



# *Taqyeem*

*Graduation Project*

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## Summary

### MockRise - Interview Simulation Platform

The project aims to support beginners in the programming field by providing a training environment that simulates real interviews, helping them gain the necessary experience and confidence to succeed. This initiative aligns with the **Digital Egypt Pioneers program (DEPI)** program by offering a practical experience that enhances students' readiness for the job market.

The platform will host **live mock interviews twice a week**, while the remaining days will be dedicated to **scheduling sessions** and **publishing useful content**, including frequently asked questions for trainees. It will also provide educational and guidance materials to help participants develop their skills.

Some interviews may be recorded and uploaded to the platform for others to benefit from, ensuring that no video is published without the participant's consent. The project contributes to strengthening communication skills, reducing interview-related anxiety, and boosting participants' self-confidence.

### Additional Features

#### 1. Family & Friends Interview Mode

- Candidates who wish to practice before their real interviews can invite a trusted family member or friend to act as the interviewer.
- The system will generate a **private Zoom link** that can be shared with the chosen interviewer.
- The interviewer will be provided with a curated list of **technical questions and soft skills questions** tailored to the candidate's applied position, along with suggested answers.
- Only the **interviewer** (family member or friend) will see the full list of questions and answers, while the candidate only sees the questions being asked during the session.
- This mode provides a **safe and supportive practice environment**, helping candidates build confidence before official mock sessions.

#### 2. Peer-to-Peer Knowledge Sharing

- Professionals or students with **experience in a specific role** can conduct interviews with peers who share similar expertise.
- Instead of a one-way evaluation, this feature encourages **mutual knowledge exchange**, where both participants gain insights, refine their skills, and learn advanced interview strategies.
- It helps build a **collaborative learning community** where members grow together by sharing

real-world experiences.

### 3. AI Interviewing Mode

- An **AI-powered interviewer** will conduct fully simulated interview sessions, asking both **technical** and **behavioral** questions based on the user's chosen field.
- The AI will provide **instant feedback** on tone, clarity, and accuracy of answers, as well as suggestions for improvement.
- Users can choose between **voice-based** and **text-based** interview modes.
- This feature allows 24/7 practice sessions, enabling candidates to train at their own pace without needing a human interviewer.
- The AI interviewing system ensures consistency, scalability, and accessibility for all learners.

### Future Expansion

In the future, MockRise aims to expand beyond programming to cover other fields such as **design**, **business management**, and **marketing**, becoming a comprehensive hub that supports youth across various disciplines in developing their professional and interpersonal skills.

## Design Reference

For the user interface and overall visual structure of the platform, the project will draw inspiration from the *Peopled – Online Meeting App Elementor Template Kit*. This template has been selected as a reference due to its professional, modern, and user-friendly design, which aligns with the objectives of creating an intuitive and accessible environment for conducting interview simulations.

**Reference:** Peopled – Online Meeting App Template

# 1. Project Planning

## 1.1 Overview

**Taqyeem** is an AI-powered interview simulation platform designed to help beginners and job seekers practice real interview experiences in a supportive and realistic environment. The platform combines **AI-driven interviews**, **peer-to-peer mock sessions**, and **family/friends interview mode** to boost candidates' confidence, communication, and technical readiness for the job market.

## 1.2 Objectives

- Provide a realistic **AI-driven interview simulation** for students and fresh graduates.
- Offer a safe, judgment-free environment for **mock interviews** and **peer evaluations**.
- Help users track their **performance, confidence level, and skill growth**.
- Support Egypt's **Digital Egypt Pioneers Initiative (DEPI)** by preparing youth for digital careers.

## 1.3 Scope

- **Web and mobile platform** accessible to users for interview practice.
- Integration with **AI models** to simulate technical and behavioral interviews.
- Features include:
  - AI Interview Mode
  - Peer-to-Peer Interviewing
  - Family & Friends Interview Mode
  - Progress Tracking and Feedback Reports
  - Resource Library (FAQs, tips, video tutorials)

## 1.4 Deliverables

<b>Deliverable</b>	<b>Description</b>
Functional prototype Web & mobile application MVP with core interview features	
Database	Centralized database for users, sessions, feedback, and content
AI Interview module	AI chatbot integrated to conduct and evaluate interviews
Documentation	Project report, UI/UX wireframes, architecture, ER diagram
Presentation	Final demo and slide deck for DEPI submission

## 1.5 Project Timeline

<b>Phase</b>	<b>Duration</b>	<b>Key Tasks</b>
Phase 1 – Planning & Research	Week 1–2	Requirements gathering, design planning
Phase 2 – Design & Prototyping	Week 3–4	UI/UX design, ER diagram, mockups
Phase 3 – Development	Week 5–8	Implement core modules, AI integration
Phase 4 – Testing	Week 9–10	Functionality and usability testing
Phase 5 – Deployment & Demo	Week 11–12	Final deployment and DEPI presentation

## 2. Stakeholder Analysis

Stakeholder	Role	Interest	Influence
<b>Students / Candidates</b>	End users	Practice interviews and improve skills	High
<b>DEPI Program Mentors</b>	Evaluators	Ensure project meets training goals	High
<b>MockRise Development Team</b>	Creators	Design, build, and maintain the platform	High
<b>AI System (ChatGPT/OpenAI API)</b>	AI Interviewer	Generate and evaluate interview sessions	Medium
<b>Admins</b>	Managers	Manage users, sessions, and reports	High
<b>Family/Friends Interviewers</b>	Supportive interviewers	Help candidates practice informally	Low
<b>Peer Mentors</b>	Skilled users	Conduct peer-to-peer interviews	Medium

## 3. Database Design

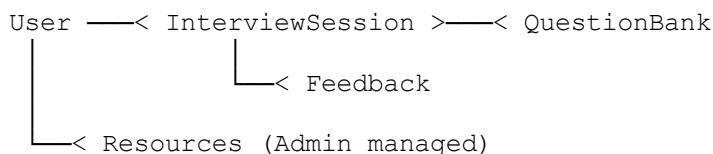
### 3.1 Key Entities

- **User** (UserID, Name, Email, Password, Role, ExperienceLevel)
- **InterviewSession** (SessionID, UserID, Type, Date, Duration, AI\_Feedback, Score)
- **QuestionBank** (QuestionID, Category, Difficulty, QuestionText, SuggestedAnswer)
- **Feedback** (FeedbackID, SessionID, Comment, Score, EvaluatorID)
- **Resources** (ResourceID, Title, Type, URL)

### 3.2 Relationships

- One **User** → Many **InterviewSessions**
- One **InterviewSession** → Many **Feedback** entries
- Many **InterviewSessions** → Many **Questions** (through junction table **SessionQuestions**)
- Admins manage **Resources** and **Users**

### 3.3 ER Diagram (Text Representation)



## 4. System Architecture

## 4.1 Overview

MockRise follows a **modular, cloud-based architecture** integrating AI services for dynamic interviews.

## 4.2 Architecture Diagram (Textual Layout)

```
[Web/Mobile Frontend]
  ↓
[Backend Server - Node.js/Express]
  ↓
[AI Microservice - OpenAI API / LLM Model]
  ↓
[Database - MongoDB / MySQL]
  ↓
[Cloud Storage - for video sessions and resources]
```

## 4.3 Components

- Frontend (React / React Native):** Handles user interfaces and interactions.
- Backend (Node.js + Express):** API layer for data processing, authentication, and AI requests.
- AI Service (OpenAI API):** Generates interview questions, evaluates answers, and gives feedback.
- Database (MongoDB or MySQL):** Stores users, sessions, and resources.
- Cloud (Render/Netlify + Firebase):** For deployment, hosting, and optional video storage.

## 5. User Stories

ID	As a...	I want to...	So that I can...	Priority
US1 Candidate		Register and create a profile	Start using MockRise to practice interviews	High
US2 Candidate		Join an AI interview session	Simulate a real interview experience	High
US3 Candidate		Invite a friend/family member	Practice in a supportive environment	Medium
US4 Candidate		Review my feedback and score	Identify areas for improvement	High
US5 Peer Mentor	Conduct peer-to-peer interviews		Share and gain technical knowledge	Medium
US6 Admin		Manage users and resources	Keep the platform updated and safe	High
US7 Candidate		Access video tutorials and FAQs	Learn interview techniques	Medium
US8 AI System		Evaluate answers and give feedback	Help the candidate improve	Critical

## 6. AI Integration Flow

### 6.1 Flow Description

1. **User selects interview type** (technical, HR, or mixed).
2. The **backend** sends a request to the **AI service** with role, experience level, and category.
3. The **AI model** generates dynamic interview questions.
4. The **user responds** (via text or voice).
5. The AI:
  - o Analyzes response sentiment and structure
  - o Evaluates correctness and clarity
  - o Provides feedback and suggestions
6. The system **stores feedback** and **updates user progress**.

## 6.2 Flow Diagram (Textual)

User → Backend → AI API → AI Response → Backend → Database → User Dashboard

## 6.3 Example Prompt to AI

“You are an interviewer for a Junior Frontend Developer role. Ask the candidate 5 questions related to HTML, CSS, JavaScript, and one soft skill question. Evaluate each response from 1–10 and provide constructive feedback.”

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## 7. Technology Stack

Layer	Technology	Purpose
Frontend	React.js / React Native	User interface (web + mobile)
Backend	Node.js + Express	API, authentication, logic
Database	MongoDB (or MySQL)	User/session data storage
AI Engine	OpenAI GPT API	Interview question generation and evaluation
Deployment	Render / Netlify / Firebase	Hosting and storage
Authentication	Firebase Auth / JWT	Secure login and access
Communication	Zoom API / WebRTC	Video interview sessions
Design Tools	Figma / Canva	UI/UX design and prototyping

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## 8. UI/UX Design

### 8.1 Design Principles

- **Simplicity:** Minimal distractions for focus.
- **Accessibility:** Clean layouts and color contrast.
- **Consistency:** Unified color palette and typography.
- **Feedback:** Visual cues (progress bars, scores, badges).

### 8.2 Color Palette

- Primary: #3B82F6 (Blue)
- Accent: #F97316 (Orange)
- Background: #F9FAFB (Light Gray)
- Text: #1E293B (Dark Gray)

## 8.3 User Flow

Landing Page → Sign Up → Choose Interview Mode → AI or Peer Session → Feedback Dashboard → Resources

## 8.4 Wireframe Summary

**Web:** Dashboard, Interview Room, Feedback Page

**Mobile:** Simplified navigation with quick access to “Start Interview” and “Resources”

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## 9. Future Expansion

- Add career paths for **Design, Marketing, and Business** interviews.
  - Build a **leaderboard** to gamify user progress.
  - Introduce **AI-based resume review and cover letter generator**.
  - Enable **Arabic-language interviews** for wider accessibility.
- 

## 10. Conclusion

MockRise is a forward-thinking platform that aligns with DEPI’s vision by empowering Egyptian youth with real-world digital skills.

Through **AI simulations, peer learning, and supportive training**, it bridges the gap between academic learning and professional readiness.