

# Introduction to Database Systems

## <Project Proposal Report>

### Team Number:

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# Student Aid

This application's main aim is to guide and help students (undergraduates or even graduates) through their career life. It offers opportunities such as internships or trainings in different companies and also supplementary courses that may interest them that are offered by course centers. Alongside this, many other facilities are available, for example, online seminars explaining how to write their CVs, textbooks and research studies related to their field of interest, and also contests they may want to apply for. Moreover, a small community will be there for them to ask any question related to their career path. Other students or doctors may answer their inquiries. Another facility is what we call track finder; this basically helps the students to find different tracks of jobs based on their interests to guide them through the way. Also for graduates mainly, there will be a platform that allows them to share their future business ideas they have if they need funding for them. These ideas will only be viewed for sponsors to study the students' ideas to decide which one to fund. Other facilities are also offered.

The main users in this application are the students (who need help) and doctors (or any helper) who may help the students in any way. Banks or sponsors can also use this app to find promising ideas to fund.

- **Real-world entities:**

1. Student
2. Doctors/helper
3. Course center
4. Courses
5. Feedback on courses
6. Company
7. Internships
8. Business ideas
9. Sponsors
10. Online talks/Seminar
11. Textbooks/Research studies
12. Contests
13. Join project teams
14. Track finder (according to personal interests)
15. Community/Q & A

- Users and functionalities:

- I. Students

1. Register in courses
2. Apply for internships
3. Ask questions in community/Q&A section
4. Put his business idea
5. Listen to online seminars
6. Download/upload textbooks
7. Sign up for contests
8. Rate courses importance
9. Request a student to join his team
10. Join a team project
11. Enter interests to find track

- II. Doctors/Experts

1. Give online seminars
2. Answer questions
3. Upload textbooks
4. Rate courses importance
5. Edit job tracks
6. Apply to contest as mentor

- III. Sponsors

1. Fund Business ideas
2. Answer questions

# Hotel DB

Every hotel contains a lot of information to be stored, but we can't store and cram all this information in files, so to solve this problem, we thought to create a database in order to keep our data more organized and to prevent any losses in it. Any hotel contains a lot of things: rooms, receptionists, parking area(s), customers, security, reservation and booking processes, housekeeping, a hotel restaurant, feedback and comments section, luxurious activities (like: private pools or parties), and the lost and found department. All these stuff are our entities; the data that we need to store information about.

Our database can be accessed by different users through different interfaces. Moreover, our main concern while creating this database is to aid two kinds of users: employees of different kinds and customers. Every category of users uses a separate interface because every category has its own functionalities. On one hand, the employees can check the availability of rooms, receive feedback and complaints, add any item to the lost and found department, check whether the parking(s) are empty or there's place for more cars to park, accept or decline reservations according to whether there are empty rooms or not, and check the cameras for security issues. On the other hand, the customers can book a room, search for an item in the lost and find department, give feedback whether it's positive or negative, request a luxury (ex: a private room), and order food.

- **Real-world entities:**

1. Hotel rooms
2. Receptionists
3. Parking areas
4. Customers
5. Security
6. Reservation
7. Housekeeping
8. Hotel restaurant
9. Feedback/complaints
10. Luxury activities (pool, parties)
11. Lost & found

- Users and functionalities:

- I. Receptionists

1. Check rooms
2. Receive feedback/complaints
3. Add items in lost & found
4. Check the availability of parking
5. Accept/decline reservations
6. Checks cameras for security
7. Do financial work

- II. Customers

1. Book a room
2. Search for an item
3. Give feedback
4. Request a luxury (if closed pool)
5. Order food

# Mall DB

This database is formed to make data viewing and retrievals of people concerned of mall data easier. Our target user here is investors, managers, and customers. The target of this system is to facilitate the information finding process to these users and to create a smart way of data connection and retrieval. Each user will have an appropriate interface due to his needs.

To make understanding of the database easier, let's define why would these users need the system. Investors or sponsors who want to invest their money in a successful shop or project or who has a shop there and needs someone to run it or is actually running it and they need to follow up. Secondly, managers of the mall are following all about information of the mall and who has control over the mall issues, meaning that they need communication with both customers and investors. Lastly, customers pointing to anyone who uses the services of the mall and their concerns as well as ones who might want to know more or connect to both investors and customers

- **Real-world entities:**

1. Shops
2. Parking
3. Cinemas
4. Lost & found
5. Sponsors and investors
6. Events
7. Feedback/ Q&A / FAQs/ Complaints
8. Physical feature of the mall
9. Payment schedule
10. Employees
11. Kids area

- **Users and functionalities:**

- I. **Managers**

1. Check complaints
2. Follow up on sale targets
3. Answer questions
4. Communication with investors
5. Accept/reject offers

- II. **Customers**

1. Ask questions

2. Sign up for kids area
3. Do complaints
4. Report a lost item
5. Make a parking membership
6. Check if a specific shop is in the mall or not
7. Show a project that needs to be sponsored
8. Give feedbacks

### III. Users

1. Show offers
2. Check progress of investment
3. Find new projects
4. Track progress of others