SW Engineering CSC648/848 Spring 2022

GatorJobs

Section 02 Team 05

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1. Executive Summary:

One of the most exciting and stressful times for a new graduate can be the process of finding their first job. After time at San Francisco State, students have begun to discover what career paths they may be passionate about in Technology. GatorJobs is a service that will allow companies to post jobs while having a streamlined and intuitive process for job seekers. The founders here at GatorJobs are in the process or have completed their journey and have been able to see first hand what they want in a job search website. Being able to connect prospective employers and eager students is filling an important role in a process that is constantly evolving.

Users will have an excellent time utilizing GatorJobs due to a job filter that allows users to apply to jobs they are most passionate for. The main focus on jobs in technology allows for a more refined process instead of being weighed down by multitudes of industries. The more personable nature of GatorJobs in the home of tech here in Silicon Valley, will allow companies to trust that the job applicants have attended a strong and comprehensive computer science program. This positive feedback loop will in turn lead to better companies providing better opportunities to San Francisco State students and Alumni.

GatorJobs has a major advantage of being applied to connect pre-cleared employees with the main tech center of the world. Our student team is capable and dynamic, and proud to be able to help fellow classmates get jobs in tech. The process of interviewing may be stressful, so here at GatorJobs it will be easy to find the jobs you want and apply.

2. Personas and Main Use Cases:

Persona 1: Amy (Student)

- She's a graduate student looking for jobs.

- Has registered on multiple websites for job search, but is in need of an application that will cater to her very specific need of finding an ideal job according to her skills and passions.

- Wants an application that is inclusive of technology trends of 2022.

- She has a good knowledge of Python, ML and the basics of Data Science.

- Hunting for startups offering jobs in Artificial Intelligence and Machine Learning which is her area of interest.

- Wants to search for jobs which offer the position of Software Engineer.

- Needs alerts whenever a desired position opens up.

- As an additional bonus, she can also upload recommendations from her professor.

Scenario and Goals:

After graduation, Amy is looking for jobs that will cater to her area of interest. Even though many job portals are available, she needs an application that will cater to the needs of grad students in specific domains of Computer Science. She wants to search for jobs based on filters and criteria and wants to get alerts when such jobs are available.

Persona 2: NewTech (A startup tech company)

- Is looking for fresh graduates from the computer science domain.

- They are a startup who are looking to expand their domain into AI and ML.

- They want to hire software engineers and senior software developers who have sound knowledge of Python and ML.

- They are willing to provide a competent salary for those positions.

- They also have a comprehensive description of what is expected of the candidate.

Scenario and Goals:

This startup is looking for capable candidates who will be willing to work in the required domain. They want to post on a site that will cater to their very specific needs. They have provided the job requirements viz. Job title, description and skills required.

Persona 3: Team 5 (Admins)

- Can go through the available job openings and list of candidates and see which job description matches with the skill set of registered students.

- Can moderate for 10 hours per week.

- Can help guide students get in line with their career goals by using GatorJobs.

- Has never worked with any competitor company.

- Has never carried out admin duties before.

- Does not have any experience in the job hunting domain but is willing to learn.

Scenarios and Goals:

A fellow Gator working as a part time admin. The admin wants to help fellow students achieve their career goals by helping them secure jobs by using GatorJobs.

Use Cases:

1. **Student Sign up:**

   The students go to the sign up page and create their new account in order to login. They click on "Create an account" in order to redirect to the sign up page. Then they fill up a small form containing their first name, last name, date of birth, email id, password and confirm password to create an account. After validation, their account is created in the database and they continue to login to their account.

2. **Student Registration:**

   After signing up, the students go on to their page and create their profile. They are prompted to enter the information regarding their qualifications, certifications, skill sets, projects etc. They also upload recommendation letters from professors as a bonus. They shall view and edit their profile as they please.

3. **Company Sign up:**

   The company representative goes to the sign up page and creates their new account in order to login. They click on "Create a company account" in order to redirect to the sign up page. Then they fill up a form containing their company name, a brief description, email id, password and confirm password to create an account. After validation, their account is created in the database and they continue to login to their account.

4. **Login:**

   The students or company representatives go to their respective login pages by clicking the "Login" button. After that they enter their email id and password used while creating the account. When they again click on the login button their details are authenticated from the database and if all the values provided are valid, they are successfully logged in.

5. **Change password / forgot password:**

   The students or company representatives change their password in case they have forgotten it or want to make a new one. They click on "forgot password?" button and from there they are redirected to a new page. There they fill up their email address and after clicking on the "continue" button they get a link in their email where they can update or change their password.

6. **Post jobs:**

The company representatives go to their company page in order to post upcoming jobs and vacancies. They enter information such as job title, description, skill set requirements, pay, domain etc.

7. Search / filter:

The student goes to the available jobs page and searches for new jobs. They even make their search more catered to their requirements by applying filters in order to enhance their results. They filter their searches based on job titles or skill sets. The students go to the page and write in "AI or ML" and the list of job vacancies with requirements for AI/ML are shown.

8. Get alerts:

Admin visits the admin page and goes through the available job vacancies and the registered students. While going through the job vacancies, they analyze the job titles, description and skill set requirements.They notify the students that have the skills that match with the available job vacancies. The students get an alert whenever this happens. After this, they go on to the next job vacancy or return to the admin page.

3. List of main data items and entities:

<u>Admin</u>:

The user that the website management team pre-approved shall access and manage the company and student data. The admin also notifies students when there's an available job that matches the student's qualifications.

<u>Student</u>:

Attends San Francisco State University and is majoring in Computer Science. The student, also known as the user, is registered as a student for GatorJobs. The student shall log in to the user sign in page with their own unique student ID. The student shall also fill out their profile with all of their contact information, experience, and interests for computer science.

<u>Companies</u>:

Refers to tech companies that are posting job listings in nine different areas of computer science. Tech companies shall fill out a form containing their company name, a brief description, email id, password and confirm password to create an account. Tech companies shall find students, also known as the users, that are searching for jobs in nine different categories. Tech companies shall find a match to their available jobs and have the option to reach out to students via email.

4. Initial list of functional requirements:

The initial list of functional requirements is divided into 4 different categories with 3 different priorities to distinguish what is needed during launch, what is necessary to add, and what can be added post launch.

Priority 1 (P1): Critical, needed for launch.
Priority 2 (P2): Major, necessary to have. Delay ship date unnecessary
Priority 3 (P3): Minor, good to have can wait till next launch

System:

(P1) System shall have a homepage.
(P1) System shall have admin pages.
(P1) System shall have a login page.
(P1) System shall have a forgot password page.
(P1) System shall have a student page.
(P1) System shall have a company page.
(P1) System shall give alerts to students if any jobs are available.
(P2) System shall have a search bar / filters.

Admin:

(P1) Admin shall be able to manage students and company data.
(P1) Admin shall be able to notify students about available job offers.

Student:

(P1) Students shall be able to create and register accounts.

(P1) Students shall receive job alerts if some job description matches their portfolio.

(P2) Students shall be able to search and filter for tech jobs.

(P3) Students shall be able to add a link to their websites or projects.

(P3) Students shall be able to upload recommendations from professors.

Companies:

(P1) Companies shall be able to create and register accounts.

(P1) Companies shall be able to post job availability by posting about the job titles, descriptions and skill set requirements.

5. List of non-functional requirements:

a. Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in M0 (some may be provided in the class, some may be chosen by the student team but all tools and servers have to be approved by class CTO).

b. Application shall be optimized for standard desktop/laptop browsers e.g., must render correctly on the two latest versions of two major browsers.

c. Selected application functions must render well on mobile devices.

d. Data shall be stored in the team's chosen database technology on the team's deployment server.

e. Privacy of users shall be protected, and all privacy policies will be appropriately communicated to the users.

f. The language used shall be English.

g. Application shall be very easy to use and intuitive.

h. Google maps and analytics shall be added

i. No email clients shall be allowed. You shall use webmail.

j. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated in UI.

k. Site security: basic best practices shall be applied (as covered in the class).

l. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development.

m. The website shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Spring 2022. For Demonstration Only".

6. Competitive analysis:

	Free to Use	Targets Tech Industry Specifically	Targets New Graduates	Communication	File/Resume Management
LinkedIn	✓	✗	✗	✓	✓
Glassdoor	✓	✗	✗	✓	✓
Indeed	✓	✗	✗	✓	✓
GatorJobs	✓	✓	✓	✗	✓

Job searching sites make job finding and applying quick and easy. However, with so many different fields, companies, and competing candidates, it is hard for individual job searchers to find the jobs they are looking for without help. This is especially true if they are inexperienced, fresh-out-of-college workers looking for their first job. GatorJobs is created to target this demographic of new workers specifically, helping filter openings from specifically tech companies aimed for current or graduating college students who major in Computer Science.

- **LinkedIn**
    - Free for all users
      Pay for upgraded features

        - Candidates:
          Can see who viewed their profile
          Company, salary, job and applicant insights
          Learning courses provided by LinkedIn

        - Recruiters:
          Free job postings
          Access to 2nd and 3rd degree networks
          Job/company analytics
          Interview preparation tools

    - Knowledge workers based industries

    - Primarily upper education and up, entry to senior level positions

- ○ Allows direct messaging between recruiters, employees, and candidates

    Allows companies and individuals to make posts and responses on a feed

  - ○ Allows user to enter past work/education experiences as a timeline

- **Glassdoor**
  - ○ Free for job candidates

    Job posting is done through Indeed

  - ○ All industries

  - ○ Does not actually do applications/done through Indeed

  - ○ Able to see reviews of company by current employees

  - ○ Able to save resume to use later

- **Indeed**
  - ○ Free for job candidates

    Charges a fee for job posters depending on posting

  - ○ Every industry/depends on job poster

  - ○ High school education and up, entry to senior level positions

  - ○ Company profiles for salary, Q&A, reviews, etc.

  - ○ Able to upload resume to apply directly on website

- **GatorJobs**
  - ○ Free for job candidates

  - ○ To be decided for job posting

  - ○ Tech industry

  - ○ Recent graduates, internship/entry level positions

  - ○ No communication available yet, still exploring options

  - ○ Save resume on user's page for quick retrieval/application

7. High-level system architecture and technologies used:

Server Host: Google Compute Engine 1vCPU 2 GB RAM

Operating System: Ubuntu 16.04 Server

Database: MySQL 5.7.36

Web Server: Apache2 (2.4.38)

Server-Side Language: Python 3.10

Additional Technologies: Web Framework: Flask

IDE: InteliJ

Web Analytics: Google Analytics

8. Team and roles:

Team Lead: Jasneil Nat

Backend Team:
Lead: Nomar Olivas
Shem Cheng
Yasin Hagos

Frontend Team:
Lead: Purva Zinjarde
Risheek Agrawal

Github Lead:
Shem Cheng

9. Checklist:

• Team found a time slot to meet outside of the class - DONE

• Github master chosen - DONE

• Team decided and agreed together on using the listed SW tools and deployment server -

DONE

• Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing - DONE

 • Team lead ensured that all team members read the final M1 and agree/understand it before submission - DONE

• Github is organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.) - DONE