

**EUROPEAN UNIVERSITY OF LEFKE
FACULTY OF ENGINEERING**

Graduation Project I

Job Search System

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Artifact

Based on how versatile and relevant the business world is to society, I chose the topic, “Job Search System” for my graduation project. This is an online web application designed to discover various jobs uploaded on a website by its employees. The system will be similar to a “Glassdoor” sort where users will be able to search for jobs online by job title or location and also apply for these jobs on the website.

The companies involved can post available jobs and see who has applied for certain jobs. They can also create, edit and delete jobs. I will be using JavaScript for both frontend and backend. The objective of the system is focused on the enhancement of job profiling using technology in its progression.

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26th December, 2023

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1. Introduction

1.1 Problem definition

A job search system is simply a digital platform specifically designed for the enhancement of job performance. It aims to improve entrepreneurship by making the job search process easier for both job seekers and the employers. Users can employ this system to simply search for jobs listed by employers. The key features will include job discovery, smart matching, interactive profiling and real-time communication.

I have chosen the title “JobHub” for the logo of this job search system project as every web application requires a name to increase growth and personalization. The working logic of the project involves its features and system architecture. There will be a frontend and a backend which I will be working on majorly with JavaScript. The system will require designs with software like React.js, Visual Studio Code and Adobe Illustrator. Basically, it is a project similar to other job search platforms like LinkedIn and Glassdoor.

1.2 Goals

- **Increase In Employment:** “JobHub” aims to increase employment in the society by making job search easy and convenient. It can also achieve this increase through its diverse nature. Job seekers tend to find jobs of their preference whilst employers get to advertise their available jobs on a versatile scale.
- **Convenience In Job Listings:** Users can easily access jobs on the platform without much stress. They get to choose various jobs based on their skills, apply for these jobs and take up positions in preferred organisations. Employers also find it easy to break down jobs listed based on certification and location.
- **Efficiency In Job Matching:** This platform aims to develop an algorithm that can match employee qualifications to the necessary job requirements. One can easily discover available jobs and prioritise skills to learn to get those jobs. Time is also saved when this algorithm is used.
- **Security In User Data:** This is a major goal of any online job search system. People like to know their privacy is never compromised. This gives them the trust required to indulge in these platforms. Data will be managed properly and there will be no breach of confidential information.

“JobHub” aims to serve all these and more benefits to the business world, thereby inspiring more people to use their skills successfully to improve their lives. The world, as we know it, is a versatile world;

And the one thing that is constant is change. “JobHub” will follow trends as they come up to keep proving a stable and reliable platform for job seekers and employers.

2. Literature Survey

A literature survey basically deals with the extensive examination of projects and studies similar to employment systems and job portals with their functions. Online job search systems are mostly similar in their purpose and development. “JobHub” aims to create a job search system that is not just efficient but adaptable to the current growing market.

Take for example, “Glassdoor” and “LinkedIn” which are similar websites to “JobHub”, this project aims to single-handedly create a vast platform for job seekers all over the world to not just attain reputable jobs in person but also digitally. With “JobHub”, one can sit in the comfort of their homes and apply for any job of their choice, take an interview and become part of an organisation.

Below are some comparisons between my project, “JobHub” and other online job search systems;

Compare 1:

LinkedIn is a popular job search system but it also integrates some social media features like posts and followers (in the form of connections). JobHub will be strictly for job seeking [1].

Compare 2:

When posting jobs on linked, indeed or glassdoor, these platforms only allow you to select from already defined questions, JobHub will allow you create your own questions that the applicants can answer.

3. Background Information

The programming language that will be used in the project is JavaScript which is relevant to its frameworks, frontend and backend development. I will also be using development tools like React.js, Visual Studio Code, Firebase, Adobe Illustrator and some others.

3.1 Required software

- **React.js:**

React.js is a free and open-source front-end. JavaScript library for web and native users. React can be used to develop single-page, mobile, or server-rendered applications interfaces.

- **Visual Studio Code:**

Visual Studio Code is a code editor which specializes in the creation and debugging of the present-day cloud and web applications.

- **Node.js:**

Node.js is a javascript runtime that allows developers to build web apps outside of the browser [5].

3.2 Other software

- **Figma:**

This is a design tool used for graphic design and will be used to sketch out the initial design of the project UI.

- **Bit Bucket:**

Bitbucket is a Git-based source code repository hosting service under the ownership of Atlassian. It allows users to manage and store code.

4. Modules

Modules are independent units of any system that carry out distinct functions. A job search system has these components like the front end for customers and backend for workers. They contain features that maintain organization in the system. They also manage complex parts of the system, breaking them down for simpler development. This project will be split into a frontend and a backend.

- **Frontend:**

The frontend of this is the user interface. It is the place the user interacts with the project. It will hold forms to create the job vacancy and also the form to apply for a vacancy as well [2].

- **Backend:**

This is where all the logic of our application will be stored. It will handle the fetching, updating and deletion of data from the database.

5. Risk Analysis

Like every working project, there are always going to be risks involved. Take for example, an information overload in a job search system; where there is so much information available it becomes difficult to find the most relevant.[4] This is why a risk assessment of the project is extremely necessary.

Below are several risks associated with the development and deployment of “JobHub”:

- **System Performance:** This is a major risk involved in the system’s development. This sort of risk includes the crashing of the server because of poor infrastructure. Slow response time can also drastically affect the system performance.
- **Competition In Market:** This risk is involved with the deployment of the job search system. There are a lot of similar platforms in the market that deal with job searches already. Therefore, “JobHub” would have to stand out to attract a healthy number of users.
- **Privacy Protection:** A system that cannot protect its user information is bound to fail. Unauthorised access to data is a threat to data security, leakage of contact information and similar risks can be fatal to the system and will therefore be avoided.

- **Technical Risks:** This literally comes down to the development of the system. Take for example, challenges faced in matching databases with available jobs. This also includes errors in the user interface and design leading to bad user experience.
- **Insufficient Resources:** Like every project, “JobHub” would have a budget. There would be problems if this budget is surpassed. Unforeseen errors in development leads to this risk which can reduce development quality.

6. Ethics

The ethics of an online job search system specifies the principles that guide its operation to ensure a trustworthy and inclusive platform for both job seekers and the employers involved. They are simply the standards followed to maintain fairness and transparency in the system. Below are some resources:

- People looking for jobs and companies hiring should focus on being transparent and accurate when using a job search system. Job seekers should share honest and unbiased feedback about their experiences without making things sound better or worse than they really are. Employers should ensure the details about their company on the platform are current and show what the workplace is like in real time.[3]
- People using the platform should aim to give honest and fair reviews. Job seekers should not use the platform to solve personal problems but instead share helpful and honest feedback. Employers should understand that people have different experiences and not punish employees who share their opinions.[3]
- Anonymity is crucial on the website. It lets people talk about their experiences without worrying about getting in trouble. Job seekers should be careful and not say things that aren't true or do anything wrong. Employers should not try to figure out who wrote a review or punish employees for what they say.

- Both people looking for jobs and companies hiring should be careful about keeping information private. Job seekers should not share secret details about their old jobs, as this could breach what's right and legal. Employers should also ensure their replies to reviews don't reveal personal information about specific employees.
- People looking for jobs should use the platform to share helpful feedback instead of just complaining. Employers should support employees in giving constructive feedback and ideas for making things better. It helps create a culture where things are always getting better and makes the workplace healthier.[3]
- People looking for jobs should use information on the website wisely, considering that everyone's experience is different. It's better to consider many reviews instead of just one to make decisions.[3] Employers should take action on valid concerns and show they're dedicated to fixing problems mentioned on the platform.

7. Conclusion

JobHub” as a whole represents a dynamic movement towards the betterment of a technological future in the business world. This job search system will pioneer enough employment opportunities in the society. The platform will be made easy for employers to manage jobs and likewise for employees to seek jobs.

7.1 Benefits

a) BENEFITS TO USERS:

The job search system will be beneficial to project users in the following ways:

- Customization: This is a major benefit for the project users as “JobHub” will allow users to specify their job preferences in their profiles maximising whilst tailoring down the specific job availability.
- Saving Costs: Employers get to save traditional advertising cost by making use of this platform to reach a better group of audience with lower and effective cost.
- Efficiency And Accessibility: Time is saved using this online job search system where every job information required has been made easily accessible for anyone searching. It is wholly a convenient process.
- Job Reviews: This major feature of “JobHub” is quite beneficial in the sense that applicants get to read reviews on prospective jobs before applying hence solidifying their interest in the particular work involved

b) BENEFITS TO ME:

Embarking on this project is bound to be beneficial to me in the following ways;

- Experience And Technical Skills: Working on this job search system will help me gain the hands-on skills needed to venture into the professional world. I also get to improve my software development skills and learn more about database management and interface design.

- **Problem-Solving Skills:** Like every other profitable task, I am bound to meet challenges in this project. Overcoming these challenges first-hand will prove essential to me in future projects I embark on. I get to improve my critical thinking and increase my programming knowledge.
- **Management And Data Analysis:** I will also get experience on how to deal with data like user information and job listings. This also includes data protection
- **Career Development:** Finally, I get to develop skills to manage projects in due time which is essential for any engineering career. I also get to build my portfolio for future jobs.

Why did I choose this project?

The world we live in is a fast-changing world. Everything keeps turning digital these days. This is effective in the sense that distance stops being a barrier, one can literally sit in the comfort of their homes and achieve whatever it is they put their minds to. Everyone also needs a career to make ends meet and in a digital world, an online platform for this purpose is highly relevant. The idea that one can be profitable with less stress inspired me to pick this topic. All in all, being part of a movement so effective and versatile whilst being simple enough made choosing the Online Job Search System as my graduation project worthwhile.

7.2 Future Works

In the event that I continue this work after graduation, I would look at creating a mobile application version to improve user's convenience and also consider merging with similar platforms to increase global reach.

8. References

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