CISC 325:

Low-Fi Prototype

"Job Journal"

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Problem Statement

Searching for a job can be a difficult task, especially if you have recently graduated. User research has indicated a wealth of pain points during the process—from browsing for positions to handling successful applications—summarized via a journey map in Figure 1. Some of these stem from the job boards. Filtering is inadequate, particularly for different types of students; terms like "entry level" are often filled with jobs that require years of experience. Additionally, company and role descriptions can be verbose, highly technical, and therefore unclear, according to job seekers without much experience. Irritation also occurs during an application, with inadequate resume auto-complete functionality, requiring them to re-enter the same information repeatedly. Yet other frustrations arise from the sheer volume of applications these individuals are typically submitting, all disjointed through various company websites, with very little support for the process after an application is sent. The users we spoke to either made spreadsheets or did not keep track of submitted applications, adopting the mindset that employers "email me or they don't." These problems converge, causing those who are least likely to have experience job hunting to be far less successful in their search than they otherwise could. For these job seekers, the immense effort of the job search begins to feel like it is not worthwhile.

Of course, many of these issues, such as poor resume auto-complete, are algorithmic in nature. Thus, the problem we shall focus on is the difficulty managing positions of interest, submitted applications and their statuses, cover letters, resumes, job descriptions, job numbers, as well as any other documentation created during the application process. This issue is both prominent and highly impactful. As previously noted, students and new grads have expressed general discontent with how they are managing their applications. With a poor system, or none at all, they require more time in subsequent sessions to determine if they have already applied to positions and to find suitable cover letters to adapt. There is also more difficulty preparing for interviews because they have lost the original job listing.

The tools that exist currently do not meet these users' needs. Users need this stage of the application process to be quick, painless, and intuitive. It must also be unified; users get discouraged between filtering detail-heavy emails in busy, disorganized inboxes and searching for updates on each company's website. Not to mention, it must also be convenient and easy to use simultaneously with the other activities they are performing when applying to jobs. Finally, they need the job searching process to feel worth their time and, more importantly, take less of their time so that they can apply themselves to other pursuits as well.

On that note, a solution to this pain point is necessary. The cognitive load of the job application process is already quite high, due to the frustrations at other steps along the way. Thus, this one issue, which affects the beginning, middle, and end of the process, is enough to overwhelm the user's cognitive limit. As a result, users get discouraged from wanting to continue their search, since everything seems overwhelming. This leads to missed opportunities and diminished self-esteem. Therefore, reducing the cognitive burden of even just this task can make users feel more confident in themselves and empowered to continue their endeavours, while also having the benefit of shortening the overall process, putting their valuable time to better use.

User Research

After conducting six unstructured interviews with "job seekers," we focused on a subset with significant overlap in characteristics and recruited a few additional participants. Our chosen group consists of 20- to 24-year-olds of any gender—all students, new graduates, or others with less than 3 years of professional experience—who are looking for jobs in technology-related fields. These users have a comfortability with basic computer technologies, using them frequently, but are inexperienced in job search and practice in their fields. They are culturally individualistic, focused on gaining independence, knowledge, and careers of their own, often with minimal support from family.

With this group in mind, users have expressed applying to jobs in a highly variable environment, at times from the quiet comfort of their home, others from noisy common rooms on campus or in coffee shops. To accommodate, our solution shall be hosted as a web application. This is most appropriate considering a typical job application session for our users occurs on a personal computer and supports having multiple workstations and working away from home. In brief, the user should be able to use it no matter their situation. We want the user to be able to pick up the solution and use it anywhere, whether this be in a busy place or a quiet one, so we will strive for a simple, easy solution.

To access our user group, we will host in-person sessions and video calls with participants, taking notes and recording audio and video, where appropriate, to retain their feedback. Video calls have made it possible for us to include users who are not located in Kingston. This is the approach we followed for our two rounds of interviews, which has proven to be effective. On that note, the results of this research have been summarized through two personas, Lucas and Melinda, along with user scenarios for each.

Lucas: Lucas is a third-year mechanical engineering student. Between school and a part-time job, he hardly has any spare time. He is searching for a co-op term for experience and to fund his education. He needs to track cover letters and job descriptions while monitoring application statuses to be prepared for potential interviews, but he finds it "frustrating that it is split across all the different company websites." As a result of the laborious process, finding the time and motivation to apply is difficult.

Melinda: Melinda graduated from her computer science program one year ago. For the past year, she has been working at a software company at which she had previously interned. Although the experience has been insightful, she does not feel passionate about the work, wanting to try something new. She needs to be able to find and apply to positions without getting discouraged. As it is, she gets overwhelmed, which leads her to contemplate giving up: "It's so hard. My job is fine anyway."

User Scenario 1: Lucas has received an offer for an interview. Excited, he opens his filesystem to find the job description to get a sense of what the interviewers may ask. Frustratingly, he realizes he forgot to save the listing. He tries to retrieve it from his Workday account but has forgotten his login credentials for this company. The listing has been taken down from Indeed, too. At this point, his confidence is low, as he does not know how to prepare for his interview. (See Figure 2.)

User Scenario 2: Melinda arrives home from work tired but decides to look at job postings. Frustrated by the poor filtering, she finally finds an interesting position and starts looking through her files to find a resume she personalized for a similar job. Due to forgetting what she named it, she struggles to find the file but eventually does. Melinda spends the next hour drafting a cover letter and filling out the application. When done, she feels too inconvenienced to save the job description and gives her document an undescriptive name. Suddenly, she wonders if finding a new job is worth the trouble.

Design

Paper Prototype

Included in the figures below are scans of the most important web pages of our paper prototype, with interactions annotated via blue arrows linking buttons to the destination page. Interactions for input fields, error handling, dropdowns, and scroll bars are left out to avoid overcrowding but were considered in the prototype. Likewise, the cover letter page is excluded, as it duplicates Figure 2.

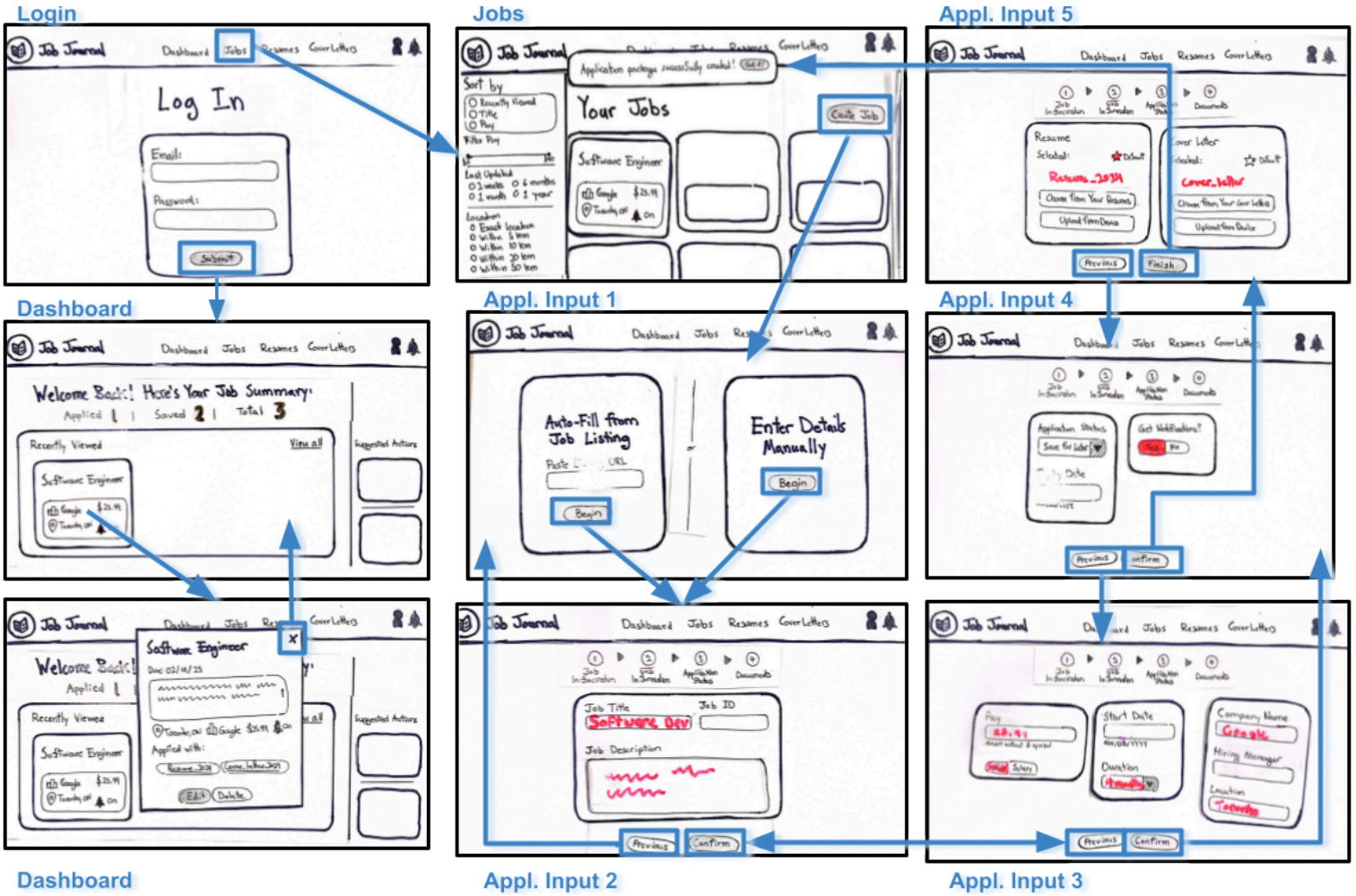

Figure 1: The login, dashboard, job, and application package creation pages

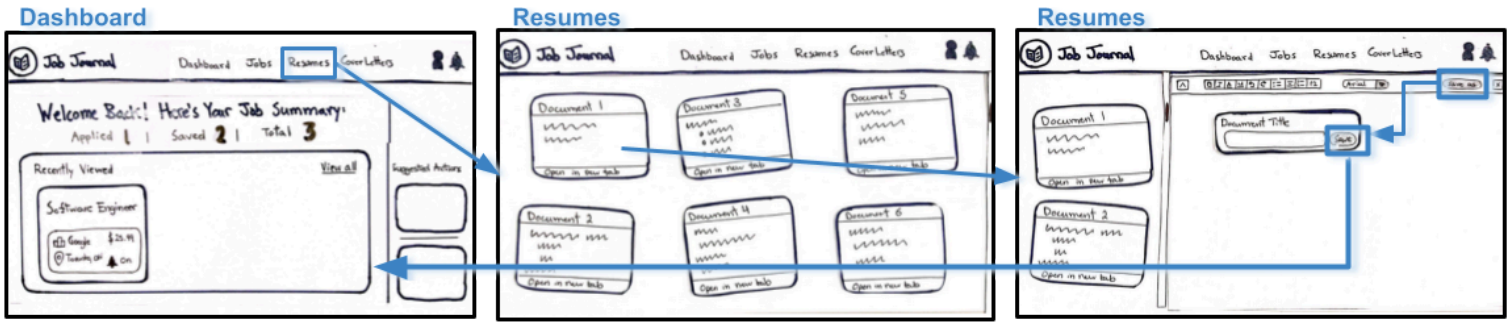

Figure 2: The resume viewing and editing pages

Design and Considerations

To begin, included in our low-fi prototype on all screens is our navigation bar, a simple yet essential element, consisting of few elements and optimizing operation. From left to right, it contains the website logo and title for branding. This element is interactive, bringing the user to the home screen when clicked, consistent with other websites, thereby leaning on transferability to allow the user to intuitively interact with our site. In the centre, there are navigation links to the pages for each functionality such that the user has a centralized way of navigating as the bar is always displayed. The corresponding button will be highlighted in a use of visual responsive design to ensure seamless navigation. The final elements are icons for the user's profile (to be able to log out) and a notifications bell detailing upcoming deadlines for job postings upon clicking.

Effectively the application's home page, the dashboard provides helpful information to returning users. There may be stretches of time where they do not visit the site, so we want to ensure disconnected users remain on track upon their return. A message is displayed to the user to create a welcoming feeling alongside a job summary that showcases the user's progress, creating a sense of accomplishment and refreshing their memory. The information is laid out in an F-pattern, so the summary and navigation bar are right up front for the users, informing them at a glance. Also included is a "Recently Viewed" section showcasing the user's most recent job entries or edits, which acts as a button to open the job page in a pop-out. This employs the figure-ground effect to put emphasis and focus on the job. Furthermore, only three entries are shown at once to reduce cognitive load. A "View all" link exists to direct users to the "Jobs" page when they need to see more. The last element is the "Suggested Actions" chunk, which shows high-usage actions that they can currently take, included in hopes of optimizing those operations.

On the "Jobs" page, there are three main functions. The first is viewing all the jobs. A user can scroll through their list of tracked applications or postings and assess their needs from there. In our prototype, scrolling is simulated by a moveable piece of paper that fits into the space, showing the law of common fate effect in action. On the left sidebar, sorts and filters are available to narrow down or organize the search. Finally, there is a call-to-action button in a darker, accent shade using the Von Restorff effect that says "Create Job," which takes the user to the page that starts the associated process.

On that note, there are five application package creation pages, reused for editing existing jobs. The first contains two call-to-actions allowing the user to auto-fill the information from the listing by inserting a URL or to enter it manually. The former serves to optimize this very frequent operation by avoiding some of the tedious input. The page abides by Hick's law by only giving two mutually exclusive call-to-actions, avoiding indecision. Furthermore, the other four pages divide the process into steps—job information, application status, and documents—tracked by labelled, ordered nodes. This creates meaningful input compartments for more digestible requests. The progress bar also leverages Zeigarnik's effect, reminding of unfinished tasks, and enables seamless navigation by showing where they have been. In addition, the layout requires minimal scrolling to create a glanceable, comprehensive view. All of these screens bear a "Confirm" or "Finish" button applying the Von Restorff effect by using the accent colour. For reasons of affordance, these buttons will be desaturated when crucial input is missing to visually indicate impermissible actions. This interaction is not shown due to the limitations of a paper prototype. To engineer for errors, a "Previous" button is also provided—users can return to correct mistakes or slips.

In the first job information compartment, there are input fields for the job title, identification number, and description. On the second, there are three groupings. The leftmost requests pay information in a text field and provide a toggle for an hourly wage or salary format. The middle panel prompts for a start date in a text field and provides a drop-down menu to select the position duration. The rightmost panel takes the company name, the location, and the hiring manager's name in separate input fields. Next, the third compartment also has two panels. The right contains a toggle to enable notifications. The other

has a drop-down for the application status. Each value requires different information. Thus, for visual affordance, when “Saved for Later” is selected, the “Expiry Date” input field appears, and the “Documents” step is disabled, avoiding confusion. Note that this interaction is absent from Figure 1.

The last of this series, the documents page, contains a display for the filename of the selected resume. In the same area, there are buttons to upload a file from the device or select one from the app. An interactive star icon is also present with the label “Default.” If pressed, the system will remember the user’s favourite resume. This element optimizes operation by avoiding frequent selection of the same resume. Adjacent, there is a symmetric panel for cover letter selection. When the “Finish” button is pressed, the system returns to the “Jobs” page with a pop-up indicating the success. This element uses the figure-ground gestalt principle to appear above the “Jobs” page, such that users know it can be dismissed to return to normal operation. Additionally, it aids responsive design by providing immediate feedback.

What’s more, some common considerations were made for all five input pages. The pages chunk linked information on each page into common regions. Miller’s law is respected by having no more than seven inputs on each screen, which additionally aids in content visibility by avoiding overcrowded pages. Furthermore, ghost labels are avoided so the user always knows what to input, objects are left-aligned with consistent spacing, and proper proximity is used to associate corresponding labels and fields. Suggested formats are listed as smaller labels beneath input boxes, and enough space is given for error messages, allowing proper error handling close to the erroneous input. Where possible, interactions are simulated with tape for erasable input fields and stick-on drop-down menus.

Moving on, our site includes pages to track and edit cover letters and resumes. When the page is opened using the navigation bar, it shows every document that has been uploaded in a grid pattern. Good chunking was used to decide that six items in a two-by-three grid was the optimal display for currently viewed items. This page is scrollable, using common fate, allowing more documents to be seen. If one of the documents is clicked, it opens in a text editor on the right side of the screen and shrinks the document list to a smaller column on the left. This document editor has all the basic editing features to maintain consistency with other editors. The document editor also has a “Save as” button, allowing the user to create copies or replace their work.

Lastly, we’ve added a log-in, which page was left intentionally simple and consistent with other websites’ log-in pages. It provides a clear space for the email and password to be entered, and if done incorrectly, error messages are shown below both entry fields, making it impossible to know which one is wrong, avoiding any security concerns. The submit button is made to stand out, making use of the Von Restorff effect, and the corners are rounded to maintain consistency with the rest of the site.

Special Considerations

The proposed solution aims to address our target users’ issues—coping with the many moving and stressful parts during a job search in an unpredictable environment. Our design reflects this by focusing on being simple, uncluttered, and organized. Using the principles discussed earlier, we aimed to create a new but familiar design to reduce the cognitive load of a user and negate the feeling of being overwhelmed. In a similar vein, the choice of a sans-serif font for all text and rounded edges everywhere was deliberate. Beyond utilizing a trendy, modern aesthetic to boost users’ perception of the tool, these choices reduce the perceived degree of formality or seriousness. We wish to increase motivation by distinguishing job applications from the technical jargon and interfaces our users deal with on the daily. Likewise, the star icon for setting resumes as default serves not only to optimize operation but also creates a lighter, almost “game-ified” experience. A final consideration for our target group is the choice of a drop-down for specifying job duration. As our users are either students or entry-level, there are constraints on available job types or lengths. Thus, choosing from a set list of options should reduce errors.

User Feedback

Our users are engineering and computing students nearing the end of their university education or early in their careers. They have been searching for jobs often over the past few months, each of them with their own motivations. The filmed interviews were approximately 30 minutes in length. First, users were briefed about the designed solution and its features. They were then given time to explore the application's various pages. In the next phase, three tasks were given: saving a job for later, moving it to the "Applied" status, and finally editing a resume. Due to physical constraints, user evaluations were conducted independently with one person acting as both the computer and the interviewer. They presented each scenario and observed the user without providing input, during which they took notes. At the end, users were asked the following questions to gauge their feelings on the design elements:

1. How much difficulty did you have learning the website's navigation?
2. Are the app's purpose and features clear from its presentation and content?
3. What were the biggest challenges of using the GUI, and why do you feel this way?
4. What aspects of the GUI layout did you appreciate or enjoy, and why?
5. Do you feel that this solution addresses the identified problem?
6. What would you change, add, or remove to improve your user experience?

The findings are categorized into four main themes: learnability, usability, user preference, and target user needs. In terms of **learnability**, users described the interface's purpose and navigation as intuitive, thanks to the top ribbon with descriptive labels. The layout was deemed sufficiently consistent with external websites so that no re-learning was necessary. That said, there was confusion about notifications, simply because our prototype did not explain them as much as needed. As for **usability**, users felt that most features were easy to find, access, and use. However, the document processing was described as unusable. For one, the GUI does not provide an option to save a document in place. There is also no "New Document" button, meaning they had to save from a copy or upload through the input form. Additionally, not being able to download a document from the page to use it in a new application caused some frustration. Furthermore, documents caused confusion in the job creation steps. One of our users committed a slip wherein they uploaded a cover letter to the resume box. Our system could not address or prevent this, revealing an oversight in engineering for errors. Moreover, there was mixed **user preference** about pop-ups. Some enjoyed viewing job application packages in this form, as it decluttered their browser tabs, reducing cognitive load. Others felt information got lost on the page, making it hard to parse. What's more, editing a job application package was deemed tedious, as returning through every input compartment was forced despite making just a small change. At last, many felt that the **target users' needs** were addressed by grouping resumes and cover letters by job in a unified location, avoiding the need to manage this themselves. Not all users felt so positive, however, with some reporting the need for more options for internship lengths and for contract types. Also, one user did not perceive the benefit as outweighing the familiarity of their current system, needing more encouragement to make the switch.

One of our biggest areas of improvement is our document managing and editing system. Considering the user experience and the existence of already existing text editors, we will need to add features that incentivize the use of our editor. To improve the identified issues with document editing, we intend to take the suggestions from our findings, like allowing the editor to open in full screen, adding a regular "Save" button to the text editor, a button to create a new document in place, and functionality to download said documents to the user's computer. In the same vein, adding an option to all of our pop-up windows that allows a user to open it in a new tab will allow for a smoother user experience. Some other suggestions we received, and that we plan to go forward with, include adding more filters to the "Jobs" page, a more complex notification feature that would monitor company sites and emails, and, in general, more information to the user on how certain aspects of the site can help them.