***ANUDIP FOUNDATION***

A Project Report on

**AI Based Interview Simulator**

By

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The AI-Based Interview Simulator is a web-based application designed to help job seekers prepare for technical and HR interviews through an AI-powered interactive platform. It generates realistic interview questions, evaluates user responses, and provides feedback based on AI-driven analysis. The system mimics real-world interview scenarios to enhance candidates' confidence, communication skills, and subject knowledge.

**Entities:**

**❖ User**

**❖ Interview Session**

**❖ Question**

**❖ Answer**

**❖ Response**

**❖ Report**

**ATTRIBUTES OF ENTITIES:**

**1. User Attributes:**

**●** User\_id (primary key)

● Name

● Mobile\_No (Unique)

● Email (Unique)

● Password

● Experience\_level

**2. Interview\_Session Attributes:**

**●** Session\_Id (primary key)

● User\_Id (foreign key)

● Schedule\_Date

● Start\_Time

● End\_Time

**3. Question Attributes:**

**●** Q\_id (primary key)

● Question\_Text

● Difficulty\_level

● Session\_Id (foreign key)

**4. Answer Attributes:**

**●** Answer\_Id (primary key)

● Q\_ID (foreign key)

● Answer\_Text

● Question\_Text

**5. Response Attributes:**

**●** Response\_Id (primary key)

● User\_Id (foreign key)

● Q\_Id (foreign key)

● Response\_Text

● Correct\_Answer

● AI\_Score

● AI\_Feedback

**6. Report Attributes:**

**●** Report\_Id (primary key)

● Session\_Id (foreign key)

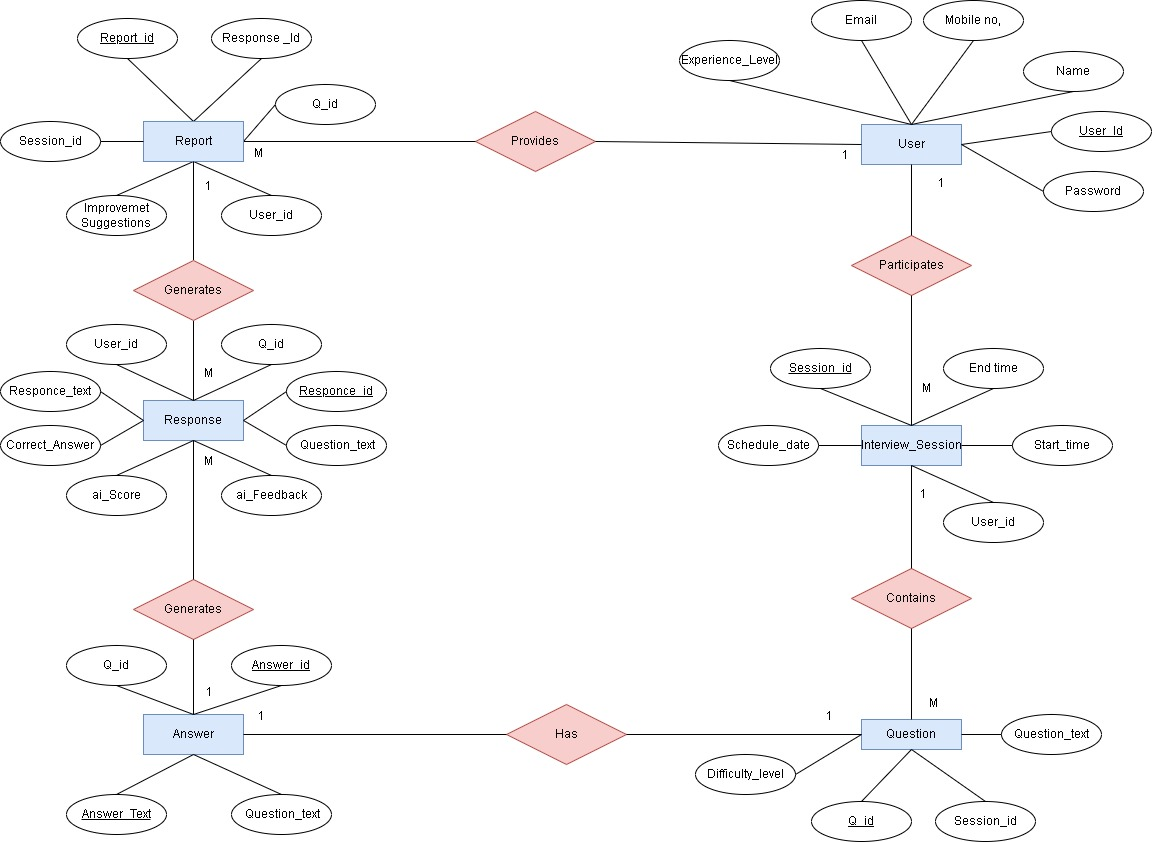
● Response\_Id (foreign key)

● Q\_ID (foreign key)

● User\_Id (foreign key)

● Improvement\_Suggestions

**ENTITY RELATIONSHIP DIAGRAM – AI Based Interview Simulator**



**Database Creation :**

CREATE DATABASE InterviewSimulator;

USE InterviewSimulator;

**-- User Table**

CREATE TABLE User (

User\_Id INT NOT NULL AUTO\_INCREMENT,

Name VARCHAR(100) NOT NULL,

Email VARCHAR(100) NOT NULL UNIQUE,

Mobile\_No VARCHAR(15) NOT NULL UNIQUE,

Password VARCHAR(255) NOT NULL,

Experience\_Level VARCHAR(50),

PRIMARY KEY (User\_Id)

);

-- **Interview Session Table**

CREATE TABLE Interview\_Session (

Session\_Id INT NOT NULL AUTO\_INCREMENT,

User\_Id INT,

Schedule\_Date DATE NOT NULL,

Start\_Time TIME NOT NULL,

End\_Time TIME NOT NULL,

PRIMARY KEY (Session\_Id),

FOREIGN KEY (User\_Id) REFERENCES User(User\_Id) ON DELETE SET NULL

);

-- **Question Table**

CREATE TABLE Question (

Q\_Id INT NOT NULL AUTO\_INCREMENT,

Question\_Text TEXT NOT NULL,

Difficulty\_Level VARCHAR(50),

Session\_Id INT,

PRIMARY KEY (Q\_Id),

FOREIGN KEY (Session\_Id) REFERENCES Interview\_Session(Session\_Id) ON DELETE SET NULL

);

-- **Answer Table**

CREATE TABLE Answer (

Answer\_Id INT NOT NULL AUTO\_INCREMENT,

Q\_Id INT UNIQUE,

Answer\_Text TEXT NOT NULL,

Question\_Text TEXT NOT NULL,

PRIMARY KEY (Answer\_Id),

FOREIGN KEY (Q\_Id) REFERENCES Question(Q\_Id) ON DELETE CASCADE

);

-- **Response Table**

CREATE TABLE Response (

Response\_Id INT NOT NULL AUTO\_INCREMENT,

User\_Id INT,

Q\_Id INT,

Response\_Text TEXT NOT NULL,

Correct\_Answer TEXT NOT NULL,

AI\_Score DECIMAL(5,2),

AI\_Feedback TEXT,

PRIMARY KEY (Response\_Id),

FOREIGN KEY (User\_Id) REFERENCES User(User\_Id) ON DELETE SET NULL,

FOREIGN KEY (Q\_Id) REFERENCES Question(Q\_Id) ON DELETE CASCADE

);

**-- Report Table**

CREATE TABLE Report (

Report\_Id INT NOT NULL AUTO\_INCREMENT,

Session\_Id INT,

Response\_Id INT,

Q\_Id INT,

User\_Id INT,

Improvement\_Suggestions TEXT,

PRIMARY KEY (Report\_Id),

FOREIGN KEY (Session\_Id) REFERENCES Interview\_Session(Session\_Id) ON DELETE SET NULL,

FOREIGN KEY (Response\_Id) REFERENCES Response(Response\_Id) ON DELETE CASCADE,

FOREIGN KEY (Q\_Id) REFERENCES Question(Q\_Id) ON DELETE CASCADE,

FOREIGN KEY (User\_Id) REFERENCES User(User\_Id) ON DELETE SET NULL

);

**Output :**

mysql> use interviewSimulator;

Database changed

mysql> show tables;

+------------------------------+

| Tables\_in\_interviewsimulator |

+------------------------------+

| answer |

| interview\_session |

| question |

| report |

| response |

| user |

+------------------------------+

6 rows in set (0.17 sec)

mysql> desc answer;

+---------------+------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+---------------+------+------+-----+---------+----------------+

| Answer\_Id | int | NO | PRI | NULL | auto\_increment |

| Q\_Id | int | YES | UNI | NULL | |

| Answer\_Text | text | NO | | NULL | |

| Question\_Text | text | NO | | NULL | |

+---------------+------+------+-----+---------+----------------+

4 rows in set (0.07 sec)

mysql> desc interview\_session;

+---------------+------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+---------------+------+------+-----+---------+----------------+

| Session\_Id | int | NO | PRI | NULL | auto\_increment |

| User\_Id | int | YES | MUL | NULL | |

| Schedule\_Date | date | NO | | NULL | |

| Start\_Time | time | NO | | NULL | |

| End\_Time | time | NO | | NULL | |

+---------------+------+------+-----+---------+----------------+

5 rows in set (0.00 sec)

mysql> desc question;

+------------------+-------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+------------------+-------------+------+-----+---------+----------------+

| Q\_Id | int | NO | PRI | NULL | auto\_increment |

| Question\_Text | text | NO | | NULL | |

| Difficulty\_Level | varchar(50) | YES | | NULL | |

| Session\_Id | int | YES | MUL | NULL | |

+------------------+-------------+------+-----+---------+----------------+

4 rows in set (0.00 sec)

mysql> desc report;

+-------------------------+------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------------------+------+------+-----+---------+----------------+

| Report\_Id | int | NO | PRI | NULL | auto\_increment |

| Session\_Id | int | YES | MUL | NULL | |

| Response\_Id | int | YES | MUL | NULL | |

| Q\_Id | int | YES | MUL | NULL | |

| User\_Id | int | YES | MUL | NULL | |

| Improvement\_Suggestions | text | YES | | NULL | |

+-------------------------+------+------+-----+---------+----------------+

6 rows in set (0.00 sec)

mysql> desc response;

+----------------+--------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+----------------+--------------+------+-----+---------+----------------+

| Response\_Id | int | NO | PRI | NULL | auto\_increment |

| User\_Id | int | YES | MUL | NULL | |

| Q\_Id | int | YES | MUL | NULL | |

| Response\_Text | text | NO | | NULL | |

| Correct\_Answer | text | NO | | NULL | |

| AI\_Score | decimal(5,2) | YES | | NULL | |

| AI\_Feedback | text | YES | | NULL | |

+----------------+--------------+------+-----+---------+----------------+

7 rows in set (0.00 sec)

mysql> desc User;

+------------------+--------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+------------------+--------------+------+-----+---------+----------------+

| User\_Id | int | NO | PRI | NULL | auto\_increment |

| Name | varchar(100) | NO | | NULL | |

| Email | varchar(100) | NO | UNI | NULL | |

| Mobile\_No | varchar(15) | NO | UNI | NULL | |

| Password | varchar(255) | NO | | NULL | |

| Experience\_Level | varchar(50) | YES | | NULL | |

+------------------+--------------+------+-----+---------+----------------+

6 rows in set (0.00 sec)