

An Undergraduate Internship/Project on BS23 Job Portal Website

By

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June 16, 2021

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Attestation

This is to certify that the report is completed by me, Saif Isteaq Khan (1730259), submitted in partial fulfillment of the requirement for the Degree of Computer Science and Engineering from Independent University, Bangladesh (IUB). It has been completed under the guidance of Md. Asif Bin Khaled. I also certify that all my work is genuine which I have learned during my Internship. All the sources of information used in this project and report has been duly acknowledged in it.

Signature	Date	
Saif Isteaq Khan		
Name		

Acknowledgement

I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this report. Any report's success depends heavily on the encouragement and guidelines of many individuals. I would like to express my gratitude to my internship supervisor Md.Asif Bin Khaled for providing me the report with clear guidelines and instructions throughout my internship program. Without his help, suggestion and cooperation, this report would not have been completed successfully. Moreover, I feel fortunate to have the opportunity to work at Brain Station 23 as a Software Developer. I am grateful to Mr.Raisul Kabir (CEO) along with other members from BS23 who acted as a mentor to complete my regular task and provided me with valuable information regarding this report. Finally, I am grateful to Independent University, Bangladesh (IUB), for providing this knowledgeable and wonderful internship experience as a platform.

Letter of Transmittal

April 15, 2021

Md. Asif Bin Khaled

Lecturer

Department of Computer Science and Engineering

Independent University, Bangladesh.

Subject: Internship Report submission Spring,2021.

It's my great pleasure to place my Internship report for your kind approval. I, Saif Isteaq Khan, from Spring 2021, Section 10, have completed my Internship Program and its report. I completed my internship at Brain Station 23, which started on 9th February of 2021. This report contains my experience and work in the company. It is my immense pleasure to presenting you my experience in all the different technology related fields of the company, including research and development, content writing, documentation, designing, software development and also to get acquainted with software development processes and practices.

I hope, this report will reflect my learning and the work i did during the internship program. I also pray and hope that you will find it in order

Sincerely, Saif Isteaq Khan, 1730259

Evaluation Committee

Signature		 ••••	 		 		
Name	 •••••	 ••••	 		 		
Supervisor	 	 ••••	 ••••	• • • •	 	• • • •	
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Abstract

My internship was at Brain Station 23, it is a Bangladesh based Tech company offering solutions by using technology as just a platform to mobilize the world around us. BS23 offer's products and solutions to enhance not just businesses but also assist in improving your daily activities. Main services provided by BS23's are:

- 1. Artificial Intelligence
- 2.Intelligent Automation
- 3. Robotic Process Automation
- 4. Software Solutions
- 5.Industry ERP Consultancy

During my berth I got introduced to the technologies that area unit employed in the event section. I ought to study helpful skills and tricks in developing a completely useful and responsive web site. during this timeline I progressively increasingly more Associate in Nursing more got familiar with a number of the package Engineering method and tools that area unit concerned in taking an application from beginning to development and production.

After finishing all basic learning sessions, I used to be appointed to figure on a corporation project wherever my task was to figure in a during a in Associate in Nursing exceed in a very team to develop an Job Portal web site known as on-line Job Portal and also the plan of the web site is to form a platform for users wherever they will realize all Job Portals of standard of living in one place.

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Introduction

1.1 Overview/Background of the Work

This project is aimed toward developing a web search Portal for the position Details for job seekers. The system is a web application that may be accessed throughout the organization and out of doors additionally with correct login provided. Job Seekers work ought to be able to transfer their data within the variety of a CV. Company representatives work in might also search any data place up by Job aspirants. Job portal is Associate in Nursing application that connects leader and job seekers wherever employers square measure the supply of the resources and therefore the job seeker will realize and apply for his or her targeted job.

1.2 Objectives

This system will be used as a web Job Portal for the Placements providing to the idle United Nations agency square measure seeking for employment placement. Job Seeker work into the system and he will ought to be ready to transfer their data within the kind of a CV. Company representatives work in can also search any data place up by Job Seeker. one among the ways that to enhance employment quality is to supply on-line job supply services. on-line job portals will facilitate jobseekers as they contain all needed data concerning offered vacancies in a very single purpose. Such portals enhance potency in job achievement as candidates will match their qualifications and skills to the necessities of employers. Generally, looking for jobs on the web involves a method of data of data of knowledge collection as a result of the jobseeker gathers information contained within the job portals, throughout the search. an honest job portal shares data and experiences with its users.

This save time Associate in Nursing efforts and higher selections will be created Job openings needs will be matched to an applicant's qualification and skills. during this method,

job portals come back not solely the precise matches however additionally come back the foremost similar match and characteristics that include: a web searchable information of positions for job searcher, facilities to send CVs to the website; email alerts of jobs that match the users profile, further instruction, for instance, concerning operating in foreign countries or career steering, the potential to manage job applications, employers should have the power to publish and job positions, search the CV information and have on-line contact with potential jobseekers.

1.3 Scopes

Features available to the user after the development of this web application:

- 1. Home page- The first page the user will see after visiting the website
- 2. Customer Registration- Customer can register from the registration page.
- 3. Customer Login- Customer can login from the login page.
- 4. Admin Registration- Admin can register from the Admin dashboard.
- 5. Admin Login- Registered admin can login from the Admin dashboard.
- 6. Add/Remove CV- Admin can add or remove CV before and after recruitment.
- 7. Sort CV Customer can sort CV by relevance, price.
- 8. Customer address- Customer can change their address or add new address before checkout.
- 9. Customer Profile- Customer can check the status of their profile
- 10. Company Pannel- Company can make a relevant CV from website

Literature Review

2.1 Relationship with Undergraduate Studies

- CSE 203, Data Structures: This is the most basic course that helped with the ideas of several data structures and their applications.
- CSE 213, Object-Oriented Programming: In the developing industry most of the data is represented as an object. It also taught how to write modular programs which made codes less repetitive and more reusable.
- CSE 303, Database Management: This was the first course that taught me how to design and plan a project. It covered popular planning and strategy practices such as System Development Life Cycle, Rich Picture, Requirement Analysis, Entity Relationship Diagram, Business Process Model and Notation Diagram, and many more.
- CSE 307, System Analysis and Design: This course gives an overview of different SDLCs and how to adopt each one of them to the project.
- CSE 309, Web Application and Internet: This is the course where the development of web applications was taught. It covered very important technologies that are highly in demand in the industry, such as HTML, CSS, JavaScript, jQuery, Node.js, Express.js, MongoDB.

2.2 Related works

1. BDJOBS – This a website which has been ruling for couple of years with the company and many other local employess.

2. CAREERJET – This is another website which is working internatonally around the world to recruit the best talented employee

Project Management & Financing

3.1 Work Breakdown Structure

WBS is also a knowledge structure that demonstrates a project's breakdown into smaller segments. For our project, we've created a WBS therefore our work is coordinated. WBS offers an obvious of all the scopes, risks, points of communication, responsibilities, costs and guarantees that it does not skip essential deliverables. For human action and collaboration, it is the best tool for the team. In our WBS, we've used the top-down approach.

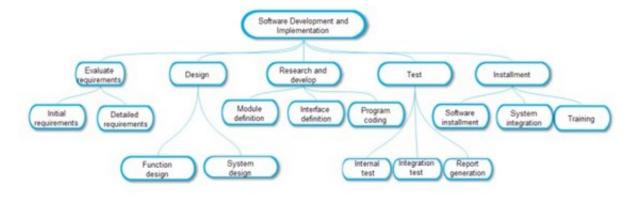


Figure 3.1: Work breakdown structure

3.2 Process/Activity wise Time Distribution

For each section that I have mentioned in my Work Breakdown Structure, time was allocated so that the project completes on time. This table below shows the time allocation of the work

Task	Days	Work Percentage
Requirement Analysis	10	7
Design Layout	10	20
Development	25	47
Testing	10	15
Deployment	7	10
Total	60	100

3.1:Time distribution table

3.3 Gantt Chart

We have used the Gantt Chart to plan and schedule all the activities that were needed to be done to complete the project successfully.

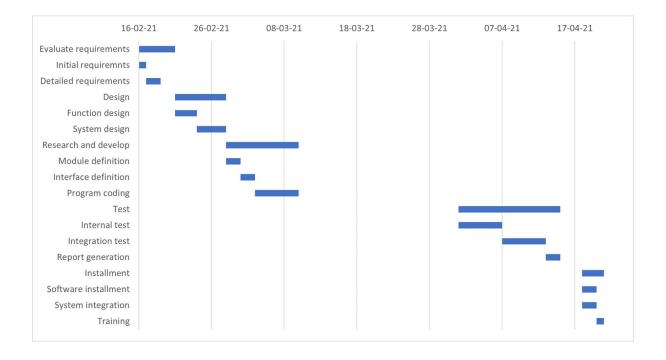


Figure 3.2: Gantt Chart

3.4 Estimated Costing

The cost was calculated based one features the client demanded for the web applications. The key dependencies were the size, requirements, features, functionalities, and design of the web application. It includes building the design layout of the website, making the system fully dynamic to have a adaptive capability, social media connections through api's, SSLCOMMERZ integration for online payment service and many other tools that were used to build the web application. The cost of developer and resources used were also taken into account. The approximate cost estimated was Tk.6,45,000.

Work Distribution	Costing
Design	3,00,000
Programming	1,60,000
Integrations	40,000
Domain and Hosting(Annual)	45,000
SEO(Annual)	1,00,000
Total	6,45,000

3.2: Estimated Costing Table

Methodology

A web application is application software that runs on a web server, unlike computer based software programs that are run locally on the operating system (OS) of the device. Web applications are accessed by the user through a web browser with an active network connection.

For our project, the Scrum methodology was throughout the project development process. Agile is an iterative process, where each unit of work should have a short time span (a couple of weeks is ideal). The goal is to deliver working software to the customer at the end of each iteration. Then things are adjusted for the next iteration by receiving the customer feedback.

When using Scrum, each of these iterations is called a sprint. This is the main concept used in Scrum. Sprints are usually based on the backlog, which is a set of requirements created by the product owner and ordered by priority. The backlog may change during the entire lifespan of a project.

When the backlog is created, a sprint planning meeting occurs to plan the work to be done during a sprint. The backlog is dissected and divided into logical units that are split across members of the development team. A sprint should have a maximum duration of about one month, to reduce the likelihood of changes in requirements or goals.

Making sure that every team member is focused and understands their purpose is the job of the Scrum master. When the sprint is underway, there is usually a daily Scrum, which is basically a 15-minute stand up meeting to quickly discuss current progress and answer any questions

During the sprint review, the Scrum team meets with the product owner and any stakeholders to see which backlog items have been completed and which are still remaining. Based on the team's progress and exchange of ideas, there are usually changes to the backlog and the priorities for the next sprint. Then, the Scrum team gets together to discuss the strong points and difficulties of the last sprint and use that information to adjust and improve the work methodology for the next sprint.

Body of the Project

5.1 Work Description

Project on-line job portal could be a net application in-built Django. It provides the candidates, ability to register to the present application and rummage around for jobs, manage their accounts. every candidate can have Associate in Nursing account with their house page. On the opposite hand, Employers those are willing to publish the roles for his or her company to candidates, will register to the task portal and find their own account created and may post jobs to portal's info.

Registered Employers will add or take away jobs and these jobs will be seen by numerous will dates and that they can contact the priority person for the task. Main aim of this net application is to create Associate in Nursing user friendly platform wherever, someone will search jobs simply and is accessible to everybody United Nations agency have an interest. the aim of the appliance is to supply Job portal for Job Seekers, to submit their CV and apply for job, wherever leader will choose best staff from obtainable candidate profile.

5.2 System Analysis

5.2.1 Six Element Analysis

	Human	Non- computing hardware	Computing hardware	Software	Database	Communication
Create Products & Offers	Admin	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
View Products & Offers	User	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
Update Products & Offers	Admin	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
Delete Products & Offers	Admin	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
Place order	User	N/A	Computer, Mobile	Web browser	RDBMS	Internet
Manage Order	Admin	Record books	Computer, Mobile	Web browser	RDBMS	WAN/LAN

Figure-5.1: Six Element Analysis

5.2.2 Feasibility Analysis

The system is self instructive and doesn't want any additional subtle coaching. because the system has been engineered by concentrating on the Graphical program ideas, the appliance can even be handled terribly simply with a novice User. the time that's needed to coach the users upon the system is a smaller amount than associate degree hour. The System has been accessorial with options of menu driven and button interaction strategies, that makes the user the master as he starts operating through the atmosphere, cyber web time the client ought to concentrate is on the installation time. GUI's.

For the pliability of the user, the interface has been developed in graphical program mode. the traditional interface is applied through browser. The GUI's at the highest level has been classified as:

- 1) Jobseeker Functions
- 2) Employer Functions

3)Guest user Functions

- Economic Feasibility: In this section, the cost and benefits of this website have been considered. There are no hidden costs for users on the website. When a user visits the website and decides to place an order, they hope to profit from it.
- Feasibility: Before moving forward with this project, all legal constraints were considered, including data protection acts, social media laws, e-cab laws, and zoning laws, to ensure that it would not face any legal issues in the future.
- Operational Feasibility: The ongoing pandemic and current economic situation make the website very feasible, as purchasing any product from a market or shopping mall is now extremely risky. Visitors and potential buyers can now easily find all of the information they need to make an informed purchase with the help of this website. Furthermore, the product details meet all of the customer's requirements.
- Scheduling Feasibility: It is critical to complete a project on time in order for it to be successful. The project was completed on schedule, and all of the assigned tasks were completed on time.

5.2.3 Problem Solution Analysis

There were a number of problems that were encountered while completing the project and they were solved accordingly. Some of the problems were –

- 1. Login/Signup Authorization: Setting up unique key for signed up users and admins was a problem which was solved by using JWT token.
- 2. Hashing Password: Hashing password in the database was a challenge which was solved by using berypt hash password.
- 3. Responsive Website: Making the website responsive for all devices was a great challenge. This problem was solved by using Bootstrap5 and custom CSS.

5.2.4 Effect and Constraints Analysis

This website helps the user to buy and sell products and daily necessary needs remotely. Users are able to look at the various offers and campaigns, buy and sell products from campaign, offer regular shop. However, our system has some limitations. We are still thriving to bring out more changes and add more features to our website that would help and encourage more and more people to start this practice of buying products online, rather than going around from place to place to look for your desired product. This will

not only make people's lives easier but will also be a big advantage during the ongoing pandemic.

5.3 System Design

5.3.1 Rich Picture

RICH PICTURE:

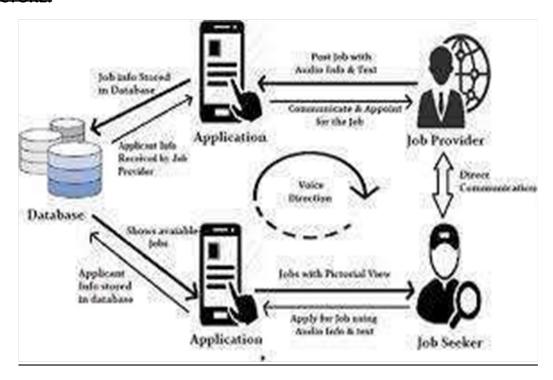


Figure-5.3: Rich Picture

5.3.2 UML Diagrams

The activity diagram is an important UML diagram that shows the ow of one activity to another. The activity diagram of the user and admin help to visualize the flow of their activity in graphical form.

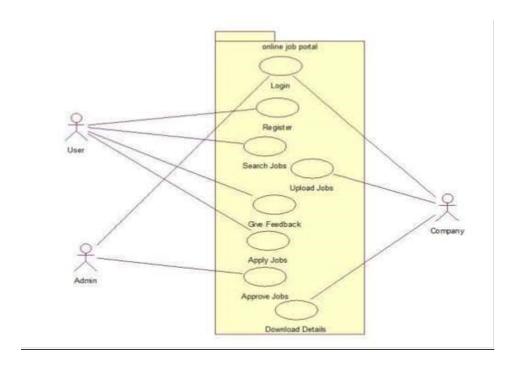


Figure-5.4: Activity Diagram of User

ACTIVITY DIAGRAM:

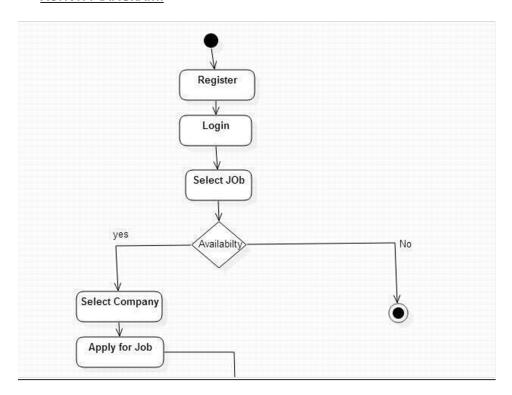


Figure-5.5: Activity Diagram of Admin

5.3.3 Functional and Non-Functional Requirements

Functional Requirements

• The proposed system has the following functionalities: Job Seeker Sign In

Job Seeker Sign Up

Job Seeker can view all available jobs

Job seeker can search based on advanced search

Advanced search can be done on role, salary, technology, etc.

Job seeker can upload resume 21

Job seeker can apply to more than one jobs.

Job seeker can view all applied jobs.

Job seeker can update their profile information.

Job seeker can retrieve their password if forgot.

Companies can Register to the portal. Admin approves the company registration,

Companies can post jobs.

Companies can see applications.

Companies can see all approved jobs.

Companies can download resumes uploaded.

Admin can view all jobs.

Admin approves the jobs posted by the company.

Non-Functional Requirements

- The major distinction between purposeful and Non-functional distinction lies in 2 keywords. "What" and "How". whereas what the system will is delineated by its purposeful needs, however the system achieves those quality attributes square measure mentioned by the nonfunctional needs. The nonfunctional needs target the quantifiability of the system, security of the system, reliable and maintenance of the system that square measure ensured by supportive and confirmatory the system. The planned system meets the non-functional needs like security by many type validations and watchword encryptions, reliable by maintaining integrity with error messages, dominant access of the users.
- The appliance is created additional climbable with a sophisticated search feature that filters and delivers twenty two requested information from a large quantity of knowledge. Since the appliance code is standard in nature maintainability and reusability is additionally ensured. The planned System could be a net based mostly application that permits candidates and employers to register their details. candidates will flick thru the vacancy details that square measure denote and may apply for the roles on-line. Employers will flick thru the denote resumes and choose appropriate candidates. Filter, Search facility for job seekers in line with their needed

vacancy. Daily updates via notifications and different.

5.4 Product Features

Here I have included all the input and output features a user will receive from this project.

Input:

- Log in/Sign up tab
- Contact us tab
- Register tab
- CV Upload
- Designation
- Age
- Address

Output:

- Dashboard
- Job Seekers Details
- CV File in PDF
- Jobs Description
- Vacancies

5.4.1 Architecture

- Register tab(Username +Email + Password + Confirm Password)
- Login tab(Username +Password)
- Home tab (Dashboard)
- Job Seekers Details (Database Data)
- Edit Profile tab (Personal Form including CV file)

Results & Analysis

The purpose of this system is to computerized the whole process and thus prevent the intervening errors. We also tried to follow the holistic design principle so that the interface of the system is simple. During the course of this assignment we have gone through many obstacles which made us to research and though increased our knowledge.

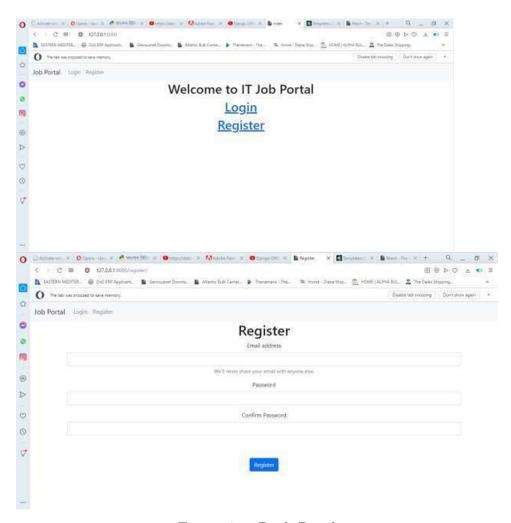


Figure 6.1: Dash Panel

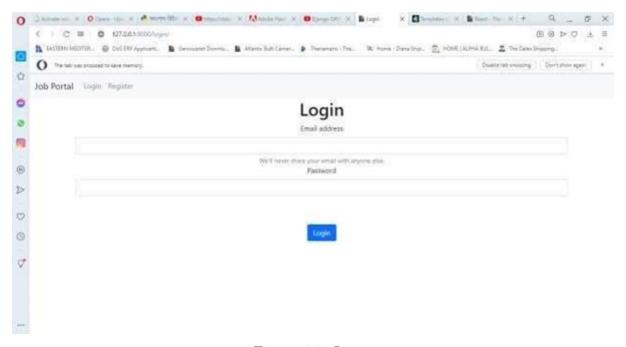


Figure 6.3: Login

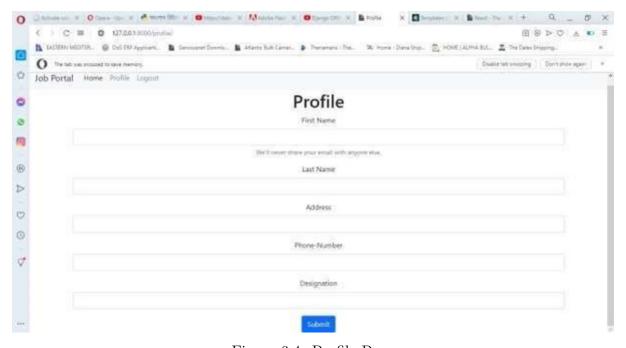


Figure 6.4: Profile Page



Figure 6.5: Home

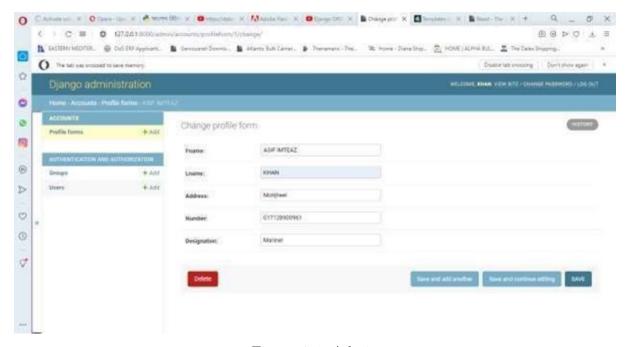


Figure 6.5: Admin

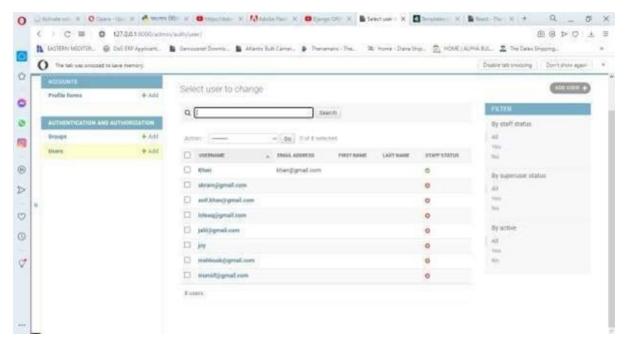


Figure 6.5: Profile Dashoard

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

The Project regularly improve the code merchandise in areas of style and user expertise by staying up to this point. It's imperative to have confidence each the side and therefore the rear at the same time so as to stay your web site running swimmingly. playacting Django and Python upgrades will increase security, reduces long development and maintenance prices, and ensures support for future growth.

The website is a quality that needs continual maintenance. Upgrading as every long support unharness is accessible naturally reduces technical debt by eliminating recent, superfluous code. It additionally permits the interior development team to scale back the time and cash spent on addressing security problems, releasing up time for them to figure on web site enhancements or revenue-generating work.

7.2 Social and Environmental Effects and Analysis

More experienced job-seekers were also more likely to register on more than one job portal and relied less on social networks (friends, immediate family, classmates, relatives, etc.) than recent graduates.

These results suggest that while the internet and job portals are helping job seekers find employment, the extent to which certain groups utilize these tools differs. More intensive internet job searching also lowers an individual's reliance on social networks, which could help certain groups overcome inequalities that might otherwise be associated with traditional job search avenues. This includes more experienced job seekers, higher caste persons, urban job seekers, and women. Conversely, recent graduates, lower castes,

women and rural job seekers rely relatively more on social networks, which seem to be less effective. We do note that the results discussed in this blog are still preliminary, and we urge caution in interpreting them, as they are correlations and may not explain causality of effects.

7.3 Addressing Ethics and Ethical Issues

If a vulnerability on the site is taken advantage of by cyber criminals, your organization could lose revenue and reputation. A solid security plan with regular upgrades reduces risk and can save the trouble of expensive, reactive steps in the event of a security breach.

Planning for both business features and sustainability helps ensure desired feature functionality, as well as future growth with minimal technical debt. Our developers embrace sustainability — utilizing smaller, more constant updates to keep your tech maintained for longer. This method allows for performance improvements, enhanced security, more opportunities for upcoming features, and insurance against broader technical issues in the future.

Future Work & Conclusion

8.1 Future Works

There is ample scope of sweetening and adding functionalities to the current application. This application will be extended to send automatic interview programming through acceptance/rejection of Resume. corporations will delete jobs once the work availably amount is over mechanically.

The applying will have employment recommendation system supported the frequent search results of various users. The portal can even send email notifications to candidates concerning sure job availabilities. There will be a feedback or review section for the applying. additionally in contrast to this verbal description page, user will read verbal description during a separate page with one click on the work description.

The User practicality will be extended to relinquish the user choices to avoid wasting the work and later apply, to transfer multiple documents. the applying will be a lot of scalable by extending the search practicality supported country, town or space. whereas this application meets the essential necessities of employment portal eliminating few of the standard challenges Janus-faced like time, cash and energy, it will be extended to form the applying a lot of dynamic and strong. The computer program will be created a lot of engaging and user friendly. we will dig through a lot of React JS magic capabilities to feature further options to the UI.

8.2 Conclusion

E-recruitment is one in all the foremost advancements of the task business nowadays. Overcoming ancient strategies of accomplishment, e -recruitment has bought a revolutionary amendment within the world of interviews and accomplishment. whereas this application aims in giving a easy expertise to the users with an easy however logical frontend it's achieved thus at its completion. This application conjointly achieves bound

practical capabilities with the most recent technology stack utilized in the industries nowadays. The testing results shows that the appliance is ascendible and may handle tight load. Also, this application doesn't have any geographical constraints as anyone from any a part of the globe will get registered to the appliance and look for jobs or post jobs.

Developing this project with a primary to goal of learning new technologies, I even have got huge exposure in understanding technologies like Node JS not solely at the implementation level however conjointly in understanding the background of such technologies. Similarly, I even have conjointly learnt React JS and have witnessed however powerful forepart tool is to create your life a great deal easier with forepart developments. a number of the foremost challenges sweet-faced was in understanding the callback/promise ideas and implementing them within the application. To debug, check and run the appliance I even have encountered several latest technologies and learnt regarding them. This invariably have increased my hands on information with a broad spectrum of technologies which might return handy once I begin facing the business once my graduation

8.3 Lesson Learn

During my Internship, I got introduced to the technologies that area unit employed in the event section. I ought to study helpful skills and tricks in developing a completely useful and responsive web site. during this timeline I progressively increasingly more Associate in Nursing more got familiar with a number of the package Engineering method and tools that area unit concerned in taking an application from beginning to development and production.

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[1] [2]

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- [1] H. Wang and J. Yang, "Research and application of web development based on asp.net 2.0+ajax," in 2008 3rd IEEE Conference on Industrial Electronics and Applications, pp. 857–860, 2008.
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