IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 6, May 2026
Impact Factor: 8.2

A Web-Based Smart Career Guidance and Skill Recommendation System for Students

Karan Thorat, Sakshi Waba1e, Vivek Wagh, Mrs. S. Shendkar
Department of Bachelor of Computer Applications
, School of Computational Sciences
Faculty of Science and Technology, JSPM University, Pune

Abstract: *Selecting an appropriate career path is often a difficult and confusing process for students, especially after completing their higher secondary education. This research presents a web-based smart career guidance and skill recommendation system that emphasizes student interests rather than relying solely on academic scores. The system delivers personalized recommendations based on academic streams such as PCM. PCB, Commerce, and Arts, Additionally, it offers a well-structured career roadmap that includes required Skills, relevant entrance examinations, and expected salary insights. TO enhance user understanding, the system incorporates visual tools like radar and bar charts, along with an interactive chatbot for real-time assistance. Overall, the proposed solution aims to simplify career decision-making and minimize uncertainty among students.*

Keywords: Career Guidance, Recommendation System, Interest-Based Analysis, Chatbot, Data Visualization, Web Application

I. INTRODUCTION

Choosing a career path after completing the 12th grade is a significant and life-shaping decision. It influences not only the choice of college and subjects but also the skills a student develops and the profession they eventually pursue. Despite its importance, many students make this decision under pressure, often without access to proper guidance or reliable information,

In many cases, students who perform well in science are encouraged to pursue engineering as a "safe" option, even if it does not align with their interests. Similarly, students who are inclined toward creative fields such as design may not explore those opportunities due to a lack of awareness or guidance. Such situations are quite Common and can negatively impact student motivation, academic performance, and long-term career satisfaction.

Although various tools and platforms exist to support career decision-making. they often rely heavily on academic scores rather than understa nding individual interests. However, a students performance in a subject does not necessarily reflect their passion or suitability for a particular profession. Interest, aptitude, and personal inclination play a far more important role in determin ing career success, Additionally, many existing systems fail to consider the student's academic stream in a meaningful way before providing recommendations.

This project was developed to address these limitations. The objective is to design a system that prioritizes the studenfs perspective by understanding their interests, academic background , and preferences. Instead of offering generic suggestions, the system provides detailed and actionable guidance, including relevant entrance examinations, required skill sets, and an overview Of potential career outcomes.

The proposed system achieves this through an interest-based assessment tailored to different academic streams. It generates personalized career recommendations, presents structured career roadmaps, and uses visualizations to simplify complex information. Furthermore, an integ rated chatbot assists students by answering their queries in context, making the guidance process more interactive and accessible.

DOI: 10.48175/IJARSCT-35328

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 6, May 2026
Impact Factor: 8.2

II. STATE OF THE ART

2.1 Existing Systems and Their Limitations

A wide range of career guidance platforms are currently available, both in India and internationally. These solutions exist in the form Of websites, mobile applications, and integrated educational portals. However, a closer analysis Of their functioning reveals several common shortcomings.

Most existing systems primarily depend on academic performance as the key parameter for recommending career options, Typically, students are required to input their examination scores and select their academic stream, after which the platform suggests suitable career paths. While this approach may seem logical, it fails to capture the broader aspects of a student's profile. Academic marks only reflect exam performance and do not account for individual interests, personal preferences, or suitability for a particular profession over the long term.

Another major limitation is the lack of true personalization. Many platforms generate similar or identical career suggestions for students with d ifferent academic backgrounds. For instance, students frorn both science and arts streams may receive overlapping recommendations without considering their distinct skill sets, acadernic exposure, or career expectations. This generalized approach reduces the effectiveness Of the guidance provided-

Furthermore, most existing systems do not extend their support beyond basic career suggestions. Critical aspects such as guidance on relevant entrance examinations, required skill development, and realistic salary expectations

are often not included. As a result, students are left without a clear direction on how to proceed after receiving initial recornmendations

2.2 Identified Gaps in Existing Systems

Based on the analysis Of current platforms, several important gaps have been identified that limit their effectiveness in providi ng comprehensive career guidance:

Career recommendations are largely driven by academic scores rather than a student's gen uine interests and preferences.

There is minimal differentiation in guidance for students belonging to different academic streams.

Existing systerns do not offer a complete, structured career roadmap within a single platform.

The use of visual tools to help students interpret and understand their results is limited. interactive and context-aware chatbot support tailored to individual student profiles is rarely available.

Many platforms are not easily accessible or sufficiently supportive for students from rural or economically disadvantaged backgrounds.

The system proposed in this research is specifically designed to address these limitations by providing a more personalized, comprehensive, and accessible approach to career guidance.

III. NEED FOR THE WORK AND PROBLEM STATEMENT

3.1 Significance Of the Study

The demand for an improved career guidance system is not merely theoretical; it reflects a real and widespread challenge faced by students. A significant number of learners, especially those from tier-2 and tier-3 cities as well as rural regions, do not have access to qualified career counselors. Educational institutions in such areas often lack the infrastructure and resources required to provide comprehensive career guidance, leaving students with only basic or limited support,

In many cases, students tum to online resources as their primary source of information. However, the guidance available on the internet is often generalized, lacks personalization, and can be overwhelming or misleading. This makes it d ifficult for students to make well-informed decisions about their future.

Even when professional counseling is available, it is typically constrained by time and accessibility. Counseling sessions are often brief, infrequent, and insufficiently tailored to address the individual needs of each student. Moreover, these sessions rarely provide continuous support, structured career planning, or long-term

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 6, May 2026
Impact Factor: 8.2

Another important factor is the diversity of career options across different academic streams. Students from science (PCB), cornmerce, and arts backgrounds face entirely different sets of choices and decision-making challenges. For example, a science student considering fields such as medicine, biotechnology, or pharmacy requires a different type of guidance compared to a cornmerce student exploring options like chartered accountancy, finance, or management. Therefore, a uniform or generic approach to career guidance is ineffective in addressing these varied needs.

3.2 Problem Statement

Students at the higher secondary level often encounter significant challenges while selecting an appropriate career path. These challenges arise due to limited awareness of available opportunities, lack Of personalized guidance aligned with their interests and academic background, and the absence of a unified platform that provides comprehensive careerrelated information.

To address these issues, there is a need for a web-based system that focuses on evaluating student interests rather than relying solely on academic performance. Such a system should be capable of understanding the student's academic stream, generating relevant and personalized career recommendations, and providing a detailed roadmap for each option. Additionally, it should incorporate interactive features to support students throughout the decision-making process-

The system proposed in this work is designed to fulfill these requirements by offering an
integrated, user=centric solution for effective Career guidance.

IV. OBJECTIVES OF THE PROPOSED SYSTEM

The primary objectives Of the proposed system are outlined as follows:

1. To design and develop a web-based career guidance platform specifically tailored for students at the higher secondary (12th grade) level.
2. To provide career recommendations that are customized according to the student's academic stream, including PCM, PCB, Commerce, and
3. TO implement an interest-based assessment mechanism that evaluates students' preferences, strengths, and inclinations without relying on academic marks.
4. TO generate a comprehensive career roadmap for each recommended option, covering key aspects such as relevant entrance examinations, essential skill requirements , and expected salary progression at different stages of the career.
5. TO present the results in a visually intuitive manner using tools such as radar charts and bar graphs, enabling students to easily interpret their strengths and potential career paths.

V. LITERATURE REVIEW

The problem Of assisting students in selecting appropriate career paths has been widely studied across multiple domains, including computer science, education, psychology, and data science. Over time, researchers have proposed various models and systems aimed at improving the career decision-making process. This section reviews some of the most relevant contributions, highlights their key achievements, and identifies their limitations, which have informed the design Of the proposed system.

5.1 Machine Learning-Based Career Recommendation Systems

One of the prominent approaches in this domain involves the use of machine learning techniques to predict suitable career paths. A study by Patel and Shah (2021) introduced a career recommendation system based on a Decision Tree classifier trained on student profile data collected through surveys. The model considered factors such as academic subjects, performance, and basic aptitude indicators to generate ranked career suggestions. While the system demonstrated reasonable accuracy and a structured data-driven approach, it suffered frorn certain limitations. The

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 6, May 2026
Impact Factor: 8.2

dataset used for training was relatively small and limited in scope, increasing the risk of overfitting. Additionally, the system placed minimal emphasis on student interests, which reduced its effectiveness in realworld scenarios. For instance, a student with strong academic performance in mathematics but a genuine interest in creative fields could still be directed toward engineering-oriented careers. The authors acknowledged that incorporating interest-based parameters would significantly enhance the system's practical applicability. Expanding on this approach, Verma and Singh (2022) explored the use of mu Itipbe classification algorithms, including Naive Bayes, Random Forest, and Support Vector Machines, to improve career recornmendations. Their model incorporated not only academic performance but also self-reported skills such as communication ability, analytical thinking, and creativity. This broader feature get resulted in improved accuracy and better alignment with student preferences cornpared to traditional marksbased systems. However, the model relied on a static dataset collected at a single point in time, which limited its adaptability. As career trends evolve and new professional domains emerge, such systems require continuous updates to remain relevant. The absence Of real-time data integration restricts the model's ability to reflect current industry demands.

in another study; Mish ra and fiwari (2020) proposed a hybrid recommendation approach combining collaborative filtering and contentbased filtering techniques. This method, commonly used in recommendation systems for digital platforms, was adapted to career guidance by matching student profiles with those of professionals in various fields. The system attempted to identify similarities and recommend careers based on observed patterns. Although the approach was innovative, it faced significant challenges related to data availability and scalability. Developing and maintaining a large, reliable database Of professional profiles is complex, particularly in diverse and dynamic environments. Fu rthermore, the system was evaluated on a limited sample. making it difficult to generalize the results across different regions, academic streams, and student populations.

5.2 Web-eased Career Guidance Platforms

In addition to machine learning approaches, several studies have focused on developing accessible web-based platforms for career guidance. Kumar et al. (2020) introduced a system built using PHP with a rule-based backend. This platform was among the early web-based solutions in the Indian context and was designed to be freely accessible to students. Users could create accou nts, enter basic details, and receive a list of suggested career options. While the platform was appreciated for its simplicity and user-friendly interface, it lacked depth in its recornmendations. The rule-based logic was rigid and unable to accommodate diverse or nuanced student profiles. As a result, students from the same academic stream often received similar suggestions, regardless of their individual interests or strengths. Additionally, the system did not include mechanisms to capture student preferences or provide detailed follow-up guidance beyond listing career optionsSharma, Verma, and Gupta (2021) proposed a more refined web-based system with improved user interface design and an expanded career database. Their platform covered a wider range of career domains and included basic information about educational pathways. user feedback indicated that the system was easy to navigate and informative at a general level, However. it still lacked meaningful differentiation based on academic streams, and the absence of interactive features limited its effectiveness. Once recommendations were generated, students were required to independently explore further steps, such as required exams or ski" development.

Rao and Mehta (201 g) conducted a comparative evaluation of multiple career guidance websites using criteria such as personalization, interactivity, content depth, and accessibility.

Their findings indicated that while many platforms performed adequately in terms Of accessibility and basic information delivery, they consistently feli short in personalization and interactivity. The Study emphasized that most systems function more as information repositories rather than comprehensive guidance solutions, highlighting the need for more adaptive and user-centered platforms.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 6, May 2026
Impact Factor: 8.2

5.3 Chatbot-Assisted Guidance Systems

The use of conversational agents in educational support systems has gained increasing attention in recent years. Lee and Kim (2019) developed a chatbot-based career guidance system using an expert system framework. The chatbot guided students through structured interactions, collecting information about their preferences and academic background before generating recommendations. This approach reduced dependency on manual counseling and provided continuous availability. However, maintaining and scaling the system proved challenging, as updating rules or adding new domains required significant manual effort. The authors suggested that integrating natural language processing (NLP) techniques could improve flexibility and scalability.

Gupta and Bansal (2022) implemented a chatbot using the Dialogfiow NLP framework to enhance conversational interaction. Their system demonstrated improved engagement, as students were more likely to interact with a chatbot compared to static web interfaces. The conversational nature of the system made it more appeal ing and accessible. However, the chatbot lacked contextual awareness related to academic streams, providing uniform responses regardless Of the student's background. This limitation reduced the relevance and effectiveness of the guidance, highlighting the importance of stream-specific chatbot design.

5.4 Interest-Based and Psychometric Assessment Systems

Interest-based and psychometric approaches have long been used in career guidance, with fou ndations in established theories such as Holland's Theory Of Vocational Choice, This theory categorizes individuals into distinct personality types and aligns them with suitable career paths.

Nair and Pillai (2021) developed an online assessment system based on this model for high school students. The system evaluated student interests through structured questionnaires and mapped them to corresponding personality types, subsequently suggesting relevant careers. Compared to traditional marks-based approaches, this method was perceived as more personalized and meaningful by users. However, the system did not incorporate stream-specific considerations, resulting similar recommendations for students With different academic backgrounds but similar interest profiles.

Bhatia and Sharma (2023) proposed a hybrid assessment model that combined interest evaluation with aptitude testing and personality analysis. Their approach demonstrated improved accuracy in matching students with suitable career options. The inclusion of personality traits allowed for better differentiation among students with similar academic interests but varying career preferences. Despite its potential, the system remai ned at a prototype stage a nd lacked features such as visualization tools and interactive support, which limited its practical applicability.

5.5 Visual Analytics in Educational Tools

The application of data visualization techniques in career guidance systems remains relatively underexplored. Most existing platforms present recommendations in textual forrn, which may not effectively comm unicate insights to students.

Pathak and Joshi (2022) examined the impact of incorporating visual elements such as radar charts and progress indicators into career assessment tools. Their findings suggested that visual representations significantly improved student understanding and confidence in decision-making. By clearly illustrating strengths and preferences, visual tools made the recommendations more intuitive and easier to interpret. Despite these advantages, most current systems do not integrate such features. The proposed system addresses this gap by utilizing radar charts to represent interest profiles and bar graphs to compare Career alignment. 5.6 Administrative and Institutional Tools in Guidance Systems

An important yet often neglected aspect of career guidance systems is the inclusion Of features for educators and administrators. Most platforms are designed primarily for student use and do not provide tools for institutional monitoring Of support.

Chandra and Nair (2020) proposed a framework that incorporated an administrative component, allowing educators to track student progress, analyze engagement patterns, and access assessment data. Their approach emphasized the importance of viewing career guidance systems as institutional tools rather than purely individual resources. Although

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 6, May 2026 Impact Factor: 8.2

the concept was promising , the system was not fully implemented, and its administrative features remained largely theore tieal.

The proposed system builds upon this idea by incorporating a functional administrative panel that ena bles efficient organization of student data and supports educators in providing targeted guidance.

5.7 Summary and Research Gap

A comprehensive review Of existing studies indicates significant progress in the field of career guidance systems, ranging from rulebased models to machine learning approaches, and from static interfaces to conversational systems. Each approach contributes valuable insights; however, no single system successfully integrates all essential components into a unified platform.

Several critical gaps remain evident. Many systems continue to rely heavily on academic performance as the primary decision-making factor. Stream-specific guidance, which is particularly important in the Indian educational context, is largely absent. Additionally, most platforms do not provide detailed career roadmaps, lack visual analytics, and offer limited or non-contextual chatbot support.

These limitations highlight the need for a comprehensive, integrated, and student-centric solution- The proposed system add resses these gaps by combining interest-based analysis, stream-specifie recommendations, visual representation of results, interactive chatbot support, and administrative tools within a single platform.

VI. ANALYSIS

6.1 Problem Analysis

To understand the necessity Of an improved career guidance system, it is essential to examine the issue from the student's perspective- Students at the higher secondary level are typically between the ages Of sixteen and eighteen, a stage at which they are expected to make decisions that significantly influence their educational trajectory, financial stability, and long-term professional identity. Despite the importance of this decision, most students have not been exposed to structured guidance that helps them evaluate their interests, strengths, and suitable career options. This creates a substantial gap between the importance Of the decision and the support available to make it. Studies indicate that career misalignment— where individuals pursue paths that do not align with their interests or abilities—can lead to negative outcomes such as reduced academic performance, lower job satisfaction, increased dropout rates, and frequent career changes. In the Indian education system, where students select academic streams after the 10th grade and make career decisions after the 12th grade, the impact of uninformed choices becomes even more pronounced due to the early stage at which these decisions are made.

The core issue extends beyond the availability of information. While students can access general career-related content online, what is often missing is personalized and context-aware guidance. Students require support systems that can interpret their individual profiles, including their academic background and personal interests, and translate this information into meaningful career directions. Existing systems largely fail to provide this level Of tailored guidance

6.2 Analysis Of Existing Solutions

An evaluation Of current career guidance solutions reveals three dominant approaches: marks-based systems, generic information portals, and traditional counseling methods.

Marks-based systems are widely used and rely primarily on academic performance as an indicator of capability and career suitability. Although academic scores may reflect certain competencies, they provide a limited perspective on an individual's overall potential. Students with similar academic results may have significantly different interests, personalities, and aspirations. Therefore, systems that rely solely on marks are unable to deliver truly personalized guidance. Generic information portals attempt to address the issue by offering a wide range of career options along with descriptive information. While these platforms provide breadth, they lack personalization. Presenting an extensive list

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 6, May 2026 Impact Factor: 8.2

of career options without filtering or prioritization based on the student's profile often leads to confusion rather than clarity, as students are left to interpret the information independently.

Traditional counseling, when effectively implemented, offers the most personalized form Of guidance. Skilled counselors Can aSSéSS student profiles, understand their concerns, and provide tailored recommendations. However, this approach faces scalability challenges. The availability of trained counselors is limited, sessions are often brief, and students in rural or under-resourced areas may not have access to such services.

6.3 Analysis Of the Proposed System's Approach

The proposed system ig designed to address the limitations identified in existing approaches through a structured and student-centric methodology. By prioritizing an interest-based assessment rather than academic scores, the system shifts the focus toward understanding student preferences and inclinations. This provides a more meaningful foundation for career guidance.

The system further enhances relevance by incorporating stream-specific analysis. Students from different academic backgrounds encounter distinct career pathways, and their guidance requirements vary accordingly. By tailoring both the assessment and recommendations to the students academic stream, the system ensures contextual accuracy and practical applicability. A key feature of the proposed system is the inclusion of a cornprehensive career roadmap, Beyond suggesting suitable career options, the system provides detailed guidance on the steps required to pursue each option including entrance examinations, skill development, and expected career progression. This transforms the platform from a recommendation tool into a complete guidance solution.

The integration of visual analytics is based on the understanding that graphical representations can improve comprehension. Tools such as radar charts and bar graphs enable students to visualize their strengths and preferences, making the results more intuitive and easier to interpret. This enhances user confidence in the recommendations provided.

Additionally, the system incorporates a chatbot to provide interactive support. Unlike Static systems, the chatbot allows students to ask follow-up questions and receive immediate responses. By incorporating stream-aware logic, the chatbot delivers contextually relevant guidance, simulating aspects of personalized counseling in a scalable digital format. 6.4 Comparative Analysis with Existing Systems

When compared with existing systems discussed in the literature, the proposed platform demonstrates several key advantages.

Unlike machine learning-based systems, the proposed model does not depend on large external datasets. It utilizes a structured rulebased approach that maps interest patterns to career options, ensur ing consistency, transparency, and ease Of maintenance. Although it does not incorporate adaptive learning, its design prioritizes clarity and reliability, which are essential for decisionmaking at this stage.

in contrast to generic web-based platforms, the proposed system provides deeper personalization. Customization is not limited to basic inputs such as stream selection but extends to assessment design , recommendation logic, and chatbot interaction. This ensures that the guidance provided is closely aligned with the Student'S individual profile.

Furthermore, unlike systems that focus on a single component—such as assessment tools or chatbot interfaces—the proposed platform integrates multiple functionalities into a unified solution. Students can complete assessments, receive recommendations, explore career roadmaps, and interact with the system within a single environment. This integrated approach redUCéS complexity and enhances the overall user experience.

VII. SUGGESTIONS

7.1 Recommendations for Enhancing the Current System

Although the proposed system provides a significant improvement over existing solutions, several enhancements can further strengthen its effectiveness.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 6, May 2026 Impact Factor: 8.2

The interest-based assessment module, which forms the foundation of the system, should ideally be developed and validated with the involvement of professional career counselors and educational psychologists. Expert input can help ensure that the questions are unbiased, comprehensive, and capable Of accurately capturing student interests and preferences. Additionally, conducting a validation study— where system-generated recornmendations are compared with those provided through professional counseling—would help verify the reliability and accuracy of the assessment-

The career-related data within the system, including information on entrance examinations, required skills, and salary expectations, must be regularly updated. The professional landscape is dynamic, with new roles emerging and existing ones evolving over time. To maintain relevance and accuracy. a structured update cycle— preferably on an annual basis—should be incorporated into the system's maintenance strategy.

The chatbot cornponent can be fu rther improved by enhancing its contextual understanding and response capabilities. Currently, the chatbot primarily handles direct queries; however, students Often engage in multi-step conversations that require contextual awareness. Incorporating a session-based memory mechanism would allow the ehatbot to retain previous interactions, resulting in more coherent and meaningful conversations.

The administrative module, while functional, can be extended to include advanced analytical features For instances incorporating dashboards that display trends such as frequently recommended careers, commonly asked queries, and patterns in student responses can provide valuable insights. These analytics Can assist educators and institutions in making informed decisions and improving guidance strategies-

7.2 Suggestions for Research and Evaluation

The effectiveness of a career guidance system should be validated through systematic evaluation rather than assumption. Future research should include bngitudinal studies in which students using the platform are tracked over a defined period, such as one to two years. This would help assess whether their educational and career choices align with the system's recommendations and Whether they experience satisfaction with those decisions.

Comparative studies can also be conducted to evaluate the system's impact. By comparing outcomes between students who use the platform and those who rely on traditional guidance methods, researchers can measure improvements in decision clarity, confidence, and overall satisfaction, Such empirical evidence would be valuable for institutions and policymakers considering large-scale adoption of the system.

VIII. FUTURE SCOPE

8.1 Integration of Machine Learning for Enhanced Recommendations

The current system utilizes a rule-based recommendation approach , which ensures consistency and transparency. However, it does not adapt automatically over time. A key direction for future development is the integration of machine learning techniques that can leverage accumulated user data to improve recommendation accuracy.

As the platform is used by a larger number of students, data related to interests, career selections, and outcomes can be analyzed to identify patterns. Advanced algorithms such as Random Forest, Gradient Boosting, and collaborative filtering can be applied to generate more refi ned and personalized recommendations. Over time, this would enable the system to evolve into a more intelligent and adaptive solution.

8.2 Expansion to Additional Streams and Career Domains

Currently, the system focuses on major academic streams such ag PCM, PCB, Commerce, and Arts. Expanding the platform to include vocational streams, diploma programs, and alternative educational pathways would increase its inclusivity and reach.

Additionally. the career database can be broadened to include emerging and nontraditional professions. Fields such as user experience design, digital content creation, renewable energy, esports management, social entrepreneurship, and artificial intelligence are gaining prominence and should be incorporated to ensure relevance in a rapidly evolving job market.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 6, May 2026 Impact Factor: 8.2

8.3 Multilingual and Mobile Accessibility

TO improve accessibility across diverse regions, future versions of the system should support multiple languages. This includes not only translating the user interface but also localizing content such as quiz questions, career descriptions, and chatbot interactions. Providing support for regional languages can significantly enhance usability, engagement and trust among students.

In addition, developing a mobile application version of the platform would further increase accessibility, allowing students to interact with the system conveniently using smartphones,

8.4 integration with National Portals and Institutional Databases

Integrating the platform with national-level career and employment portals can significantly enhance the quality and accuracy Of information provided. Access to real-time data on job trends, salary benchmarks, and entrance examination schedules would ensure that students receive u p-to-date guidance.

Furthermore, linking the system with educational institution databases Can enable students to seamlessly explore relevant courses, admission requirements, and appl ication procedures. This integ ration would create a comprehensive ecosystem that supports students from career exploration to educational enrollment

IX. CONCLUSION

Career decision-making has long been a challeng ing process for students, but the complexity has increased significantly in recent years due to the growing number of career options and the limited availability of personalized guidance. This project addresses this challenge by proposing a practical, accessible, and student-centered career guidance system.

By shifting the focus from marks-based evaluation to interest-based assessment and incorporating stream-specific recommendations, the system provides guidance that is more relevant to individual students. The inclusion of structured career roadmaps, visual analytics, and an interactive chatbot ensures that Students receive not only recommendations but also actionable insights and continuous support.

The system is built using widely available technologies, making it cost-effective and easy to deploy. Its web-based nature allows it to reach a broad audience, including students in underserved regions where access to professional counseling may be limited.

While there are opportun ities for further enhancement—such as the integration Of machine learning, expansion of career dornains, and multilingual support—the current system represents a meaningful step toward improving access to quality career guidance. It aims to em power students with clarity, confidence, and the resources needed to make informed decisions about their future.

REFERENCES

[1] A. Sharma and R. Verma, "Web-Based Career Guidance Systems for School Students," IEEE Access, vol. 9, pp. 45231—45244, 2021.

[2] S. Kumar, "Career Recommendation Models Using Rule—Based and Machine Learning Approaches," Journal Of Educational Technology; Springer; vol. 12, no. 3, pp. 210— 228, 2020.

[3] D. Verma and P. Singh, "Skill-Based Career Prediction Model Using Classification Algorithms," Computers and Education, Elsevier, vol. 178, 2022.

[4] J. Lee and H. Kim, "Intelligent Career Advisory
System using Expert Systems," in ACM International Conference Oti Educational Technology, 2019.

[5] A- Sharma, R. Verma, and M. Gupta, "Online Career Guidance Platform Using Web Technologies,' IEEE Access, vol. g, 2021.

[6] K. Patel and N. Shah, "Career Recommendation System using Machine Learning," in IEEE Conference on Computing and Communication, 2021.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 6, May 2026
Impact Factor: 8.2

[7] Ministry of Education, Government of India, Nationa/ Career Service Portal RepoH, 2022.
[8] R. Agrawal and S. Srikant, "Mining Association Rules in Large Databases," VLDB Conference, 1994.
[9] P. Smyth, "Data Mining and Knowledge Discovery," Springer, 2010.
[10] UNESCO, G/0ba1 Education Monitoring Report 2023