SW Engineering CSC 648/848

Shyft

Service Industry Contract Work

Section 4, Team 05

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“Milestone 1”

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Document Revision History Table

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**1. Executive Summary**

Technology and time continue to redefine our economy by the day. The internet has steadily reduced the demand for traditional brick and mortar stores and COVID has shown that businesses that can adapt to sudden changes will survive. Online retailers such as Amazon and Walmart with robust employee management systems and supply chains delivered in an unexpected business boom. Restaurants that took advantage of food delivery apps and online orders not only survived but thrived in the competitive restaurant sector. A lot of that success for many businesses lay in the utilization of contractors to carry out fundamental roles from warehouse management, servers, cooks, delivery drivers etc. With traditional retail stores closing, there is a large, underutilized and overlooked pool of labor available for work. Our app Shyft wants to bridge this gap and connect employers with people seeking flexible work in the food service industry.

Shyft is an app that makes it easy for employers to open and close shifts for various food service roles. Once in the Shyft ecosystem, a contractor will be able to peruse for available shifts . Shyft in turn returns a set of curated applicants for the employer to look thru and pick. People seeking work in turn can list out their preferences for the types of jobs they’d like to pick up and Shyft’s internal recommendation system returns a list of available jobs/shifts that they can apply for with just a click of a button. Their resumes/experience is uploaded to Shyft’s secure internal database and is only accessible to applicable employers. Our engineering team is comprised of both diverse backgrounds and life experiences which adds to the richness of the product itself. As working college students, we understand the struggle that people go through to apply for jobs and get hired. It’s that background that gives our app it’s life. Our app’s elegant design and layout allows for a seamless experience in hiring and applying for both ends of the spectrum.

Over the next ten years, the Bureau of Labor Statistics forecasts the fastest rise in demand for employees in the leisure and hospitality sectors amongst all industry sectors. Shyft wants to make it easy for both employers and employees to cash in on that rise. We want to start with 1099 employees (independent contractors) first and with time branch out to W2 earners as well. With constant customer support for both employers and prospective employees throughout the process along with a curated list of applicants/jobs for both parties, Shyft will be the Uber of the gig economy.

**2. Personas and User stories**

**Personas**

Persona ID: 0001 – Lauren

A picture containing person, person, lady

Description automatically generatedLauren, age 21, is a college student from New York. She lives in Fremont, CA and goes to California State University East Bay (CSUEB). She is majoring in Bachelor of Business in marketing. She is at senior level and has one more semester to finish she degree. She is looking for a part time job or internship related to her major for experience and life expenses.

A person in a blue shirt

Description automatically generated with medium confidencePersona ID: 0002 - Lucas

Lucas is a 20-year old college student. He started his major in automotive industry. He is looking for a part-time job that will help him to fulfill his expenses like travelling, education, entertainment, etc. He has never had a job before and is in need of resources that will help him get his resume on track and find a decent job near his house.

Persona ID: 0003 - Joseph

Joseph, age 24, has his bachelor’s in computer science from San Jose State University. He started his first job at some startup company and gained some experience after just being there for 1 year. Due to the Covid pandemic he was laid off so now he is looking for a job that could replace his last. He wishes to be in a position where he can work from home and have some flexibility. He is currently looking on platforms online to find his dream job.

A person smiling for the camera

Description automatically generated with medium confidence

Persona ID: 0004 - Steven

Steven is a project manager at a California Construction company. He started at a front line worker and became project manager 5 years ago. He knows all about the ins and outs of the job. The company has assigned him to look for 10 employees for their next project so he is currently looking on online platforms to see who qualifies for the requirements of the job.

Persona ID: 0005 - Anthony

A person wearing a chef's hat

Description automatically generated with medium confidence

Anthony Gonzalez is a master chef. He has worked at several restaurants throughout his life. Now he is opening his own restaurant after many years of working in the industry. He is looking for about 20 employees that will cover shift managers, cashiers, cooks and cleaners. Due to the pandemic, he has found it difficult to conduct interviews in-person and is now on online platforms that will help him hire employees quickly and effectively.

Persona ID: 0006-Juan

A person wearing a yellow hard hat and standing in front of a construction site

Description automatically generated with low confidenceJuan Carlos is a construction worker that earned his diploma in 2007. He has 12 years of experience and has worked for several companies. Currently, he is working at a construction company where he is not very content. His hourly rate is low and he is looking for a position that will pay him more. He is educated, skilled and very experienced. He really liked his current job but since his manager will not grant him a raise he is looking for a position somewhere else where he can offer his skills at the hourly rate that he deserves.

**User Stories**

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| --- | --- | --- | --- | --- |
| **User story ID #** | **(persona)** | **wants to (functionality or feature)** | **so that (benefit)** | **Constraints** |
| 1 | Lauren | get a part-time job related to her major. | She can get experience in her major’s field and pay for her life expenses | - the app must have categories in all professional fields like business, nursing, chef etc. |
| 2 | Lucas | get his first part-time job and he needs help with his resume. | He can pay for his travel to school, lunch money, entertainment etc. | - the app must have ability to create a resume by collecting data from user. |
| 3 | Joseph | get a job near his residence | he doesn’t have to spend too much money on public transport because he does not have a car. | - the app should have location detector to locate jobs closer to user’s address. |
| 4 | Steven | find a job with work from home flexibility. | he does not have to go to office in covid pandemic | - the app must have feature to find jobs that provide services like work from home. |
| 5 | Anthony | find interesting events | hang out and blog | - the app must be up to date with great events and places |
| 6 | Juan | find a job in his career of construction worker and he also wants to search jobs that specifies that the pay or hourly rate will be discussed before hiring and training. | he can get his new job with favorable hourly rate. | - the app must have a feature where employees or workers can specify the at least hourly rate or salary they want. And a feature that will help such workers to search jobs specific to their money requirements. |
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**3. Data Definitions**

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| --- | --- | --- |
| **Name** | **Definition & Examples** | **Usage** |
| Resume | a user’s resume that is uploaded for business owners to view | A list of these will be shown on a registered business owner with tags selected |
| Skills | categories that associate with jobs the users skilled at, e.g., *Management, Marketing, Java, Full Stack* | Registered users select skills as they register their account and registered business owners use skills to filter out specific ones they are looking for |
| User: Contractor | A person who signed up with the application, e.g., *Ben Li, age: 26, gender: male, skills: Databases, Java, Python* | Information from the user is collected and stored. The users information will be made available for business owners to view |
| User: Employer | A person who signed up with the application looking to hire new people, e.g, *Rocky Wade, age: 34, gender: male, business name: Foodverse* | Information from the business owner that is collected and stored. Admins can view this information to verify the business before allowing the business owner to view resumes |
| Account | An account with set permissions on whether it is a typical user or business owner. | Users use an account to upload resumes and interact with business owners.  Business owners are able to view these resumes and contact the users |

**4. Initial list of functional requirements**

1. User can create a unique user id.
2. User can login with user id.
3. User can log out.
4. Guest users, those who have not been verified, will only see gig listing previews. They will not be able to see full details or access our live scheduling system.
5. User will have a profile (one of two categories: contractor, employer).
6. User can edit and update their profile.
7. Contractors can pick up a shift.
8. Contractors can trade a shift.
9. Contractors can drop a shift (penalty proportional to notice).
10. Employers can create a shift.
11. Employers can open a shift.
12. Employer can close a shift.
13. Users can view and select shifts through calendar view.
14. Users can communicate through DM.
15. Users can get a recommendation about shifts or contractors available near the user’s location or zip code.

**5. List of non-functional requirements**

1. The application will be compatible with most web browsers and operating systems, mobile version available.
2. The users’ passwords will be encrypted with AES or DES encryption method.
3. All data shall be stored in Amazon AWS server.
4. The code base shall be well maintained in the team's git repository and every code patch should get a review approval by at least one team member.
5. The application launching time is less than 1 sec.
6. The latency between menu to menu should be 0.5 sec.
7. Chatting message shall be transferred at real-time.

**6. Competitive analysis**

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| --- | --- |
| **Competitors Features** | **Our Features** |
| [**Instawork**](https://www.instawork.com/)  ⚪ Tailored for W2 employees  ⚪ Insurance Protection  ⚪ Live support | **Shyft**  ⚪ Tailored for 1099 contractors  ⚪ Service-industry specific  ⚪ Payout agreed in advance |
| [**Shiftsmart**](https://shiftsmart.com/)  ⚪ GPS verified attendance  ⚪ Live communication between employer & contractor  ⚪ Contractor paid as quickly as within 24 hours | ⚪ Touchless hiring and onboarding  ⚪ Employers will have personalized virtual profile created.  ⚪ Real-time scheduling |
| [Wonolo](https://www.wonolo.com/)  ⚪ 12 hour start time  ⚪ $0 start up costs  ⚪ large worker pool | ⚪ Direct deposit & instant pay  ⚪ Penalty system for call-ins/no-shows  ⚪ Reward system for flexibility |
| [BlueCrew](https://cm.bluecrewjobs.com/home)  ⚪ in-house payroll  ⚪ long & short-term jobs  ⚪ 1099 & w2 options | ⚪ Contractors and Employers can leave reviews for each other.  ⚪ Easy-to-access financial statements.  ⚪ Tax document preparation |

**Advantage of our app Shyft:**

If you have been to a restaurant, bar, café, etc, in the last 18 months, you have likely sensed the increased average wait times for service. Covid relief benefits and fears of new variants have helped create labor shortages and upward pressure on wages. Still, increased call-out rates have pushed employers to rethink how to sustain a reliable workforce in these uncertain times. Shyft’s focus is creating a seamless connection between employers seeking workers and contractors seeking work. Bluecrew and Shiftsmart are similar to virtual staffing agencies, both trying to dominate the recruiter space by trying to outsource all admin related work to their end and control payment options for employers. They use their platform to push other services that revolve around offering recruiting and employee management systems for long term employment as well. This leads to a drop in focus and purity of purpose to get people work (both employers and employees) which visibly affects the user experience as evident via customer reviews. Instawork has a lot of traffic but it’s also branching out into more solutions for employers which leads to a lot of headaches for the average customer looking to grab a few shifts for work on the side. Not only this, by adding so many different services and branching out so quickly in Silicon Valley fashion, Instacart has to increase prices for employers to use their service. These added fees and lack of transparent pricing for employers only makes it harder for more service-oriented industries to join in and in turn get workers shifts. Dictating pricing and payroll options without the proper payroll integrations also dissuades employers from joining Instacart. Wonolo is closer in terms of the focus we share as companies in this niche but our competitive advantage is that we are located, founded and centered around the US whereas Wonolo is more so in Canada though it is making strides in the US. It also has a large labor pool but due to such a large labor pool, it’s harder for people to find shifts. Shyft’s dual view is designed to make it simple for employers to post jobs and people to find shifts per their preferences fast and easily. We offer flexibility to our employers and give them a wide range of options on payments/staffing/metrics. We also are transparent with our pricing to attract a larger number of employers to our app. This in turn also attracts applicants who (like the employers) enjoy in app customer service via chat or by phone call with a live person. This customer service throughout the whole hiring/applying cycle all the way till pay date is something that keeps our customers coming back.

**7. High-level system requirements**

Server Host : AWS EC2

Operating System : Ubuntu 16.04 Server

Database : MySQL

Web Server : NodeJS

Server-Side Language : JavaScript

Web App Framework : Express

Front-end Additions : React

Prototyping : Adobe XD

IDE : Visual Studio Code

Web Analytics : Google Analytics

APIs : Google Maps