



REQUIREMENTS DOCUMENTS

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CPSC 541



VISION AND SCOPE DOCUMENT

1.0 BUSINESS REQUIREMENTS

1.1 Background

On average, people that are looking for jobs spend at least 6 to 8 hours a day searching and applying to jobs. They go through countless of job applications on websites and send in hundreds of resume only to hear back from 1 or 2 companies. Job searching is a grueling process and often times it takes a very long time for a person to find a job that matches them. At the same time, companies also have to go through countless of resumes a day to find a candidate that would match what they are looking for.

1.2 Business Opportunity

At JobLink, we want to create a job matching system where it would help us close the gaps between the companies and the job seekers. Our JobMatch application would be easily accessible and able to match job seekers with quality jobs instantly. This would cut back a lot of time for both the job seekers and the companies. They would not have to sit through hours and hours of searching and sifting through job applications or resumes just to find a job position that would match with them well. This system would help narrow down the searches for both parties which would increase a job seeker's chances of landing a job that would be a good fit for them.

1.3 Business Objectives

BO-1: Increase employment call back rate by 50% within the first 2 years of initial release.

BO-2: Reduce total time job seekers spend on applying for jobs by 40% within the first 6 months of initial release.

BO-3: Reduce amount of job seeking candidates that companies have to go through before finding the right candidate.

BO-4: Decrease unemployment rate by 15% within the first 5 years of initial release.

1.4 Success Metrics

SM-1: The average rating of the Job Match System has increased by 1 on a scale of 1 to 5 within the first 6 months of initial release.

SM-2: positive reviews from both job seekers and companies have increased by 40% within the first year

1.5 Vision Statement

For job seekers that are looking for employment and companies that are looking for a qualifying employee to work for their company, JobMatch is an internet-based and smartphone enabled application that will help job seekers find jobs easily at the tip of their fingers. It will also help narrow down the candidates for companies so that they will not have to sit and go through thousands of resumes. Unlike other job websites, JobMatch will help reduce both job seekers and companies time in the whole job searching process while producing quality matches for both the job seekers and the companies.

1.6 Business Risks

RI-1: Some job seekers might not get a good amount of job matches. (Probability=0.4; Impact= 8)

RI-2: Too few job seekers or companies uses the system, reducing the return on investment of building and maintaining the system. (Probability= 0.3; Impact= 9)

RI-3: There are too few jobs on the market at the moment. (Probability= 0.5; Impact= 8)

1.7 Business Assumptions and Dependencies

AS-1: Job seekers will apply to every job that they were matched up with.

AS-2: Companies will reach out to all job seekers that they were matched up with.

DE-1: Amount of jobs available for job seekers depends on the amount of jobs that are posted by employers.

2.0 SCOPE AND LIMITATIONS

2.1 Major Features

MF-1: Create and modify user profile as employer.

MF-2: Create, modify, add resume, view jobs applied as job seeker.

MF-3: Add keywords and modify search results when searching for jobs.

MF-4: Apply, contact and/or marked interested when viewing job.

MF-5: Add or modify when posting jobs.

MF-6: Contact and/or marked as interested when viewing job applicants.

MF-7: Add, modify and cancel subscription to daily job recommendations.

MF-8: Provide system access through smartphones, tablets and the internet as well.

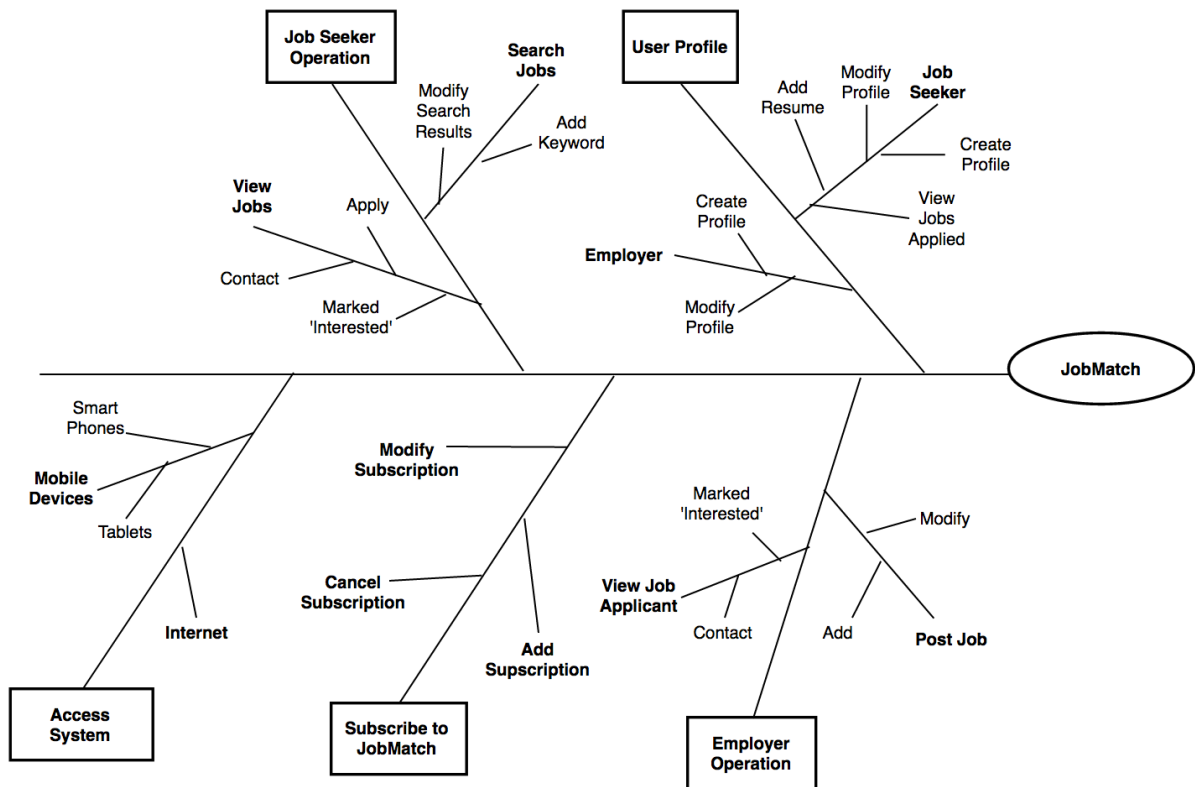


Figure 1: Partial feature tree for JobMatch App

2.2 Scope of Initial and Subsequent Releases

Features	Release 1	Release 2	Release 3
MF-1: Employer Profile	Employers can create and modify their profile.	Fully Implemented	
MF-2: Job Seeker Profile	Job seekers can create and modify their profile.	Job seeker can upload resumes.	Job seeker can view jobs applied for
MF-3: Job Search	Keywords can be added and searched for	User can modify their search results.	Fully implemented
MF-4: View Job	Jobs can be viewed and applied to.	User can now contact employers directly from the job listing.	Users can mark jobs as 'interested'
MF-5: Post Job	Job posts can be added and modified by the employer.	Fully Implemented	

MF-6: View Candidate	Not Implemented	Employer can view job applicants and contact them directly.	Employer can mark job applicants as 'interested'
MF-7: Job Subscription	Not Implemented	Implemented if there is time.	Fully Implemented
MF-8: System Access	Internet is accessible	iOS and Android phones and tablets apps are accessible	Windows phones and tablets

2.3 Limitations and Exclusions

LI-1: The amount of jobs available are limited to the total amount the employers post.

LI-2: The amount of jobs that can be searched up are limited to the keywords used.

LI-3: Keywords are limited to ones that are classified as a job keyword by the system.

3.0 BUSINESS CONTEXT

3.1 Stakeholder Profiles

Stakeholder	Major Value	Attitudes	Major Interests	Constraints
JobLink CEO	Improve unemployment rate by helping match job seekers and companies together	Strong commitment throughout the releases.	Creating a quality job searching application to help save time for both employers and job seekers.	None identified
Company Employers	Would not need to sit through countless of resumes, more time to focus on the company.	Strong enthusiasm to use the system to post job listings and find quality job applicants.	Simplicity of use. Able to contact or marked down candidates that they are interested in hiring.	None identified
Job Seekers	Jobs easily accessible at the tip of the fingers. Quality job matches.	Strong enthusiasm to use the system to find jobs that would be of great match.	Simplicity of use. Easily able to contact employers. Could upload resumes and modify job profile.	Limited to amount of jobs other company posts.

3.2 Project Priorities

Dimension	Constraints	Driver	Degree of Freedom
Features	All features that were scheduled for release 1 must be operational.		
Quality	All of user acceptance tests must pass.		
Schedule			Release 1 is planned to be available by the end Q4 of this year. Release 2 should be available by Q2 of next year. Release 3 should be by end Q3 of next year. Overrun of up to 3 weeks is ok.
Cost		Cost can only be overrun by 10% and no more than that.	
Staff			Team includes 1 project manager, 1 BA, 4 developers, developers can act as testers. Additional developers is ok too if needed.

3.3 Deployment Considerations

The Job website shall be up and running on the internet. The application will be developed for iOS and android smart devices by the second release. By the end of the third release the application shall be available for Windows devices as well. Any infrastructure changes should be modified and done by the end of second release. There will be a tutorial video on how to operate the website and the application for first time users. This video will demonstrate how to maneuver around the website and different features the users can use.

USE CASES

Primary Actor	Use Cases
New User	1. Create User Profile
Job Seeker	2. Modify Profile 3. Add Resume 4. Modify Resume 5. View Jobs Applied to 6. Search Job 7. View Job 8. Apply Job 9. Contact Employer 10. Mark 'Interested' 11. Manage Job Subscription
Employer	12. Modify Profile 13. Post Jobs 14. Modify Job 15. View Applicants 16. Contact Applicants 17. Mark 'Interested'

ID and Name:	UC-1: Create User Profile		
Created By:	Jake Baker	Date Created:	December 1, 2016
Primary Actor:	New User	Secondary Actors:	N/A
Description:	A new user accesses the JobMatch Application from either the interweb or smart devices, chooses if they are a job seeker or an employer and proceeds to create a user profile.		
Trigger:	New user indicates they are a new user.		
Preconditions:	PRE-1 user is logged on JobMatch App		
Postconditions:	POST-1: Profile is saved POST-2: User has login username and password		
Normal Flow:	1.0 Create a Job Seeker Profile 1. User clicks on 'New User' 2. JobMatch displays 'Job Seeker' or 'Employer' 3. User selects 'Job Seeker' 4. JobMatch displays 'Job Seeker' profile form 5. User fills out form 6. User creates username and password 7. User Saves 8. JobMatch Prompts Congratulatory on user profile message.		
Alternative Flow:	1.1 Create an Employer Profile		

	<ol style="list-style-type: none"> 1. User clicks on 'New User' 2. JobMatch displays 'Job Seeker' or 'Employer' 3. User selects 'Employer' 4. JobMatch displays 'Employer' profile form 5. Return to step 5 of normal flow
Exceptions:	1.0.E1 Returning User <ol style="list-style-type: none"> 1. User is returning user 2. Signs in as returning user 1.0.E2 Wrong User Label <ol style="list-style-type: none"> 1. User clicked on the wrong user label 2. User quits the form 3. User returns to main page and start again.
Priority:	High
Frequency of Use:	Unlimited number of users. Used during anytime of the day.
Business Rules:	BR-42, BR-57, BR-63
Other Information:	<ol style="list-style-type: none"> 1. User shall be able to quit the form if they accidentally clicked on the wrong user label 2. User shall be able to sign in as returning user
Assumptions:	Assume that there are only two types of users

ID and Name:	UC-6: Search Jobs	
Created By:	Elizabeth Mackey	Date Created: December 6, 2016
Primary Actor:	Job Seeker	Secondary Actor: N/A
Description:	Job Seeker who uses the JobMatch application will be using it to search for jobs. They will be able to type in a keyword or any number of keywords to search for their job.	
Trigger:	Job seeker requests to search job.	
Preconditions:	PRE-1: Job Seeker is logged into the job seeker profile	
Postconditions:	POST-1: Job List is populated	
Normal Flow:	6.0 Search Job with one keyword <ol style="list-style-type: none"> 1. Job Seeker clicks on search jobs 2. JobMatch displays type bar 3. Job Seeker types in a keyword 4. Job Seeker clicks enter 5. JobMatch populates job list with said keyword. 	
Alternative Flow:	6.1 Search Jobs with multiple keywords <ol style="list-style-type: none"> 1. Job Seeker clicks on search jobs 2. JobMatch displays type bar 3. Job Seeker types in first keyword 4. Job Seeker clicks '+' button 	

	5. JobMatch displays second type bar 6. Job Seeker types in second keyword 7. Job Seeker clicks enter 8. JobMatch populates job list with the both keywords
Exceptions:	6.0.E1: user must use alpha keys only 6.0.E2: user must type valid keywords
Priority:	High
Frequency of Use:	User can use it as many times as they want
Business Rules:	BR-3
Other Informations:	Users must type in valid keywords for the jobs to be populated. Non-valid keywords will display no search results
Assumptions:	The keywords must be job related keywords

ID and Name:	UC-13: Post Jobs	
Created By:	Alfred Moore	Date Created: December 10, 2016
Description:	The employer will be able to post jobs under their account. They may post as many jobs as they would like to.	
Exceptions:	No exceptions for this user case	
Priority:	High	
Business Rules:	BR-2, BR-4, BR-5, BR-10, BR-12, BR-77	
Other Informations:	Job postings will be assigned an id number therefore, even if employer post same jobs during different occasion they will still be considered as different jobs due to different id numbers assigned to them.	

SOFTWARE REQUIREMENT SPECIFICATION

1.0 INTRODUCTION

1.1 Purpose

This SRS describes the functional and nonfunctional requirements for software release 1.0 of the Job Match System. This document is intended to be used by the members of the project team who will implement and verify the correct functioning of the system and also by the users who will learn the functioning of the system as well. This requirement specified here are committed for release 1.0.

1.2 Document Conventions

No special typographical conventions are used in this SRS.

1.3 Project Scope

The Job Match System will permit all job seekers to search and apply for jobs. It will also permit all employers to post jobs on the application and view/ contact potential job applicants. A detailed description is available in the *Job Match System Vision and Scope Document* [1]. Along with the features that scheduled for a full or partial implementation during release 1.0.

1.4 References

1. Mai, John. Job Match System Vision and Scope Document.
www.JobLink.com/projects/JMatch Vision and Scope.docx
2. K. Wiegers and J. Beatty, *Software Requirements*, 3rd ed. Redmond, Washington: Microsoft Press, 2013, p. 68.
3. "830-1998 - IEEE Recommended Practice for Software Requirements Specifications", *IEEE Computer Society*.

2.0 OVERALL DESCRIPTION

2.1 Product Perspectives

JobMatch is a new software application that would make job searching and posting more convenient for job searchers and employers alike. It enhances the job searching process and gives job seeker and employers quality matches while cutting back a lot of the time users would need to spend on the job searching process. The context diagram below shows the external entities and the system interfaces for release 1.0. The system should have all of its core features for the first release. The second and third release would iron out and add on features that will enhance the user interface.

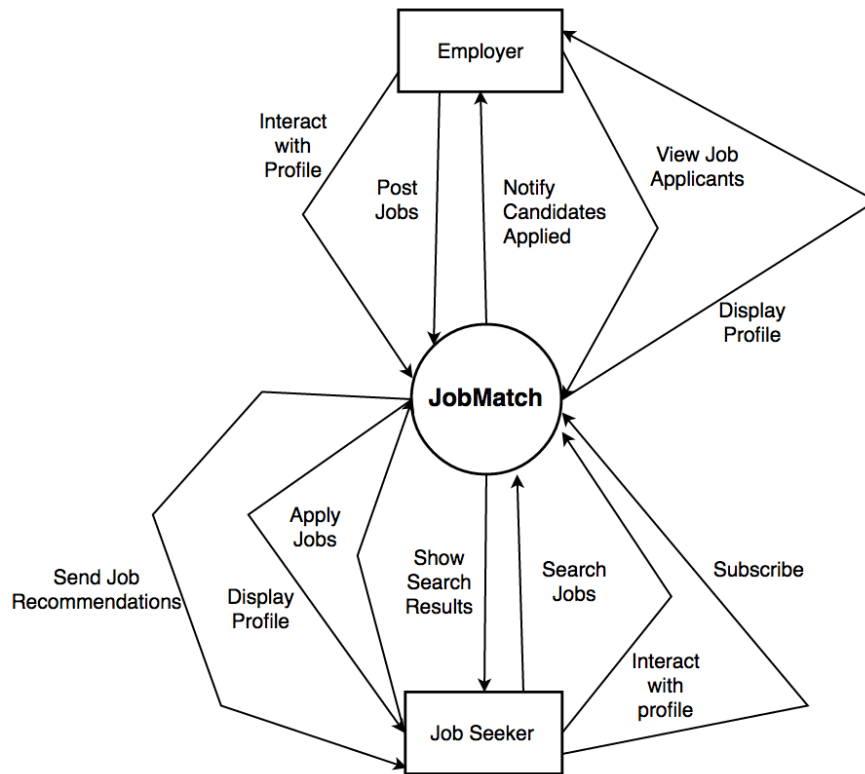


Figure 2: Context diagram of JobMatch

2.2 User Classes and Characteristics

User Class	Description
New User	These users just have been introduced to the application. They have not identified themselves as a job seeker or an employer yet. Once they have set up their profile, they will move over to job seeker or employer.
Job Seekers	A job seeker is a user who is currently looking for a job on the application. Job seekers tend to search for jobs that they are qualified for. They can use multiple keywords or modify their search results to give them quality jobs that they would best match with.
Employers	Employers will be posting jobs on the application. They can post any amount of job posts based on the number of positions they have open and are hiring for. Employers want to be able to review job applicants to see if they are a perfect fit for the company or the specific position.

2.3 Operating Environment

OE-1: JobMatch shall be able to operate on the following web browsers: Windows Internet Explorer, Firefox, Google Chrome, and Apple Safari.

OE-2: JobMatch shall be able to operate on iOS, Android, and Windows smart devices.

2.4 Design and Implementation Constraints

CO-1: The system design, code and maintenance documentation shall conform to Apple's, Android's and Window's integrated development environment (IDE).

CO-2: All HTML code shall conform to the HTML 5.0 standard

2.5 Assumptions and Dependencies

DE-1: The amount of jobs on the application is dependent on the amount of jobs employers post on the application.

DE-2: The amount of jobs that can be searched for by a job seeker is dependent on the keywords they used.

3.0 SYSTEM FEATURES

3.1 Create User Profile

3.1.1 Description

A new user who has just got the application will be prompted to create user profile before accessing the whole application. The user can pick which type of user account they would like to receive either job seeker or employer.

3.1.2 Functional Requirements

Create.New:	Choosing to create a profile
.Returning:	The User shall be prompted to choose if they are a returning or new user
.Login:	If the user is a returning user a section where they can type in their username and password shall be available for them to login.
Create.User:	Picking user type
.Select:	The user shall pick if they want to create a job seeker profile or an employer profile.
Create.Profile:	Creating the profile
.Fill:	The user shall fill in the respective form based on their previous choice as either a job seeker or an employer.
.Access:	The user shall be prompted to create a username and password for access.
Create.Confirm:	Confirming Profile
.Review:	When user submit the profile, JobMatch shall display a review of the whole profile for user to look over if everything is correct.
.Save:	The user can save their profile if everything is correct.

.Prompt:	JobMatch shall prompt a congratulatory message on the user's new profile.
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3.2 Search Job

3.2.1 Description

A user that has been labeled as a job seeker can now use the job search feature to help them find jobs that are listed in the application. The Job seeker will use the job search tab and can search any number of keywords.

3.2.2 Functional Requirements

Search.Job:	Searching Job
.Keyword:	JobMatch shall prompt the job seeker to type in a keyword to search.
Search.Multiple:	Searching multiple keywords
.Add:	JobMatch will populate another field for the job seeker to type in another keyword.
Search.Modify:	Modifying search results
.Location:	Job seeker can modify search location to search in a particular area.
.Radius:	Job seeker can modify the mile radius that their results will fall in.
.Posting:	Job seeker can modify the job result posting days.
.Type	Job seeker can modify the result for the type of job that the job seeker is looking for.
Search.Result:	Displaying results
.List:	JobMatch shall display the results to the job search by the job seeker.

3.3 Post and Modify Job

3.3.1 Description

A user that has been labeled as an employer can now use the job posting feature to post jobs on the application. The employer can post as many jobs as they want to.

3.3.2 Functional Requirements

Post.Job:	Posting a job
.Add:	JobMatch shall prompt employer to add a job.
.Describe:	Employer shall fill the descriptions of the job.
Post.Modify:	Modifying the job post
.Date:	Employer shall be able to add the date the job was added.
.Type:	Employer shall be able to add the type of job that the post is.
.Expire:	Employer shall be able to indicate when the post will terminate based on the given date.

.Link:	Employer shall be able to add any links to their company website or any link pertaining to the job.
Post.Confirm:	Confirming the job post
.Review:	JobMatch shall display the job that the employer has just created and for the employer to review.
.Submit:	Employer shall submit the job posting.
Post.Display:	Displaying the job post
.ID:	JobMatch shall add a unique ID so that no two jobs posted will be alike.

3.4 Add and Modify Resume

[Details are not provided in this example]

3.5 View, Apply, Contact and Marked 'Interested' Job

[Details are not provided in this example]

3.6 View, Contact and Marked 'Interested' Applicant

[Details are not provided in this example]

3.7 Modify Profile

[Details are not provided in this example]

3.8 View Jobs Applied

[Details are not provided in this example]

3.9 Manage Job Subscriptions

[Details are not provided in this example]

4.0 DATA REQUIREMENTS

4.1 Logical Data Model

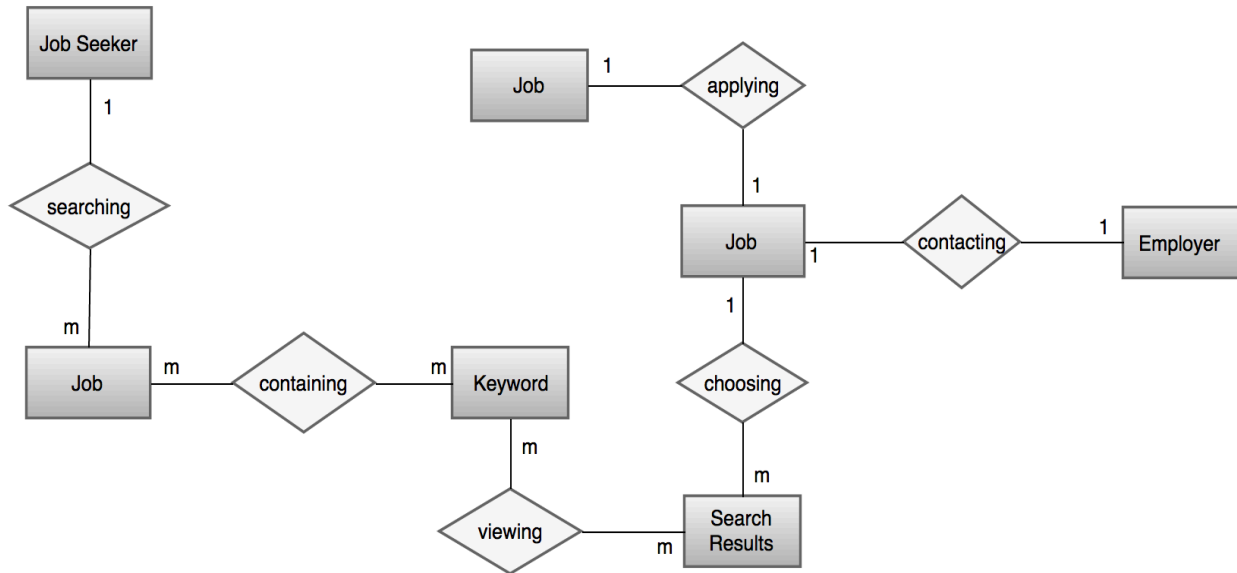


Figure 3: Partial data model for release 1.0 of JobMatch

4.2 Data Dictionary

Data Element	Description	Composition or data type	Length	Values
Job Post ID	Unique ID number assigned to each job posted.	Integer	10	
Search Keywords	Keywords used to search for jobs	Alphabetic	100	
Date Posted	Date the job was posted by employer	Date, MM/DD/YYYY	10	
Date Applied	Date the job was applied to by job seeker	Date, MM/DD/YYYY	10	
Date Job Expires	Date employer set the job to be terminated from the job list	Date, MM/DD/YYYY	10	
Location	Location of where the job resides	Alphanumeric	50	Hyphens and commas permitted
Job Type	The type of job that was set by the employer	Alphabetic	100	Hyphens and commas permitted

Job Position	The position for the job that was set by the employer	Alphabetic	100	
Job Title	The title of the job set by the employer	Alphanumeric	100	
Job Description	Detailed description of the job	Alphanumeric	5000	
Employer	The employer on the JobMatch app	Employer name + person to contact + email + location + phone number		
Employer Name	Name of the employer	Alphanumeric	50	
Employer Person to contact	Name of the person that should be contacted for the job	Alphabetic	50	
Employer Email	Email address of the employer	Alphanumeric	50	
Employer Location	Location of the employer	Alphanumeric	50	Hyphens and commas are permitted
Employer Phone number	Telephone number of the employer to be contacted	AAA-EEE-NNN xXXXX for area code (A), exchange (E), number (N), and extension (X)	18	
Job Seeker	The job seeker on JobMatch app	Job Seeker name + email + location + phone number		
Job Seeker Name	Name of the job seeker	Alphabetic	50	
Job Seeker Email	Email address of the job seeker	Alphanumeric	50	
Job Seeker Location	Location of the job seeker	Alphanumeric	50	Hyphens and commas are permitted
Job Seeker Phone Number	Telephone number of the job seeker to be contacted	AAA-EEE-NNN xXXXX for area code (A), exchange (E), number (N), and extension (X)	18	
Jobs applied to number	Numbers to indicate each job that the job seeker had applied to	Integer	5	Initial value= 1
Job status	The status of the job seeker with the potential job.	alphabetic	16	Incomplete, contacted, interviewed, offered,

				accepted, declined
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4.3 Reports

In this release, there wouldn't be a Jobs Applied integrated. This report is to demonstrate the understanding of this section and for future reference of a jobs applied to feature.

4.3.1 Jobs Applied History Report

Report ID	JOB-RPT-1
Report Title	Jobs Applied History
Report Purpose	Job Seeker wants to see a list of all the jobs that they have applied to over a specified time period of up to 6 months prior to the current date, so that they can keep track of what jobs they have applied to.
Priority	Medium
Report Users	Job Seeker
Data Sources	Database of previously applied to jobs
Frequency and Disposition	Report will be generated on a different tab on the job seeker's profile page. Data will be static. It can be printed if the device permits printing.
Latency	Complete report must be available immediately when job seeker switches to the "applied to jobs history" tab.
Visual Layout	Landscape mode
Header and Footer	Report header shall contain the report title, job seeker's name, and date range specified. If the report is printed, the footer shall display the page numbers.
Report Body	Field shown and column heading: <ul style="list-style-type: none"> • Job Post ID number • Applied to date • Job type • Job Position • Location • Employer
End of Report Indicator	None
Interactivity	Job Seeker can click the job title to see more detail about the job. Job Seeker can mark if they were given an interview or an opportunity with the specified job.
Security Access Restriction	A job seeker may retrieve only their own jobs applied history.

4.4 Data Integrity, Retention, and Disposal

DI-1: JobMatch shall retain a list of jobs that job seekers had applied to for 6 months following the job application submission.

DI-2: JobMatch shall retain the job post for up to however many days the employer has indicated in the expiration section of the job posting process.

5.0 EXTERNAL INTERFACE REQUIREMENTS

5.1 User Interfaces

UI-1: JobMatch application shall display usable buttons and a type bar for users to search.

UI-2: The application shall provide a help link at the top that would take the user to a FAQs page.

UI-3: The application shall be able to utilize touch sensor while on iOS, Android's and Window's smart devices.

UI-4: The application shall display a no results page when users don't use the proper keywords

5.2 Software Interfaces

No Software interfaces have been identified

5.3 Hardware Interfaces

No Hardware interfaces have been identified

5.4 Communications Interfaces

CI-1: The application shall send an email displaying new jobs that have been matched with the user.

CI-2: The application shall send an alert on the device when there is a new job recommendation.

CI-3: The application shall send an alert to the user when employers have communicated with their application or vice-versa.

6.0 QUALITY ATTRIBUTES

6.1 Usability Requirements

USE-1: The application shall allow users to change their user label with a single interaction.

USE-2: 100% of new users shall be able to successfully create a user profile of their choice.

USE-3: 90% of users shall be able to search with multiple keywords

USE-4: Add resume shall be a simple upload.

6.2 Performance Requirements

PER-1: The application shall be able to allow infinite users during all hours of the day.

PER-2: JobMatch shall have smooth transition from one page to the next as the page loads.

PER-3: Job list shall be updated in real time immediately after the employer has submitted a new job.

6.3 Security Requirements

SEC-1: All users' private information on the user profiles shall be kept only visible to the user themselves.

SEC-2: User login information shall be encrypted.

SEC-3: Resume or user profile shall only be available to the employer if the applicant has submitted to that employer.

6.4 Safety Requirements

SAF-1: The user shall be able to report abuse if another user uses the contact option for malicious intent.

6.5 Availability Requirements

AVL-1: The application shall be available at all time for the users to use. User will be notified if there is an issue with the current application that would need to be fixed.

6.6 Robustness Requirements

ROB-1: The application shall be able to distinctly indicate that user has already looked through a job on the list if they had already clicked on it.

APPENDIX A: ANALYSIS MODELS

Figure 4 is a state-transition diagram that shows the possible status a job seeker could have for a job that has been applied to and the allowed changes in status.

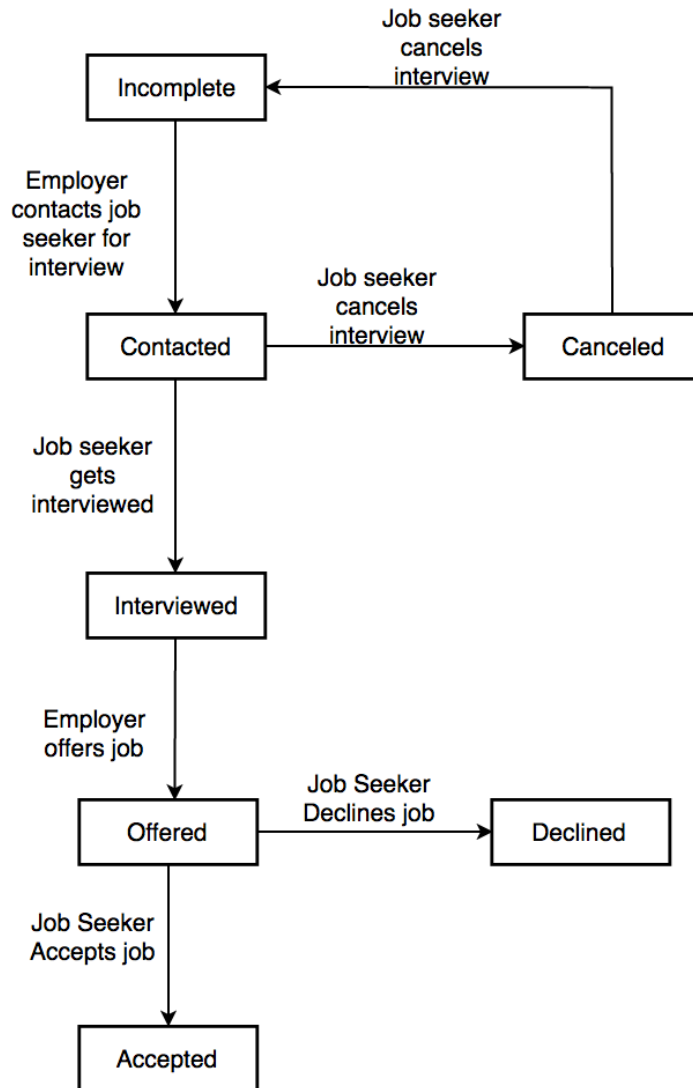


Figure 4: State-transition diagram for job seeker status

BUSINESS RULES

ID	Rule Definition	Type of rule	Static or Dynamic	Source
BR-1	JobMatch Application and website will be running 24 hours a day	Fact	Static	Project management policy
BR-2	Every Job Post will have a unique ID number.	Fact	Dynamic	Project management policy
BR-3	Only job seeker profiles are allowed to search for jobs	Constraint	Static	Project management policy
BR-4	Only employer profiles are allowed to post jobs.	Constraint	Static	Project management policy
BR-5	Employers may post as many jobs as they would like.	Fact	Static	Project management policy
BR-9	If a job seeker searched for a particular job, recommend them jobs related to the keywords searched.	Inferences	Static	Marketing policy
BR-10	Job post that are deemed inappropriate will be flagged for review and removed if necessary.	Inferences	Static	Corporate safety policy
BR-11	Users may report abuse if the 'contact' option is being used for malicious intent.	Constraint	Static	Corporate safety policy
BR-12	Employers may not spam	Constraint	Static	Can-Spam Act
BR-33	Job email subscription will only be sent out based on job seeker's subscription status	Constraint	Dynamic	Can-Spam Act
BR-42	Job seeker will only have access to their personal job applied history	Constraint	Static	Corporate security policy
BR-57	Users private information will be kept only for the user to see and no one else.	Constraint	Static	Corporate security policy
BR-63	JobMatch will verify if job seeker or employer are who they claim to be through id identification process.	Inferences	Static	Corporate security policy
BR-77	All locations must be properly located.	Fact	Static	Project management policy
BR-82	Phone numbers will not be released to any third parties	Fact	Static	Corporate security policy
BR-83	Emails will not be released to any third parties	Fact	Static	Corporate security policy
BR-86	Job Seeker may be able to keep up to 10 resume on the application at a time.	Constraint	Static	Project management policy