

University of South Carolina Internship Database Application

Software Requirements Specification

Team: We Stand “Commit”ed
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Introduction

Purpose

The purpose of this system is to provide a database where employers can post internship opportunities that student users can search through and apply for the desired internship. The system will also allow employers to review applications and inform applicants of their acceptance or denial for a position. This system will streamline both the application and hiring process, allowing students to discover meaningful internship opportunities without the struggle of an elongated and complicated search process. Employers will also be able to easily identify qualified candidates to fill positions in their organization. Through this system, the struggle of a complex application and hiring process from both the perspective of the employer and employee will be greatly minimized.

Scope


This document will include:

- A description of the database along with its business use cases
- Representations of potential users and stakeholders involved with this project
- A list of constraints that apply to this project
- The functional and non-functional requirements of the system
- A competitive analysis to determine the systems unique value proposition

Stakeholders

- Client
 - Portia Plante
- University of South Carolina students
 - Graduate Students
 - Undergraduate students
- Employers
 - On-campus employers
 - Off-campus employers
- Developers
 - Brent Hopkins
 - Vidhee Patel
 - Zack Young
 - Joshua DuPuis

Personas



Ben Smith
Student

“I want to find a company whose corporate culture and work environment make me feel at home.”

Age: 21
Education: Business Management
Location: Columbia, SC
Class: Junior

Bio

Ben Smith is a first generation college student with big dreams for the future. After graduation, Ben desires to start an accounting business from scratch and put his strong work ethic and love for solving problems in the modern business environment to good use.

Goals

- Find a internship at a small locally owned business to learn hands-on entrepreneur experience.
- Start his own accounting firm

Frustrations

- Lack of honest reviews on job boards
- Widespread influx of generic internship listings

Personality

Work Ethic

Patience

Open to New Ideas

Forgiving

Technology

Programming Knowledge

Computer Hardware Knowledge

Interest in Learning About New Technologies

Social Media Competency



Rob Davis
CEO

“I know the best candidates for an are out there - I just have to find them.”

Age: 47

Education: Master's Degree in
Computer Science

Location: Los Angeles, CA

Company: Wako Computers

Bio

Rob Davis became the CEO of Wako computers in 2014 and has worked in the computer industry for 35 years. When he's not in the office, he enjoys developing software using the Java programming language to help young kids learn simple reading and arithmetic. He also enjoys snow skiing and crossword puzzles.

Goals

- Teach 5 million children through his learning software by 2030
- Bike 1,000 miles in the next year

Frustrations

- Employees who don't meet company goals on time
- Laptop touch screens

Personality

Work Ethic



Patience



Open to New Ideas

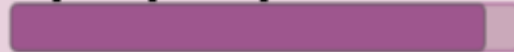


Forgiving



Technology

Programming Knowledge



Computer Hardware Knowledge



Interest in Learning About New Technologies



Social Media Competency





Sophia Brown
Student

“I want to find the best internship opportunity towards my dream career.”

Age: 19

Education: Civil Engineering

Hometown: Los Angeles, CA

Class: Sophomore

Bio

Sophia is a sophomore civil engineer transfer student at UofSc. She is currently involved in the American Society of Civil Engineers and is very intrigued by the field of geotechnical engineering. During her freshman year, she assisted with research on the relationship between geology and engineering.

Goals

- Learn about how different rocks have influenced human developments throughout history
- Collect a geological specimen from each continent

Frustrations

- Long response time on job and internship applications.
- Outdated information on job platforms

Personality

Work Ethic



Patience



Open to New Ideas



Forgiving



Technology

Programming Knowledge



Computer Hardware Knowledge



Interest in Learning About New Technologies



Social Media Competency



Constraints

Time Constraints:

- Project must be completed in the time allotted by the client, Portia Plante.

Monetary Constraints:

- The project must be created within a budget of \$0.

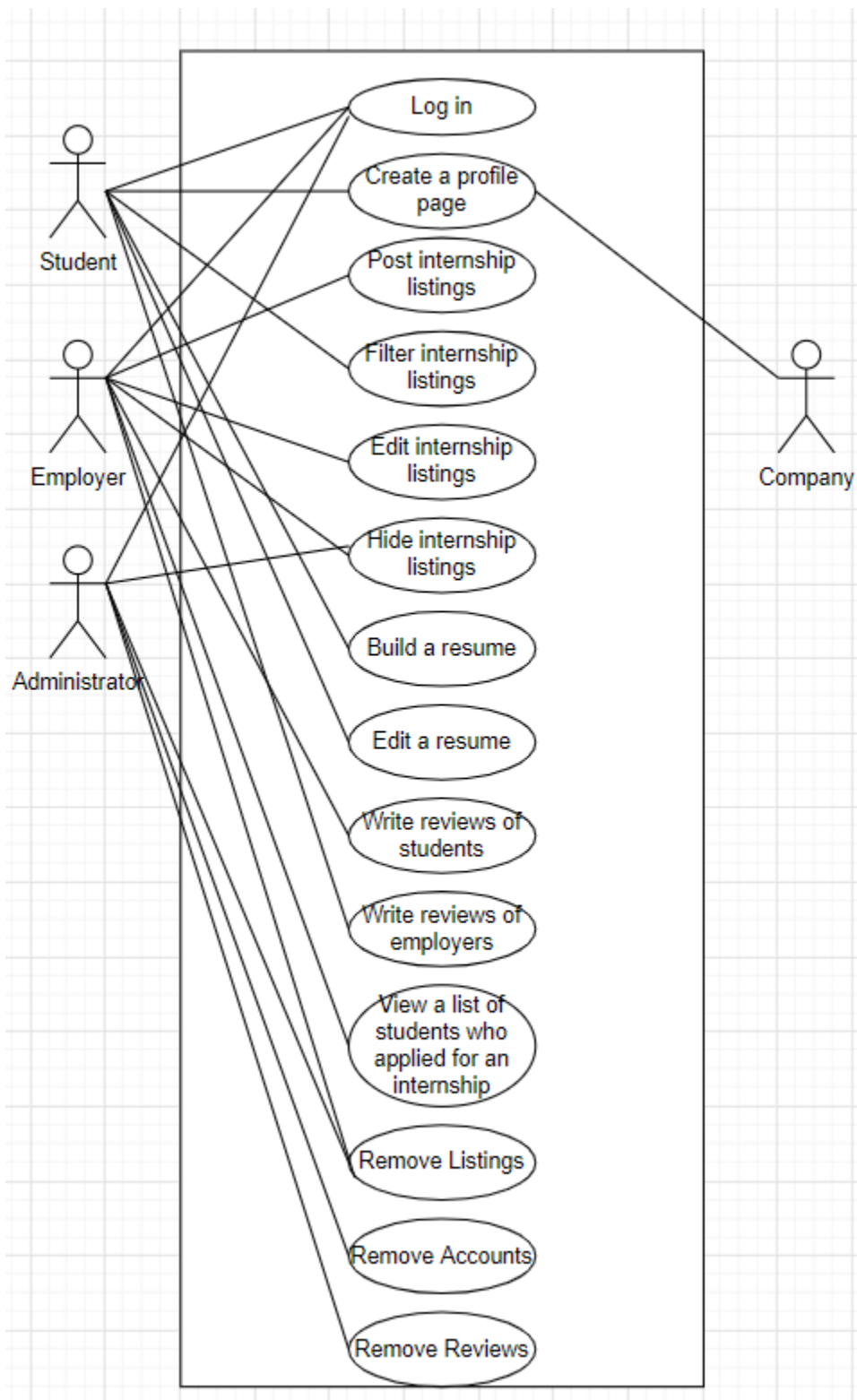
Technical Constraints:

- The project must be written in the Java programming language.
- The project must be compatible with student and employer computer systems to allow for meaningful interaction between both parties.


Overall Description

This database will create a platform where employers are able to post available internship positions within their organizations. Students looking for an internship will then be able to search and apply for a position that suits their desired preferences. Students will build their resumes within the application itself, and then they can apply to chosen listings by sending their resumes. Employers can view the resumes of all applicants for each of their company's listings, streamlining the application process. This database will be compatible with Windows, MacOS, and Linux operating systems so that all employers and potential employees will be able to efficiently communicate with one another.

Business Use Case



Functional Requirements

 Internship Application Requirements

Non-functional Requirements

- **Look and Feel:**
 - The system shall present information to users in an intuitive and organized way.
 - The system shall be suitably quick for students, employers, and administrators.
- **Usability:**
 - The system shall be usable by UofSC students looking to find work experience.
 - The system shall be usable by employers looking to hire UofSC students for job listings.
 - A new user shall be able to open the program and learn how to use it effectively in 15 minutes.
- **Performance Requirements:**
 - The system shall be operable on any device using Linux, MacOS, and Windows.
 - The system shall effectively handle and manage around 4,000 student accounts at one time.
- **Security Requirements:**
 - The system shall store user passwords as salted hashes.
- **Cultural/Legal Requirements:**
 - The system shall not discriminate against students or employers based on race, gender, or ethnicity.
 - The system shall comply with all federal and state laws as well as university policies.

Definitions and Acronyms

- Admin ~ Shorthand for 'Administrator'
- UofSC ~ University of South Carolina

Competitive Analysis

Summary and Implications:

Many features are shared amongst all three competitors despite their varying scopes and purposes, highlighting them as key components of the current market. A collective job directory and an accessible search function with detailed filters are both essential for this type of application. The inclusion of student/employer profiles is similarly important for organizing necessary user information, with each profile divided into several meaningful sections. Some form of a homepage to summarize and display information is prevalent across every app as well, with the more relevant information located closer to the top. Based on our analysis, all of these features should be implemented in our own application. They not only define the core functionality of an internship-search app but help implement it in an effective way. This, in conjunction with an intuitive and organized UI, is why these applications remain used by their target audiences.

Other features, though not strictly necessary, were often included to enhance user experience. For instance, Handshake and connectSC had close integration with their college's career centers, a good addition for convenience given our intended audience. These two competitors also supported direct document upload, streamlining the process for both students and employers. Moreover, all three competitors implemented an internal messaging system for students to contact employers even though their contact information can most likely be found on their profiles. In short, while none of these features are strictly necessary for our application, there is much to gain from their inclusion. The common trend is that they all improve the user's experience by enhancing convenience and making the app as self-sufficient as reasonably possible.

There are a number of features and decisions that should be avoided in our implementation. To start, connectSC's inclusion of a pre-recorded 'mock interview' system should serve as a reminder that any potential features should be relevant and reasonably effective. If it can be done more effectively by the college's career center, it may be wise to just redirect the user to those services. Another important consideration is to ensure that the homepage is relevant yet concise. Handshake's homepage, for instance, suffered from an overload of redundant information that should have been consolidated. The convenience of having several relevant sections was not worth the cost of intuitiveness, even if those redundancies weren't near the top of the homepage. Lastly, it is important that the job process is streamlined on the employers' side of our application. According to user reviews, an inflexible trust system like the one found in Handshake makes it difficult for smaller businesses to begin posting jobs. Employers also desire better systems for managing applications and dealing with unreliable applications.

The complete individual analyses of each competitor as well as an information table can be found below.

Competitor Features and Traits

<i>Information</i>	<i>Handshake (UofSC)</i>	<i>connectSC</i>	<i>LinkedIn</i>
Platforms	Web browser, mobile	Web browser	Web browser, mobile, desktop app
Audience	UofSC students and alumni/Businesses on a local and national scale	USC students and alumni/Businesses on a mostly local but also national scale	General job seekers, usually from educated backgrounds/Businesses on an international scale
Accessible Search	✓	✓	✓
Detailed Search Filters	✓	✓	✓
Student/ Employer Profile	✓	✓	✓
Job Directory	✓	✓	✓
Homepage	✓	✓	✓, primarily for news feed
Career Center Integration	✓	✓	✗
Document Upload	✓	✓	✗
Direct Employer Messaging	✓	✓, only for applied jobs	✓
Student to Student Messaging	✓	✗	✓, possibly reliant on degrees of connection
News Feed/Social Network Focus	✗	✗	✓
Employer Trust System	✓	✗	✗
Job Bookmarking	✓	✗	✓
Specific Job Alerts	✗	✓	✓
Calendar Sync	✓	✓	✓
Privacy Options	✓	✓	✓
Notification Options	✓	✓	✓

Competitor 1 - Handshake (UofSC): <https://app.joinhandshake.com/>

A popular student career app boasting an extensive network of integrated institutions and employers.

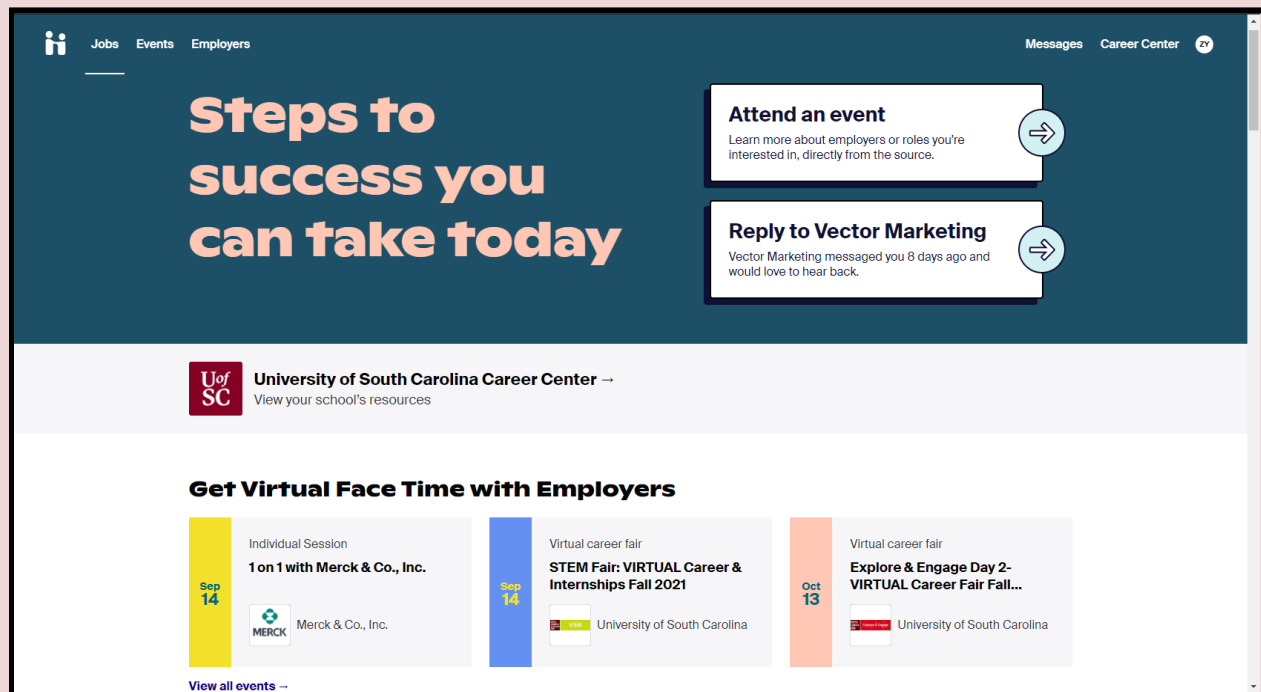


Figure 1: The homepage for UofSC students on Handshake.

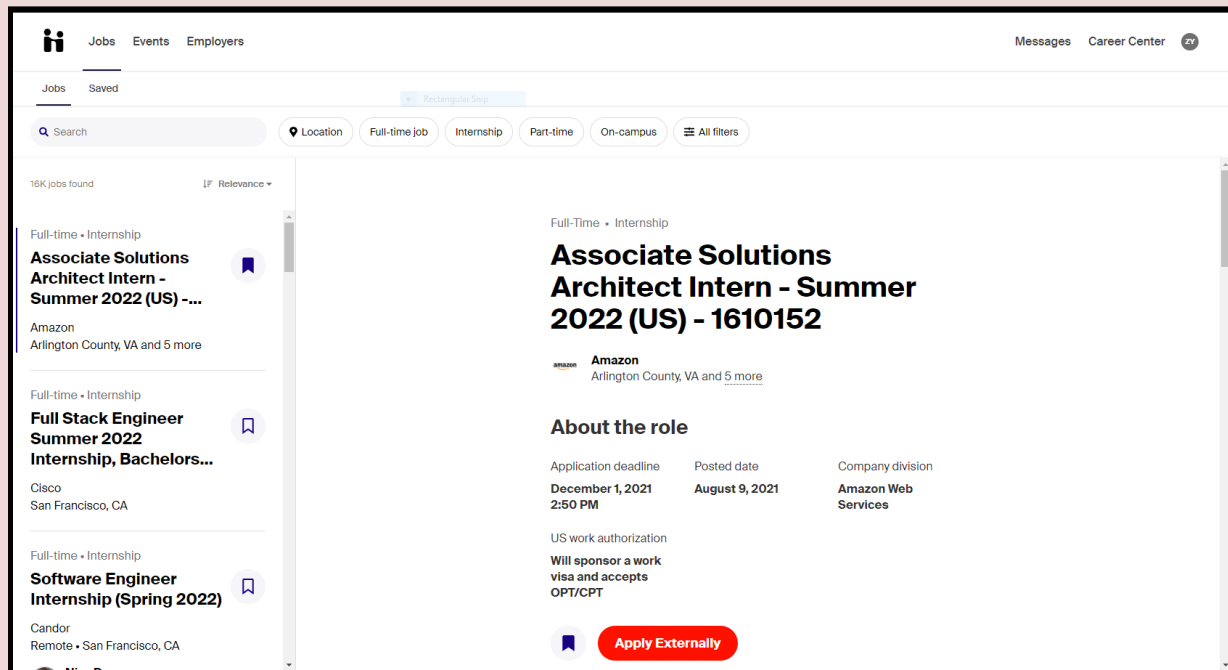


Figure 2: An example internship search using Handshake.

Handshake Analysis

	Details
Audience	<p><i>Employers:</i> Primary audience consists of large and small businesses looking to hire undergraduate and graduate students. These aren't only local; the pool of registered employers spans mostly nationwide with even a few international businesses and programs.</p> <p><i>Students:</i> A significant portion of the user base is undergraduate students from a variety of majors looking for experience through internships, co-ops, and actual job opportunities. UofSC alumni are capable of utilizing Handshake's services to find jobs or find graduate school programs, too.</p>
Strengths	<p>One of Handshake's noticeable strengths is its emphasis on streamlining the career process for students. The process of signing up alone walks students through filling out a majority of their profile before the searching even begins. Additionally, the home page for students provides a great deal of well-organized, useful information such as when future events will occur, some recommended jobs/internships, and articles (Figure 1).</p> <p>Its detailed integration with UofSC is another strength. The university has its own account page full of useful tools which further streamline the process for students, such as a built-in way to schedule appointments with the career center. One of the first elements of the student's homepage redirects to this page.</p> <p>Handshake also provides a substantial amount of search options for narrowing down relevant opportunities, as well as a means to save opportunities you're interested in (Figure 2). Handshake also provides functionality for keeping track of upcoming interviews, if offered one.</p>
Weaknesses	<p>Handshake's focus on students inadvertently builds some barriers for potential employers to reach out. The app utilizes a "trust system" to ensure that less-than-reputable employers can't immediately post openings to every college; employers building trust with colleges is, by nature, much slower than students creating an account.</p> <p>Another weakness is that some pages may overload potential students with information. For example, while the homepage is full of useful elements near the top, there are at least eight sections further down which recommend certain jobs and internships based on differing criteria.</p>

Competitor 2 - connectSC: <https://careers.usc.edu/connectsc/>
USC's catered career app, complete with USC Career Center integration, a document library, and more.

The screenshot shows the 'My Account' page on the connectSC platform. On the left is a sidebar menu with options: Jobs and Internships, Public Profile, Documents, Events, Interviews, Employers, Surveys, Resources, Counseling & Calendar, and My Account (selected). The 'My Account' section is expanded, showing sub-options: Personal, Academic (selected), Privacy, Career Outcomes, and Invoice. The main content area has tabs for Personal, Academic, Privacy, Career Outcomes, Password, Activity Summary, and Notification Settings. The 'Academic' tab is active, displaying a 'Save' button and a 'Cancel' button. Below these are fields for 'Graduation Date *' (with a dropdown for 'August' and a year dropdown for '2015') and 'Year in school *' (with a dropdown for 'Graduate Student'). A note states '* indicates a required field'. On the right, a 'Completion Status' sidebar lists various fields with checkmarks: Personal Information, Academic Information, Graduation Date, Year in school, Degree Level, Major(s), GPA, Work Authorization, and Visa Status.

Figure 3: A student's account page on connectSC.

The screenshot shows the 'My Interview' page on the connectSC platform. At the top, there are three steps: 1 Setup, 2 Build Interview, and 3 Save and Launch Interview (highlighted with a red circle). The main content area says 'Your Mock Interview has been built' and 'My Interview' in red. Below this, it states '4 Questions (about 12 minutes)'. A message reads: 'You can immediately begin your new mock interview now or save and take the interview at a later time. Once you have taken this interview, you will no longer be able to edit the questions.' Below this is a section 'Change your Preferred Interviewer:' with five profile pictures: Nate, Sarah, Benjamin, Vik, and Terra. A note explains: 'We chose Nate to be your preferred interviewer because most of your interview questions are recorded by this interviewer. You may change your preferred interviewer. Some questions may be asked by other interviewers.' At the bottom are three buttons: 'Back', 'Start Your Mock Interview', and 'Save And Take Interview Later'.

Figure 4: A screenshot of the mock interview feature implemented in connectSC.

connectSC Analysis

	Details
Audience	<p><i>Employers:</i> Primary audience consists of large and small businesses looking to hire undergraduate and graduate students. The pool of registered employers spans mostly nationwide, though many are near the university.</p> <p><i>Students:</i> A significant portion of the user base is undergraduate students from a variety of majors looking for experience through internships, co-ops, or actual job opportunities. USC graduate students as well as alumni can utilize this service, too.</p>
Strengths	<p>connectSC is well-organized and efficiently structured. Because this service was tailored specifically for USC, the university didn't need to spend resources or page space for an account page. Instead, they delegate the homepage as the place to display announcements, jobs, and events. Every other important detail, including specific sections of a student's profile, can be accessed through a simple toolbar on the left of the screen (Figure 3). Notably, this efficiency was not at the cost of looks.</p> <p>Similar to Handshake, connectSC streamlines any contact between the university's career center and students. Students can directly and easily request appointments with career advisors by specifying a date/time range, choosing an available time, and confirming through connectSC. Students can upload documents to their profile as well, and send more specific documents depending on the posting.</p> <p>connectSC also provides useful tools when searching for postings and handling interviews. You can sort postings by employer, posted date, major, industry, job, and more. A student can even specify postings offered by previous alumni. If a student does get offered an interview, they can see all relevant information within connectSC, too.</p>
Weaknesses	<p>While most of the features on the site are useful, some of them feel like services that are best left to the offline career center given their current implementation. The most notable example is the 'Mock Interview' feature, which attempts to help students practice interviews by videoing them speaking (Figure 4).</p> <p>Moreover, connectSC lacks a couple useful features, one of which being an internal messaging and search system for students to network with other students or alumni. While students do have the ability to publish public profiles with their contact info, it is more convenient to be able to exchange messages directly within the service. connectSC also lacks a way for students to bookmark job postings to come back to later.</p>

Competitor 3 - LinkedIn: <https://www.linkedin.com/>
The world's largest online professional network for all kinds of job seekers.

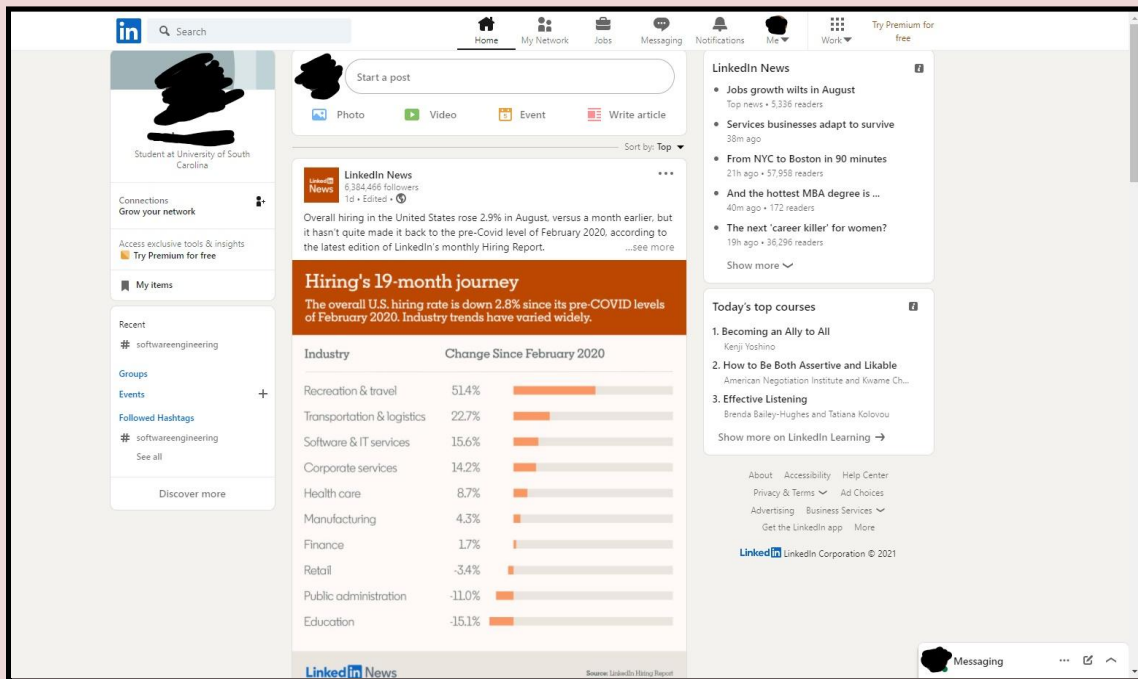


Figure 5: The homepage for an account on LinkedIn.

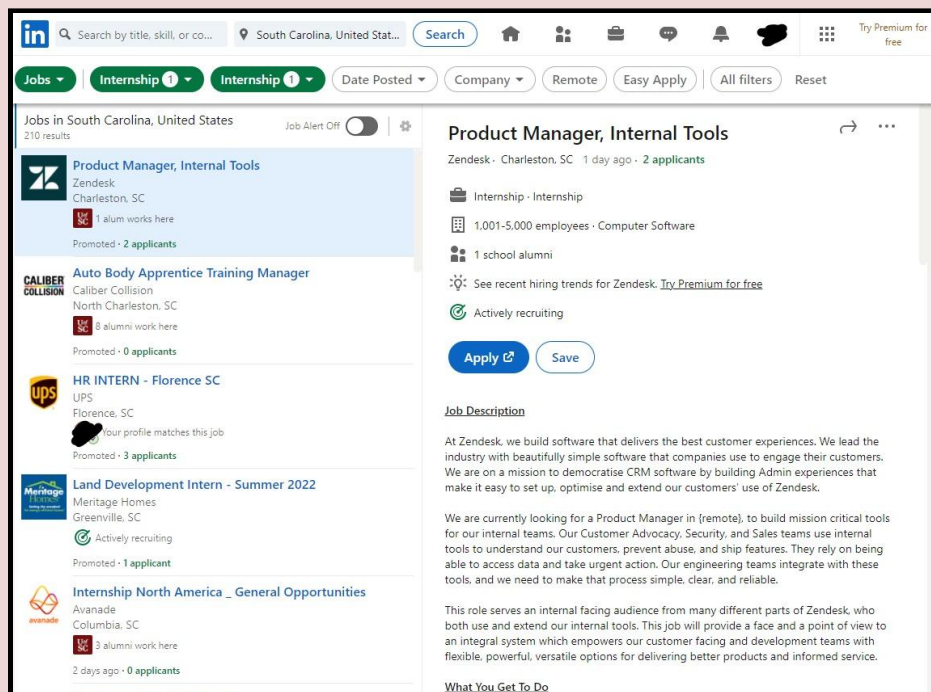


Figure 6: An example job search with filters on LinkedIn.

LinkedIn Analysis

	Details
Audience	<p><i>Employers:</i> Primary audience consists of businesses all across the globe looking to hire job seekers from a wide variety of backgrounds. The pool of registered employers spans internationally, with over 55 million companies listed.</p> <p><i>Students:</i> As of August 2021, there are over 175 thousand UofSC alumni listed on LinkedIn. This is less than 1% of the total LinkedIn users North America alone (180M+, according to the LinkedIn Pressroom). LinkedIn isn't tailored to this audience, much less college students and graduates in general.</p>
Strengths	<p>LinkedIn boasts a robust search feature that is both intuitive to use and effectively displayed (Figure 6). It can be used to search job and internship opportunities but also other users, groups, companies, schools, and more without having to go to a separate directory. Job seekers can further filter results based on a variety of criteria as well as keywords in specified fields.</p> <p>On top of being a career-finding site, LinkedIn heavily leans into being a social media site as well. The homepage serves as a typical timeline which displays posts, articles, and more from companies, people, or groups the user follows. This gives LinkedIn a strong edge when it comes to networking as it helps personalize and emphasize user-to-user interactions. The inclusion of a social-media-style messaging box further enhances LinkedIn's networking capabilities.</p> <p>The user profiles are adequately detailed and well-organized, too. Several useful career-oriented sections are provided, including education, volunteer experience, skills and endorsements, and accomplishments. The process to fill these sections is streamlined by an auto-suggest feature that gives the user relevant results based on what is being typed as well as prior account information.</p>
Weaknesses	<p>The sheer scope of LinkedIn forces it to tailor to a general audience as opposed to college students looking for jobs and internships. As such, it makes it harder to find and secure opportunities at the starting experience level, even with LinkedIn's robust filters. It can also be intimidating for college students to have their accounts alongside thousands of better-experienced professionals.</p> <p>While also a network-building strength, the social media aspect of LinkedIn can be considered a distraction from the primary goal of connecting job seekers to opportunities. With our own purpose in mind, LinkedIn's homepage could be much better suited towards displaying relevant job information opposed to user posts, articles, and polls (Figure 5).</p>

References

- [UofSC CEC Viewbook 2020](#)
- [Requirements Template](#)

Appendices