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Aspire Hub: A Career Guidance Platform for 10th and 12th Grade Students

Authors: Neredumalli Dakshinya, Adda Kamal Maithresh, Manikoth Dhruv Kumar, Guttikonda Rushikesh

Mentor: Neeraj

Department of Computer Science and Engineering (Big Data Analytics), Parul Institute of Engineering and Technology (PIET), Vadodara, Gujarat, India.

Abstract

Career choice in secondary school is usually difficult in light of the plethora of potential choices and lack of systematic counseling. Aspire Hub combats this issue by offering a software platform designed exclusively for 10th and 12th grade students. Through quizzes, it converts interests and ambitions into four streams—Local, Abroad, Hybrid, and Mixed—with the incorporation of selected study materials and fixed timelines for careers. Built into a backend by Node.js, Express.js, and MongoDB, Aspire Hub hopes to alleviate confusion, enhance clarity, and build preparability in relation to higher education and professional careers. This paper details the motivation, architecture, implementation, and evaluation of Aspire Hub as a software counseling product.

1. Introduction

1.1 Evaluation

Career counseling in schools has traditionally been narrow and limited in form, ranging from individual mentoring or text-based handbooks. Whilst useful, they are not scalable and are failings in tailoring to the individuality of student need. Aspire Hub bridges this by providing an online, quiz-based career guide platform that assesses the responses and matches them against predetermined pathways.

1.2 Problem Statement and Motivation

Students finishing 10th and 12th grade are in a dilemma in selecting appropriate career paths since they lack adequate exposure,planning, and access to filtered study materials. The students rely on parental or peer pressure, which is often not in sync with their interests and aptitude. The need for Aspire Hub is to fill in the vacuum by offering clear transparency, timelines, and study material that supports informed choices.

1.3 Proposed Solutions

Aspire Hub presents:

A quiz test that places the students in four different paths.

Prespecified timelines for careers associated with every stream.

Study guides and test materials. Class enrichment materials. Simple, user-friendly interface without undue dependence on AI or intricate UX. This technique allows flexibility and broadness in coverage and guarantees scalability.

2. Related Work

2.1 Vision-Based Career Path

Current studies focus on the role of career vision in early decision-making among students. Online platforms and websites give partial assistance, yet most lack integrated timelines or triangulated resources. Aspire Hub adds to this by synthesizing vision-based mapping and access to resources..

2.2 Multi-Model Framework

The classical job platforms tend to adopt a single-model strategy (local or overseas). Aspire Hub's strength is in presenting four different yet dynamic models—Local, Abroad, Hybrid, and Mixed—it thereby assists students with different ambitions. The multiple models ensure flexibility in adjustment with different socioeconomic and cultural backgrounds.

3. System Architecture and Theory of Operations

3.1 High-Level Architecture and Overview

The system architecture comprises:

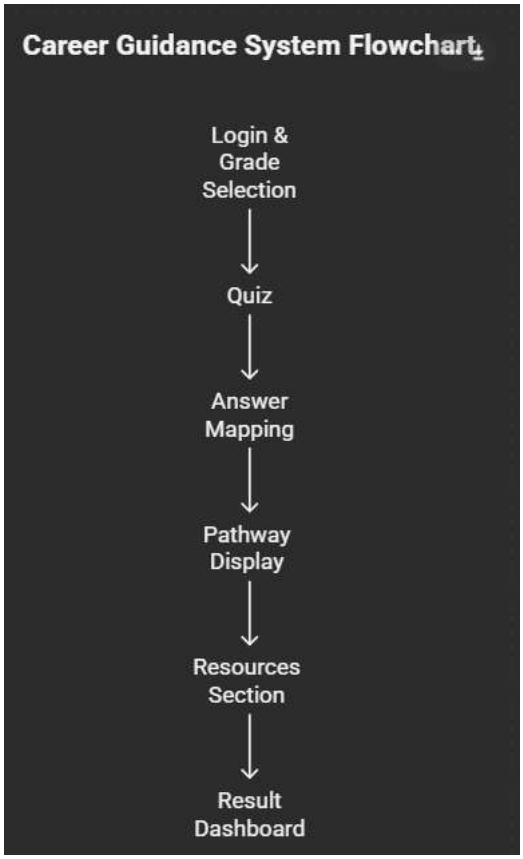
Frontend: Dashboards and interactive quiz are created in CSS, HTML, JavaScript, and JSP.

Backend: Node.js with Express.js as a request handler.

Database: MongoDB as a flexible student data storage and career mapping tool.

Authentication: Java Web

Deployment: AWS/Heroku/Vercel for scalability and cloud hosting.



3.2 Work Done Architecture

The platform workflow:

Login & Selection of Grade: Verification through OTP, selection of grade.

Quiz: Students respond to interest and aspiration-related inquiries.

Answer Mapping: The algorithm places answers in four paths.

Career Pathway Display:

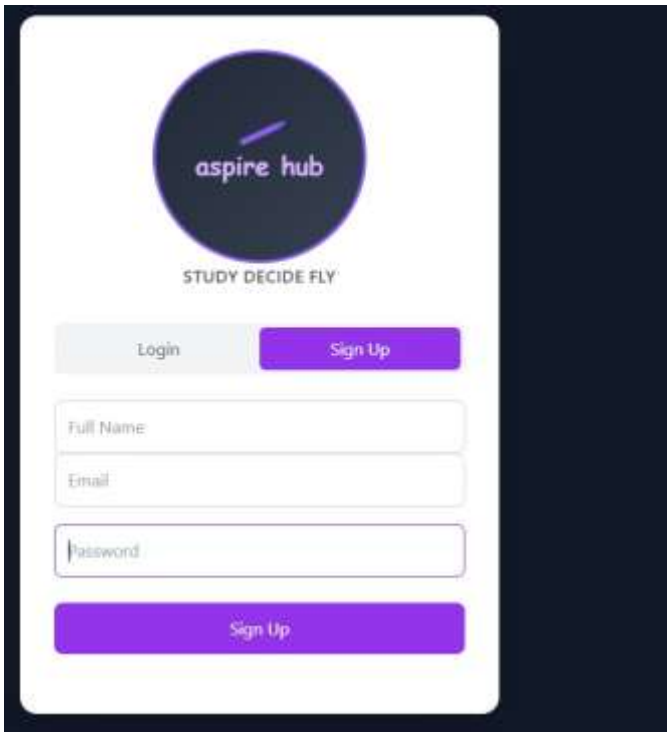
Stream-based visual timelines.

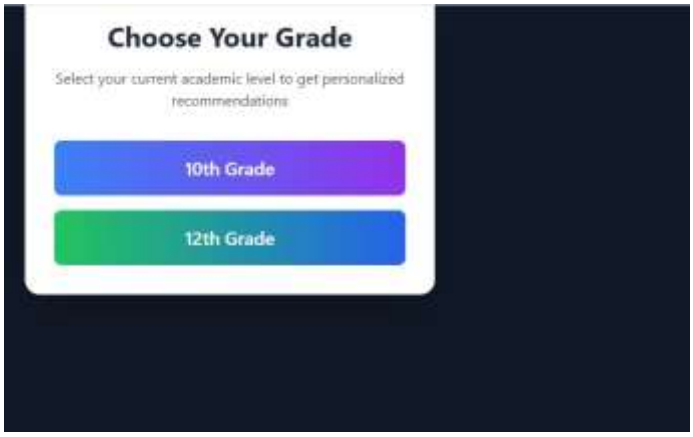
Study Resources: Exam and course study guides. Result Dashboard: Concise summary with recommendations.

4. Implementation and Experimental Analysis

4.1 Implementation Environment

The platform was implemented using full-stack web technologies: JSP for the frontend, Node.js and Express.js for the backend, MongoDB for data storage, and Java Web authentication for secure login and session handling. Deployment was tested on AWS and Heroku.

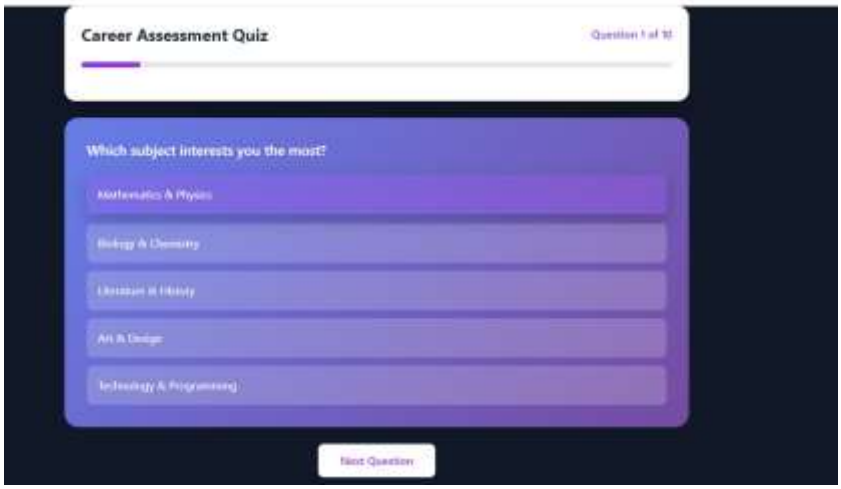


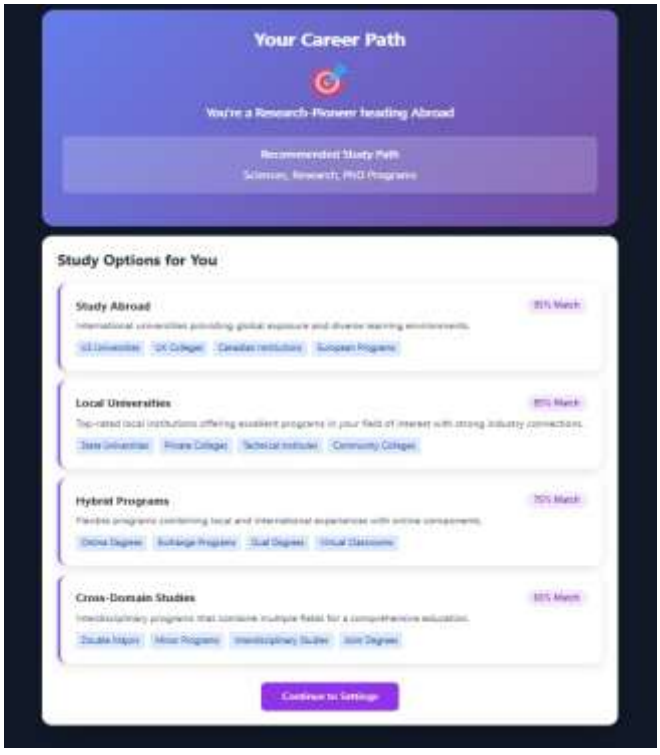


4.2 Performance of Career Path

Preliminary testing with sample student groups demonstrated:

- Clarity: Students reported reduced confusion in career planning.
- Accessibility: Java Web authentication ensured security and ease of use.
- Efficiency: MongoDB enabled flexible mapping of quiz responses to pathways.





4.3 Qualitative Usability Assessment

Students, parents, and teachers were surveyed for usability feedback:
- Strengths: Simplicity, structured timelines, accessible study resources.
- Limitations: Lack of real-time mentorship, no financial/scholarship integration, limited scope beyond school students.
Overall, Aspire Hub was positively received as a practical, scalable solution.

5. Conclusion

Aspire Hub delivers a well-defined and accessible platform for 10th and 12th-grade students to guide their careers. Through the integration of quiz-based routes, fixed-timeframe careers, and selected study materials, the platform decreases confusion and enhances clarity in making career decisions. Its lightweight implementation, developed with JSP, Node.js, Express.js, MongoDB, and Java Web authentication, guarantees scalability as well as simplicity. User testings validate that Aspire Hub enhances students', parents', and schools' knowledge on career paths and prepares them for education and professional decisions. Despite the constraints, Aspire Hub shows large potential as a scalable, online counseling tool.

6. Future Work

While Aspire Hub addresses fundamental challenges in student career guidance, several enhancements can further improve its impact:

Expansion of the User Base: Include postgraduates and graduates on the platform.

Real-Time Mentorship: Incorporation of expert consultation, online counseling, and interactive mentoring.

Financial Planning Tools: Include scholarships, budgeting, and funding resources for higher studies.

Internship & Project Integration: Offer practical exposure chances as well as chosen professional paths.

Artificial Intelligence-Driven Personalization: Install machine learning infrastructure to deliver interactive, customized recommendations.

Mobile App Development: Develop a mobile app-based version with a greater reach, especially in the rural area.

Institutional Partnerships: Partner with schools, NGOs, and education boards in hopes of broadening adoption.

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