



**CODECELL-CMPN, VESIT**

# **SYRUS HACKATHON 2025**

**Category Code:** C1 (Open Innovation)

**Problem Statement Title:** EduTrade - Swap Skills, Gain Expertise

**Team Name:** Caffeine Coder

**Institute Name:** Vivekanand Education Society's Institute of Technology



# Idea / Approach details (& implemented features)

**Problem Statement:** Many individuals struggle with limited access to quality education, skills mismatching job market demands, financial constraints, and lack of professional networks, leading to unequal job opportunities.

**Solution Overview:** EduTrade is an AI-powered platform that bridges the gap between learning and employment. It provides personalized skill assessments, free learning resources, AI-driven job matching, a Skill Swap Marketplace, and instant resume generation to help users secure sustainable careers.

## User Roles & Features:

- **Learner:** Skill swap, job applications, study groups, AI recommendations.
- **Mentor:** Skill validation, learning sessions, career guidance
- **Employer:** Job postings, candidate reviews, interviews.



# Innovation (Showstopper)

## 1. Skill Swap Marketplace

- Users exchange skills (e.g., coding for UI/UX) using a time-based token system.
- AI or manual matching ensures fair and relevant learning exchanges.

## 2. Job Market Integration

- AI-driven smart job matching connects users with relevant opportunities.
- Includes resume building, interview prep, and direct recruitment.

## 3. Instant AI Resume & Portfolio Generator

- AI creates professional resumes, cover letters, and project portfolios.
- Real-time updates based on new certifications and work experience.

## 4. Gamified Skill Challenges & Hackathons

- Daily challenges, leaderboards, and digital badges for skill mastery.
- Community-driven hackathons to foster engagement and innovation.

## 5. Personalized Study Groups & Accountability Buddies

- AI matches users with peers and mentors based on learning goals.
- Virtual study groups with progress tracking for motivation.

## 6. Instant Skill Endorsements from Mentors

- Industry experts validate skills based on projects and performance.
- Enhances credibility, boosting job and freelancing prospects.



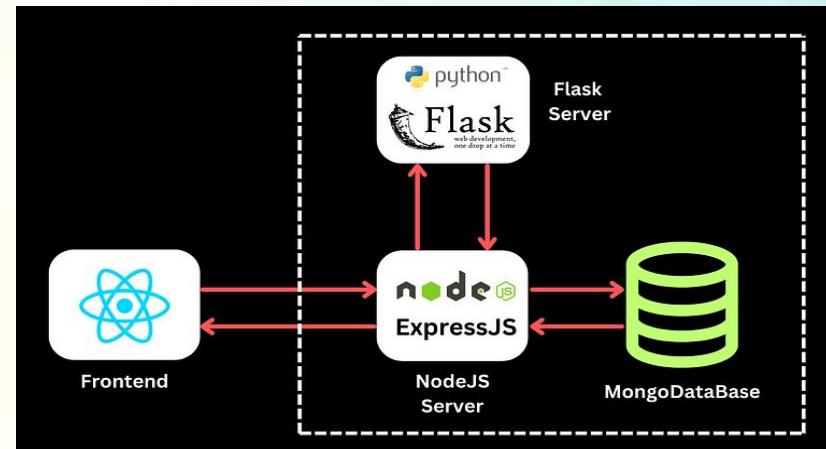
# Tech Stack

**Frontend:** React.js

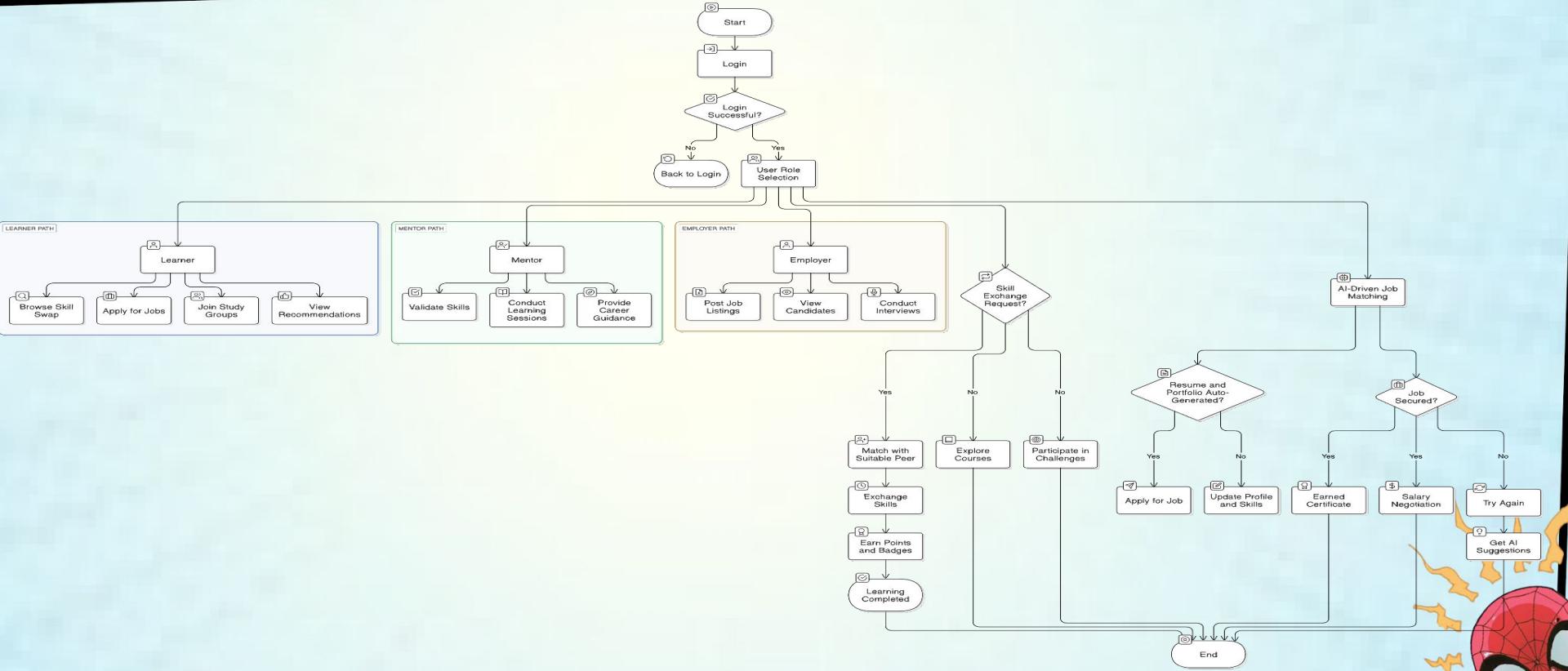
**Backend:** Node.js, Flask

**Database:** MongoDB

**Machine Learning:** Python



# Use Case Diagram



# Implementation



## Welcome to EduTrade

Your all-in-one platform for learning, mentorship, and career growth. Connect with experts, share knowledge, and accelerate your professional journey.

 For Learners

Access quality education, connect with mentors, and find job opportunities.

- Book 1-on-1 mentoring sessions
- Track your learning progress
- Get personalized job matches

 For Mentors

Share your knowledge, guide learners, and build your professional network.

- Create your teaching profile
- Earn points and certificates
- Flexible scheduling

 For Employers

Find talented candidates, post job opportunities, and grow your team.

- Access verified talent pool
- Post job opportunities
- Track applicant progress

### Key Features

 Skill Swap

Learn and teach skills, earning points for every hour of participation

 Expert Mentorship

Connect with industry professionals for personalized guidance

 Certifications

Earn recognized certificates through points and assessments

 Job Board

Find opportunities matched to your skills and experience

## Landing Page

- **Welcome Section** – Introduces EduTrade as a platform for learning, mentorship, and career growth.
- **User Categories** – Sections for **Learners, Mentors, and Employers** with their respective benefits.
- **Key Features** – Highlights **Skill Swap, Expert Mentorship, Certifications, and Job Board**.
- **User Engagement** – Encourages **skill-sharing, learning progress tracking, and job matching**.
- **Modern UI/UX** – Clean, responsive design using **React.js and Tailwind CSS** for easy navigation.
- **Call to Action** – Directs users to sign up and explore the platform's services.



# Implementation

The screenshot shows the EduTrade login page. At the top, there is a navigation bar with the EduTrade logo, a search bar, and links for "About Us", "Contact", "Privacy Policy", and "Terms of Service". Below the navigation bar is the main content area. On the left, there is a sidebar with "Quick Links" containing "About Us", "Contact", "Privacy Policy", and "Terms of Service". In the center, there is a "Login to EduTrade" form with fields for "Email" (containing "vedantsanap1234@gmail.com") and "Password". Below the password field is a blue "Login" button. To the right of the login form is a "Get Started" button. At the bottom of the page, there is a footer with sections for "EduTrade" (described as "Connecting learners, mentors, and employers in a collaborative learning ecosystem"), "Follow Us" (with icons for LinkedIn, GitHub, and YouTube), and a "Newsletter" sign-up form with an "Enter your email" input field and a "Subscribe" button. The footer also includes a copyright notice: "© 2024 EduTrade. All rights reserved."

## Role Based Login

- **Role-Based Authentication** – Users log in with unique credentials and access features based on their role (Learner, Mentor, or Employer).
- **Secure Access Control** – Ensures restricted access to role-specific functionalities using authentication keys or tokens.
- **Learner Dashboard** – Provides access to courses, progress tracking, and feedback submission.
- **Mentor Dashboard** – Enables content creation, feedback management, and interaction with learners.
- **Employer Dashboard** – Allows job postings, candidate searches, and engagement with potential hires.
- **Session Management** – Uses JWT or OAuth for secure login sessions and role verification.



# Implementation

Welcome back,  
Continue your learning journey

Search for jobs... Search for skills to learn...

Learning Progress  
75%  
React Advanced Course

Active Mentors  
2 Weekly sessions

Skill Points  
150 Available for redemption

Current Learning Path

- Frontend Development  
React & TypeScript Mastery
- Backend Development  
Node.js & Express

Update Goals

Upcoming Sessions

- React Advanced Patterns with John Doe • Today 2:00 PM
- Career Strategy Session with Jane Smith • Tomorrow 11:00 AM

Book Session

Recommended Job Matches

- Senior Frontend Developer  
TechCorp Inc.  
React TypeScript Next.js 95% Match
- Full Stack Developer  
InnovateLabs  
Node.js React MongoDB 88% Match

View All

## Learner Dashboard

- **Personalized Dashboard** – Displays learning progress, mentors, and available skill points.
- **Search & Navigation** – Users can search for jobs or skills to learn efficiently.
- **Current Learning Path** – Tracks progress in frontend and backend development courses.
- **Upcoming Sessions** – Scheduled mentoring sessions with topics and mentors.
- **Job Recommendations** – AI-driven job matches based on skills and progress.
- **Quick Actions** – Buttons for **Resume Builder**, **Skill Swap**, and **Find a Mentor** for career growth.



# Implementation

The screenshot shows the Skill Swap application interface. At the top, there's a navigation bar with 'Skill Swap' and a 'Learn, teach, and earn points for certificates' message. Below it, four summary cards show: Teaching Hours (12), Learning Hours (8), Points Earned (150), and Active Sessions (3). A 'Learn Skills' tab is selected. Below the tabs is a search bar with placeholder 'Search for skills to learn...'. Underneath are two cards for users: 'John Doe' (React & TypeScript Expert) and 'Jane Smith' (Node.js Developer). Each card includes a 'Book Session' button.

## Skill Swap

- **Learn & Teach Skills** – Users can exchange skills to earn points and certificates.
- **Performance Tracking** – Displays **Teaching Hours, Learning Hours, Points Earned, and Active Sessions**.
- **Search & Discover** – Users can find experts based on skills like **React, TypeScript, Node.js, etc.**
- **Book Sessions** – Allows easy scheduling of skill exchange sessions with mentors.
- **Dual Mode** – Users can **Learn Skills or Teach Skills** to contribute to the community.
- **Gamification** – Encourages participation by rewarding points for teaching and learning.



# Implementation

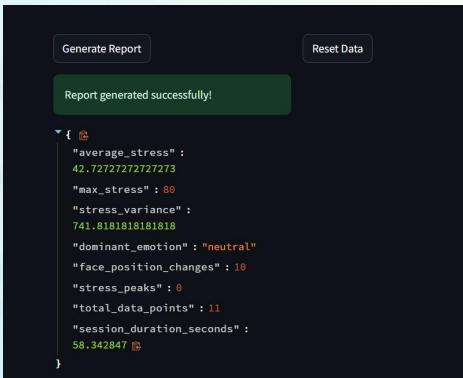
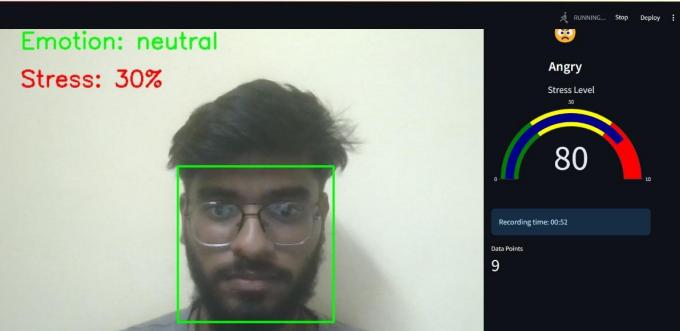
The screenshot displays three main components of the EduTrade platform:

- Top Left:** A course thumbnail for "React in 10 hours" featuring an atom icon and a progress bar indicating "OVER 100%". Below it is a "Course Content" list with items like "Introduction to React" (15:00), "TypeScript Basics" (20:00), and "Building Components" (22:15).
- Top Right:** A "Live StreamAI App" window showing a video feed of a person wearing a green headband with sensors, labeled "Stress: 30%". Below the video is a "Course Content" list identical to the one on the left.
- Bottom:** A "View Courses" section with a "Video Feedback" form. It shows a 4.5/5 rating from 2 reviews, a "Submit Feedback" button, and two comments from users: Sarah Johnson (5 stars, 2 days ago) and Michael Chen (5 stars, 1 week ago).

- **Embedded Video Lectures** – Users can **watch courses directly** via an embedded YouTube player.
- **Live Emotion Analysis** – Integrated **AI-based emotion detection** shows real-time stress levels and emotions.
- **Course Progress Tracking** – Users can see **completed and pending lessons** in the course content list.
- **Instructor Information** – Displays **instructor name** and course details for better user engagement.
- **Structured Course Content** – Lessons are **categorized** with duration (e.g., **15:30 mins** for "Introduction to React").
- **Feedback System** – Enables users to rate and review course content.

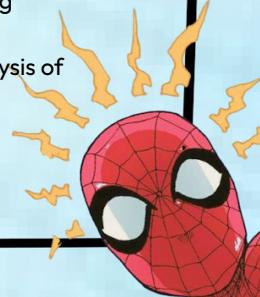


# Implementation

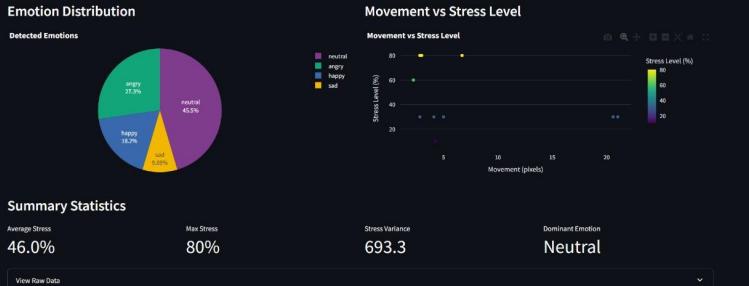


## Key Features of the Emotion and Stress Tracking System:

- **Real-Time Emotion & Stress Detection:** Captures emotions (neutral, angry, happy, sad) and stress levels on a 0-80% scale, with the dominant emotion recorded as neutral in this session.
- **Stress & Emotion Visualization:** Includes a stress timeline graph, an emotion distribution pie chart, and a heatmap linking facial positions to stress intensity.
- **Detailed Session Analytics:** Provides average stress (46%), maximum stress (80%), stress variance (693.3), and total recording duration (~58 seconds) with 11 data points.
- **Facial Tracking & Movement Analysis:** Tracks face position, detects subtle movements (10 recorded position changes), and uses a green bounding box for face detection.
- **Correlation Between Emotion & Movement:** Analyzes how emotional states relate to physical movement, measuring movement in pixels and linking different emotions to varying activity levels.
- **Comprehensive Behavioral Insights:** Offers a multi-dimensional analysis of stress, emotions, and physical movement for better understanding of psychological responses.



# Implementation



ID	Date	Time	Stress Level (%)	Movement (pixels)	Face X	Face Y	Emotion
1	2023-03-18	20:24:50	70	324	219	53917	neutral
2	2023-03-18	20:24:51	60	322	211	53917	angry
3	2023-03-18	20:24:52	70	318	250	45458	neutral
4	2023-03-18	20:24:53	70	310	300	37039	neutral
5	2023-03-18	20:24:54	90	311	301	37039	neutral
6	2023-03-18	20:24:55	90	240	307	9	neutral
7	2023-03-18	20:24:56	90	311	202	2	neutral
8	2023-03-18	20:24:57	80	340	311	61085	neutral
9	2023-03-18	20:24:58	90	330	301	47331	neutral
10	2023-03-18	20:24:59	90	347	309	53758	neutral

[View Raw Data](#)

0.0034 80.0 0.363 3.663 16.1 16.1 16.1 16.1



# Implementation

The dashboard features a top navigation bar with a search bar and a user profile icon. Below this are four main performance metrics:

- Active Mentees:** 12 (+2 this month)
- Sessions This Week:** 5 (2 hours today)
- Open Requests:** 3 (Pending review)
- Skills Validated:** 28 (This month)

Below these are two sections:

- Today's Sessions:** A list of scheduled sessions with "Join" buttons:
  - React Advanced Concepts with Sarah Johnson - 3:00 PM - 4:00 PM
  - Career Guidance Session with Michael Chen - 5:00 PM - 6:00 PM
- Skill Validation Requests:** A list of validation requests with "Approve" and "Decline" buttons:
  - JavaScript - Advanced (Requested by Alex Smith, ES6+, Async/Await, Design Patterns)
  - React.js - Intermediate (Requested by Emma Davis, Hooks, Context, Redux)

## Mentors Dashboard

- Mentee Management** – Track and manage **active mentees** and their progress.
- Session Overview** – Displays **upcoming mentorship sessions** with mentees.
- Skill Validation** – Approve or decline skill validation requests from learners.
- Pending Requests** – View and manage mentorship and skill validation requests.
- Performance Metrics** – Shows sessions conducted, open requests, and skills validated.
- Quick Actions** – Easy access to joining sessions, approving skills, and handling requests.



# Implementation

Logout

## Find Your Mentor

Connect with experienced professionals who can guide your learning journey

The screenshot shows a search interface for finding mentors. On the left, there are filters for Categories (All, Frontend, Backend, Mobile Dev, UI/UX) and Experience Level (Senior (5+ years), Mid-Level (2-5 years)). The main area displays two mentor profiles:

- Sarah Wilson**: Senior Frontend Developer at TechCorp. Rating: ★ 4.9. Specialties: React, TypeScript, Next.js. Description: Passionate about helping developers master modern frontend technologies. Specialized in React ecosystem and performance optimization. Session availability: 50+ sessions, Available this week. Action: Book Session.
- Michael Chen**: Backend Architect at InnovateLabs. Rating: ★ 4.8. Specialties: Node.js, Python, System Design. Description: Expert in scalable backend systems and cloud architecture. Helping developers build robust and efficient server-side applications. Session availability: 35+ sessions, Available next week. Action: Book Session.

## Finding Mentor

- **Mentor Discovery** – Users can search for **mentors based on skills, expertise, or name**.
- **Filtering Options** – Categories include **Frontend, Backend, Mobile Dev, and UI/UX** with experience levels.
- **Mentor Profiles** – Displays mentor details like **name, role, skills, rating, and availability**.
- **Session Booking** – Users can **book sessions** directly from the mentor's profile.
- **User Ratings & Experience** – Mentors are rated (**★ 4.8, ★ 4.9**) based on sessions conducted.
- **Session Availability** – Indicates **when a mentor is available** for booking.



# Implementation

The screenshot shows the Employers Dashboard with the following sections:

- Top Metrics:** Active Listings (8), Total Applicants (45), Talent Matches (15), and Positions Filled (3).
- Recent Applications:** Senior Frontend Developer (4 new applications, posted 2 days ago) and Full Stack Engineer (2 new applications, posted 5 days ago). Each listing has a "Review" button.
- Recommended Candidates:** David Wilson (Frontend Developer, 98% match for Senior Frontend role) and Rachel Thompson (Full Stack Developer, 95% match for Full Stack role). Each profile has a "View Profile" button.

## Employers Dashboard

- Job Listings Overview** – Employers can track **active job postings** and **positions filled**.
- Applicant Tracking** – Displays **total applicants** and **talent matches** based on job fit.
- Recent Applications** – Lists newly received applications with **job titles, posting dates, and review options**.
- Candidate Recommendations** – Suggests **top-matching candidates with match percentage** (e.g., **98% match**).
- Profile Review & Shortlisting** – Employers can **view candidate profiles** and shortlist potential hires.
- Hiring Efficiency Insights** – Tracks **hiring success** through key metrics like **positions filled** and **applicant trends**.



# Implementation

## AI Resume Tailoring Assistant

Upload your resume and job description to create a perfectly tailored application

Upload Your Current Resume  
We'll help you optimize it for your dream job

Drop your resume here  
or click to browse  
Supported formats: PDF, DOC, DOCX

## AI Resume Tailoring Assistant

Upload your resume and job description to create a perfectly tailored application

Enter Job Details

Job Title: Frontend Developer

Company Name: Vistar

Job Description: require frontend intern

Back      Optimize Resume

## Optimized Resume

Match Score: 85%      ATS-Optimized

### Matching Keywords

React.js   Node.js   Full Stack   MongoDB  
JavaScript   API   Git   Team Leadership

### Missing Keywords

AWS   Docker   CI/CD   Agile   Unit Testing

### AI Improvement Suggestions

- Add specific metrics and quantifiable achievements to demonstrate impact
- Include experience with cloud platforms and containerization
- Highlight any experience with Agile methodologies and team collaboration tools

### Tailored Resume Preview

VEDANT SANAP  
Full Stack Developer  
Contact: 8779784305 | vedantsanap123@gmail.com | LinkedIn | Github | Leetcode

**PROFESSIONAL SUMMARY**  
Dedicated Full Stack Developer with hands-on experience in building web applications using modern technologies. Proven track record in developing user-centric solutions and leading technical teams. Strong foundation in both frontend and backend development with expertise in React.js, Node.js, and database management.

## AI Resume Optimizer

**Resume Upload & Parsing** – Users can upload their resume in PDF, DOC, or DOCX format. The system extracts and analyzes the resume content.

**Job Details Input** – Users enter job details like title, company name, and job description to tailor the resume accordingly.

**Keyword Matching & Score** – The system compares the resume against the job description, highlighting matching and missing keywords, and provides a match score.

**AI-Powered Improvement Suggestions** – The tool suggests enhancements such as emphasizing relevant skills, adding metrics, or highlighting project experiences.

**Preview & Edit Option** – Users can review the AI-optimized resume content and make edits before finalizing it.

**Download Optimized Resume** – Once satisfied, users can download the tailored resume, ensuring it aligns well with the job requirements and ATS (Applicant Tracking System) standards.



# Implementation

The image shows a 'Redeem Points' interface with the following details:

- Available Points:** 150
- React & TypeScript:** 50 points required, with a 'Redeem' button.
- Node.js Fundamentals:** 75 points required, with a 'Redeem' button.

Below this, a file download dialog is visible, showing a certificate named 'react-&-typescript-certificate' has been downloaded to the 'Downloads' folder.

- Users should only be able to redeem a reward if they have enough points.
- After redeeming, the available points should update in real-time.
- The "Redeem" button should be disabled if the user lacks sufficient points.
- Provide a confirmation prompt before deducting points.
- Show a success message and allow users to download their certificate after redemption.
- Consider implementing a history section where users can view past redemptions.

## Redeem Points



# Future Objective

1. **Peer-to-Peer Learning via Video Calls** – Enables live skill exchange sessions through secure video calls, fostering interactive learning and mentorship.
2. **Decentralized Learning & Skill Verification** – Blockchain-based certificates for verified skill endorsements and decentralized skill records to ensure credibility across platforms.
3. **Metaverse & VR-Based Learning Modules** – Immersive learning through VR-based training simulations and virtual skill swap rooms for hands-on experiences.
4. **Smart Contracts for Skill Exchange & Payments** – Secure and automated transactions using blockchain to ensure fair exchanges and fraud prevention in freelancing & mentorship.
5. **Automated AI Job & Internship Applications** – AI auto-applies to relevant jobs and internships based on user skills, with smart tracking of application status and interview scheduling.

