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Survey Paper on Career Map

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ABSTRACT: The Career Map project is designed to build a comprehensive platform that helps students in the engineering field secure jobs by providing structured career guidance and mentorship. The application focuses on offering resources for skill development, personalized learning paths, and access to alumni mentors who have successfully secured positions in various companies. By connecting students with alumni for mentorship, the platform provides valuable insights into specific career paths, interview processes, and industry expectations. The goal is to equip students with the necessary tools to navigate their career journey effectively and improve their chances of placement in reputed organizations.

KEYWORDS: career guidance and mentorship, career paths, interview processes, and industry expectations.

I. INTRODUCTION

Navigating the journey from academia to a professional career in engineering can be daunting for many students. The job market demands not only academic qualifications but also specific skills, real-world experience, and a deep understanding of recruitment processes. To bridge this gap, the “Career Map using Flutter and Spring Boot” application has been developed as a comprehensive platform to guide engineering students through every step of securing a job. The application is built using modern technologies like Flutter for a seamless and interactive user interface, Spring Boot for the backend services, and a robust database system to manage user data and alumni connections. By leveraging these technologies, the platform ensures scalability, efficiency, and a smooth user experience across devices.

The key features provided by the “Career Map” application include:

1. **Mentorship Program:** Students can connect with alumni from their college who are currently working in the industry. The mentorship helps students understand the real-world recruitment process and get company-specific advice.
2. **Personalized Learning Paths:** The platform provides skill development re-sources and personalized paths based on the student’s career goals, guiding them to prepare for the roles they are interested in.
3. **Company-Specific Preparation:** Alumni provide insights into the hiring processes of specific companies, helping students prepare for interviews and assessments.
4. **Career Tracking:** Students can track their career preparation journey by setting goals, completing tasks, and monitoring their progress towards job-readiness.

By implementing these features, Career Map addresses the lack of structured guidance and company-specific preparation tools available to students. The Career Map application not only helps students align their skills with industry requirements but also fosters a collaborative environment where they can receive real-time guidance from professionals who have successfully transitioned into the workforce. Through the combination of technology and mentorship, the platform aims to simplify the job preparation process for engineering students, ensuring they are equipped to meet the demands of the competitive job market.

II. LITERATURE SURVEY

Nemy H. Chavez, Conrado I. Dotong, Nestor C. Camello and Jake M. Laguador, “Employability of engineering graduates of one Asian university as basis for curriculum review” [1], The purpose of this tracer study was to determine the professional and personal traits of the engineering graduates of the aforementioned degree programs, their job placement, the school-related factors related to their employment, and the relevance of the undergraduate courses in industrial, electronics, and mechanical engineering as well as the knowledge and skills the graduates acquired to their

employment. Descriptive and quantitative research designs were employed in this tracer study. According to the results, the majority of respondents found their first work in a field connected to their degree; they were hired within six months; they have been employed at their first job for nearly a year; and the main reason for leaving their first job is inadequate pay. Time and Motion Study for Industrial Engineering Graduates, Power Plant Engineering for Mechanical Engineering Graduates, and Mathematics were deemed very relevant subjects for the current jobs of Electronics Engineering Graduates. According to the graduate respondents, their current jobs are mostly a result of the intellectual abilities they acquired in the university. The work-related values, particularly honesty and truthfulness, were thought to be highly pertinent to the employed graduate respondents' current jobs.

Sabrina Jahn, Jürgen Mottok, “Work in Progress: Towards an Academic Secure Software Engineering Curriculum for Engineers” [2], Integrating information about the creation of safe systems (secure software engineering) into academic instruction is becoming more and more crucial in the era of the Internet of Things. Nonetheless, it is uncommon to teach secure software engineering and IT security to non-computer scientists.

As a result, we concentrate our research on using inductive teaching and learning strategies to incorporate IT security into software engineering education for non-computer scientists, especially electrical engineers. Following a previous study that gathered students' preconceptions about IT security and secure software engineering, this paper offers the first mapping of these preconceptions with related learning materials and appropriate inductive teaching techniques. This will enable the development of new lecture and exercise units and enhance academic learning and instruction in both fields.

Cheryl Carrico, Holly Matusovich, Samantha Brunhaver, Jinny Rhee, “Panel: Student Self-Perceptions Regarding Their First Position After Graduation: What Are They and How Do We Help?” [3], The Professional Engineering Pathways Study (PEPS) findings will be presented during this panel session, and audience and panel members will then engage in an interactive discussion. The interactive discussion is designed for stakeholders who want to learn more about the career paths taken by undergraduate engineering students. Engineering graduates now face a more complicated process while looking for their first job following graduation. For students, comprehending the growing array of career opportunities, identifying the precise engineering abilities employers seek for a role, and the range of approaches that lead to a successful job offer may be intimidating. PEPS, a multi-institution longitudinal mixed methods study, examined both student and university influencer perspectives on career expectations, values, and objectives as well as career possibilities and the knowledge, skills, and abilities needed for those options. The panel will serve as a springboard for an engaging conversation with attendees by highlighting noteworthy findings that are expected to be of interest to faculty, career counsellors, academic advisers, and students looking for their first job following graduation.

Sarath Tomy, Eric Pardede, “Map My Career: Career Planning Tool to Improve Student Satisfaction” [4], For universities to endure, stay competitive, and expand, student happiness in all courses is essential. By addressing academic preparedness, academic workload management, core skill development, and graduate employability, this study suggests a career-focused educational model called Map My Career to increase student satisfaction with their course. The idea is put into practice as a software program that uses data analytics and text mining to help students choose and manage their courses more effectively in relation to their future employment. By examining data collected from educational settings and profession advertisements, the program links course, skills, and career and detects any discrepancy between the abilities taught in university curricula and those needed by the labor market. The program was created on the premise that when students comprehend the links between their university coursework and how it can lead to their preferred career, their level of happiness is increased. In order to assess the model's and the application's efficacy, a survey is carried out to examine its features from the viewpoint of students, who are the main recipients of higher education. Our objective is to gather feedback from students who complete real-world assignments using the Map My Career app. The study's findings demonstrated that students felt this tool improved their academic workload management, core skill development, employability after graduation, and academic readiness, all of which increased their course satisfaction.

Puji Catur Siswipraptini, Harco Leslie Hendric Spits Warnars, Arief Ramadhan, Widodo Budiharto “Personalized Career-Path Recommendation Model for Information Technology Students in Indonesia” [5], Selecting a career specialization is one of the most difficult choices for students. Due to a lack of resources and direction, people rely on their friends' or family's subjective opinions while making decisions. This raises the possibility of employee discontent

with their workplaces. This study offers a personalized career-path recommendation model (CPRM) to help college students select information technology employment in order to overcome these limitations. Using three main sources—job profiles, personality types, and subjects—the CPRM is based on the customized Naïve Bayes (p-NB) algorithm. Using samples of 104 computer science students enrolled in private colleges in Indonesia, the relationship between personality type and college students was determined. A web-based application was used to implement CPRM. In order to assess whether the suggested model is well-liked by users, this study measured the quality of the suggested goods. The model takes into account hierarchically connected concepts and data integration from educational data mining grounded theory (EDM-GT). Through focus group talks, three Indonesian psychologists and information technology (IT) professionals have verified CPRM. According to the evaluation's findings, over 83% of participants expressed satisfaction with the suggestion model. As a result, CPRM can offer computer science students who want to work in IT careers automatic academic counsellors and advice. The outcome demonstrates that CPRM is the first EDM-GT-based career path recommendation model aimed at Indonesia's computer science community.

Mengzhen Li, Wantana Areprayolkij, “A Knowledge Map of Study and Career Path for Bioengineering Student Guidance” [6], Although many biology graduates decide not to pursue further education, even the number of graduates has been rising. According to certain surveys, 40% of graduates are individuals who travel overseas for graduate school and additional study. In terms of the demand for talent, which has also been near saturation, many of them enter the intake of scientific research institutions. It implies that postponed biology graduates will have more difficult time finding work. The aim of this research is to examine bioengineering courses and job openings on job-search websites and then extract information on self-competence. The degree of self-competence has an impact on college students studying bioengineering's employment prospects. The purpose of the knowledge map was to serve as a guide for the study routes of the students. The self-improvement and career advice growth of bioengineering college students are aided by this study.

III. PROPOSED SYSTEM

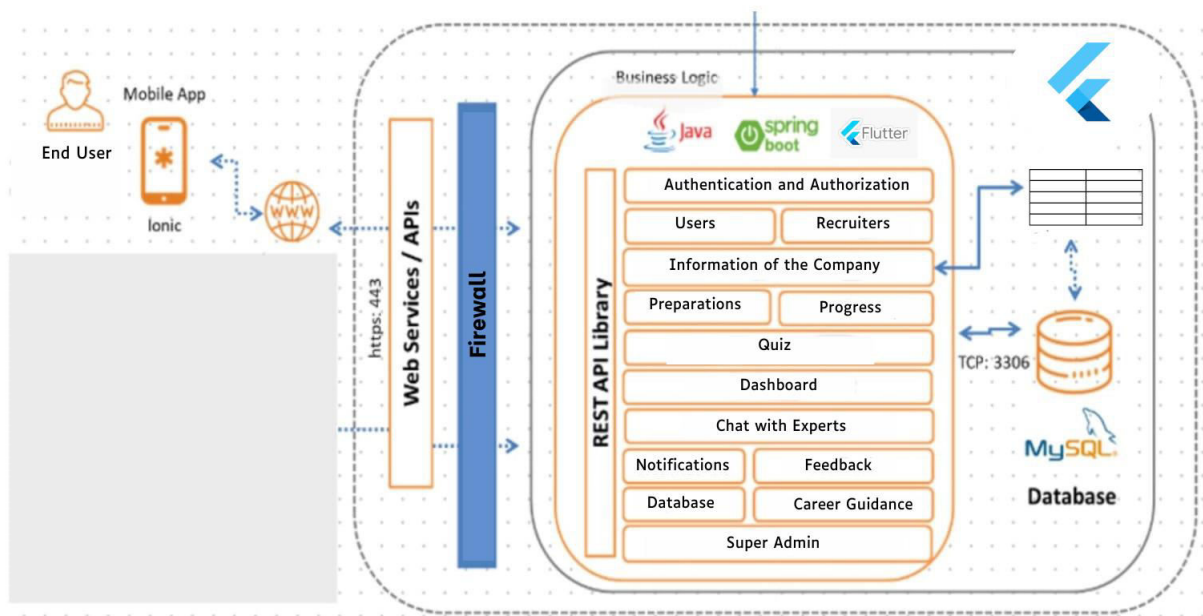


Figure 1: System Architecture for Career Map

The workflow for Career Map works in following manner –

1. User Registration/Login: Allows students and alumni to access personalized features.
2. Dashboard: Displays career resources, guidance tools, and networking options.
3. Student Profiles: Stores information about students, including academic background, career interests, and skill sets.
4. Alumni Data: Contains alumni details such as current job roles, expertise, and contact information for mentorship.

5. Job Resources: Includes resources for interview tips and career guidance articles.
6. Career Guidance and Recommendations: Provides personalized job recommendations, internship suggestions, and necessary skill improvements.
7. Mentorship Matchmaking: Suggests mentors based on the career goals and interests of students.

IV. CONCLUSION

We studied different methodologies of the Career Map outlines the creation of a mentorship and career tracking platform tailored for engineering students, addressing gaps in skill development and job preparation. It details the app's purpose, system design with Flutter and Spring Boot, and key requirements focused on mentorship, career tracking, and user accessibility. Supported by a literature survey, the report highlights how Career Map combines personalized learning paths and alumni mentorship to enhance student career readiness.

REFERENCES

1. Nemy H. Chavez, Conrado I. Dotong, Nestor C. Camello and Jake M. Laguador, "Employability of engineering graduates of one Asian university as basis for curriculum review," in EPH-International Journal Of Science And Engineering, Vol 2 Issue 6, pp. 18-29, June 2023.
2. Sabrina Jahn, Jürgen Mottok, "Work in Progress: Towards an Academic Secure Software Engineering Curriculum for Engineers", IEEE Global Engineering Education Conference (EDUCON) 27–30 April, 2020.
3. Cheryl Carrico, Holly Matusovich, Samantha Brunhaver, Jinny Rhee, "Panel: Student Self-Perceptions Regarding Their First Position After Graduation: What Are They and How Do We Help?", IEEE 2018.
4. Sarath Tomy, Eric Pardede, "Map My Career: Career Planning Tool to Improve Student Satisfaction", IEEE PAGE NO. 132950 – 132965, 2019.
5. Puji Catur Siswipraptini, Harco Leslie Hendric Spits Warnars, Arief Ramadhan, Widodo Budiharto "Personalized Career-Path Recommendation Model for Information Technology Students in Indonesia", IEEE **Page(s):** 49092 – 49105, March 2024.
6. Mengzhen Li, Wantana Areeprayolkij, "A Knowledge Map of Study and Career Path for Bioengineering Student Guidance", Published in: 2023 Joint International Conference on Digital Arts, Media and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering (ECTI DAMT & NCON), 2023.



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