***Group #3***

***Members: Asma - Zackline - Nina***

***Project Definition***

***Due date: 11/1/2016***

***Course#: CSC 621***

***Description of the Project***

*Company information:*

Dayesda (Emergency Management Company) is the company that we will do our project about. Dayesda is a startup company that provides enhanced emergency management *services* and *courses* in Saudi Arabia. Its services and courses are goal-oriented, cost-effective, and efficient. It has expertise and affiliation with U.S emergency companies and expertise from around the world.

*Examples of Service Beneficiaries:*

* Schools, hospitals, industries.
* Civil defense.
* Saudi Red Crescent Authority.
* Saudi Humanitarian Emergency Aid and Response Team (Saudi HEART).
* Ministries.
* Any Private sector who deals with hazards materials.

*Examples of Course Beneficiaries:*

* Civil defense workers.
* Saudi Red Crescent Authority workers.
* Saudi Humanitarian Emergency Aid and Response Team (Saudi HEART) workers.
* EMTs and Paramedics.
* Professionals and healthcare providers who are working in emergency management positions.
* Officials who working the Internal Ministry in positions relating to security and emergency management.
* Individuals who work in Ministry of Hajj as emergency planners and coordinators.
* Ministry of Health managers who are working in the Emergency Management section.
* Workers who deal with hazards materials.

*Services:*

1. Emergency management.
2. EOP(emergency operation plan)
3. Business continuity plans.
4. COOP(continuous of operation plan)
5. Infrastructure protection planning
6. Disaster response planning
7. Hazard mitigation planning
8. Hazard recovery planning
9. Preparedness planning
10. Hazard Vulnerabilities Assessment planning
11. Threat and Hazard Risk Assessment planning
12. Exercises and drills management planning
13. Walk in security assessment
14. Incident Response
15. Exercises and drills management evaluation
16. Infrastructure protection evaluation.
17. Disaster response evaluation
18. Hazard mitigation evaluation
19. Hazard recovery evaluation

*Courses:*

1. CERT(community emergency response team)
2. Disaster Life Support (DLS)
3. Public Information Officer (PIO)
4. Disaster Rapid Initial Assessment
5. Counter-terrorism procedures.
6. ICS 300(incident command system)
7. ICS 400(incident command system)
8. Planning for children in disaster
9. FEMA course (10 courses from Fema 1 to Fema 10)

*DB requirements:*

The DB that we want to create for this company will cover the service requesting process and the course registration. Therefore, our data base will keep tracks of the company Employees, the services that the company provides for organizations, and the courses that the company provides for individuals, also the organizations’ information and the trainees’ information who benefit from this company. So, the users of our data base are (organizations, Trainees and Employees of our company).

* For each Employee, DB keeps track of unique employee identifier, name, address, and phone, his role (job) in the company, salary, and password.
* For each service, DB keeps track of unique service identifier, service name (there are no more important characteristics other than these since the whole service depends on employee checking and paper work.
* For each request of a service, DB keeps track of unique request identifier, date of request and cost of conducting this specific service for this particular organization. The employee will visit the organization to check and do the work (service) according to that.
* For each organization requests a service, DB keeps track of unique organization identifier, organization name, and sector (private or public), location, phone, password.
* For each Trainee takes a course, DB keeps track of unique trainee identifier, name, and phone, password.
* For each course, DB keeps track of unique course identifier, course name, and course tuition, duration (number of weeks).
* For each payment by the trainee for a course, DB keeps track of unique card number, card type, and the billing address.

*Types of queries :*

1. Create queries :
   * Create queries for all DB relations(employee, organization, trainee, course, service, request, payment, is assigned to, completion)
2. Insert queries :

* When an organization requests a service it will be inserted into the database as a request record.
* When a trainee enrolls in a course it will be inserted into the database as a completion record. Also it will insert its payment transaction in payment relation.
* Insert into trainee and organization relations.
* Insert all employees of the company in the employee relation
* Insert all services into service relation
* Insert all courses in course relation.

1. Update queries:

* For each service request the employee need to update the price in the request record according to the agreement with the organization after visiting.
* Any update on any record of relations (employee, organization, trainee, course, service).

1. Delete queries:

* Delete any request transaction if the company didn’t agree with the organization about the price or for any problem.

1. Read Queries(report):

* Each trainee can check on courses information that he had enrolled (e.g. price, instructor).
* Each employee can check on service request information that he is assigned to.
* Find the organization that request the most services for any privilege in the future.

*Referential integrity constraints:*

* Each unique request record contains two FK (Not Null), one refers to the organization PK and the other refers to the service PK.
* Each record in a relation (assigned to) that represent the relationship between request of the service and employee contains two FK (Not Null) one refers to the employee PK and the other refers to the request PK, both form the PK of this relation.
* Each unique course record contains FK (Not Null) refers to the Employee PK that teaches this specific course.
* Since each trainee can takes the same course multiple times in different years. Each record in completion relation contains partial Identifier (year of completion) and two FK (Not Null) one refers to the course PK and the other refers to the trainee PK. All together form the PK of this relation.
* Each unique completion record contains FK (Not Null) refers to the Payment PK.

*Work Schedule (whole team):*

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| Date | Work |
| Week 1: Oct 20-Oct 31 | Project definition- choosing the idea and agree on it. Working on collecting/defining the requirements of our DB/ discuss the vision of our DB to imagine the design/ set up GitHub repository for project. |
| Week 2: Nov 1-Nov 7 | ERD/relational Model/ Indexing/Functional dependencies. |
| Week 3: Nov 8-Nov 14 | SQL of creating and population the DB. |
| Week 4: Nov 15- Nov 21 | Working on queries and their interfaces. |
| Week 5: Nov 22- Nov 28 | Error checking/ Presentation. |
| Week 6: Nov 29- Dec 5 | Finalize the final paper/project/presentation. |
| Week 7: Dec 6 | Final Project paper/ final presentation. |

*Work Schedule (Asma):*

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| Date | Work |
| Week 1: Oct 20-Oct 31 | * Write the description of the database requirements and the different users of DB and their requirements after discussion with team. |
| Week 2: Nov 1-Nov 7 | After discussion with team:   * Write the Description of the referential integrity constraints. * Creating the ERD after discuss that with my team. * Creating the Relational Model after discuss that with my team. |
| Week 3: Nov 8-Nov 14 | * SQL for creating tables of the DB. |
| Week 4: Nov 15- Nov 21 | * SQL for population 3 tables. |
| Week 5: Nov 22- Nov 28 | * SQL of two queries and their interfaces (with screenshots). |
| Week 6: Nov 29- Dec 5 | * Doing 50 % of presentation. |

*Work Schedule (Zackline):*

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| Date | Work |
| Week 1: Oct 20-Oct 31 | * Write the list of tasks for the project and discuss the definition of the project with team. |
| Week 2: Nov 1-Nov 7 | After discussion with team:   * Write on index selection. * Write about the FD and how it is normalized in the project. |
| Week 3: Nov 8-Nov 14 | * Revise SQL for creating tables of the DB. |
| Week 4: Nov 15- Nov 21 | * SQL for population 3 tables. |
| Week 5: Nov 22- Nov 28 | * SQL of two queries and their interfaces (with screenshots). |
| Week 6: Nov 29- Dec 5 | * Doing 50 % of presentation. * Work on ensuring integrity after discussion that with team. |

*Work Schedule (Nina):*

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| Date | Work |
| Week 1: Oct 20-Oct 31 | * Discuss the definition of the project with team and revise the project description. |
| Week 2: Nov 1-Nov 7 | After discussion with team:   * Work on FD closure test. |
| Week 3: Nov 8-Nov 14 | * Revise ERD and Relational Model for any update. |
| Week 4: Nov 15- Nov 21 | * SQL for population 3 tables. |
| Week 5: Nov 22- Nov 28 | * SQL of two queries and their interfaces (with screenshots). |
| Week 6: Nov 29- Dec 5 | * Revise presentation. * Revise final Project paper. |