SkillHive - An E-Learning Platform

Overview

In today's digital age, online education bridges the gap between learners and knowledge. The E-Learning Platform will empower candidates and instructors by creating a seamless, interactive, and organized learning environment.

Project Objectives

- Build an intuitive platform to streamline online learning.
- Enable administrators to manage courses, instructors, and candidates efficiently.
- Offers candidates the chance to enroll in courses and participate in assessments.
- Provide instructors with tools to manage courses and interact with candidates.
- Enhance issue resolution with an integrated helpdesk.

Components to implement

1. **User Authentication and Role Management:** Implements secure login and role-based access for candidates, instructors, and administrators.
2. **Course Management:** Allows administrators and instructors to create and manage courses efficiently, including enrollment management and course settings.
3. **Candidate Management:** Enables candidates to manage their profiles, enroll in courses, raise tickets during the learning phase, take up assessment after the course is over, obtain a score, and review assessment.
4. **Instructor Module:** Facilitates instructors in managing their courses, creating assessment content, and interacting with candidates.
5. **Assessment and Grading System:** Supports creating and administering assessments (quizzes) and provides the corresponding gradings.
6. **Helpdesk Module:** Provides a system for candidates to raise queries or issues and receive timely assistance from corresponding instructors.

Modules and Features

1. User Authentication and Role Management

Purpose: To ensure secure and role-specific access to the platform.

Roles: Admin, Instructor, Candidate.

Core Functionalities:
- **Secure Login:** Role-based login for Admin, Instructor, and Candidate.
- **Registration:** Candidate self-registration via "Enroll Now."
- **Password Management:** Password reset and recovery options.
- **Role Management:** Role-specific dashboards and feature access.

2. Course Management

Purpose: Manage course details, scheduling, and enrollment effectively.

Admin Features:
- Add, update, or delete courses (based on end date).
- View courses filtered by: Instructor, Technology, and Status (Ongoing, Upcoming)

Candidate Features:
- View all courses
- View details of the course enrolled in, including duration and instructor information.

Instructor Features:
- View assigned courses with details.

Screenshot 2.1: Creation of a course as Admin

Screenshot 2.2: View upcoming course(s) as Admin

Screenshot 2.3: Course(s) deletion as Admin

SkillHive - Admin Dashboard   Courses   Candidates   Instructors   Assessments   My Profile

Course Management - Deletion

Course ID	Course Name	Instructor Name	Number of Candidates	Course Completion Date	Action
C101	Data Structures Basics	Ben Stokes	35	2023-09-15	Delete
C102	Introduction to SQL	Pat Cummins	40	2023-10-20	Delete
C103	JavaScript Fundamentals	Joe Root	28	2023-08-10	Delete
C104	Python for Beginners	David Warner	50	2023-11-25	Delete
C105	Web Development Basics	Marcus Stoinis	45	2023-07-30	Delete
C106	Machine Learning Intro	Alex Carey	22	2023-12-05	Delete
C107	React JS Essentials	Travis Head	30	2023-10-01	Delete
C108	Data Visualization	Chris Woakes	33	2023-09-12	Delete
C109	Cloud Computing Basics	Steve Smith	38	2023-08-20	Delete
C110	Cybersecurity Essentials	Moeen Ali	42	2023-11-15	Delete

Save

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3. Instructor Management

Purpose: Maintain detailed information about instructors and their roles.

Admin Features:
- Add, update, or delete instructor records.
- Filter instructors by technology, rating.
- View all instructors.

Instructor Features:
- View assigned courses, view all instructors, and filter them by technology.

Candidate Features:
- View instructor profile for enrolled courses.

Screenshot 3.1: View all instructors as Admin

SkillHive - Admin Dashboard   Courses   Candidates   Instructors   Assessments   My Profile

IT Instructors Overview

Instructor Name	Designation	Upcoming Course	Start Date	End Date	Candidates Enrolled	Instructor Rating
John Doe	Big Data Analytics Instructor	Introduction to Big Data	2025-01-15	2025-01-30	25	4.5 / 5
Jane Smith	Cloud Computing Instructor	AWS Essentials	2025-02-10	2025-02-20	30	4.8 / 5
Rajesh Kumar	Data Science Instructor	Machine Learning Basics	2025-03-01	2025-03-15	20	4.7 / 5
Emily Johnson	Cybersecurity Instructor	Network Security Fundamentals	2025-04-05	2025-04-20	18	4.6 / 5
Michael Brown	AI Instructor	Artificial Intelligence Basics	2025-01-10	2025-01-25	22	4.4 / 5
Susan Clark	DevOps Instructor	CI/CD Essentials	2025-02-05	2025-02-15	28	4.9 / 5
David Lee	Data Visualization Instructor	Power BI Essentials	2025-03-10	2025-03-25	19	4.7 / 5
Olivia Martinez	Mobile App Development Instructor	Android App Basics	2025-04-15	2025-04-30	17	4.3 / 5
Chris Wilson	Cloud Computing Instructor	Google Cloud Fundamentals	2025-05-01	2025-05-15	26	4.6 / 5
Anna Bell	Machine Learning Instructor	Advanced ML Techniques	2025-06-01	2025-06-20	15	4.8 / 5
William Davis	Cybersecurity Instructor	Ethical Hacking Basics	2025-07-01	2025-07-10	20	4.7 / 5
Jessica Adams	Software Development Instructor	Full Stack Development	2025-08-01	2025-08-15	30	4.9 / 5

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4. Candidate Management

Purpose: Facilitate candidate registration, profile management, and course tracking.

Admin Features:
- View all candidates, and filter them by course, and technology.
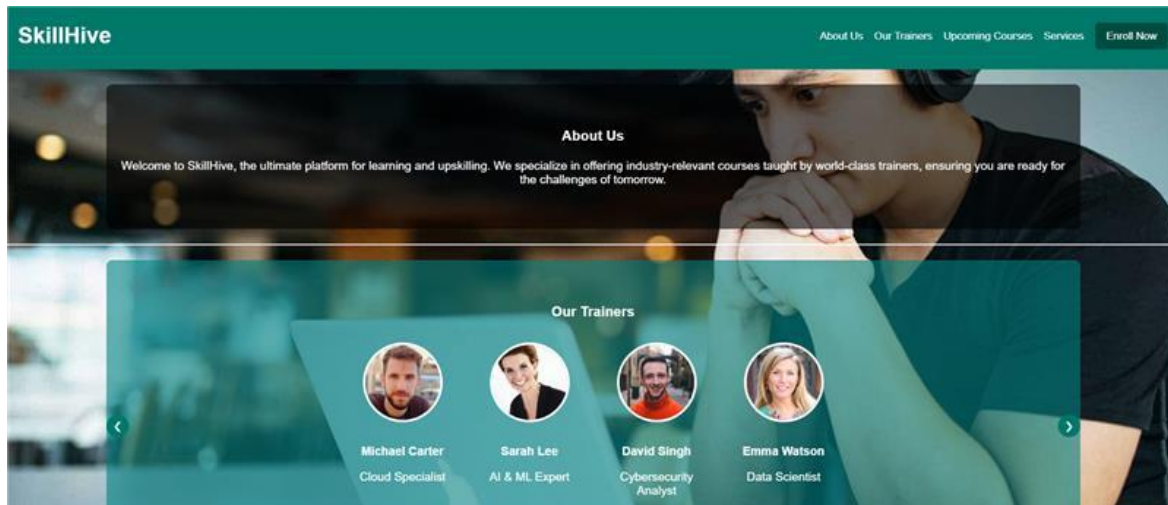- Manage candidate profiles (delete).

Instructor Features:
- View all enrolled candidates (for the course for which he/she is an instructor)

Candidate Features:
- Self-register via "Enroll Now."
- Update personal profile details.

Screenshot 4.1: Home page displayed to the candidate before enrolling

5. Assessment and Grading

Purpose: Schedule, administer, and grade assessments for courses.

Admin Features:
- Schedule assessment date for each course (default: 4 days post-course completion).

Instructor Features:
- Create data for MCQs (questions, choices, correct answer) and display the same in the UI page.
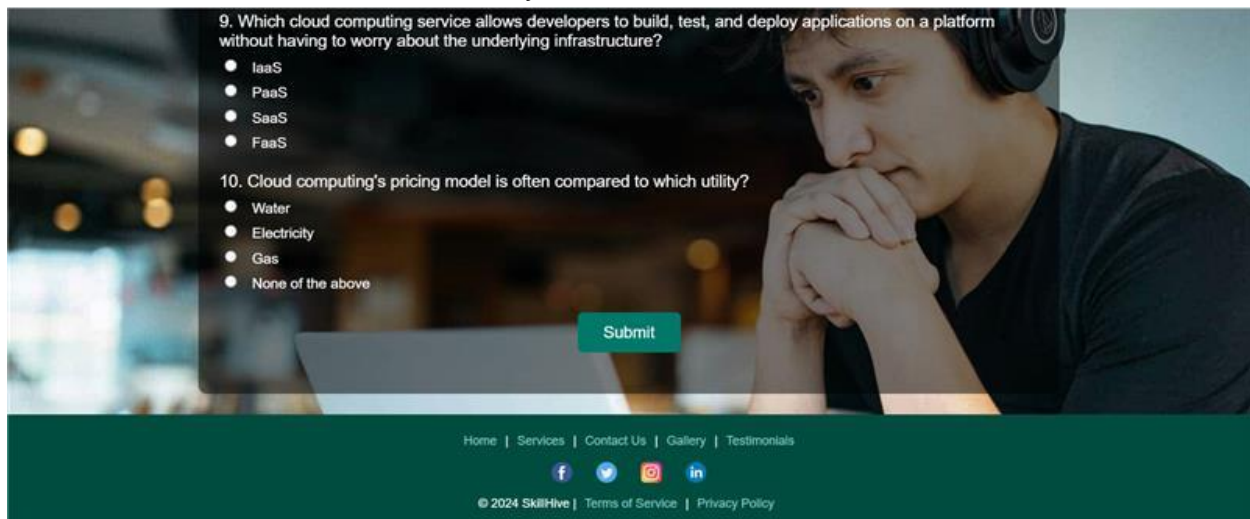- Score calculation.

Candidate Features:
- Attempt MCQ assessments.
- Submit assessments and view score on submission.

Screenshot 5.1: MCQ attempt by candidate

Screenshot 5.2: MCQ submission by candidate

6. Helpdesk System

Purpose: Resolve issues and answer queries through a ticket-based system.

Candidate Features:
- Raise tickets for queries or technical issues.
- Track / view by ticket status and view all raised tickets with replies.

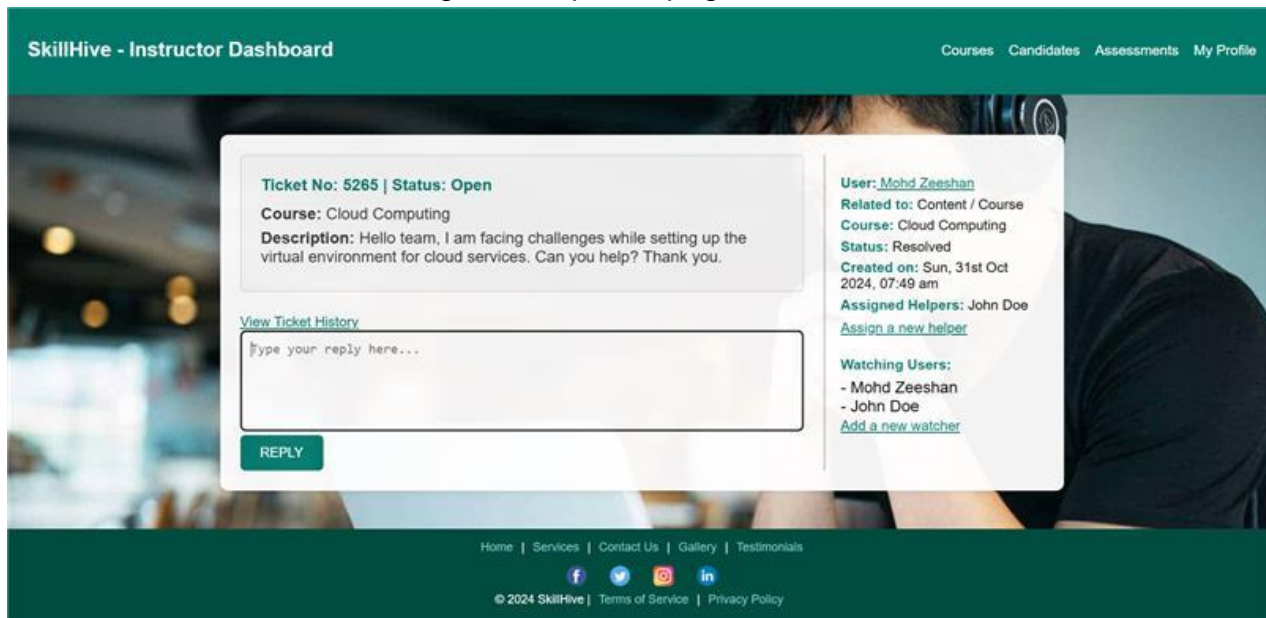**Instructor Features:**
- Respond to candidate tickets.

Admin Features:
- View all tickets, view tickets by status, view tickets by course.

Screenshot 6.1: Ticket viewing and response page

Artifacts to be delivered during the Project Phase

- o Objectives and Business Scope
- o Project Team
- o UI Wireframe
- o Mock server Dataset

Technology Stack

Component	Technology
Framework	Angular
Backend	Mock JSON API Server

Software Requirements:

- o Angular v17 / v18
- o Node v20 and above
- o npm v10.2.3 and above

Project Milestones and Tasks:

Milestone	Weeks	Expected Task Completion
1	Week 1 & 2	Artifacts
2	Week 3 & 4	Back-end module implementation
3	Week 5 & 6	Front-end module implementation
5	Week 7 & 8	Project Integration

Note: The attached sample wireframes are provided for reference only, and not all screens are included. You are encouraged to incorporate your creativity and innovation into the design.