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## AI Career Guidance App

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**Abstract—** Choosing an appropriate career path is one of the most important and challenging decisions in a student's life. Many students face confusion due to lack of structured guidance, insufficient awareness about career opportunities, and peer or societal pressure. This paper presents an Artificial Intelligence Based Career Guidance and Study Optimization System that provides intelligent, personalized career recommendations based on student interests, skills, academic stream, and preferences.

The system collects user data through a structured interface and applies rule-based and analytical techniques to suggest suitable career paths across Arts, Commerce, and Science streams. Additionally, the system includes a Study Optimization module to guide students in planning their preparation effectively. A special Parents Corner module is also integrated to provide information about stable careers, government job opportunities, and competitive examinations.

The proposed system aims to reduce uncertainty, improve career decision-making, and promote data-driven academic planning. The system is scalable and can be expanded to national-level implementation

**Keywords—** Artificial Intelligence, Career Guidance System, Educational Technology, Machine Learning, Study Optimization

### I. INTRODUCTION

Career selection plays a crucial role in shaping an individual's professional future. In developing countries like India, students often choose career paths without proper counselling or complete information. Traditional career counselling systems are limited in reach and may not provide personalized recommendations based on individual skills and interests.

With the advancement of Artificial Intelligence, intelligent systems can analyze user input and generate personalized recommendations.

The proposed AI Based Career Guidance and Study Optimization System is designed to address these challenges by offering structured and intelligent career mapping.

### II. LITERATURE REVIEW

Existing career guidance systems primarily provide static content. they lack personalization, ai-driven filtering, and parental involvement modules.

major limitations identified:

- a. lack of intelligent recommendation systems
- b. limited stream-specific guidance
- c. no structured study optimization
- d. no parental advisory section

The proposed system overcomes these limitations by integrating structured data analysis and modular design.

### III. PROPOSED SYSTEM

#### A. SYSTEM OVERVIEW

The proposed system is a web-based application developed using Python and Flask framework. It collects user data such as:

- Academic stream (Arts/Commerce/Science)
- Interests
- Skills
- Career preferences
- Based on this data, the system generates suitable career options.



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## B. SYSTEM ARCHITECTURE

The system consists of:

Frontend (html, css, javascript)

backend (python flask)

1. Database (SQLite3)
2. AI Recommendation Module

The backend processes input data and applies machine learning logic to generate career recommendations.

## C. FEATURES OF THE SYSTEM

1. student registration and login
2. stream-based career options
3. ai career recommendation
4. study optimization suggestions
5. parents corner (stable & government career guidance)
6. secure data storage

## IV . IMPLEMENTATION

The system is implemented using:

Python

Flask Framework

SQLite Database

HTML, CSS

JavaScript

Jinja2 Templates

Passwords are encrypted using hashing techniques for security. The application supports two-column layout as per journal format.

## V. RESULTS AND DISCUSSION

The system was tested with multiple student profiles. Results showed:

Accurate career suggestions based on interests

Stream-specific filtering

Improved clarity in career selection

Positive feedback from students

The Parents Corner section helped guardians understand stable and government career options.

## VI. FUTURE SCOPE

Future improvements may include:

- Integration with National Career Database
- Real-time job market analysis
- AI chatbot for instant counselling
- Mobile Application version
- National level scholarship and entrance exam integration

The system can be expanded to a national-level AI career portal.

## VII. CONCLUSION

The AI Based Career Guidance and Study Optimization System helps students make informed career decisions. It reduces confusion and provides structured guidance using artificial intelligence. The inclusion of Parents Corner and government job guidance makes it unique and practical for Indian students.

This system can significantly improve career planning efficiency and student confidence.

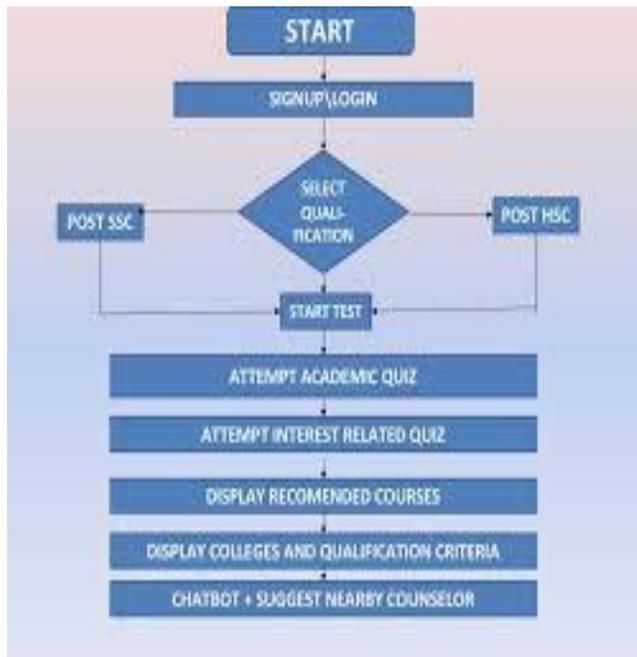
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**REFERENCES**

- [1] bowman, m., debray, s. k., and peterson, l. l. reasoning about naming systems.
- [2] ding, w. and marchionini, g. a study on video browsing strategies.
- [3] forman, g. an empirical study of feature selection metrics for text classification.
- [4] tavel, p. modeling and simulation design.

**FLOW DIAGRAM**



**FLOW CHART:**

