KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
College of Computer Sciences
and Engineering

KFUPM COLLECTION
PROJECT PHASE 3

Course : ICS 324

Semester : 201

Team number : 12

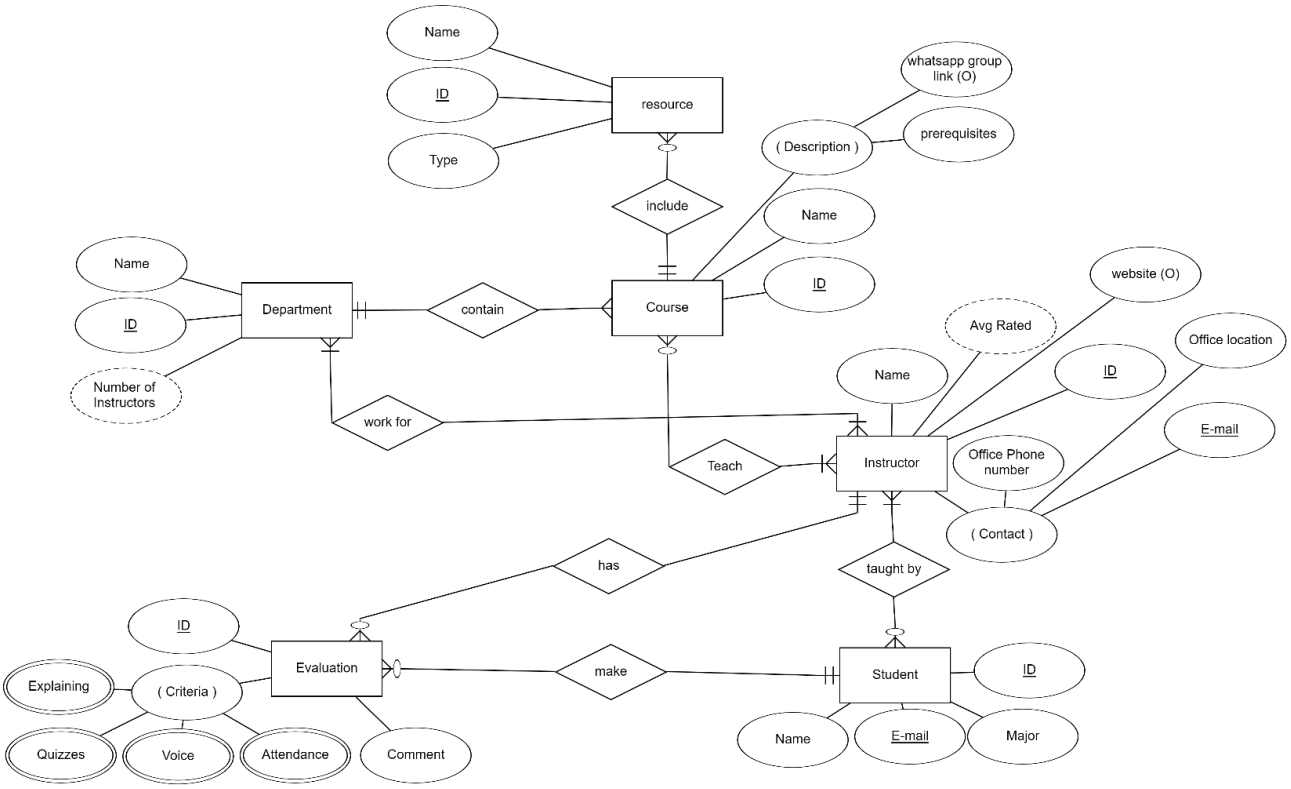
Project Phase number : 3

Team Members :

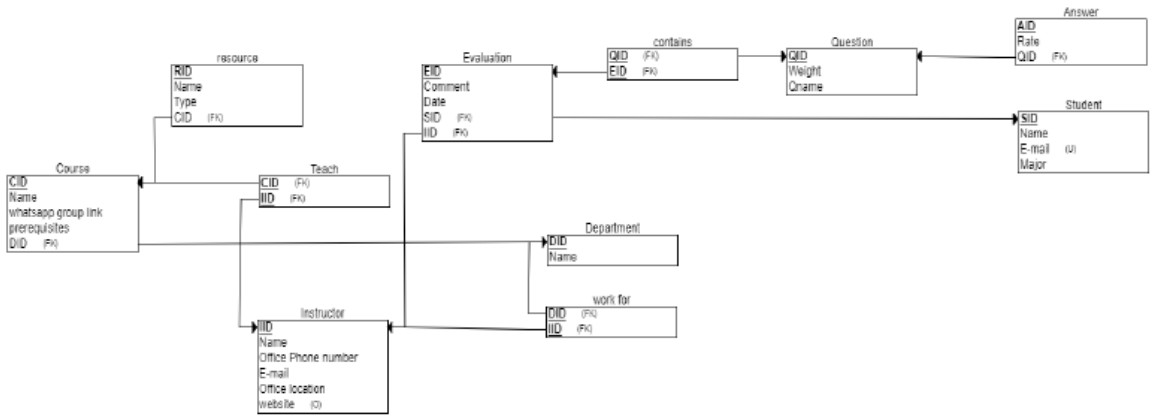
Name	ID
Abdullah Alfaifi	201722050
Nawaf Alfaifi	201743150
Waleed Alfaifi	201640920

Contents

1- Conceptual Diagram:



2- Logical Diagram



3- Assumptions:

- The evaluation must be done only by the students who has taken at least one course with the instructor.
- The system users will be KFUPM students.
- The available instructors should have taught for at least one semester in KFUPM.

4- MySQL implementation

a. Create Statements:

```
CREATE TABLE Department
(
    Name VARCHAR(50) NOT NULL,
    DID INT NOT NULL,
    PRIMARY KEY (DID)
);

CREATE TABLE Instructor
(
    Name VARCHAR(50) NOT NULL,
    IID INT NOT NULL,
    Office_Phone_number INT,
    Email VARCHAR(50) NOT NULL,
    Office_location VARCHAR(50) NOT NULL,
    website VARCHAR(50),
    PRIMARY KEY (IID)
);

CREATE TABLE Course
(
    Name VARCHAR(50) NOT NULL,
    CID INT NOT NULL,
    whatsapp_group_link VARCHAR(50),
    prerequisites VARCHAR(50),
    DID INT NOT NULL,
    PRIMARY KEY (CID),
    FOREIGN KEY (DID) REFERENCES Department(DID)
);

CREATE TABLE Student
(
    Name VARCHAR(50) NOT NULL,
    SID INT NOT NULL,
    Email VARCHAR(50) NOT NULL,
    Major VARCHAR(50) NOT NULL,
    PRIMARY KEY (SID),
    UNIQUE (Email)
);

CREATE TABLE resource
(
    Name VARCHAR(50) NOT NULL,
    RID INT NOT NULL,
    Type VARCHAR(50) NOT NULL,
    CID INT NOT NULL,
    PRIMARY KEY (RID),
    FOREIGN KEY (CID) REFERENCES Course(CID)
);
```

```
CREATE TABLE Evaluation
(
    EID INT NOT NULL,
    Comments VARCHAR(255),
    E_Date DATE,
    SID INT NOT NULL,
    IID INT NOT NULL,
    PRIMARY KEY (EID),
    FOREIGN KEY (SID) REFERENCES Student(SID),
    FOREIGN KEY (IID) REFERENCES Instructor(IID)
);

CREATE TABLE Question
(
    QID INT NOT NULL,
    Weight INT NOT NULL,
    Qname VARCHAR(50) NOT NULL,
    PRIMARY KEY (QID)
);

CREATE TABLE Answer
(
    AID INT NOT NULL,
    Rate INT NOT NULL,
    QID INT NOT NULL,
    PRIMARY KEY (AID),
    FOREIGN KEY (QID) REFERENCES Question(QID)
);

CREATE TABLE Teach
(
    CID INT NOT NULL,
    IID INT NOT NULL,
    PRIMARY KEY (CID, IID),
    FOREIGN KEY (CID) REFERENCES Course(CID),
    FOREIGN KEY (IID) REFERENCES Instructor(IID)
);


CREATE TABLE work_for
(
    DID INT NOT NULL,
    IID INT NOT NULL,
    PRIMARY KEY (DID, IID),
    FOREIGN KEY (DID) REFERENCES Department(DID),
    FOREIGN KEY (IID) REFERENCES Instructor(IID)
);
```

```
CREATE TABLE contains
(
    QID INT NOT NULL,
    EID INT NOT NULL,
    PRIMARY KEY (QID, EID),
    FOREIGN KEY (QID) REFERENCES Question(QID),
    FOREIGN KEY (EID) REFERENCES Evaluation(EID)
);
```

b. Insert Statements:

```
INSERT INTO `department`(`Name`, `DID`)
VALUES ("ICS",1),("MATH",2);

INSERT INTO `instructor`(`Name`, `IID`, `Office_Phone_number`, `Email`,
`Office_location`, `website`)
VALUES ("Adam",1,055123456,"ADAM SALAHADIN","22-
314","http://faculty.kfupm.edu.sa/ics/adam/");

INSERT INTO `course`(`Name`, `CID`, `whatsapp_group_link`, `prerequisites`, `DID`)
VALUES ("ICS324",324,"www.whatsapp.com","ICS202",1);

INSERT INTO `resource`(`Name`, `RID`, `Type`, `CID`)
VALUES ("ics 324 major1 192",1212,"old exam",324);

INSERT INTO `student`(`Name`, `SID`, `Email`, `Major`)
VALUES ("waleed",201600000,"s201600000@kfupm.edu.sa","SWE" );

INSERT INTO `teach`(`CID`, `IID`)
VALUES (324,1);

INSERT INTO `work_for`(`DID`, `IID`)
VALUES (1,1);

INSERT INTO `evaluation`(`EID`, `Comments`, `E_Date`, `SID`, `IID`)
VALUES (1,"prfect",2020-11-5,201600000,1);

INSERT INTO `question`(`QID`, `Weight`, `Qname`)
VALUES (1,2,"quizzes");

INSERT INTO `answer`(`AID`, `Rate`, `QID`)
VALUES (1,5,1);

INSERT INTO `contains`(`QID`, `EID`)
VALUES (1,1);
```

5- How did we Implemented Phase 3

- We implement the logical and conceptual design into database as in phase 2 and in phase3 we connect the database to our application.

6- The tools and resources we used

- The tools we use are HTML, CSS, JavaScript, Bootstrap4 for front-end and python(Django framework) for the backend and we used MySQL for the database.

7- The problems we faced:

- First time to work with Django framework
- First time we work with control-version
- Merging our code
- Storing and retrieving information from database since we used phpMyAdmin because Django require specific setting for database

8- What we learn from this project:

- Best practice of having a good database design
- Designing ERD which help us in understanding how databases work
- Mapping ERD into logical design
- Implementing logical design into database tables
- MySQL syntax
- Learning front-end languages (e.g. HTML, CSS, JS)
- Learning new framework(Django)

9- Required Operations

a. Operations of admin:

Add new department	Add new instructor	Add new course	Add new question	Delete bad comments	Delete course material	Delete instructor page
100%	100%	100%	100%	50%	50%	100%

b. Operation of students:

Browse courses material list	Download a resource	Upload a resource	Make new evaluation
100%	100%	100%	100%

c. Operation of guest:

Sign up	Browse department list	Browse department's faculty list	Browse instructor information	Browse old evaluations	Sort evaluations by data	Browse courses list
100%	100%	100%	20%	100%	20%	100%

d. General functions:

log in	Log out
100%	100%

10- Extra things done:

Using 3-Tiers architecture	Hashing passwords	Using strong password (8-charcter long, letters and numbers, Not common pass Not similar to username)	Bootstrap for responsive design

11- lists of the tasks done by each group member

Team member	tasks
Nawaf Alfaifi	draw conceptual diagram, convert the conceptual to logical diagram, implement the logical diagram in MySQL, add new department, add new course, browse departments list, browse course material list, sign up
Waleed Alfaifi	draw conceptual diagram, convert the conceptual to logical diagram, implement the logical diagram in MySQL, add new instructor, add new question, browse courses list, log in
Abdallah Alfaifi	Make new evaluation, browse faculty list, draw conceptual diagram, convert the conceptual to logical diagram, implement the logical diagram in MySQL, log out

12- Suggestions For future ICS324 projects:

1. Increasing the time for phase three
2. Provide an online DBMS