



CS5200 - SEC02

Database Management Systems

Trainly.io

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Topics:

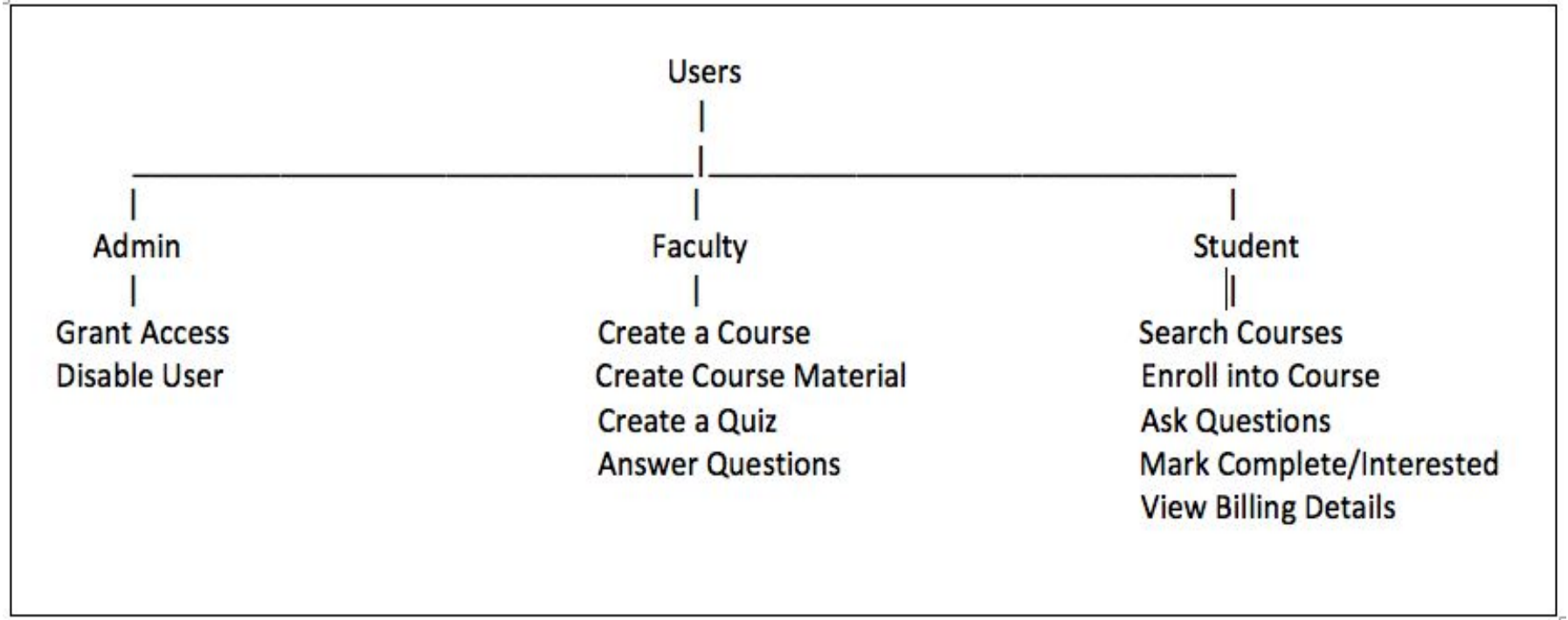
- Introduction
- System Description
- System Architecture
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Introduction

- Training system for students
- Single platform for students to learn and interact with course faculty
- Contains users, courses, course materials and quizzes
- Courses and course materials are managed by faculty
- Students can also post questions related to the course and get them answered by the faculty members
- Complete package to train students in the subjects they are interested



System Description



System Architecture



Bootstrap



PyMySQL

```
def get_db_connection():  
    return pymysql.connect(host='localhost',  
                           user='root',  
                           password='',  
                           db='Trainly',  
                           charset='utf8',  
                           cursorclass=pymysql.cursors.DictCursor)
```

```
connection = get_db_connection()  
with connection.cursor() as cursor:  
    sql = ('SELECT * FROM Course '  
          'JOIN CourseCompleted ON CourseCompleted.courseId = Course.id '  
          'JOIN User ON CourseCompleted.userId = User.userId '  
          'WHERE User.userId = %s '  
          'ORDER BY CourseCompleted.rating DESC;')  
    cursor.execute(sql, (g.user['userId']))  
    completed_courses = cursor.fetchall()
```

Hashlib (SHA256)

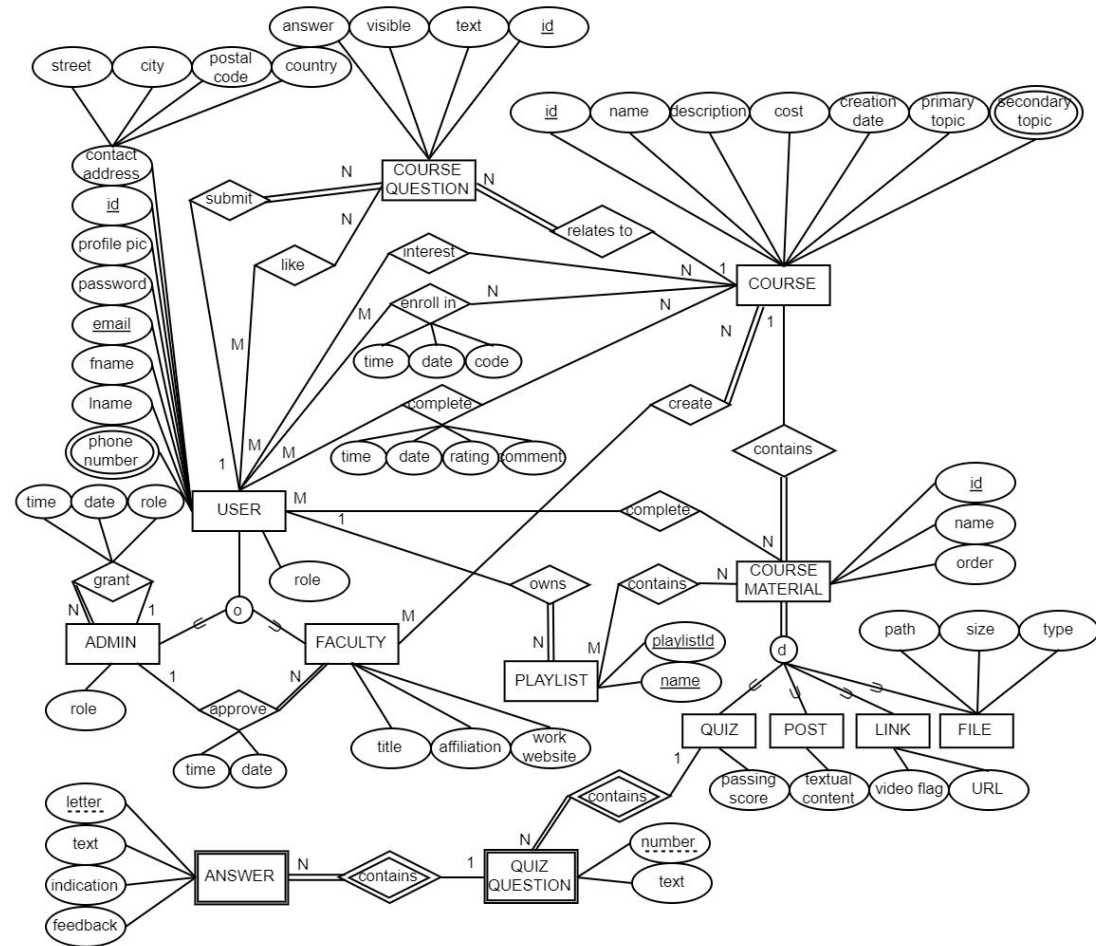
```
salt = get_salt()
salt_plus_password = salt + form.password.data
hash_object = hashlib.sha256(salt_plus_password)
salted_password = hash_object.hexdigest()
```

```
salt_plus_password = user['salt'] + password
hash_object = hashlib.sha256(salt_plus_password)
salted_password = hash_object.hexdigest()
```

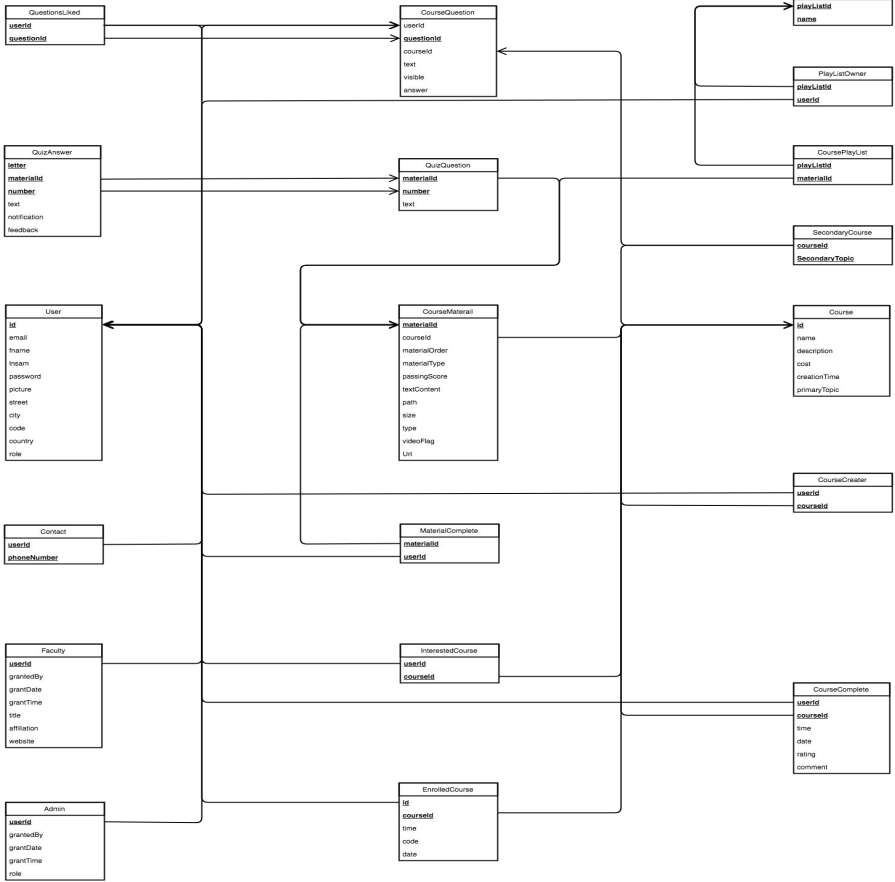
Database Design

- ERD
- Relational Model
- Physical Design

ERD



Relation



Relational Model

User
<u>id</u>
email
fname
Insam
password
picture
street
city
code
country
role

CourseMaterail
<u>materialId</u>
courseId
materialOrder
materialType
passingScore
textContent
path
size
type
videoFlag
Url



Thank
you!!