

San Francisco State University

CSC 648/848

Easy Connect

Section 1 Team 6

Milestone 1

9/27/2023

Version	Date
1	9/27/2023

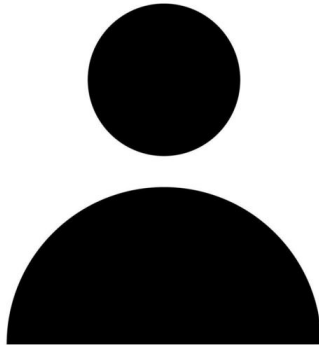
Executive's Summary

Job searching today is a lot different. With the presence of the Internet and networking sites, many job seekers and employers are utilizing the web to reach as many candidates as possible. Though making a connection online can be as simple as clicking a button these days, there is a large disconnect between job seekers and employers. Virtually anyone can apply to any job posted, this is a plus for the job seekers as they have a wider variety of jobs to choose from. On the other hand, employers will need to go through a higher volume of applications which may not always be a good thing. With Easy Connect, we aim to make the process for both job seekers and employers simple with a quick survey based on what they are looking for in a company/candidate.

Both job seekers and employers will be able to create their own profiles by filling out information about themselves and/or their business along with their previous experiences and achievements. Searching a long list of jobs may be intimidating and confusing, this is why our job seekers will be recommended jobs based on their preferences and skills while also having the help of AI determine how well they match up with the job. In the case the job seeker finds a job they really like but is unable to apply at the moment, they will be able to bookmark it as long as the job listing is still up and be able to apply later.

Our startup of six at Easy Connect aims to make the job search and candidate search less stressful and time-consuming while making sure our users find exactly what they are looking for. All of us at Easy Connect being students aim to create a tool that can help our peers in their search for the first and many jobs to come.

Persona and User Stories



Name / Age: Zayed Zaman , 25

Location: Pleasanton, CA with Girlfriend

Occupation: Unemployed

Bio:

Zayed graduated from San Jose State

University with a degree in Bachelor's of

Mechanical Engineering and is staying at

an apartment with his girlfriend in

Pleasanton. He enjoys spending time with

his girlfriend and their cat: Oreo as well as

working on his prized possession: a BMW e36 m3.

Wants & Needs:

- To be able to utilize his degree to dip his foot / get started in his career so that he can achieve his goals
- Gain experience and eventually work at Google

Frustrations:

- Applying for jobs is so inconvenient as there are so many different websites to apply for the same job
- Wishes for one central site where he can find employers

Zayed's Story:

Because Zayed graduated during the time Covid-19 was still causing a significant impact on the job market, it was very rough for him to break into it. As each rejection email started to

pile upon each other, he grew very frustrated. Another thing that made him even more frustrated was the amount of different websites that he had to traverse in order to finally apply to the job posts he found. He wishes for one simple website to where he can easily apply / save / network amongst peers. Zayed can register an account for our website, and log in anytime to take advantage of our useful tools. For example, due to his limited access to transport, he can use our website to search for job listings in a certain radius based on his location; in this case around 20 miles from Pleasanton. With this, he can also filter out the numerous jobs that do not align with his major such that the search results for jobs are more catered towards his major: Mechanical Engineering. Zayed can also use our “Networking” feature so that can start his network, something he hasn’t had the chance to do because of the impact Covid-19 had.



Name / Age: Earl Costi, 37

Location: Dublin, CA with Wife

Occupation: Full Stack Developer at PayNearMe

Bio:

Earl graduated from University of Davis with a degree of Bachelor’s in Computer Science. His job as a full-stack software developer allows him to work from home, so he uses it to his advantage to: take care of his

kids, cook, and do the usual daily tasks of a stay-at-home husband. In his free time, he enjoys

relaxing playing video games on his pc, and trying out new wines with his wife. He also is in charge of reviewing applications / interviewing future candidates at his company.

Wants & Needs:

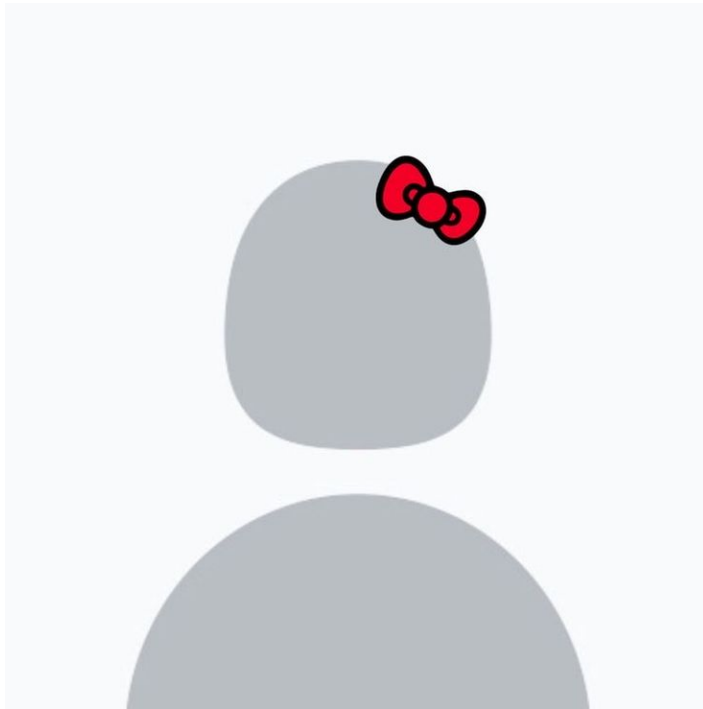
- To not waste his time when interviewing applicants for job opportunities

Frustrations:

- When an applicant lies on their resume- “It is very noticeable to detect if they lied on their resume whenever I interview applicants. It’s frustrating because it wastes my time as I could’ve interviewed someone else and that applicant’s time as they could’ve spent that time studying more.”

Earl’s Story:

During the time Earl graduated, the potential to land a job opportunity in the Computer Science market was fairly easier when compared to today’s job market. He spent plenty of his free time back then working on personal projects as well as attending Hack-a-thons. For his experience in the job market, he jumped from start-up to start-up gaining experience before landing a position at his first notable company: Electronic Arts. From there, getting job offers was a breeze before finally settling down with his current company: PayNearMe. Working as a Full-Stack Developer for them, he has a lot of responsibility on his hands. Since he was tasked with interviewing applicants for internships / job positions, that is another major responsibility added to him. The last thing he wants is to waste his time when he interviews applicants. Earl can register an account as an “Employer” where he can post job listings and review the submissions he gets any time he logs back in. With this, Earl can utilize our tools from our website. For example, with the numerous applications Earl reviews a day, he can filter out the applications such that he can easily identify potential candidates for the position.



Name / Age: Daisy Nguyen , 20

Location: Davis, CA Dorming

Occupation: Computer Science Student

Bio:

Daisy is studying Computer Science at University of Davis. This is her second-to last semester before graduating, which means this time is crucial to find herself an internship. In her free time, she enjoys listening to music, playing video games with

friends, and going to concerts. Her favorite artist at the moment is: Knock2 - an artist in the EDM genre.

Wants & Needs:

- An opportunity at any company where she can use her education to gain experience + hone her skills
- She wants to network with other Computer Science / gain good relations with them

Frustrations:

- Checking her Gmail to find the countless “We regret to inform you” declination emails from companies she applied to

Daisy's Story:

In her second to last semester before graduating, she acknowledges how crucial it is right now to get an internship so that she has little job experience when she graduates. Currently, she wants to work more as a Front-End developer with good knowledge in topics such as Javascript, React, C++, Python, and Databases. As an introvert, she struggles to network amongst her classmates at UCD and the never-ending rejection emails are taking a toll on her confidence to apply for jobs. She wants a clean state- a fresh start for applying to jobs and networking amongst her peers. She hopes to find a company willing to give her the opportunity that she is longing for. Knowing this, Daisy can easily benefit from using our website by registering an account. It is almost universally common for students to start off with an internship to gain work experience before actually landing a stable job. Because of this, Daisy can filter out job listings such that only listings labeled as “Internship / Intern” will be shown to her. Daisy can also use our “ask ChatGPT” tool, to where she can ask the AI for their opinion on her resume and if it aligns with the job listing. Also, she can use our “Networking” feature so that she can connect and grow her relations with her peers who are on the same level as her.

Data Definitions

- **user** Entity - An entity that stores information about registered user accounts
 - firstName - First name of user
 - lastName - Last name of user
 - email - Email address of user. Used for login
 - password - Password of user. Used for login, and will be hashed
 - userCountry - The country in which the user resides or would like to work
 - userState - The state in which the user resides or would like to work
 - userCity - The city in which the user resides or would like to work
 - userJobinterests - The job categories that user is interested in
 - userRemote - Whether or not if the user is interested in remote only jobs
 - userResume - The user's resume if they uploaded one
 - userJobs - The jobs the user has bookmarked
- **job** Entity - An entity that stores information about job listings
 - jobTitle - The title of the job
 - jobCountry - The country where the job is located
 - jobState - The state where the job is located
 - jobCity - The city where the job is located
 - jobCompany - The company who is advertising the job
 - jobDescription - The description of the job
 - jobRemote - Whether or not the job is remote
 - jobHourlyorSalary - Whether the job is hourly or salary
 - jobPay - How much the job pays

- jobInternship - Whether the not the job is an internship
- jobDistance - How far the job location is from the user's specified location
- **company** Entity - An entity that stores information about registered company accounts
 - companyName - The name of the company
 - companyLocation - The location where the company is located
 - companyEmail - The email address of the company. Used for login
 - companyPassword - The password for the company. Used for login and will be hashed
 - companyWebsite - The company's own website if applicable
 - companyJobs - The jobs the company has posted on the website
- **team** Entity - An entity that stores information about the team members of team 6
 - teamName - The first and last name of the team member
 - teamTitle - Role in team
 - teamPicture - Stock photo of team member's favorite animal
 - teamDetail - Fun fact about team member
 - teamEmail - School email of team member
 - teamGithub - Github username of team member
 - teamFavshow - Favorite show or movie of team member

Functional Requirements

1. Account Registration

- Description: Users should be able to register a new account using their Google account or a unique email. Users should be able to choose between a job seeker or employer account during signup. Account registration requires a password with a capital letter, a symbol, and at least 8 characters long.
- Priority: High

2. User Login

- Description: Users should be able to login with their Google account or email. The page should display an error when an incorrect password or email is used.
- Priority: High

3. Search Bar for Job

- Description: Users should be able to search for jobs based on job titles or keywords. Users should be able to filter their job search by location.
- Priority: High

4. Job Posts

- Description: The system will connect to a job API which empowers the search bar function.
- Priority: High

5. User Profile Page

- Description: Users should have a profile page and be able to update their profile information. User is able to add resume information to their profile.
- Priority: High

6. Bookmark Job Posts

- Description: User can save job posts in their accounts. User can remove job posts in their accounts.
- Priority: Medium

7. Apple to Jobs

- Description: Users should be able to apply for jobs with an external link to the company's website.
- Priority: Medium

8. Add Job Post

- Description: Employers can create new job posts on our website. Employers should be able to keep track of their job posts. Employers should be able to remove their past job posts.
- Priority: Medium

9. Company Profile

- Description: Employer users should be able to create a company profile for their companies.
- Priority: Low

10. Job Recommendations

- Description: Users should be able to receive job recommendations based on their resumes.
- Priority: Low

11. AI for competitor statistics

- Description: Using machine learning to get competitor statistics for users on the job they are searching.

- Priority: Low

12. Review Employers Anonymously

- Description: The user can review an employer anonymously.
- Priority: Low

13. Certified Skill

- Description: Employers can help certify a user's skill on our website.
- Priority: Low

Non Functional Requirements

Non functional requirements will be implemented into the project and as the target users grows the requirements will evolve as well. The initial non functional requirements are as follows:

1. Performance:

- a. Response Time: The website should load quickly and provide a seamless experience to users, with response times typically under 2-3 seconds.
- b. Scalability: The system should be able to handle a growing number of users and job listings without a significant drop in performance.
- c. Concurrency: It should support multiple users simultaneously without causing performance degradation.

2. Reliability:

- a. Uptime: The website should be available 24/7, with minimal planned downtime for maintenance.
- b. Data Backup: Regularly backup user data and job listings to prevent data loss.
- c. Error Handling: Implement effective error handling and logging to ensure issues are identified and resolved promptly.

3. Security:

- a. User Data Protection: Safeguard user data through encryption and follow data protection regulations.
- b. Authentication and Authorization: Use secure authentication methods and role-based access control to protect sensitive data.

- c. **Secure Payments:** Ensure secure payment processing and storage of financial information.
4. **Scalability:**
- a. **Horizontal Scalability:** Design the system to scale horizontally by adding more servers or instances as the user base grows.
 - b. **Load Balancing:** Distribute traffic evenly across multiple servers to prevent overload on any single server with the growth of the users.
5. **Usability:**
- a. **User Interface Design:** Create an intuitive and user-friendly interface that is easy to navigate.
 - b. **Cross-Browser Compatibility:** Make sure the website functions correctly on various web browsers, operating systems and devices.
6. **Compatibility:**
- a. **Mobile Responsiveness:** Ensure the website is fully functional and visually appealing on mobile devices.
 - b. **Browser Compatibility:** Test and support multiple web browsers (e.g., Chrome, Firefox, Safari, Edge).
7. **Data Management:**
- a. **Data Storage:** Use efficient and scalable databases to store user profiles, job listings, and other data.
 - b. **Data Privacy:** Ensure user data is protected, and users have control over their information.

- c. Search Capabilities: Implement robust search functionality to help users find relevant job listings.
- 8. **Regulatory Compliance:**
 - a. Legal Compliance: Adhere to labor laws, privacy regulations, and other relevant legal requirements in the region.
- 9. **Maintenance and Support:**
 - a. Regular Updates: Plan for regular software updates and security patches.

Competitive Analysis

Competitors: Glassdoor, Handshake, Indeed, LinkedIn

<u>Our Feature</u>	<u>Competitor's Feature</u>
Machine Learning (Est. competitor statistics, est. salary → comparison to other jobs, evaluate resume based on keywords)	Machine Learning powered job matching
Text & Video resumes	Only text resumes
Review employers anonymously	No employer reviews
Get skills on resume certified by employers, allowing for more credibility	Only external certifications / recommendations

Leveraging a robust machine learning algorithm, our platform goes beyond traditional job-matching to offer estimated competitor statistics, salary comparisons, and keyword-based resume evaluations, thereby providing more personalized and accurate job recommendations. Unlike competitors that offer only text-based resumes, we support both text and video resumes, giving candidates a richer platform to express themselves and employers a more comprehensive view of potential hires. Our platform also uniquely allows for anonymous employer reviews, enhancing transparency and helping job seekers make informed decisions. Furthermore, we offer a unique feature where skills listed on resumes can be directly certified by employers, adding an extra layer of credibility that goes beyond external certifications or recommendations, thus making our platform a more trustworthy and multifaceted resource for both job seekers and employers.

High-Level System Requirements

- Server Host: Amazon AWS, Ubuntu 22.04 (jammy)
- Web Server: Nginx
- DBMS: MongoDB Atlas
- Backend: NodeJS + Express, Javascript
- Deployment: Github Actions / Runner
- Frontend: React, Javascript
- Browser Support: Chromium-based browsers, Firefox, Safari
- APIs: OpenAI, job search API (JSearch)

Team

<u>Name</u>	<u>Role</u>
Kurtis Chan	Team Lead
Ethan Vocal	Scrum Master
David Lemming	Github Lead
Mekonnen Tesfazien	Front-End Lead
Ahmar Huda	Back-End Lead
Hann Zhao	Back-End Lead

Our Study Plan:

Monday, September 18, 2023

On this date, Milestone 1 was announced to us and we discussed our plans / goals for this project. We decided to split the 9 tasks up between the group. The division per task was this: Kurtis: Task 1, Ethan: Task 2, 8, 9, David: Task 6, Mekonnen: Task 5, Ahmar: Task 3, Hann: Task 4, and leaving Task 7 open for all. With that, we also agreed to study on React such that we can have more reinforcement as we get started into this project. We also discussed starting to work on our project as well. Our goal by *Saturday, September 23, 2023* was to finish most of these tasks which was:

1. Create a register / login page
2. Create a form to where users can fill out to submit to job posts

3. Ability to create a job post / save a job post / showcase recommendation job posts
4. Ability for users to network amongst themselves

Checklist

- ☒ ~~Finding a Time Slot to Meet Outside of Class~~
- ☒ ~~Scrum Master shares meeting minutes with everyone after each meeting~~
- ☒ ~~Github Master Chosen~~
- ☒ ~~Everyone sets up their local development environment from the team's git repo~~
- ☒ ~~Team decided and agreed together on using the listed SW tools and deployment server~~
- ☒ ~~Team ready and able to use the chosen back/front-end frameworks~~
- ☒ ~~For each technology, team decides who will lead the study of each technology / specific goal~~
- ☒ ~~Team lead ensured that all team members read the final M1 and agree/understand before submission~~