Software Requirements Specification

for

Tinder Meets Career Services

Version 1.0 approved

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Rochester Institute of Technology

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I. Table of Contents

II. Revision History

Name	Date	Reason For Changes	Version
David Dubois	1/25/2017	Initial Commit	0.1
Maxwell Hadley	1/29/17	Highlighting Boilerplate, cleaning up Table of contents, and adding basic information for some of the sections.	0.2
Maxwell Hadley	2/1/17	Added more basic information for sections 1 and 2	0.3
David, John, Maxwell, Zane	2/20/17	Revising after many sponsor meetings	0.4
David, John, Maxwell, Zane	3/6/17	Design and Implementation Constraints,Software Interfaces, Software Quality Attributes, Performance Requirements, and Business Rules drafted.	0.5
TEAM	3/23/17	Adjusting based on feedback from Maximilian	0.6
Zane	5/5/17	Revised Documents for Interim closing	0.7
Zane	7/18/17	Updating docs as we have a better idea of what is to be completed	0.8
TEAM	8/7/17	Final update of document	1.0

1. Introduction

1.1 Purpose

Tinder Meets Career Services is a job discovery application. It is meant to assist in matching good candidates to recruiters/recruiters. It does this by streamlining the process of getting good candidates to an interview with a recruiter through just a few simple, but informative, steps. In parallel making sure those candidates are people the recruiter wants to spend their time talking to via the same process. It will make things easier and quicker for both parties to reach their goals in the recruiting process.

1.2 Document Conventions

Throughout this document there will be a few significant typographical conventions used. Keep in mind the following:
- Bold words have definitions in Appendix A: Glossary.
- Henceforth the words "**employer**" and "**recruiter**" shall be synonyms with the following definition: A person employed by a company responsible for interviewing and potentially hiring students for co-op positions for that company.
- Requirements and features marked with * define that the requirement or feature is not within scope of the current Senior Project Team

1.3 Intended Audience and Reading Suggestions

All readers of this document will find use in reading section 1 of this document if they plan on continuing to read other sections. For what sections to read after section one please read the following guidelines:

Sponsor - It is advised that the sponsor read all sections of this document to ensure correctness and accuracy of the writing team's interpretation of requirements.

Business Management - Business management will find use in reading section 2 which details what the software product is meant to be for.

Marketing/Sales - Marketing or sales will find use in section 2 to understand the general purpose of the product and section 4 for the specific features the product will include.

Developers/Testers/Maintainers - Developers, Testers, and Maintainers who did not already write this document will find use in reading the detailed specification of the features the systems must include and how they function in sections 4-.

Users - Although this document is not meant for direct users of the software they may find value in reading section 4 to understand all of the features available to them.

1.4 Product Scope

The scope for this includes several applications. The first of which is the server application that will operate as a means to serve data to clients as well as perform the automated

matching algorithm for finding compatible students and recruiters. The second is the system administrator web application. This will be a simple web application that will allow system administrator to perform functions such as viewing usage statistics, setting up reports, etc. Lastly, the client app is included in the scope of the project. This client application will support the tasks and activities accomplishable by students and recruiters. This client app will have both an android and an ios release.

1.5   References

This document will make reference to several other documents. All of the referenced documents can be found in the same place as this one was found or on the project website under the "Living Documents Section" (http://www.se.rit.edu/~avalanche/#livingDocuments). Examples of the referenced documents are as follows:
- Project Plan Document
- Risk Management Document

2.   Overall Description

2.1   Product Perspective

This product is a stand alone tool that replaces all steps up to the interview step of the traditional interview process. It is meant to be a faster alternative to traditional online application processes or existing web based tools. However, it is still capable of being used in conjunction with professional social media such as LinkedIn or in person application processes such as career/job fairs.

2.2   Product Functions

- Students can setup and manage profiles
- Students will be able to discover jobs to match on based on how well the student's skillset matches the skillset that the job asks for
- Recruiters will be able to create job listings
- Students and recruiters will be able to manage the way they recieve notifications
- Recruiters and students will be able to view specific information about each other at a couple different stages of the job application process, and will be able to reject or accept each other based on that information
- Students and recruiters can set up an interview at a mutually agreed upon date and time
- Students can view all the companies they are currently interested in as well what phase they are in with every company
- Students can opt out from being interested in a company at any phase
- Recruiters can opt out from being interested in a student at any phase beside the interview phase
- Students can cancel or reschedule an already scheduled interview

2.3 User Classes and Characteristics

2.3.1 Students
2.3.1.1 Goals
    2.3.1.1.1 Match with potential jobs
    2.3.1.1.2 Spend as little time as possible in the job application process
    2.3.1.1.3 Gain interviews for jobs, appointments at a career fair, or test
    2.3.1.1.4 Find a job that matches their goals
2.3.1.2 Skills/Abilities
    2.3.1.2.1 Knowledge of how to use a smartphone app
2.3.1.3 Security Level
    2.3.1.3.1 User

2.3.2 Recruiters
2.3.2.1 Goals
    2.3.2.1.1 Interview "good" candidates who have a high potential for being hired
    2.3.2.1.2 Spend as little time as possible in the job application phase
    2.3.2.1.3 Hire employees who will perform well at their job
2.3.2.2 Skills/Abilities
    2.3.2.2.1 Knowledge of how to use a smartphone app
2.3.2.3 Security Level
    2.3.2.3.1 User

2.3.3 System Administrator
2.3.3.1 Goals
    2.3.3.1.1 Obtain statistics about system
    2.3.3.1.2 Manage companies that can post jobs (approve, reject, suspend, etc.)
    2.3.3.1.3 Manage adding new companies
2.3.3.2 Skills/Abilities
    2.3.3.2.1 Knowledge of how to use a smartphone app
2.3.3.3 Security Level
    2.3.3.3.1 Administrator

2.3.4 System Maintainer
2.3.4.1 Goals
    2.3.4.1.1 Keep the system running
    2.3.4.1.2 Update the system as users request new features
    2.3.4.1.3 Fix bugs as they're found in the system
    2.3.4.1.4 Install updates to the server software
    2.3.4.1.5 Push updates for the Android and iOS apps
    2.3.4.1.6 Set up the system
2.3.4.2 Skills/Abilities
    2.3.4.2.1 Proficient in Java, C#, Xamarin, Spring Boot, and Unix
    2.3.4.2.2 Software engineering principles
2.3.4.3 Security Level
    2.3.4.3.1 Administrator

2.4   Operating Environment

The TMCS app shall run on both iOS and Android devices. The app shall support iOS versions 8, 9, and 10. The app shall also run on Android versions 4.4 to present.
The TMCS server shall run on the JVM on a Linux server virtual machine. The server shall use Java version 1.8 and MariaDB 10.1.

2.5   Design and Implementation Constraints

- Server OS - Debian 8
- Server Code/Application - Java 8
- Database - Maria DB 10.1
- Rest Framework - Spring Boot
- iOS Client - Xamarin Forms
- Android Client 6+ - Xamarin Forms
- Admin Website - TBD

2.6   User Documentation

Included with the software delivery will be pdf documents containing "how-tos" about the basic tasks to complete in the app.

2.7   Assumptions and Dependencies

The only assumptions made in this project are based on the apis we intend to use. The assumptions are as follows:
- The LinkedIn API will allow us to pull all the information necessary for seamless account creation
- The O*NET api will allow us to retrieve all the information necessary to complete the matching tasks

3.   External Interface Requirements

3.1   User Interfaces

The client interfaces will be touchscreen-focused UIs which follow their platform's standards. The Android UI will be based on Material design, and the iOS UI will follow Apple's iOS design guidelines. The server component of the product will use a standard command line interface as its UI. There will also be an interface for the system administrator to use to view statistics and analytics about TMCS. This will be a web interface, designed for use with a keyboard and mouse. It will also follow Material design guidelines.

3.2   Hardware Interfaces

The client's hardware interface will consist of a touchscreen which students and recruiters use. Communication between the client and server will be achieved over wireless internet, either through the user's cellular provider or through WiFi, depending on the user's phone's settings.

3.3   Software Interfaces

- Server OS - Debian 8
- Server Application Language - Java 8
- Database - Maria DB 10.1
- ORM (Object Relational Mapper) - Hibernate
- Rest Framework - Spring Boot
- iOS Client - Xamarin Forms
- Android Client - Xamarin Forms
- Admin Website - TBD

TMCS will save data to a MariaDB 10.1 database. The server code will be built on the Spring Boot framework, and the client code will be built with Xamarin. Both server and client will interact with the operating system to facilitate network communications, although that interaction will be highly abstracted away by the frameworks and languages.
Communicating to the database shall be handled through through the Hibernate library.

3.4   Communications Interfaces

Data transfer between the client and server shall be be over cellular data or wifi connection on the device. The data between the client and server can be sensitive data and must be securely encrypted. All data transmission between client and server will be encrypted and with the HTTPS communication protocols while following REST conventions. The data will be in JSON format.

4.   System Features

4.1   Student login and profile management

    4.1.1   Description and Priority
        4.1.1.1 This feature allows a student to create and maintain a profile. Students can enter their contact information, skills, and preferences for what sort of jobs they want such as preferring large companies or preferring companies in coastal cities, and may upload their resume. They can also update this information as it changes over time.
        4.1.1.2 Priority: High
    4.1.2   Stimulus/Response Sequences
        4.1.2.1 The user shall be able to access a profile page from which they may view and edit their profile

4.1.3   Functional Requirements

4.1.3.1 Students can create new profiles

4.1.3.2 Profiles shall be identified by the student's email address

4.1.3.3 Student must enter a password for their profile

4.1.3.4 Students shall create no more than one profile

4.1.3.5 Student profiles shall always contain the student's name, email address, school, anticipated graduation date, and skills; optionally phone number

4.1.3.6 Students must upload their resume

4.1.3.7 Students may add job preferences to their profile

4.1.3.8 Job preferences include job region, company size, and company description such as startup, corporation, nonprofit *

4.1.3.9 Students may change their job preferences, skills, school, graduation date or name at any time

4.1.3.10 Profiles shall contain settings for whether students receive notifications *

4.1.3.11 Profiles shall contain settings for which events students receive notifications *

4.1.3.12 Students can edit their notification settings for receiving interviews (email, text) *

4.2   Recruiter login and company profile management

4.2.1   Description and Priority

4.2.1.1 This feature allows recruiters to create and maintain profiles for their company. Company profiles have the company name, location(s), size, a brief description, and a presentation which exhibits the company's culture. Recruiters may edit this information at any time.

4.2.1.2 Priority: High

4.2.2   Stimulus/Response Sequences

4.2.2.1 Recruiters shall be able to access a profile page from which they may view and edit their company's profile

4.2.3   Functional Requirements

4.2.3.1 Recruiters shall be able to create profiles

4.2.3.2 Recruiter profiles shall contain the recruiter's name and company email address

4.2.3.3 Recruiter profiles shall be associated with one company profile

4.2.3.4 Company profiles shall have company name, location(s), size, description, a link to a youtube presentation about the company, and the domain of all emails used by recruiters of that company

4.2.3.5 Recruiters may edit their company's profile

4.2.3.6 Recruiters must get approval from a sysadmin to create a new company

4.2.3.7 When a new recruiter joins a company, the recruiter must have an email address with the domain which is whitelisted by the company

4.2.3.8 Recruiters can edit notification preferences*

4.2.3.9 Recruiters shall specify a schedule with the times they are available to conduct interviews*

4.3   Company Creation

4.3.1   Description and Priority
   4.3.1.1 This feature allows Companies to be created if they are not already in the database
   4.3.1.2 Priority: High
4.3.2   Stimulus/Response Sequences
   4.3.2.1 Recruiters shall be able to register their company if the company is not in the database
4.3.3   Functional Requirements
   4.3.3.1 Recruiters whose company email suffix does not match the database, shall be able to register their company so they can use the application
   4.3.3.2 Recruiters must enter the Company's name, email suffix, presentation, location(s), the size of the company, company description, and a link to the company's website
   4.3.3.3 Once a recruiter registers a company, they administrator must accept or deny the company so that only valid companies are registering.
   4.3.3.4 A recruiter may not register until their company is accepted for registration

4.4   Administrator login and system management*

4.4.1   Description and Priority
   4.4.1.1 This feature allows administrators to create other administrators, approve or deny new recruiters, approve or deny new recruiters, and view statistics and reports about TMCS.
   4.4.1.2 Priority: Medium
4.4.2   Stimulus/Response Sequences
   4.4.2.1 Administrators shall be able to access a page which allows them to view new recruiter applications and new recruiter applications, and approve or deny each application, and access another page which allows administrators to view statistics and reports for the matches between students and recruiters.
4.4.3   Functional Requirements
   4.4.3.1 Administrators shall be able to create a new administrator which includes a email, password, and username

4.5   Recruiter job posting

4.5.1   Description and Priority
   4.5.1.1 This feature gives the recruiter the opportunity to post a job position that they would like to find students to potentially interview for. These postings contain all the information that a student would be able to see if they end up navigating through all the phases. The posting shall also include information on how long a student may spend at each stage before the student is considered to have been rejected
   4.5.1.2 Priority: High
4.5.2   Stimulus/Response Sequence

4.5.2.1 Recruiters will be able to see their postings as well as the ability to edit and view postings. View posting requirements will be described in a different section

4.5.3   Functional Requirements

4.5.3.1 Recruiters can create new posting

4.5.3.2 Recruiters must enter the name of the position, location of position, description of position, and the skills that are required and/or recommended

4.5.3.3 Recruiters must enter the amount of time that a student may spend on each phase before the student is automatically rejected

4.5.3.4 Recruiters must enter a problem statement

4.5.3.5 Recruiters must provide a valid link to their company or department website

4.6   Student job matching

4.6.1   Description and Priority

4.6.1.1 This feature gives the student the ability to look through job postings that match their skills and opt into the application process with the company

4.6.1.2 Priority: High

4.6.2   Stimulus/Response Sequence

4.6.2.1 This will be the home screen for the students, and will be shown upon starting the app if the user already has a full profile

4.6.2.2 If a student clicks on a posting, they will be given the option to start the application process for that job

4.6.3   Functional Requirements:

4.6.3.1 Student is matched with job postings automatically based on the intersection of their skills and the required/recommended skills of the position

4.6.3.2 Student can begin the application process with a matched job posting

4.6.3.3 Student can view all matched job postings

4.6.3.4 Student can sort matched job postings by most recent, most matched skills, location, and company size *

4.6.3.5 Student can search for a job posting by location, company, and position title *

4.6.3.6 Student can choose to ignore a job posting, hiding that posting from their list of matches

4.6.3.7 Student can visit recruiter's website from list

4.6.3.8 The matching algorithm is defined as follows: (percent of matched important skills * important skill weight) + (percent of matched nice-to-have skills * nice-to-have skill weight)

4.6.3.8.1 The important skill weight and the nice-to-have skill weight are determined by the recruiter users when creating job postings

4.6.3.8.2 Recruiters select a minimum match threshold a match must achieve to become a match in the system

4.7   Problem phase

4.7.1   Description and Priority

4.7.1.1 This feature allows recruiters to tell student the sorts of problems that students will

work on at their company, and allows students to respond with project they have worked on that solve these problems, or to talk about how they might solve these problems.

4.7.1.2 Priority: high

4.7.2   Stimulus/Response sequence

4.7.2.1 Recruiters list the problems that students will solve when they create a job posting

4.7.2.2 Students are shown the list of problems when they're applying for a job

4.7.2.3 Students provide a response talking about projects that the student has worked on which have solved these problems, or ways which they would go about solving these problems

4.7.3   Functional Requirements

4.7.3.1 Job postings shall have a list of problems or a problem statement that the student will either be expected to solve or respond to while on the job

4.7.3.2 Students shall be shown the problems while they're applying for a job

4.7.3.3 Students shall be prompted to respond with how they would solve these problems, or with how they have solved these problems in the past

4.7.3.4 Students shall create a response

4.7.3.5 Students shall submit a response

4.7.3.6 Recruiters shall see the student's response

4.7.3.7 Recruiters shall either accept or reject a student's response

4.7.3.8 If the recruiter accepts the student's response, the student shall be notified of the acceptance moved to the presentation phase *

4.7.3.9 If the recruiter rejects the student's response, the student shall be notified of the rejection and shall no longer be in the running for the job posting they were applying for *

4.7.3.10 The system shall record which students are no longer considered for a job posting after the problem phase

4.7.3.11 If a recruiter does not accept a student's response after a configurable amount of time, then the student shall be considered to have been rejected for the job posting. (The student shall be notified of the rejection and will no longer be considered to be applying for the job posting. *)

4.8   Presentation Phase

4.8.1   Description and Priority

4.8.1.1 This feature allows students to view a presentation about the company they're applying for, create a presentation about themself and their skills, and allows recruiters to view the student's presentation

4.8.1.2 Priority: Medium

4.8.2   Stimulus/Response Sequence

4.8.2.1 Recruiters create a presentation about their company

4.8.2.2 The student is shown the presentation after they pass the problem phase

4.8.2.3 Students may accept or reject the recruiter's presentation

4.8.2.4 If the student accepts the presentation, the student shall create a presentation about themselves

4.8.2.5 The recruiter shall be shown the student's presentation

4.8.2.6 The recruiter may either accept or reject the student's presentation

4.8.3   Functional Requirements

4.8.3.1 Recruiters shall create a presentation about their company

4.8.3.2 Recruiters shall upload their presentation

4.8.3.3 The recruiter's presentation shall be shown to all students who have applied for a job at the recruiter's company and who have passed the problem phase

4.8.3.4 Students who have passed the problem phase and have applied for a job at the recruiter's company shall be shown the recruiter's presentation

4.8.3.5 Students shall watch the recruiter's presentation

4.8.3.6 Students may accept or reject the recruiter's presentation

4.8.3.7 If a student rejects a recruiter's presentation, the student shall no longer be considered to be applying for the job

4.8.3.8 If a student does not accept the recruiter's presentation within a configurable about of time, the student will be considered to have rejected the recruiter's presentation. The student shall no longer be considered to be applying for the job.

4.8.3.9 The system shall record how many students reject an recruiter at the presentation phase

4.8.3.10 If the student accepts a recruiter's presentation, the student shall create a presentation about themself and their skills

4.8.3.11 The student's presentation shall be shown to a recruiter at the company the student is applying to

4.8.3.12 The recruiter shall watch the student's presentation

4.8.3.13 The recruiter shall either reject or accept the student's presentation

4.8.3.14 If the recruiter rejects the student's presentation, then the student will be notified of the rejection and will no longer be considered to be applying for the job posting *

4.8.3.15 If a recruiter does not accept a student's presentation after a configurable amount of time, then the student shall be considered to have been rejected for the job posting. The student shall be notified of the rejection and will no longer be considered to be applying for the job posting. *

4.8.3.16 The system shall record which students are rejected by a recruiter in the presentation phase

4.8.3.17 If the recruiter accepts the student's video, then the student will be notified of the acceptance and moved into the interview phase. *

4.9   Interview Phase

4.9.1   Description and Priority

4.9.1.1 This phase will be awarded to students who have been accepted through all phases by the recruiter. This phase includes the postings' job description, a calendar where the student can select a interview date and time slot.

4.9.1.2 Priority: High

4.9.2   Stimulus/Response Sequence

4.9.2.1 Once a student has received an interview invite they have a configurable amount of

time to respond with a selected time slot. Students have the ability to view interview invitations as well as scheduled interviews.

    4.9.3   Functional Requirements

       4.9.3.1 Student must be able to view all of the postings' information such as position title, company, description, location, and a calendar of available time slots for an interview

       4.9.3.2 A student must be able to select an open time slot from calendar *

       4.9.3.3 A student must be able to view the contact information of the recruiter

       4.9.3.4 A student must have the ability to cancel an interview that has already been scheduled *

       4.9.3.5 Recruiter will be able to view the resume of applicants in the interview phase

4.10 Recruiter Dashboard

    4.10.1 Description and Priority

       4.10.1.1 This feature will allow the recruiter to view all applicants for a job posting, as well as what phase of the application process the applicant is at. The recruiter will be able to view notifications about the status of the job posting, such as actions needed and interview schedules.

       4.10.1.2 Priority: Medium

    4.10.2 Stimulus/Response Sequence

       4.10.2.1 The page will be available for all currently active job postings. The recruiter will be able to navigate to specific sections of each applicant's process and view the interview schedule

    4.10.3 Functional Requirements:

       4.10.3.1 Recruiter will be able to view a list of applicants and phase of all applicants currently in the application process

       4.10.3.2 Recruiter will receive notifications on this page when an applicant reaches a stopping point or interview for the job *

       4.10.3.3 Recruiter will be able to view and edit the interview schedule *

       4.10.3.4 Recruiter can cancel interviews *

       4.10.3.5 Recruiter will be able to navigate to individual application steps for each applicant

       4.10.3.6 Recruiter will be able to sort applicants by name, phase, and most recent activity *

       4.10.3.7 Recruiter will be able to navigate to their profile and job posting management pages

4.11 Student Dashboard

    4.11.1 Description and Priority

       4.11.1.1 This feature allows the student to view their scheduled interviews, job postings currently active, navigation to profile and skills management.

    4.11.2 Priority : Medium

    4.11.3 Stimulus/Response Sequence

       4.11.3.1 The page will be available when the student first signs in. The student will be able to navigate to specific sections of the application, and view specific job posting and

their phases.
   4.11.4 Functional Requirements
      4.11.4.1 Student must be able to view all active job posting they are interested in
      4.11.4.2 Student shall be able to view all of their scheduled interviews *
      4.11.4.3 Students shall be able to navigate to their profile and skill management pages
      4.11.4.4 Student can cancel scheduled interviews *

4.12 Performance Requirements

   4.12.1 Client to server response time
   4.12.2 Server to DB response time
   4.12.3 Server background tasks processing time

4.13 Security Requirements

   4.13.1 All accounts shall require an email address and a password to log in
   4.13.2 Creating an account shall require verifying the email address used to create the account by clicking on a single-user link sent to the email address in question *
   4.13.3 A password reset link shall be sent the a user's email address in order to reset a password *
   4.13.4 All passwords shall be stored in a hashed and salted format
   4.13.5 All SQL queries shall use parameterized queries
   4.13.6 All network traffic shall be sent over HTTPS *

4.14 Software Quality Attributes

   4.14.1 Server
      4.14.1.1 The server shall be able to handle 10,000 concurrent users
      4.14.1.2 The server shall respond to all requests from students and recruiters in less than 500 milliseconds
      4.14.1.3 The server shall have a 98% uptime
   4.14.2 Client
      4.14.2.1 The clients shall respond to all user input within 100 milliseconds

4.15 Business Rules

   4.15.1 Only recruiters can post jobs
   4.15.2 Only students can apply for jobs
   4.15.3 Only administrators can interface with the administrator web application
   4.15.4 Only administrators can approve new recruiters or recruiters
   4.15.5 Only administrators can view statistics and reports about TMCS

Appendix A: Glossary

Recruiter - A person employed by a company responsible for interviewing and potentially hiring

students for co-op positions for that company.

Skills - We are referencing skill lists from the O*NET database