

SW Engineering CSC648/848

WorkWaves

Section 01 , Team 03

Team:

| Member Name | |
|--------------------------|-----------------------|
| Brenda Beltran | Team Lead |
| Brandon Flores | Scrum Master |
| Sidney Thomas | Git Master |
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| Banting Lin | Front-End Lead |
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Milestone 1

September 18 2023

History table (revisions)

(Note: you will update this document based on instructors' feedback so this is important)

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| Revision Dates |
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1. Executive Summary

Our software engineering team is introducing a brand new web application that will aim to empower job seekers around the world and allow new opportunities and equal hiring to every individual looking for immediate employment tasks on the spot, which will become beneficial to their work experience and eventually aim to spark future careers when real long term job offerings are later pursued. Our mission is to foster an inclusive community that ignores or tries to minimize the involvement of ethnic and racial judgements as this platform will be used for job seekers who are willing to connect other job seekers with the correct resources and equal opportunity. As software engineers and educated individuals, We always seek out any and all difficulties, concerns and challenges that are most likely to arise when exploring for jobs in general. These challenges may include language barriers and educational disparities. We created our application for the purpose of making sure we close in on the gaps that prevent users from a bad experience that would lead to any disregardment of our application. That is why we want to make sure we are helping everyone in need and set the right path for employers and freelancers to properly operate our web application with satisfaction.

The procedure of Our application WorkWaves, will be to get users ready with a new account making it easy for them to get started on their job search journey. These will include and involve a handful of innovative functionalities and unique features making them different from other social media job applications already existent. They will then start the job searching process as soon as the account has been made and the user is ready to begin searching for immediate jobs that align with their qualifications and are conveniently located near their area of interest. Our application leverages advanced algorithms to connect users with job postings ideally suited to their skills and location. It is designed to simplify the process of job hunting for users. its uniqueness lies in its ability to not only match users with suitable jobs but also in its provision of resources and guidance throughout the process. Users will be able to access a variety of tips, tutorials, suggestions, relevant job offers, relevant user posts from other job seekers, community forums and more. These tools will help them seek advice and share experiences with other fellow users and to quickly get in touch with them through our app.

Our software engineering team is dedicated to creating WorkWaves. With our likings of creating a unique app For the greater good, we hope that one day we can deploy something like this in the real world for users to use. Our team is excited about tackling the challenges of software engineering and eager to gain confidence in it. We want to see how our front and back-end will connect and work with one another using the MERN stack. We are excited that this project is very hands-on, gives us a space to work with others in a fast-paced environment, foster idea-sharing along with collaboration, and may be able to use one day.

2. Personas and User stories

Student (Persona ID: S001)

- General Behavior: Regularly attends classes - studies for exams
 - Interests: Academic success - social interaction with other students
 - Skills: Note-taking, time management.
 - Pain Points: Finding and organizing study materials - managing time effectively

Parent (Persona ID: P003)

- General Behavior: Supports their child's education
 - Interests: Child's academic progress - staying informed about school activities.
 - Skills: Parental guidance and support.
 - Pain Points: Difficulty in tracking their child's academic performance, staying updated on school events.

Elderly Person (Persona ID: E004)

- General Behavior: Most likely retired and most likely in need of physical assistance.
 - Interests: Retirement activities - playing bingo, going golfing, going on hikes.
 - Skills: Their wisdom and extremely high knowledge over their lifetime.
 - Pain Points: Age-related discrimination, limited knowledge of digital tools, potential physical limitations

Remote Worker (Persona ID: R005)

- General Behavior: Looking for remote options and flexibility for working.
 - Interests: Working from home - not having to commute to long distance travels and workplaces.
 - Skills: They have a diverse skill set of working independently as well as getting remote tasks done quicker.
 - Pain Points: Difficulty finding legitimate remote job listings, can not make commutes to workplaces.

Business Person (Persona ID: B006)

- General Behavior: dedication to their work, networking to build professional relationships, making informed decisions, dedicated to their industry success,
 - Interests: seeking opportunities for professional growth, and staying updated on industry trends to remain competitive.
 - Skills: They have a vocabulary that is very well formed that can make a person consider working with them.
 - Pain Points: maintaining work-life balance due to demanding schedules and the pressure to stay competitive in a rapidly changing business landscape

User Stories:

For Students: User Story S001A - Prioritize Study for exam(Priority: High) // Create a job

As a student, I want to be able to prioritize studying for my exams so I can succeed during the semester. Small tasks like getting my dog for a walk are inconvenient for me today as I have to catch up on my studies. I go to the website and check if anyone is available to walk my dog today - I found someone and sent a request hoping for a positive answer.

User Story S001B - Make the most of my free-time (Priority: Low) // Look for a Job

As a student, I have some free-time that I don't use efficiently. I would like to make the most of it especially if I can earn money on top of it. I opened the website and made myself available for any regular service I can provide to anyone. I have free-time from 8PM - 12PM today - so I made a post stating my availability to be a security (Bar, clubs). Then, I wait to see if anyone is interested in hiring me. I received a request from a bar owner and I read the conditions which are okay with me. I accepted the offer and will get to make money today.

For Parents/Guardians: User Story P003A - Want some alone couple time (Priority: Medium) // Create a job

As a parent/guardian, I want to enjoy taking my partner to a nice night out today, but I don't have a proper baby-sitter as it's a spontaneous decision. I made today to surprise my partner, therefore I go on the website and look for someone who is willing to baby-sit tonight. I found a profile that is available to do so. With that I sent a request and hoped for a positive answer. The request has been accepted so now I have someone who will take care of my kids while I'm having fun with my partner.

For Elderly Persons: User Story E004A - Maintain Independence with Home Assistance (Priority: Medium) // Seek Assistance

As an elderly individual, I value my independence but may need some help with daily tasks. I use the website to find a reliable person who can assist with tasks like grocery shopping, cleaning, or companionship. After connecting with a suitable caregiver, I arrange for their services to ensure I can continue living comfortably and independently.

For Remote Workers: User Story R005A - Efficiently Find Remote Work Opportunities (Priority: High) // Search for Jobs

As a remote worker, I want to find legitimate remote job listings quickly and conveniently. I use the website to browse remote job openings that match my skills and preferences, eliminating the need for long commutes or office work. When I find a suitable position, I apply, enabling me to maintain a flexible work arrangement and save time on daily commutes.

For Business Persons: User Story B006A - Network for Professional Growth (Priority: High) // Connect and Collaborate

As a business person, I prioritize networking and professional growth. I use the website to connect with industry peers, potential partners, and experts in my field. This platform allows me to easily engage in meaningful collaborations, share insights, and stay updated on industry trends, ultimately enhancing my career opportunities and success.

3. Data Definitions

The following would be the main data entries and their definitions / functionalities that will become the main aspects of our web application.

Workers (people looking for employment they can also be freelancers)

- Would be able to Read, write and create posts (CRUD)
- Would be able to modify their own profiles
- Would be able to see other profiles

- Are able to view other posts or users.
- Also able to contact employers from posts
- Able to sign up from the post & rate employer after

Employers (people looking for employees)

- Can post jobs
- Access contact information from job listing
- Will be easy to access from the checkbox provided from job listing

Job Post/Listing

- Card shaped post with description, date posted, name of the poster, & link to sign up
- Includes employer contact information
- Access granted to read permissions, but only post creators can modify posts or delete.

4. List of functional requirements

The following is a list of the functional requirements that our web application will perform as the user explores Workwaves. Our main core functionality will also heavily emphasize the CRUD functionality which is the ability to Create, Read, Update and Delete.

Requirement ID: R001

- **Title:** Creating an account.
- **Description:** As a Worker / Freelancer user in the web application, students shall be able to create a new account with an email and password to log into workwaves.
- **Owner / Initiator:** Database manager
- **Priority:** High
- **User Story to be Referenced:** None, global functionality

Requirement ID: R002

- **Title:** Search for jobs
- **Description:** As a Worker / Freelancer user in the web application, students shall be able to search for job listings that will match their preference, availability, skillset, and location.
- **Owner / Initiator:** Product Manager
- **Priority:** High
- **User Story to be Referenced:** S001B

Requirement ID: R003

- **Title:** Make Job request
- **Description:** : As a Employer user in the web application, users shall be able to make job requests such as babysitting or help with grocery shopping according to time, location, and other requirements.
- **Owner / Initiator:** Product Manager
- **Priority:** High
- **User Story to be Referenced:** P003A, E004A

Requirement ID: R004

- **Title:** Accept requests (no interview)
- **Description:** As a Worker / Freelancer and Employer user in the web application, users shall be able to accept sent or received requests by the users and then immediately get into contact following the accepted request.
- **Owner / Initiator:** Product Manager
- **Priority:** High
- **User Story to be Referenced:** S001B, R005A

Requirement ID: R005

- **Title:** Creating and Editing Profiles
- **Description:** As a Worker / Freelancer and Employer user in the web application, anyone shall be able to manage their profiles by updating any names, addresses, phone numbers, bios, skills, experiences etc.
- **Owner / Initiator:** Database manager / Front end manager
- **Priority:** Medium / High (it's important for people to know who you are exactly)
- **User Story to be Referenced:** None, global functionality

Requirement ID: R006

- **Title:** Job Posting
- **Description:** As a Employer user in the web application, users shall be able to post job listings with their descriptions, contact information, availability, skillset as well as other requirements for the job.
- **Owner / Initiator:** Database Manager
- **Priority:** High
- **User Story to be Referenced:** P003A, E004A, B006A

Requirement ID: R007

- **Title:** Review and Ratings
- **Description:** As a Worker / Freelancer and Employer user in the web application, users shall be able to give each other ratings and post reviews on a certain user and their experiences with them to let others know they are reliable and credible. This can help with building trust within our user community and within our application overall.
- **Owner / Initiator:** Product Manager
- **Priority:** Medium (Although most users may heavily rely on the ratings system)
- **User Story to be Referenced:** S001B, P003A, E004A, R005A, B006A

Requirement ID: R008

- **Title:** Notifications
- **Description:** As a Worker / Freelancer and Employer user in the web application, users shall be able to manage our notification and ping system. Through this functionality, users would be able to be notified immediately as an employer or worker accepts a job request as well as notify both users that they are both ready to go.
- **Owner / Initiator:** Front End manager
- **Priority:** Medium
- **User Story to be Referenced:** All user stories

Requirement ID: R009

- **Title:** Disputing Reports / Scams
- **Description:** As a Worker / Freelancer and Employer user in the web application, users shall be able to create reports of any suspicious or criminal activity during their jobs to our report feature in our web application so that our team can review it and take further action.
- **Owner / Initiator:** Database manager
- **Priority:** Medium
- **User Story to be Referenced:** All user stories

5. List of non-functional requirements

The following is a list of the non-functional requirements that our web application will perform as the user explores Workwaves.

Mobile Responsive (Desktop and Mobile)

- **Number:** 1
- **Requirement Description:** the web application workwaves will be responsive and accessible for both desktop and mobile users. User experience will be expected to be the same from both devices and all functionalities will carry over both as well.

- **Example:** Someone not on their computer wants to use our web application but they only have phone or tablets available to them. They shall see the same front page and all functionalities regardless of their device.

Data Privacy (No unauthorized access to user accounts)

- Number: 2
- **Requirement Description:** the web application workwaves will protect user information that will only be seen by the user and not the rest of the public. Without giving any information to other users, everyone will have protected data and no one can see other people's accepted jobs without their permission.
- **Example:** A user trying to not let someone access their account easily by guessing short and simple passwords or someone trying to look at someone's personal address without having any job connection to them.

Ease-of-use, (Intuitive UI UX)

- Number: 3
- **Requirement Description:** the web application workwaves will perform and present a simple and well organized user - friendly interface designed by our front lead that will let users easily find and navigate through our menus and provide the best user experience for people of all ages.
- **Example:** Users will be able to see everything that they are able to utilize to their convenience with easy menus and search bars all in their front page.

Data storage (Will be done using Non relational DB, MongoDB)

- Number: 4
- **Requirement Description:** the web application workwaves will use our database mongoDB to efficiently handle all incoming data created by all users.
- **Example:** MongoDB storing user profiles, user ids, job listings, incoming requests etc.

Hashing/encryption for user credentials (can be SHA256 hex or something else)

- Number: 5
- **Requirement Description:** the web application workwaves will handle user credentials, such as passwords that will be stored using encryption methods, such as SHA256, to protect against unauthorized access.
- **Example:** every user's password will be hashed using SHA256 so that straight plain password texts are never breached in our database.

User Authentication (Firebase or JWT)

- Number: 6

- **Requirement Description:** the web application workwaves will handle user authentication features such as Firebase or JSON Web Tokens for the purpose of verifying user login requests for extra security measures.
- **Example:** A user is logging into their account which might be from another location than their IP address says, so the web application will perform an authentication process that will verify that this is the actual user that is logging into their account.

User Accessibility (screen reader compatibility etc.)

- Number: 7
- **Requirement Description:** The web application workwaves will make sure that all users have accessibility to our webpage no matter what the condition or disability is. We will find a way to make sure that we can use our technology like a screen reader to make all users satisfied with their experiences.
- **Example:** Screen reader users should be able to navigate and interact with the application's content no different than a user that is using our application normally.

Compatibility on various Browsers

- Number: 8
- **Requirement Description:** the web application workwaves will be compatible with all browsers and they will work equally the same all with the same user experiences.
- **Example:** Someone who is using a variety of browsers such as Chrome, Firefox, Safari, and Edge.

Licensing (Can be standard MIT or 'other')

- Number: 9
- **Requirement Description:** the web application workwaves will make sure that we are licensed by an open source software license such as MIT and that we are in all legal boundaries when collaborating with this source.
- **Example:** Workwaves will include a licensing statement for all its open source distributions.

6. Competitive Analysis

Comparisons to other similar sites:

- LinkedIn vs Our App:
 - No interview Phase
 - Job is ideally given once the poster accepts the applicant.
- Craigslist: vs our app:

- Craigslist does not show a username and the jobs/gigs posted can be faked
- No rating system in place
- Freelancer gets just as much exposure (Possibility to handle payments on site)
- A dedicated support link to handle discrepancies.
- Our app gives you the job once the poster accepts. We do not use so much of the social media aspect like followers, likes, or collaboration features. It is easier and quicker to apply for jobs -- no cover letters. All the features on our app are free.

7. High-level system requirements

- SW Frameworks:
 - ReactJS
 - ExpressJS
 - NodeJS*
- Tools:
 - Taiga Scrumboard (Project management tool)
 - GitHub
 - Visual Studio Code
 - *Jest (JS Unit testing library)
 - Linters: eslint for JS
 - CodeReviews
- Deployment Platform:
 - Digital Ocean
 - Nginx Web Server
- Database Management Tool:
 - MongoDB
 - Compass (Atlas)
- Supported Browsers:
 - Google Chrome
 - Firefox
 - Safari
- External Tools:
 - API: Payment Services (Stripe)
 - Fetch API: Data (Postman/Axios)
 - Location: Google Maps
- Authentication:

- Firebase

8. Team

Brenda Beltran as Team Lead

Brandon Flores as Scrum Master

Sidney Thomas as Git Master

Jaime Guardado as Support

Banting Lin as Front End Lead

Abdarrahman Ayyaz as Back-End Lead

9. Checklist

- ☒ **DONE:** Team found a time slot to meet outside of the class.
- ☒ **DONE:** Scrum Master shares meeting minutes with everyone after each meeting.
- ☒ **DONE:** Github master chosen
- ☒ **DONE:** Everyone sets up their local development environment from the team's git repo.
- ☐ **ON TRACK:** Team decided and agreed together on using the listed SW tools and deployment server.
- ☐ **ON TRACK:** Team ready and able to use the chosen back/front-end frameworks.
For each technology (front/back-end/DB/cloud) ,
- ☐ **ON TRACK:** Team decides who will lead the study of each technology and what will be the specific goal of the study within one month from the M1 announcement.
- ☐ **ON TRACK:** Ex : implement DB scheme for main data items
- ☒ **DONE:** Team lead ensured that all team members read the final M1 and agree/understand it before submission

