

# SkillPath: A Web-Based Career Guidance Platform for Students After 10th Grade

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## Abstract

Selecting an appropriate career path after completing the 10th grade is a crucial decision that significantly influences a student's academic and professional future. Many students experience confusion due to limited awareness about educational streams, vocational programs, and competitive entrance examinations. This paper presents SkillPath, a web-based career guidance platform designed to assist students in exploring educational opportunities after secondary education. The platform provides structured information about Higher Secondary streams, Polytechnic diploma programs, Industrial Training Institute (ITI) courses, and professional certification programs.

Additionally, it offers guidance about major entrance examinations such as JEE, NEET, CLAT, and NDA. The system integrates career information, learning resources, and counseling support within a centralized digital environment. The proposed platform aims to improve career awareness among students and help them make informed decisions about their academic and professional future.

## Keywords

Career Guidance, Educational Pathways, Web Application, Student Counseling, Career Planning, Digital Education

## I.

### Introduction

Career guidance plays an important role in helping students understand educational opportunities and professional pathways. After completing the 10th grade, students must select an academic stream or vocational pathway that significantly influences their future career prospects.

However, many students lack proper awareness regarding educational programs, entrance examinations, and career opportunities. Career decisions are often influenced by peer pressure, social expectations, or incomplete information.

With the rapid advancement of digital technologies, web-based platforms provide an effective solution for delivering career guidance services. The **SkillPath platform** is designed as a digital system that allows students to explore educational pathways and receive structured career information.

## II. Literature Review

Several studies highlight the importance of career guidance programs in helping students understand their career interests and professional goals. Career counseling programs improve students' awareness about educational pathways and enable them to make better academic decisions.

Research indicates that digital career guidance platforms improve accessibility to career information and allow students to explore different career opportunities online. These systems provide centralized access to educational resources, entrance examination guidance, and vocational training opportunities.

Previous studies also emphasize that structured career guidance systems help students develop long-term career planning skills. These systems encourage students to analyze their abilities, interests, and future career goals.

### III. Problem Statement

Students often face difficulties while selecting suitable career pathways after completing the 10th grade. Some major challenges include:

- Lack of awareness about educational opportunities
- Limited access to professional career counseling
- Fragmented career information across multiple platforms

Due to these issues, students may choose inappropriate educational pathways that do not align with their interests or abilities.

The **SkillPath platform** addresses these challenges by providing a centralized web-based system that integrates career pathways, entrance examination guidance, and learning resources.

### IV. Importance of Career Guidance in Secondary Education

Career guidance is essential for helping students understand their academic interests and professional aspirations. Secondary school students are often required to make important decisions regarding their educational pathways without sufficient guidance.

Career guidance programs assist students in identifying their strengths and interests. These

programs provide structured information about academic streams, vocational training programs, and career opportunities.

Digital career guidance platforms can significantly improve accessibility to career information. Students can explore different career options and obtain reliable guidance through online platforms.

### V. Proposed System

The **SkillPath platform** is designed as a web-based career guidance system that helps students explore educational opportunities after completing secondary education.

The platform provides structured information about:

- Academic streams (Science, Commerce, Arts)
- Polytechnic diploma programs
- Industrial Training Institute (ITI) courses
- Professional certification programs
- Competitive entrance examinations

The system also integrates learning resources and counseling services that support students in their career decision-making process.

### VI. System Architecture

The SkillPath platform follows a **three-layer architecture** consisting of:

#### Frontend Layer

The frontend layer provides the user interface through which students interact with the platform. It is developed using:

HTML CSS  
JavaScript

### Backend Layer

The backend layer manages system functionality and processes user requests. It is implemented using:

Node.js Express.js

### Database Layer

The database layer stores career information, educational resources, and counseling queries. The system uses:

MongoDB

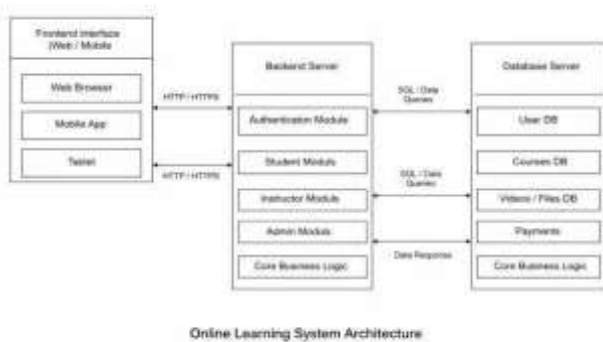


Fig. 1 System Architecture of SkillPath Platform

## VII. System Modules

The SkillPath platform consists of several modules designed to provide comprehensive career guidance services.

### A. Career Pathways Module

Provides information about educational pathways such as Polytechnic diploma programs, Higher Secondary education, and ITI vocational courses.

### B. Stream Selection Module

Provides guidance regarding academic streams including:

Science  
Commerce Arts

### C. Entrance Examination Module

Provides information about competitive examinations such as:

JEE NEET

CLAT NDA

### D. Learning Resources Module

Provides educational materials such as study notes, video lectures, and practice questions.

### E. Career Counseling Module

Allows students to submit career-related queries and receive guidance.

## VIII. Working Process of SkillPath Platform

The working process of the platform involves the following steps:

1. Students access the SkillPath website.
2. The system displays career guidance sections.
3. Students explore different career pathways.
4. Detailed information about each pathway is displayed.
5. Students access learning resources for exam preparation.
6. Students may submit queries for career counseling.

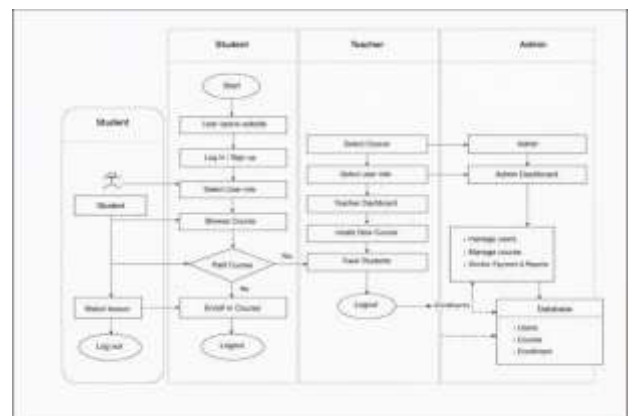


Fig. 2 Use Case Diagram of SkillPath System

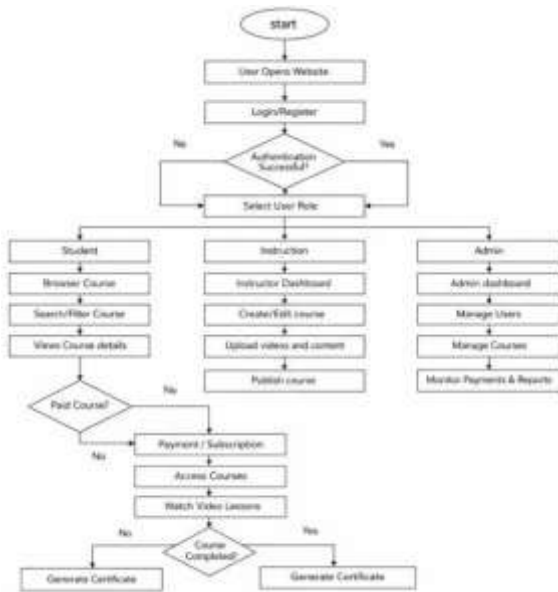


Fig. 3 Flowchart of Career Guidance Process

### IX. Advantages of the Proposed System

The SkillPath platform provides several advantages:

#### Centralized Information System

All career guidance information is available in a single platform.

#### Improved Accessibility

Students can access career guidance from any location.

#### User-Friendly Interface

The system provides simple navigation for exploring career options.

#### Integration of Educational Resources

Students can access learning resources for exam preparation.

#### Digital Career Counseling

Students can receive guidance through online counseling services.

### X. Results and Discussion

The SkillPath platform improves accessibility to career guidance resources by providing centralized information about educational opportunities.

Students can explore career pathways, entrance examinations, and learning resources through a single digital system.

The integration of career guidance information and educational resources helps students understand different career opportunities more effectively.

### XI. Future Scope

Future improvements of the SkillPath platform may include:

- Artificial Intelligence based career recommendation systems
- Online aptitude testing modules
- Mobile application development
- Personalized career guidance based on student interests



Fig. 4 Home Page



Fig. 5 Explore Your Career Pathways

### XII. Conclusion

The SkillPath platform provides a comprehensive digital solution for career guidance after the 10th grade. By integrating educational pathways, entrance examination guidance, and learning resources within a single platform, the system helps students explore different career opportunities.

The platform improves career awareness and assists students in making informed academic and professional decisions.

### References

[1] OECD, Career Guidance and Public Policy: Bridging the Gap, OECD Publishing, Paris, 2004.  
 Available: <https://www.oecd.org/education/innovation-education/34050171.pdf>

[2] S. Whiston, T. Brecheisen, and S. Stephens, "Does Treatment Modality Affect Career Counseling Effectiveness?" Journal of Vocational Behavior, vol. 62, no. 3, pp. 390–410, 2003.  
 Available: [https://doi.org/10.1016/S0001-8791\(02\)00048-3](https://doi.org/10.1016/S0001-8791(02)00048-3)

[3] R. W. Lent, S. D. Brown, and G. Hackett, "Toward a

Unifying Social Cognitive Theory of Career and Academic Interest,” *Journal of Vocational Behavior*, vol. 45, no. 1, pp. 79–122, 1994.

Available: <https://doi.org/10.1006/jvbe.1994.1027>

[4] UNESCO, *Digital Learning Platforms in Education*, UNESCO Report, 2021.

Available: <https://unesdoc.unesco.org>

[5] Government of India, *National Career Service Portal*, Ministry of Labour and Employment.

Available: <https://www.nes.gov.in>

[6] P. Brusilovsky and E. Millán, “User Models for Adaptive Hypermedia and Adaptive Educational Systems,” *The Adaptive Web*, Springer, pp. 3–53, 2007. Available: [https://doi.org/10.1007/978-3-540-72079-9\\_1](https://doi.org/10.1007/978-3-540-72079-9_1)

[7] M. Resnick and H. Varian, “Recommender Systems,” *Communications of the ACM*, vol. 40, no. 3, pp. 56–58, 1997.

Available: <https://doi.org/10.1145/245108.245121>

[8] J. B. Schafer, J. Konstan, and J. Riedl, “E-commerce Recommendation Applications,” *ACM Conference on Electronic Commerce*, 2001.

Available: <https://doi.org/10.1145/501158.501159>

[9] S. K. D’Mello and A. Graesser, “Intelligent Tutoring Systems,” *IEEE Intelligent Systems*, vol. 28, no. 4, pp. 24–28, 2013.

Available: <https://ieeexplore.ieee.org/document/6544340>

[10] National Council for Vocational Training, “Vocational Training Programs,” Government of India.

Available: <https://www.ncvtmis.gov.in>