, including court dates, legal paperwork, and adoption-related documents.
- Access to materials and resources for adoptive parents.

#### 4. Event Coordinator

- Can create and manage events.
- View event details, attendee lists, and schedules.
- Generate reports related to events.

#### 5. Inventory/Financial Manager

- Access to the inventory and financial transactions and budgets.
- Can manage inventory items, quantities, and conditions.
- Receive notifications about low stock levels.
- Manages financial records and expenses.
- Communicate with donors and guardians about financial matters.

### **List of real-world entities:**

1. Orphan
2. Case Worker
3. Guardian
4. Donor
5. Staff
6. Volunteer/Training
7. Events
8. Inventory/Finance
9. Legal Documents
10. Feedback and Surveys
11. Adoption Agency
12. Education
13. Activities
14. Health Care
15. Parents

## Idea 03: (teacher assistance system)

### **Project Description:**

We propose an innovative, user-friendly website that empowers teachers to efficiently manage their educational responsibilities. Say goodbye to the inaccuracies and laborious tasks associated with traditional paper-based systems; our platform offers a modern, accurate, and streamlined solution. With paper-based systems, teachers often grapple with the burdens of time-consuming data entry, the risk of data loss, and the challenges of accessing information remotely. Our platform aims to alleviate these hardships and provide a digital lifeline for educators seeking enhanced efficiency and organization.

This exclusive platform will only be accessible to teachers and their designated assistants, making it a dedicated management system for teachers to oversee their work. Students will exist as entities within the system to maintain their personal information, attendance records, grades, associated centers, and homework assignments. The primary role of assistants will encompass tasks such as grading students' exams, marking their homework, taking attendance, and providing notes about them (if there are any). The teacher (or admin) will have the authority to add new assistants, assign them to various centers, and provide them with instructions.

Our ultimate objective is to markedly enhance the efficiency and organizational prowess within the realm of teaching by providing a tailored solution that caters to the specific roles and responsibilities of each user within the system.

### **Users:**

- 1- Teacher (admin): Uses the website to effortlessly oversee their educational duties, like managing assistants and scheduling lessons.
- 2- Assistants: Support teachers with tasks such as grading exams, marking homework, and taking attendance, all within a modern, efficient, and user-friendly online environment.

### **Users' Functionalities:**

- 1- Teacher (admin):
  - 1) Add and remove assistants.
  - 2) Create educational centers' entities and store data about them.
  - 3) Add and delete student entities from the system.
  - 4) Schedule the lessons that will be taught for a certain period.
  - 5) Record assistants' attendance.
  - 6) Can see information about students and assistants.
  - 7) Assign assistants to a certain educational center.
  - 8) Get notified if a student's attendance went below some percentage.
  - 9) Manage assistants' salaries (optional).
- 2- Assistants:
  - 1- Grade students' exams.
  - 2- Record students' attendance.
  - 3- Mark students' homework and assignments.
  - 4- Make quizzes and exams for the students.
  - 5- Call the student's parents to notify them about his grades and attendance occasionally.
  - 6- Make a request to not attend on a certain day.
  - 7- Request updating students' information.

### **Real-world entities:**

- 1- Students
- 2- Educational centers
- 3- Marks
- 4- Attendance
- 5- Exams
- 6- Homework
- 7- Timetable
- 8- Assistants' salaries (optional)