InternView

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Overview

One of the critical tasks that weighs on a Princeton student's mind during the year is that of finding and securing a summer internship. However, the application process can be intimidating, and students are often unaware of the opportunities available to them. We plan to develop a web application, InternView, that allows Princeton students to access information on the internships, interviews, and experiences of past Princeton students.

InternView will feature an easy to navigate search function that allows students to find potential internships to apply to, as well as obtain direct information from student reviews about their experiences with the company or program in question. It will provide filters that allow students to sort through internships completed by students in specific majors or years, tailoring the responses to specifically for Princeton students. We hope that InternView will become a self sustaining web application that circulates students' reviews of internships and greatly assist students in their application processes for years to come.

Requirements and Target Audience

Many internship-seeking students currently resort to websites with large internship listings, such as intern.supply, and apply to as many companies as possible. While this high-quantity application process can result in success due to the sheer volume of applications sent out, it is not an efficient way to find internships and often not a feasible way for many students to obtain a summer job. Some companies attempt to restrict their internships to students in their penultimate year or in certain majors. Therefore, if Princeton students are unaware of these restrictions when they apply, they may waste time on applications that will most definitely fail to yield results. Furthermore, some companies may preference students that have have taken certain classes at Princeton or possess certain skills, such as a specific coding language. Likewise, Princeton students who fail to meet these prerequisites will spend time completing applications that will likely be rejected. Another challenge that students face when searching for internships is preparing for the daunting interview process. Currently, students find interview questions through sites such as Glassdoor and other online forums. However, much of the content in Glassdoor contains a mix of information from several different job postings: a student may find questions tailored toward a full-time position while searching for internship interview questions.

InternView will solve these issues by providing a search engine for users looking to explore internship opportunities. Students will be able to query for positions such as "Software Engineering Intern" and InternView will return a list of past internship positions that Princeton students themselves have

interviewed for or completed. Students will be more aware of the kinds of offers past students with the same major or in the same year have received.

It is currently very difficult for students to find preparation materials for interviews, even for Princeton-specific programs. With InternView, students will be able to not only browse recommendations by past successful candidates on what material to study but also see what Princeton courses are useful for a successful interview/experience with a company. Under each job listing, we plan to display past interview questions that were asked, allowing users to determine exactly what concepts to review in order to be sufficiently prepared for the interview. By honing the website to target Princeton students specifically, the process of searching for summer opportunities will be streamlined for students.

Moreover, many websites lack candid reviews on interns' experiences in certain positions. There are a dearth of resources online that provide students with comprehensive details on internship projects or the day-to-day experiences of interns at a specific company. By creating a platform that allows Princeton students to share their own experiences, other prospective interns can see how the actual internships will match up to their expectations as they apply.

Functionality

Use Case 1: Finding a list of companies with a specific position in mind
A COS student interested in project management internships is curious to know opportunities past Princeton students have attained. Most of her friends only have experience in software engineering roles and are unable to provide her with much advice. She wants to know what companies offer such positions to Princeton students like her. She would search InternView with "Project Management" in the job title search bar and filter by her major. A list of companies would be shown, through which she could click on each company to learn more about only project management internship experiences that Princeton students have had. The list of companies with Project Management positions would show up; the companies would be sorted by the popularity of the Project Management position overall. She would have a substantial list of opportunities that have been offered to her peers and would be able to effectively begin her application process.

Use Case 2: Finding interview questions for a specific position of a company
A student majoring in Economics is interested in an internship at a particular financial firm. This firm is known to hire many Princeton students each year and has a strong alumni network with Princeton. This student wants to know if the interview questions asked during the application process are tailored towards Princeton, which doesn't have as many finance-related courses as other schools. The student also hopes to find out what material to best study to prepare for his upcoming interview. This student would login into InternView, and search for this company as well as the specific position he is interviewing for. The student would then see a list of past interview questions asked, courses that other student thought were helpful during the application process, and recommendations for material to study. The student would be able to capitalize on the strong Princeton network in the firm and be better prepared for his interview.

Use Case 3: Finding internship-specific information on experiences of previous students
A freshman who is passionate about research is interested in applying for REACH internships offered through the Princeton Keller Center. The student wants to know more about software opportunities, in particular, but the Keller Center website only has an unorganized list of past experiences that is too long for the student to search through. Instead, the student would go to InternView and search for the particular location and position that she is interested in. Descriptions about related internship experiences would appear, and the student would be able to effectively browse through the positions that interest her the most. She would also find additional information about the application process and what courses she could take to better prepare herself for such an opportunity.

Design

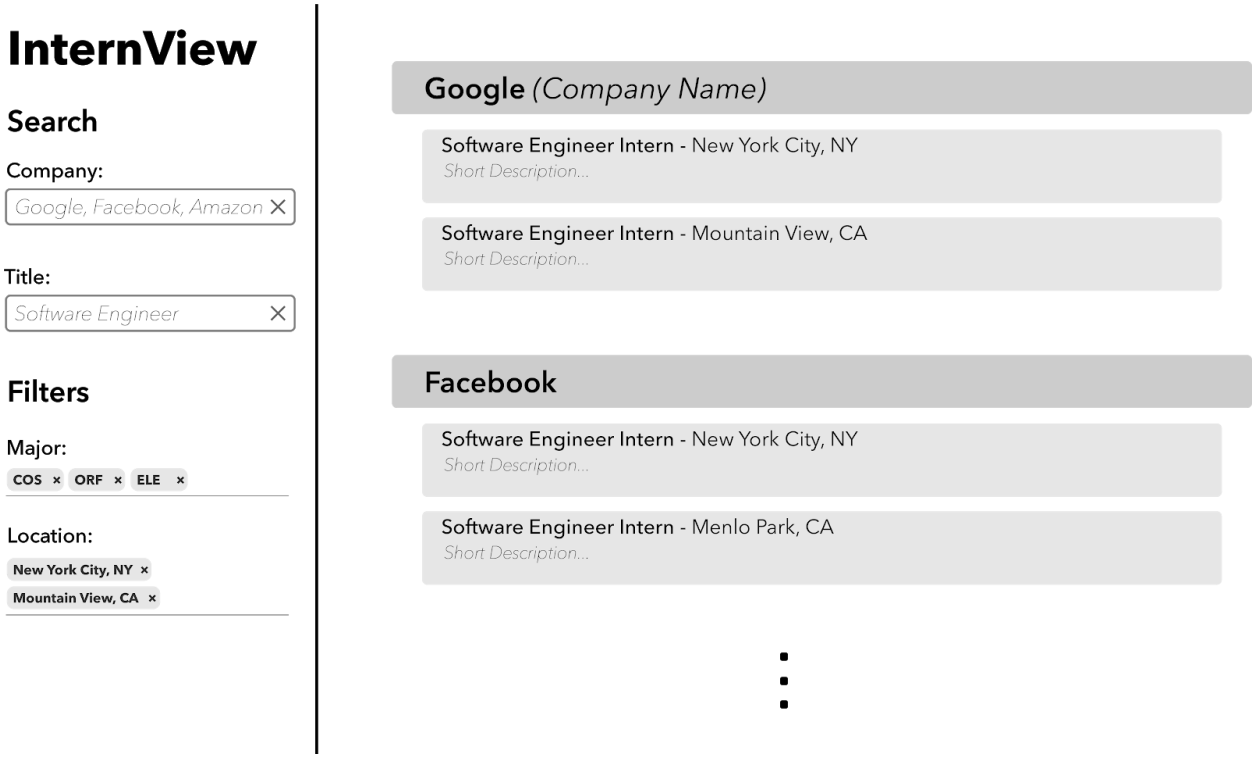
Data

Internship data for this project will initially be obtained from Career Services and PICS. We have already reached out and confirmed that student data will be available to us from these sources. We will also collect data from students with this survey as we work to build our application. Furthermore, we anticipate to receive data from current students once the application is running. We will incentivize students to share their own internship experiences by offering full access to our application only to those who have shared legitimate data with us. Students who don't share their data will be unable to access the full service for a specified period of time, tentatively two weeks. Therefore, students would be pushed to share their internship or interview experiences to avoid this waiting period, providing more information that can be shared with all users. Since many freshmen won't have any internship experience, we will check for user graduation year through CAS and grant free access to freshmen for the year, as a matter of fairness.

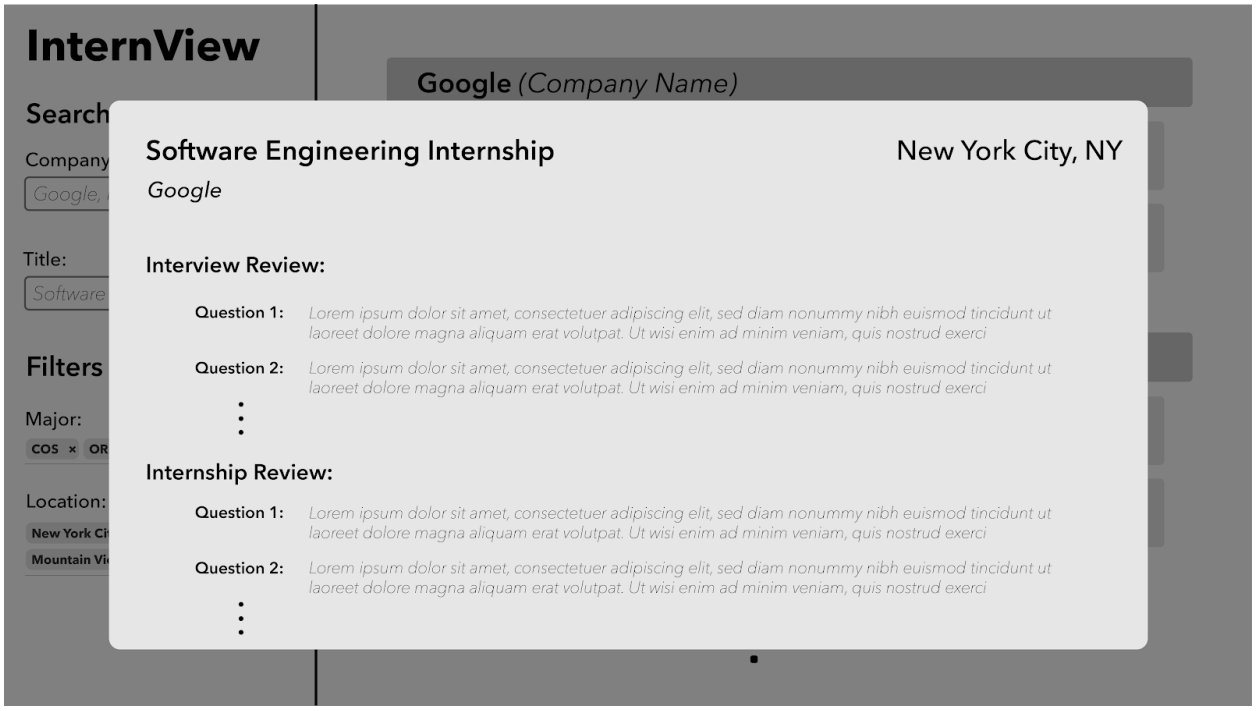
Website

We intend on writing our website using a combination of HTML, CSS, and JavaScript, using Bootstrap to ensure the formatting is scalable between devices. User interface will be implemented and displayed using React, to aid in designing a dynamic webpage that can update without requiring constant refreshing of the webpage.

The website will require just three pages: 1) a splash page for unauthenticated users that prompts them to log in using their Princeton credentials through CAS, 2) an intermediate page that allows users who have logged in for the first time to input any internship/interview data to receive full access, and 3) the main page that will allow users to search for internships. This page will feature a toolbar on the left-hand side with search bars for "Company" and/or "Title" with a number of filters, including Major or Location. After the user inputs their query, search results will appear to the right of the toolbar, indicating companies that match the search queries. Upon clicking any specific company name, the tab will expand to reveal a list of positions. Selecting any of these individual positions will open another section to the right containing interview experiences and internship reviews from former Princeton students for the company/role that is selected.



Main page with search tools and sample results



Information page with internship/interview description

Database

We will use two MongoDB databases to hold internship experience information and user information, hosted either on Heroku or mLab. The internship experiences database will have one table storing internship experience data. The table will have one entry for each experience that a student enters, and the main identifying columns will be by position, company, major, location, and other filters we will add in. Further columns will contain interview information, internship descriptions, and other kinds of data that we are able to obtain.

We will require CAS Authentication to protect the internship information stored in our database. Each Princeton student will be represented as a user within our user information database, once they are authenticated, and we will store input from users. In this way, we will put up an additional barrier of requiring users to enter in their own internship experiences before being able to access the rest of our application. We plan to give unlimited access to freshman and give other students the choice of submitting at least one interview/internship experience or having to wait two weeks before they can access the information in our application. We will store netid, class year, time since they first logged in, and whether they have submitted internship experiences.

Server/Processing

Our website and database will be hosted with Heroku with Node.js as the runtime environment. The server will receive requests from the client and parse them, determining what the exact queries are for each filter (company, job title, location, etc.). The server will then query the appropriate databases for the corresponding entries, and return this data to the client in a client-readable form, perhaps in JSON. All of this will happen asynchronously, so the client will not update the user-facing web page until it has received and parsed this new data into the correct output format.

Timeline

March 18 - March 25

Priority: Setup, Initial Outreach

- Research and learn about all of the technologies (HTML, CSS, JavaScript, Bootstrap, React, MongoDB, Heroku, mLab, Node.js) necessary for our application
- Setup core technology, including the Git repository, database (MongoDB), server (Heroku and Node.js)
- Send out survey for initial outreach (directly reaching out to 100 trusted individuals, 20 per person) to ensure we have reliable preliminary data to begin testing with

March 26 - April 1

Priority: Development Begins (Search Bar, Search Request, CAS Authentication)

- Process and upload the preliminary data from initial outreach and PICS (see Accumulating Data section from Risks and Outcome section) to the database
- Implement CAS authentication to validate user login
- Finish implementing search bar and optional filters

- Write processing code for which will parses the search requests and determines what the exact queries are for each filter (company, job title, location, etc.)
- Write search code which will pull information from database (as per a provided search request and its filters) when requested and test with our initial data

April 2 - April 8

Priority: Development Underway (Search Results, User Input)

- Begin implementing the search result display for companies and their available job listings, interfacing with basic company information and available job listings
- Write input code which, if provided all relevant fields for an interview review or an internship review, will process and directly add the information to their respective database

April 9 - April 15

Priority: Pre-Alpha Development (Search Result, Reviews) and Testing

- Finish implementing the search result display for companies and their available job listings
- Begin thorough testing of search result display for various inputs (our application should be able to find and display all results matching the search query and its filters)
- Begin implementing feature to display interview review and internship reviews for a given job position, interfacing with data pulled from the database

April 16 - April 22

Priority: Finish Pre-Alpha Development (Review), Testing, Upvote System

- Finish implementing the internship review and interview review page for a specific job listing
- Begin thorough testing of interview and internship review for any job listing (review page should properly display all relevant information within the database)
- Begin user-testing by linking InternView to Princeton students via clubs, and residential college listservs
- Begin implementing Upvote System

April 23 - April 29

Priority: Alpha Test on April 27

- Finish implementing Upvote System
- Process feedback from students
- Handle any lingering unfinished tasks, and test for edge-cases and bugs

April 30 - May 6

Priority: Beta Test on May 4

- Finish any remaining unfinished tasks, if any
- Test for any edge-cases and bugs in all features
- Begin demo preparation

May 7 - May 10

Priority: Final Demo on May 9-10 (TBD)

- Perform any final testing and debugging in anticipation for demo on May 9-10
- Finish any remaining demo preparation

Risks and Outcome

Accumulating Data

One of the biggest risks that we face is the student input in the application. Because the project depends highly on the input of other students to increase the utility of the application, we need to make sure students both use the application and volunteer their information. We will try solving this problem by first accumulating as much data about internship experiences and interviews as possible. We have already established a relationship with PICS and we expect to receive data from their internships to input in our application. We plan on directly reaching out to 100 trusted individuals, 20 per person, in order to have a reliable initial dataset to work with. After we finish developing functional versions of our core features, we also plan on reaching out to as many Princeton students through clubs and residential college listservs to 1) accumulate as much data on interviews/internships as possible and 2) get feedback from other students. By establishing a large amount of base data, students will be more incentivized to contribute to view the internship information.

Princeton Organizations and Anonymity

Many internship organizations, especially those from Princeton, accumulate their own internship feedback from their hired interns. Therefore, they are wary to give information to us if students would be able to write their reviews freely on our website. Students without great experiences may not write reviews fully representative of the organization, pushing prospective applicants away from opportunities. Depending on the Princeton organization, they may want to enforce students to leave their names on the reviews. For much of the information we receive from Princeton organizations, we can personally design their own company pages to specifically require users to stay unanonymous.

Bad Reviews

Currently, we plan on having a system that requires the user to contribute to the website or wait for a set time before they can have full access to the application. However, we want to ensure that students do not leave unsubstantial reviews just to enter the website. Our current plan is to self review the data to make sure the input data is not unsubstantial. It is clear that this method will not scale up if there are more and more inputs. One idea that could handle this problem would be to implement a word count to each question in the review, causing students to have to explain more about their experiences. Another idea is to set an upvote/downvote counter on each post, and slowly limiting the exposure of downvoted reviews, as they would correspond to unsubstantial reviews.