INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X
Impact Factor: 6.078
(Volume 12, Issue 3 - V12I3-1140)
Available online at: https://www.ijariit.com

MARG: Ikigai-Based Career Guidance System

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ABSTRACT

Career selection has become increasingly complex due to evolving industries and diverse opportunities. Many students face difficulty in identifying suitable career paths that align with their abilities and interests. This paper introduces MARG, a career guidance system that utilizes an Ikigai-based approach to evaluate user profiles across multiple dimensions. The system analyzes interests, skills, personality traits, and external factors to generate meaningful career recommendations. It further provides structured guidance through skill development plans and learning resources. The objective is to support informed decision-making while ensuring long-term satisfaction and adaptability. The proposed approach enhances clarity and enables individuals to explore career paths aligned with both personal goals and practical opportunities.

Keywords: *Career Guidance, Artificial Intelligence, Ikigai Framework, Personalized Recommendation System, Career Decision-Making, Student Development, Skill Mapping, Career Planning, Intelligent Systems, Job Market Analysis.*

1. INTRODUCTION

Career selection plays a crucial role in shaping an individual's future. In today's rapidly changing environment, identifying a suitable career has become more challenging due to continuous technological growth and the emergence of new opportunities. Although students have access to a large amount of information, it often leads to confusion instead of clear direction.

One of the major issues in career planning is the absence of personalized guidance. Many individuals rely on general advice or external influence, which may not match their abilities or interests. Traditional methods are often limited in scope and may not reflect current industry requirements or future trends.

With the growth of intelligent technologies, career guidance can be improved by analyzing user-specific data. However, most systems focus only on skill matching and ignore deeper aspects such as purpose and satisfaction.

To overcome these limitations, this work presents MARG, a system based on the Ikigai concept. It aims to provide balanced career recommendations by considering both individual preferences and real-world opportunities.

2. LITERATURE REVIEW

i. **Meaning-centered career approaches:**

Research in psychology emphasizes that individuals are more satisfied when their work aligns with a deeper sense of purpose. Modern career guidance systems are increasingly incorporating this idea to move beyond purely financial or skill-based decisions.

ii. **Structured assessment techniques:**

Questionnaire-based tools are widely used to evaluate factors such as interests, values, and sense of direction. These structured inputs help in generating more personalized and reliable career recommendations.

iii. **Well-being and career alignment:**

Studies highlight that long-term career satisfaction is strongly linked to psychological well-being, including personal growth, self-awareness, and meaningful engagement. Systems that consider these aspects tend to produce more sustainable outcomes.

iv. **Personality-based career mapping:**

Classification models that group individuals based on personality traits enable better alignment between users and suitable career environments, improving decision accuracy.

v. **Continuous and adaptive career development:**

Contemporary research supports the idea that career planning is not a one-time decision but an ongoing process. Effective systems therefore provide continuous guidance, skill development pathways, and adaptability to changing goals and market conditions.

3. OBJECTIVES

The main objective of **MARG – An Ikigai-Based Career Guidance System** is to design a platform that helps individuals discover careers aligned with their purpose and strengths. It combines intelligent analysis with a holistic approach to support confident and fulfilling career choices

3.1 To develop an AI-driven career guidance platform for students

The primary objective of MARG is to build an intelligent system that uses artificial intelligence techniques such as machine learning and data analysis to provide accurate and real-time career guidance. The platform is designed to handle diverse user inputs and deliver scalable solutions that can adapt to different user needs.

3.2 To transform traditional career counselling methods

MARG aims to overcome the limitations of existing approaches that depend on static assessments or manual counselling. By using a modern technology stack and automated processes, the system provides continuous, adaptive, and data-driven guidance instead of one-time recommendations.

3.3 To provide personalized career recommendations

The system focuses on analysing individual characteristics such as interests, preferences, and personality traits to generate customized career suggestions. This ensures that each user receives guidance that is specifically aligned with their unique profile rather than generalized advice.

3.4 To integrate both practical and emotional aspects of decision-making

MARG recognizes that career choices are influenced by both logical factors and personal feelings. Therefore, the system is designed to offer balanced guidance that considers user motivation, satisfaction, and long-term engagement along with career opportunities.

3.5 To create an accessible and user-centric guidance system

Another important objective is to make career guidance widely available and easy to use. The platform aims to support students from different backgrounds by providing a structured, supportive, and interactive environment for career exploration.

4. METHODOLOGY

The development of the **MARG** system follows a systematic approach to ensure effective, intelligent, and user-centered career guidance. The methodology is divided into multiple stages, each contributing to the overall functionality of the platform.

4.1 Problem Identification and Requirement Analysis

The process begins with identifying the limitations of existing career guidance methods, which are often static or dependent on manual counseling. These approaches lack adaptability and personalization. To address this gap, requirements are defined by combining purpose-driven concepts with technological solutions. The system incorporates ideas related to self-discovery, psychological frameworks, and modern AI-based decision-making techniques. In addition, a scalable technical foundation is considered to support efficient system performance.

4.2 System Design

The system is designed as a multi-layered architecture where different components interact seamlessly. The frontend interface is developed to provide smooth user interaction and data input. The backend is structured to handle data processing, analysis, and communication between modules. The design is conceptually supported by established career development theories and behavioral models to ensure logical and meaningful recommendations.

4.3 Implementation

During implementation, all modules are developed and integrated into a functional system. The application collects user details and conducts assessments to understand individual preferences, abilities, and interests. Based on the responses, a detailed user profile is generated. The system then analyzes this profile to identify suitable career options and provides guidance accordingly. Additional support features are included to assist users in understanding their results.

4.4 Testing and Debugging

The system undergoes rigorous testing to ensure accuracy, reliability, and performance. Various scenarios are tested to verify whether the recommendations align with user inputs. Security measures are also evaluated to protect user data and maintain system integrity.

4.5 Deployment and Evaluation

After successful testing, the system is deployed for use. Its effectiveness is evaluated based on the relevance of recommendations and user satisfaction. Continuous feedback is used to improve system performance and enhance user experience over time.

5. SYSTEM DESIGN AND IMPLEMENTATION

5.1 System Design

The MARG system is designed using a structured and scalable client–server architecture. The frontend component provides an interactive interface where users can easily register, enter their details, and complete assessments. The backend component manages data processing, user requests, and recommendation generation. The system is modular in nature, allowing different components such as user management, analysis engine, and recommendation module to function together efficiently. Logical frameworks and structured models are incorporated into the design to ensure that the system produces meaningful and consistent outputs.

5.2 Frontend and Backend Integration

The frontend communicates with the backend through APIs, enabling smooth data exchange and real-time responses. The backend is responsible for handling multiple requests, processing inputs, and delivering results efficiently. This integration ensures that the system remains responsive and user-friendly while maintaining performance.

5.3 Implementation Process

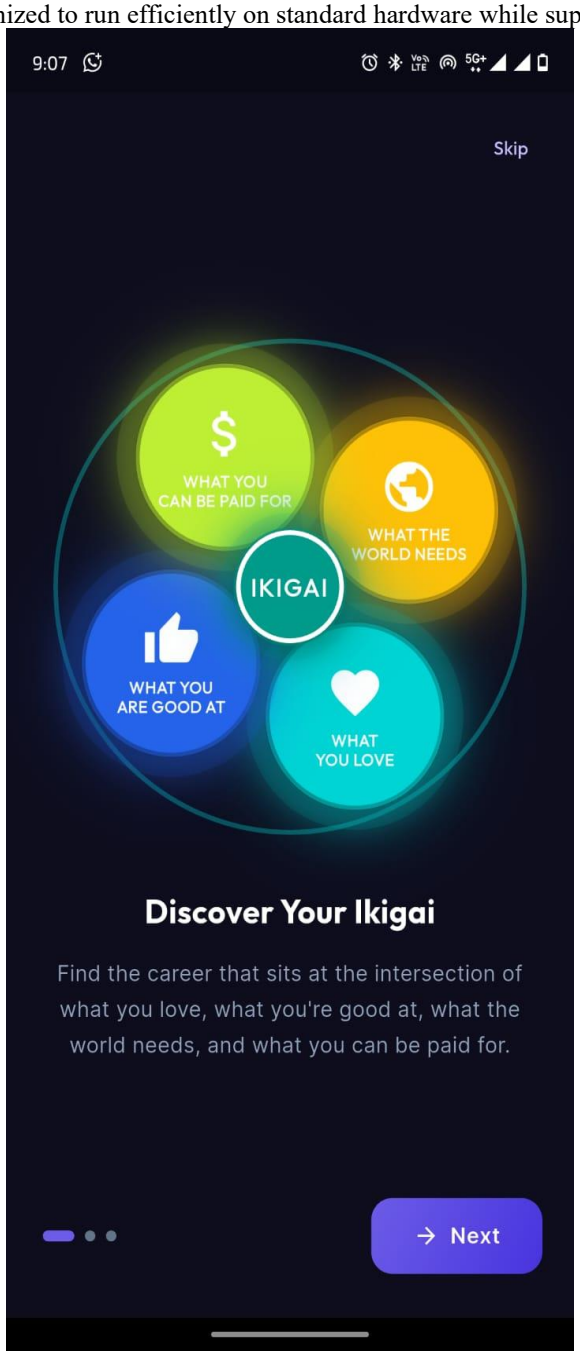
During implementation, the system collects user inputs such as personal details and assessment responses. Based on this information, a detailed user profile is created that reflects individual interests, preferences, and behavioral traits. The system then analyzes this profile using intelligent processing techniques to generate suitable career recommendations.

5.4 Data Management and Processing

A database is used to securely store user information and career-related data. Efficient data handling techniques are applied to support quick retrieval and similarity-based matching. AI-based services are integrated to enhance the accuracy of recommendations and provide meaningful guidance.

5.5 System Performance and Compatibility

The system is developed using modern technologies to ensure reliability, scalability, and cross-platform compatibility. It is optimized to run efficiently on standard hardware while supporting advanced processing tasks.



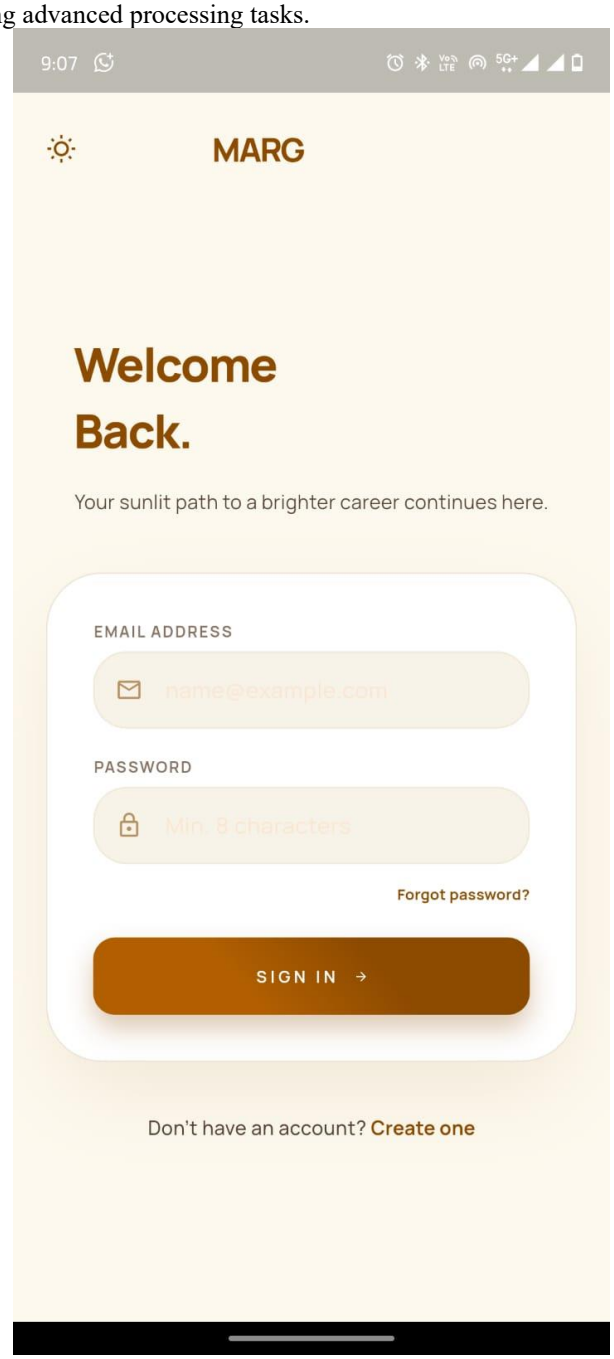
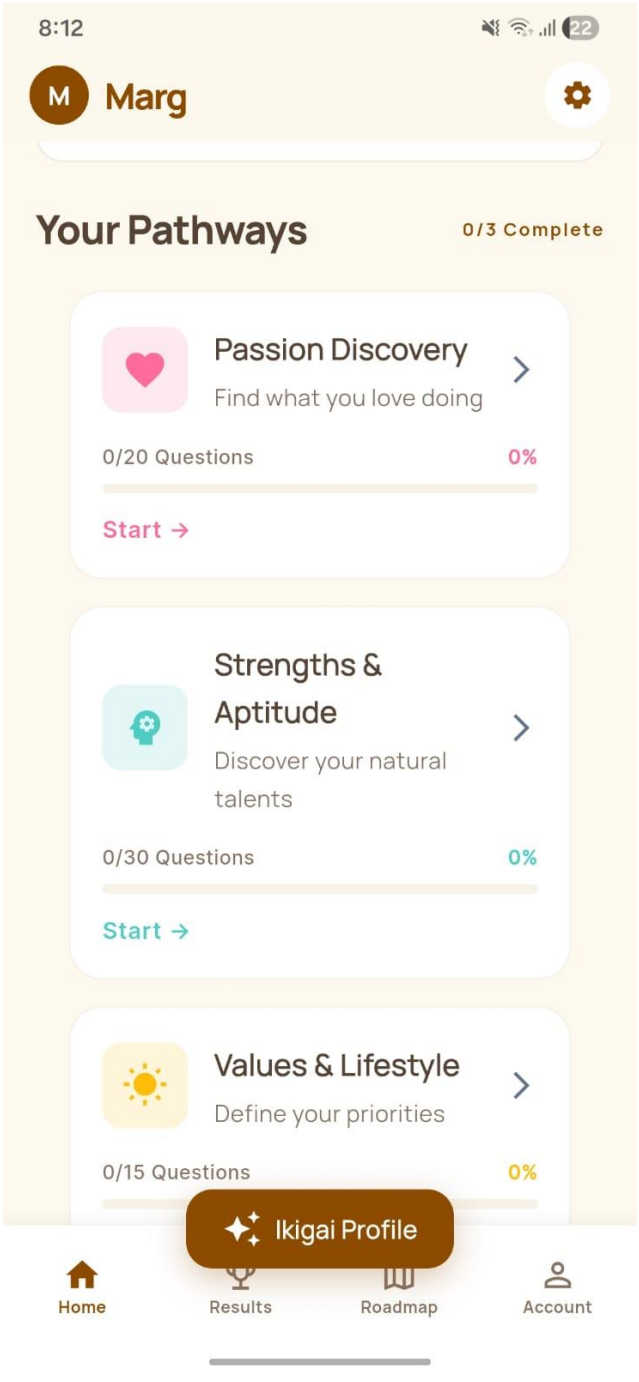
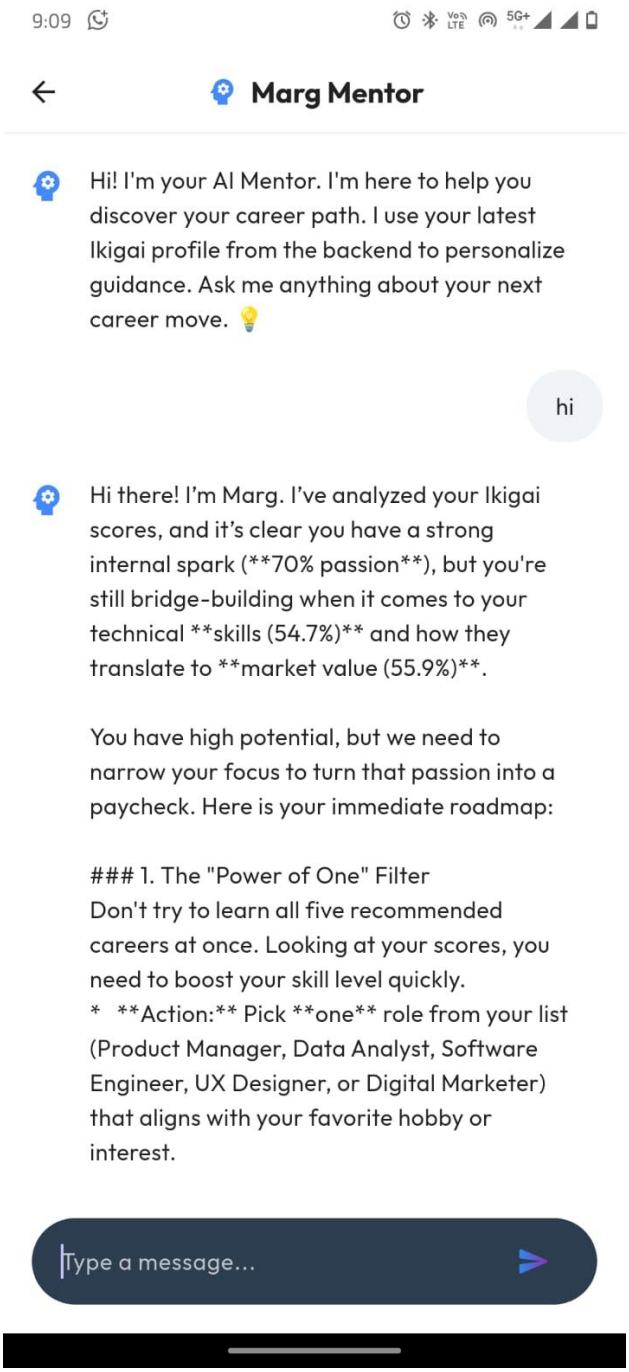


Chart – 1: Frontend Images





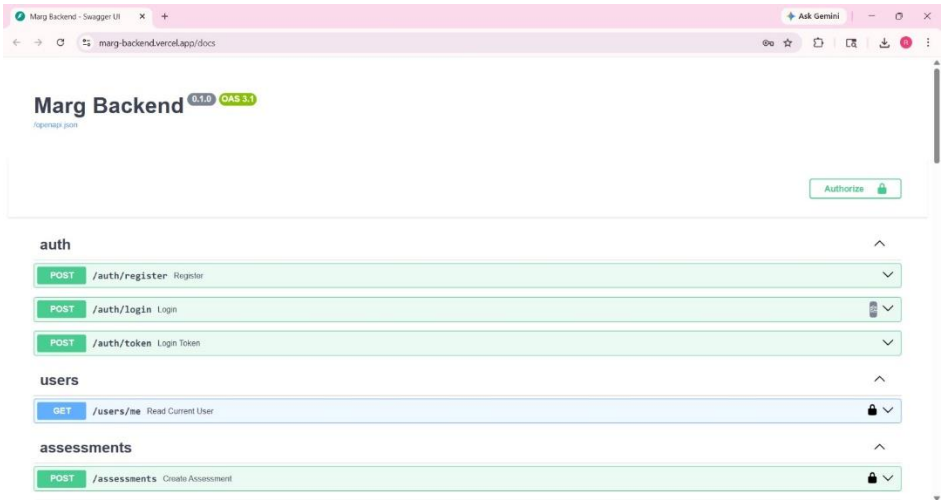


Chart – 2: Backend Images (A)

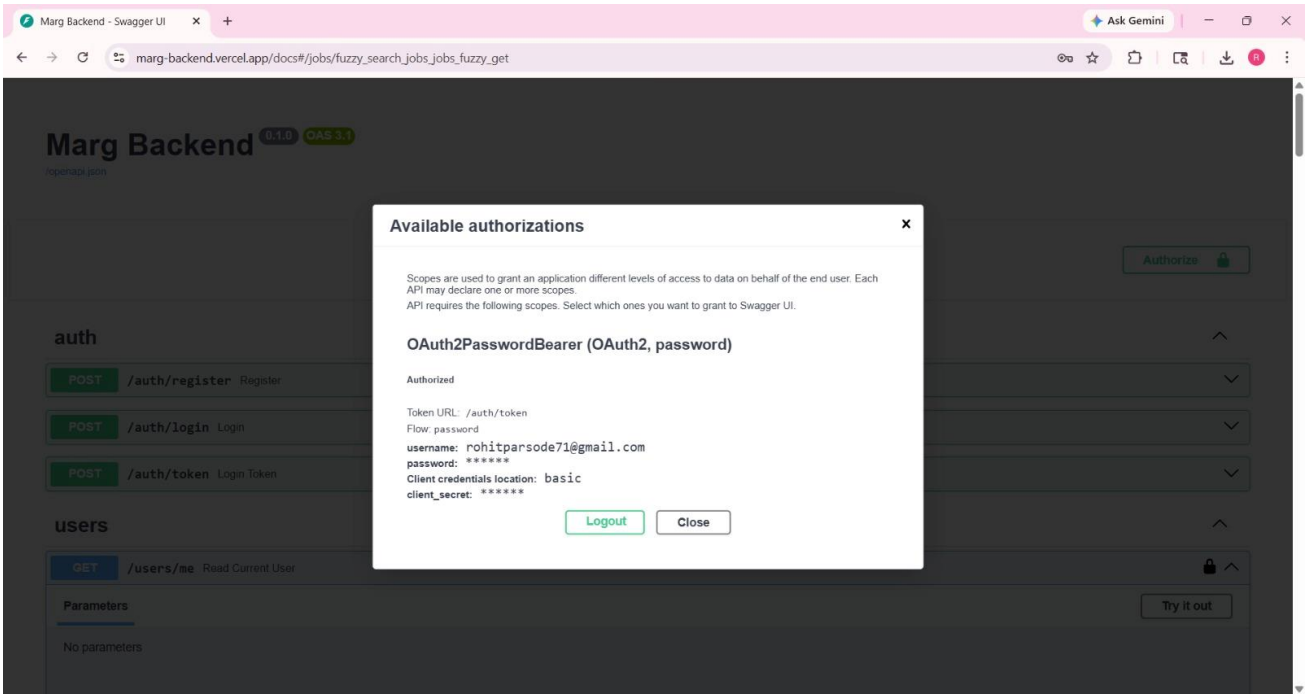


Chart – 3: Backend Images (B)

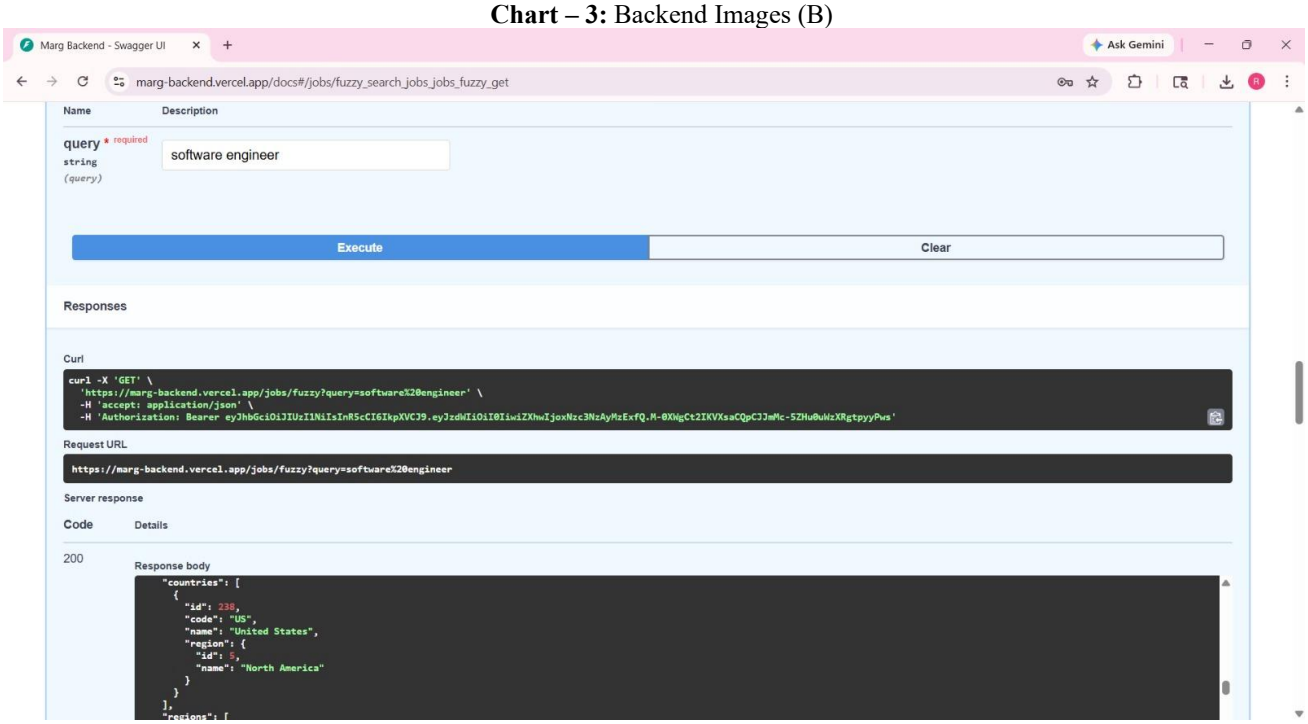


Chart – 2: Backend Images (C)

6. RESULTS AND DISCUSSION

The implementation of the MARG system demonstrates its effectiveness in providing intelligent and personalized career guidance. The system successfully generates career recommendations based on user inputs, including interests, abilities, and personal preferences. Unlike traditional methods that offer static or generalized results, MARG produces adaptive suggestions that align closely with individual profiles.

One of the key outcomes observed is the system's ability to translate complex user data into clear and meaningful career directions. Instead of presenting a broad and often confusing list of options, the platform narrows down relevant career paths that match the user's overall profile. This results in more focused and practical guidance. Additionally, the system provides structured roadmaps, enabling users to understand the steps required to achieve their chosen career goals.

The integration of a purpose-oriented approach ensures that recommendations are not solely based on technical compatibility but also consider personal satisfaction and long-term engagement. The system evaluates multiple dimensions simultaneously, leading to balanced outcomes that reflect both individual aspirations and real-world opportunities.

Furthermore, the adaptive nature of the platform allows it to offer multiple suitable options rather than limiting users to a single path. This flexibility supports better decision-making and encourages exploration. Overall, the results indicate that MARG enhances clarity, improves confidence in career choices, and provides a more comprehensive guidance experience.

7. CONCLUSION

The **MARG system** offers an innovative approach to career guidance by integrating intelligent technology with a purpose-oriented perspective. Unlike traditional methods, it provides personalized recommendations that consider both individual capabilities and long-term satisfaction. By analyzing factors such as interests, skills, and aspirations, the system helps users gain clarity in selecting suitable career paths.

The platform not only suggests career options but also provides structured guidance, enabling users to take practical steps toward their goals. Its balanced approach ensures that decisions are aligned with both personal fulfillment and real-world opportunities. Overall, MARG demonstrates how AI-driven solutions can make career guidance more effective, accessible, and meaningful for individuals.

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