



**Ahsanullah University of Science & Technology**

**Department of Computer Science & Engineering**

**Project Report**

**Course No : CSE3224**  
**Course Title : Information System Design and Software Engineering LAB**

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**Submitted To : Mr. Dr. Taslim Taher & Ms. Anika Binte Aftab**

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## 1. Project Title:

CareerTrail (An Online Job Portal)

## 2. Project Abstract:

CareerTrail is a dynamic job portal for modern employment solutions. CareerTrail is a streamlined job portal designed to connect job seekers with employers efficiently. With user-friendly profiles, trouble-free job searching, and real-time notifications, CareerTrail simplifies the job search process. For employers, CareerTrail offers easy job posting, candidate management, and data-driven insights, enabling swift and effective hiring decisions. Embracing technology and user-centric design, CareerTrail optimizes the job search and hiring experience for modern employment solutions.

CareerTrail aims to revolutionize the way job seekers explore career opportunities and employers find their ideal candidates. Through a user-centric approach, CareerTrail offers an array of features and tools that redefine the job search experience.

## 3. a) Problem Statement:

- **Prevalent Challenges:** The prevalent challenges faced by job seekers and job posters in the ever-evolving job market mainly motivated us to choose the current topic.
- **Lack of Digitalization:** Compared to other areas of our lives, the job market is not digitalized enough, especially in Bangladesh. The existing platforms only partially address the challenges faced, but not completely.
- **Outdated functionalities:** Absence of Analytics Tools and outdated features and functionalities make Employers struggle to gather meaningful insights and metrics to optimize their hiring processes and make data-driven decisions as well as make it difficult for job seekers to search for jobs based on specific criteria.
- **Lack of Educational Resources:** Insufficient guidance and educational resources for job seekers regarding resume writing, interview skills, and career development may be lacking on some platforms.

## **b) Solution:**

- **Seamless and user-friendly platform:** CareerTrail provides easy navigation and a friendly interface for both job seekers and employers.
- **Wide range of features and functionalities:** Diverse tools for personalized job searches, resume customization, and advanced filters.
- **Efficient and effective job search:** Cutting-edge algorithms for a streamlined and effective job search experience.
- **Advanced communication methods:** Real time emailing through the website itself ensures communication between users.
- **Comprehensive Employer Features:** Tailored tools for employers, including advanced candidate screening and detailed analytics.
- **Continuous Optimization and Innovation:** Regular updates and innovations for a dynamic and up-to-date Job Portal experience.

## **4. Project Description:**

CareerTrail is strategically designed to fulfill the identified necessities of job seekers and employers by offering purposeful functionality that streamlines the job search and hiring processes. Our objective is to create a platform that not only meets user needs but also exceeds their expectations. It offers the following features-

- **Authentication System:** Job Seekers have to sign up and sign in to use the website. Companies and admins have to log in to post jobs, and manage etc.
- **Verification:** Job seekers have to put valid mails while registering so that they can be verified through mail.
- **Dashboard and Job List:** Upon log in, job seekers can view the user dashboard. They can see the available job list with primary information.
- **Profile:** Every job seeker has a personal profile with their info. They can update the profile if they want.
- **Job Apply:** If the seekers like a job from the list, they can apply for it. Its basically filling up a form, uploading cv and pressing the apply button.
- **Search & Tags:** Seekers can search specific keywords or tags to look for any specific jobs or any specific criteria.
- **FAQ:** There is a list of Frequently Asked Questions for the job seekers to view.
- **Q&A Forum:** Job seekers can ask various questions here. And other Job seekers can see them and maybe provide answer for the questions.
- **Feedback:** Job seekers can also provide feedback on their experience of the website. Admins can see these feedbacks and reply if necessary.

- **Job Posting:** Companies can post jobs (update and delete also) using a form after filling out certain fields. These jobs are shown in the user dashboard.
- **Review Applications:** When a seeker applies for a job, they can see the applications, uploaded CVs etc.
- **Job Compatibility:** Employers can also see the compatibility score of the job seeker with the job's requirements.
- **Mail:** Employers can send email to candidates to call for interview or other things through our website.
- **Manage Company:** Admins can add, update, delete companies and customers. Companies can't add/register themselves as it might lead to inconsistency and fraud.
- **Website Management:** Admins manage the whole website. They respond to the feedbacks. If the feedbacks ask for any valid changes or updates, admins can ensure those.

## 5. Description of achieving Sustainable Development Goals

Our job portal actively contributes to several Sustainable Development Goals (SDGs) by fostering inclusive employment practices and supporting social and economic development.

- **SDG 8: Decent Work and Economic Growth:**  
By connecting job seekers with diverse employment opportunities, our portal promotes decent work, economic growth, and reduces unemployment, contributing directly to SDG 8.
- **SDG 5: Gender Equality:**  
We actively promote gender equality by ensuring a fair and unbiased platform, providing equal opportunities for all genders in the job market.
- **SDG 10: Reduced Inequalities:**  
Our portal is committed to reducing inequalities by providing an accessible platform that caters to a wide range of skills, backgrounds, and experiences, fostering diversity and inclusion in the workforce.
- **SDG 4: Quality Education:**  
Through partnerships with educational institutions and skill development programs, we contribute to SDG 4 by connecting job seekers with opportunities that align with their education and skill levels, promoting lifelong learning and professional development.

- **SDG 9: Industry, Innovation, and Infrastructure:**  
By staying at the forefront of technology and innovation, our job portal enhances industry practices and infrastructure, aligning with SDG 9 to build resilient and sustainable industries.
- **SDG 1: No Poverty:**  
Our commitment to inclusive employment addresses SDG 1 by providing individuals with job opportunities, helping to alleviate poverty and improve economic well-being.
- **SDG 17: Partnerships for the Goals:**  
Through collaboration with educational institutions, NGOs, and community organizations, our platform actively supports SDG 17 by fostering partnerships that enhance the impact of sustainable development initiatives.

Our job portal actively integrates technology, development, and innovative practices to address a multitude of Sustainable Development Goals, ensuring a positive impact on both individuals and communities.

## **6. Research Knowledge**

Research knowledge for CareerTrail, our job portal website, involved an in-depth exploration of various aspects crucial for its development and success:

- **User Experience and Interface Design:**  
Our research focused on optimizing the user experience by understanding how job seekers and employers interact with online platforms. We emphasized efficient navigation, intuitive interfaces, and user satisfaction to enhance the overall experience.
- **Market Analysis:**  
A comprehensive analysis of the job market landscape was conducted to identify trends, opportunities, and potential challenges. This helped us tailor CareerTrail to meet the evolving needs of both job seekers and employers.
- **Security and Privacy Considerations:**  
Extensive research was dedicated to implementing robust security measures for safeguarding user data and ensuring compliance with privacy regulations. This included staying updated on the latest security protocols and best practices.
- **Technology Stack Selection:**  
The choice of PHP, CSS, HTML, JavaScript, and MySQL was informed by a thorough evaluation of their compatibility, efficiency, and the expertise of our development

team. This stack was selected to ensure a dynamic, responsive, and secure platform.

- **User-Generated Content:**

Recognizing the significance of user-generated content in the job search process, we incorporated features that allow users to share reviews, testimonials, and feedback. This not only enhances the platform's credibility but also aids others in making informed decisions.

- **Integration of Technology:**

We explored the integration of advanced technologies like chatbots and streamlined communication channels to improve customer service and support, creating a more interactive and user-friendly experience.

- **Health and Safety Measures:**

In response to the global impact of the COVID-19 pandemic, our research emphasized incorporating health and safety information on CareerTrail. This includes details on cleanliness standards, flexible booking options, and adherence to travel restrictions.

- **Data Security and Privacy:**

Given the critical nature of personal information on a job portal, extensive efforts were put into ensuring data security and privacy. CareerTrail prioritizes the protection of user information, implementing measures to safeguard against potential security threats.

This research-driven approach ensures that CareerTrail remains a cutting-edge, secure, and user-friendly job portal, meeting the evolving needs of the job market and its participants.

## **7. Society Benefits**

- **Employment Generation:**

Contributes to societal well-being by facilitating the generation of employment opportunities, reducing unemployment rates, and supporting economic stability.

- **Equal Opportunity:**

Job portals can promote equality by providing an equal platform for all individuals, regardless of their background, to access job opportunities based on merit.

- **Entrepreneurship Support:**

Fosters entrepreneurship by connecting startups and small businesses with a diverse pool of talent, supporting innovation and economic growth.

- **Career Advancement:**

Facilitates professional growth and career advancement by connecting individuals with job opportunities that align with their career goals.

- **Community Development:**  
Strengthens communities by facilitating local employment, reducing the need for long-distance commuting, and contributing to the development of local economies.
- **Efficient Job Matching:**  
Enhances efficiency in the job market by connecting employers with the right talent and helping job seekers find roles that match their skills and preferences.

**Table 1:**

Attribute	Relevance in the Project
Depth of Knowledge Required	A solid foundation of expertise is essential for the development of our Job Portal website. Proficiency in CSS, HTML, PHP, and JavaScript is paramount for meticulous planning and systematic development, ensuring a dynamic and user-friendly platform. In-depth knowledge of Software Development Life Cycle stages, including the creation of detailed Use Case Diagrams, Narratives, Data Flow Diagrams (DFD), and Entity-Relationship Diagrams (ERD), adds a layer of precision to our project. This comprehensive skill set, coupled with a profound understanding of the job market, legal compliance, and user experience enhancement, guarantees the successful and robust development of our Job Portal website.
Depth of Analysis Required	Analyzing CareerTrail, our job portal website, involves a multifaceted approach to ensure its success. Functional Requirement Analysis is at the core, ensuring that the platform adeptly caters to the diverse needs of both job seekers and employers. Simultaneously, Non-Functional Requirement Analysis explores broader aspects such as performance, security, and user experience, striving for a high-performing and secure website. Proactive Risk Analysis is crucial for identifying and mitigating potential challenges, contributing to a

	resilient project structure. Market Analysis guides strategic decisions based on industry trends, ensuring that CareerTrail aligns seamlessly with user expectations and industry standards. This thorough analysis guarantees that the job portal not only meets but exceeds user expectations, providing a dynamic and successful platform within the dynamic job market landscape.
<b>Familiarity of Issues</b>	A solid understanding of feasibility study concepts, such as resource evaluation, economic benefits, and team capabilities, has been crucial for assessing the viability of CareerTrail, our job portal website. This knowledge, combined with effective project scheduling, ensures alignment with practical constraints and optimized resource utilization, contributing to a well-structured and efficiently executed project. In the context of job portals, anticipating and addressing User Experience Challenges, Technical Challenges, and Security Concerns are vital. Efficiently handling User Support and Queries, understanding Market Dynamics, and ensuring Regulatory Compliance are also essential components for optimal performance and building user trust. This dual focus on feasibility and issue familiarity ensures that CareerTrail is not only viable but also well-equipped to tackle the specific challenges of the job portal landscape.
<b>Interdependence of different modules/segments</b>	In CareerTrail, the modules work in tandem to create a seamless user experience. Job seekers authenticate through the system, their profiles interlinked with the Dashboard and Job List. The Verification process ensures data integrity. Job Apply is intricately connected with Job Posting, allowing for a straightforward application process. The Search & Tags feature complements Job Posting, enabling precise job searches. The Q&A Forum and Feedback modules foster user engagement, while Review Applications and Job Compatibility offer valuable insights. The Mail feature streamlines employer-candidate



	communication. Admins, through Website Management and Manage Company, oversee and ensure the efficient functioning of the entire platform. This interconnected design ensures that each module contributes to the overall effectiveness of CareerTrail.
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**Table 2:**

<b>Attribute</b>	<b>Relevance in the Project</b>
<b>Range of Resources</b>	Developing a successful job portal necessitates a blend of human expertise, including developers, designers, and customer support; robust technological infrastructure for hosting, security, and collaboration tools; financial resources for budgeting, operating costs, and marketing efforts; comprehensive data resources for job listings, user profiles, and analytics; strategic inputs from market research, partnerships, and legal compliance; and efficient time management throughout the development and launch phases. This orchestrated combination ensures the effective creation, deployment, and sustained operation of the job portal.
<b>Level of Interaction</b>	The level of interaction within a job portal is characterized by seamless engagement between job seekers, companies, and administrators. Job seekers experience a user-friendly authentication system, enabling them to effortlessly navigate personalized dashboards, apply for jobs, and interact through features like search and tags. Meanwhile, companies efficiently manage job postings, review applications, and engage with candidates through integrated email communication. The platform facilitates effective communication and feedback exchange, ensuring optimal user engagement. The interplay of features and modules creates a dynamic environment, fostering a high level of interaction tailored to the specific needs of job seekers, companies, and administrators,

	contributing to an efficient and effective job portal experience.
<b>Innovation</b>	Innovation defines our job portal, integrating features like a robust Authentication System, streamlined Job Apply process, and an interactive Q&A Forum for enhanced user engagement. The compatibility score between job seekers and job requirements adds a unique dimension, aiding employers in efficient candidate evaluation. The platform's responsive design ensures accessibility, while the Mail feature facilitates seamless communication between employers and candidates. These innovative elements collectively shape a dynamic and user-centric job portal, setting it apart in the competitive landscape of employment platforms.
<b>Consequences for Society and the Environment</b>	A job portal has positive societal impacts, fostering economic growth and inclusivity. However, challenges like potential job market saturation and the digital divide may arise. Environmentally, digital processes reduce paper usage, yet energy consumption from server infrastructure poses concerns. Balancing societal benefits, addressing challenges, and embracing sustainable practices are crucial for responsible job portal development.
<b>Familiarity</b>	Familiarity is paramount in our job portal, ensuring an intuitive user experience, robust technical familiarity, and stringent security measures. Quick and effective handling of user support and queries maintains a familiar environment. Adapting to market dynamics and complying with regulatory standards, the platform prioritizes cultural familiarity, enriching the user experience by respecting diverse backgrounds. Our project's foundation lies in familiarity with information system design concepts, resulting in a user-friendly interface, efficient data management, and features aligned with industry practices. This commitment ensures an adaptive and intuitive job portal.