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# 6CCS3HCI Human-Computer Interaction

Interim group project

Team-2

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## Participants

1. Basak Ozcelik, K21199729
2. Leo Zheng Rui Darren, K23123430
3. Shivang Chaudhary, K23037541
4. Henri Chevreux, K20071840
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## Link to Miro & Figma

Miro: [https://miro.com/app/board/uXjVNZUALoA=/?share\\_link\\_id=306324987179](https://miro.com/app/board/uXjVNZUALoA=/?share_link_id=306324987179)

Figma: <https://www.figma.com/file/Qp5iYIbdtTQCiwqQE4gJNu/Employers-official-project?type=design&node-id=0%3A1&mode=design&t=Ji9xIVbKefql8ryc-1>

## Abstract

The interim group project involved active participation from all members, with each conducting interviews with five individuals. The collective data from 30 interviews resulted in comprehensive insights, including participant quotes, codes, and individual empathy maps. The objective was to gain an unbiased perspective from students on their thoughts and emotions regarding job searches.

The project focuses on supporting students in their search for jobs, internships, or volunteering opportunities. Subsequently, themes and empathy maps were constructed to enhance our understanding of intricate details in students' personal statements and the emotions they experience during this crucial phase of their lives.

## Introduction

In this project, our objective is to interview a diverse group of students and gain insights into their perspectives on searching for jobs, internships, or volunteering opportunities. The goal is to determine how we can better assist students during their search for these opportunities, and how to maximise their chances of success.

Conducting interviews with all 30 participants was an intricate process, yet it successfully provided valuable insights into how students navigate their search for better opportunities. Using this information, the following report is focussed on highlighting the method adopted to accomplish the goal and justifying our approach and findings.

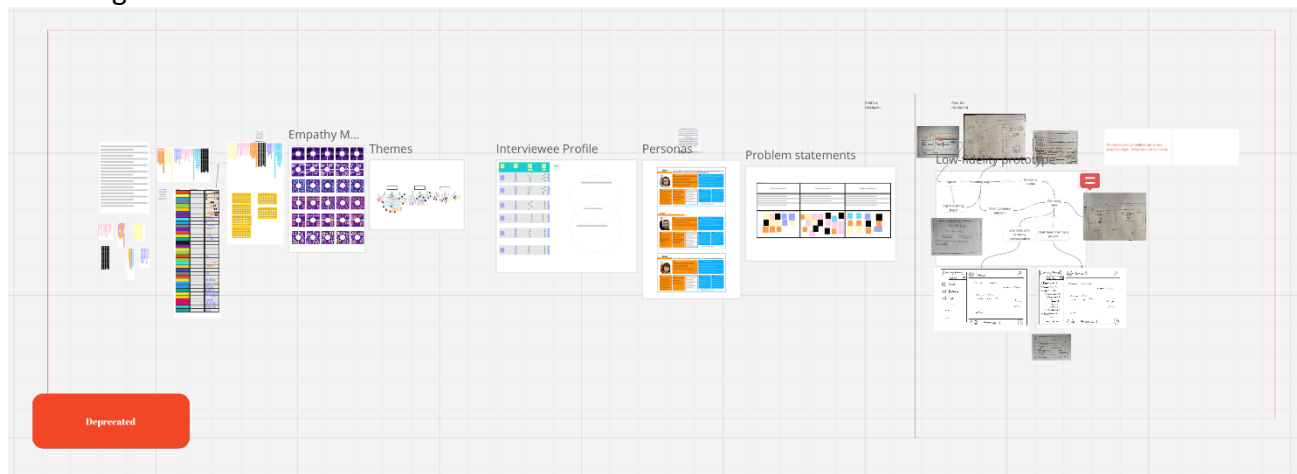
## 1 | Empathise & Design

### 1.1 | Interim feedback report & new Miro

As part of this module, we submitted an early version of this section of the report to get some feedback from module leaders. As we have made considerable efforts to take in the feedback, we have restructured our Miro and redone the sections that needed to be improved. Therefore, this section will include multiple references to the interim report feedback as to demonstrate how we improved our process.

To keep a reference of the material prior to the interim report feedback, we have kept the previous material in the “Deprecated” section of the Miro board, which corresponds to the

following screenshot:



## 1.2 | Interviews

In total, every group member has conducted interviews 5 participants each, totalling to 30 interviews.

### 1.2.1 | Interview Guide

The interview guide is the general narrative that we followed for each of our interviews.

Following the interim report feedback, we have substantially improved our interview guide by changing the question framing and the flow of the guide. This was achieved by transforming questions to remove the leading elements. For instance, we removed the question *'Do you find the process of finding an internship stress inducing?'* as we believe this was leading participants to assume the process was stressful. Instead, we introduced the question *'What are the highs and lows of seeking internships or placements?'* as it is more open-ended and does not assume a specific emotional response from the participant. Similarly, we have restructured questions to be more open-ended, such as *'Do you, or did you, have a mentor you would take some professional advice from?'* that we changed to *'Have mentors or professional advisors influenced your journey? What has that guidance looked like for you?'*, which lets more space for participants to explore different perspectives.

Although we were not able to conduct new interviews after the interim report feedback, we believe that the improvement of the interview guide is nonetheless a good demonstration that we have improved in our understanding of the process expectations.

The following is the revised interview guide:

### **New version of interview guide:**

#### **Introduction:**

- Could you tell me a bit about your current stage in your educational journey?
- In your own words, describe what your student life entails these days.
- How you approach exploring opportunities like internships or career events. What's your process?
- What's been your strategy for finding internships or engaging with career events? Are there any particular tools or methods you find yourself returning to?
- Have you built any professional connections during your time here? If so, what has your approach been?
- Have you sought advice or recommendations from a mentor regarding professional opportunities?

#### **Evoking Stories:**

- When you think about searching for career opportunities, what's your experience with online platforms versus in-person events?
- Can you share any recent encounters or attempts you've made to secure career opportunities, and what stood out to you about those experiences?
- How has the university's support system played a role in your search for internships or opportunities? What has been beneficial, and what do you think could be improved? What stood out to you? Is there anything you would like to see more of?
- Have mentors or professional advisors influenced your journey? What has that guidance looked like for you?
- Think back to a recent career-oriented event or resource you used. What made it memorable, and what would you suggest enhancing such experiences?

#### **Evoking Emotions**

- Talk to me about the emotional side of this process. What are the highs and lows of seeking internships or placements?
- Were there any moments in your job search that were particularly memorable to you? If there is, can you explain how this made you feel?
- How do you feel about the current job market for students like yourself?
- After you apply and await responses, what goes through your mind? How do you manage the outcomes, whether they're offers or rejections?
- When you think about your future career or volunteering decisions, what emotions are most prevalent for you?

#### **Conclusion:**

- Having reflected on our discussion, what are your thoughts on improving the journey of seeking opportunities?
- If you could design the ideal experience for finding career-related opportunities, what would it look like?
- On a scale of 1 to 10, how would you rate your overall experience in searching for opportunities, and what informs your rating?

Both the depreciated and new version of the interview guide are available on the provided Miro board.

### 1.2.2 | Interview Quotes & Codes

Following the interview process, each participant has collected the transcripts their interviews and each participant collected quotes from the transcripts. Quotes were selected based on their relevance to our project topic, either because the quote depicts an insight, an experience, an emotion, or a description of their experience.

Following the interim report feedback, we improved and unified our anonymisation and colouring process, which we detail in the following paragraphs.

Previously, our anonymisation was inconsistent across participants and made it hard to track which participant quotes belonged to. To improve this, we anonymised each participant in the following format:

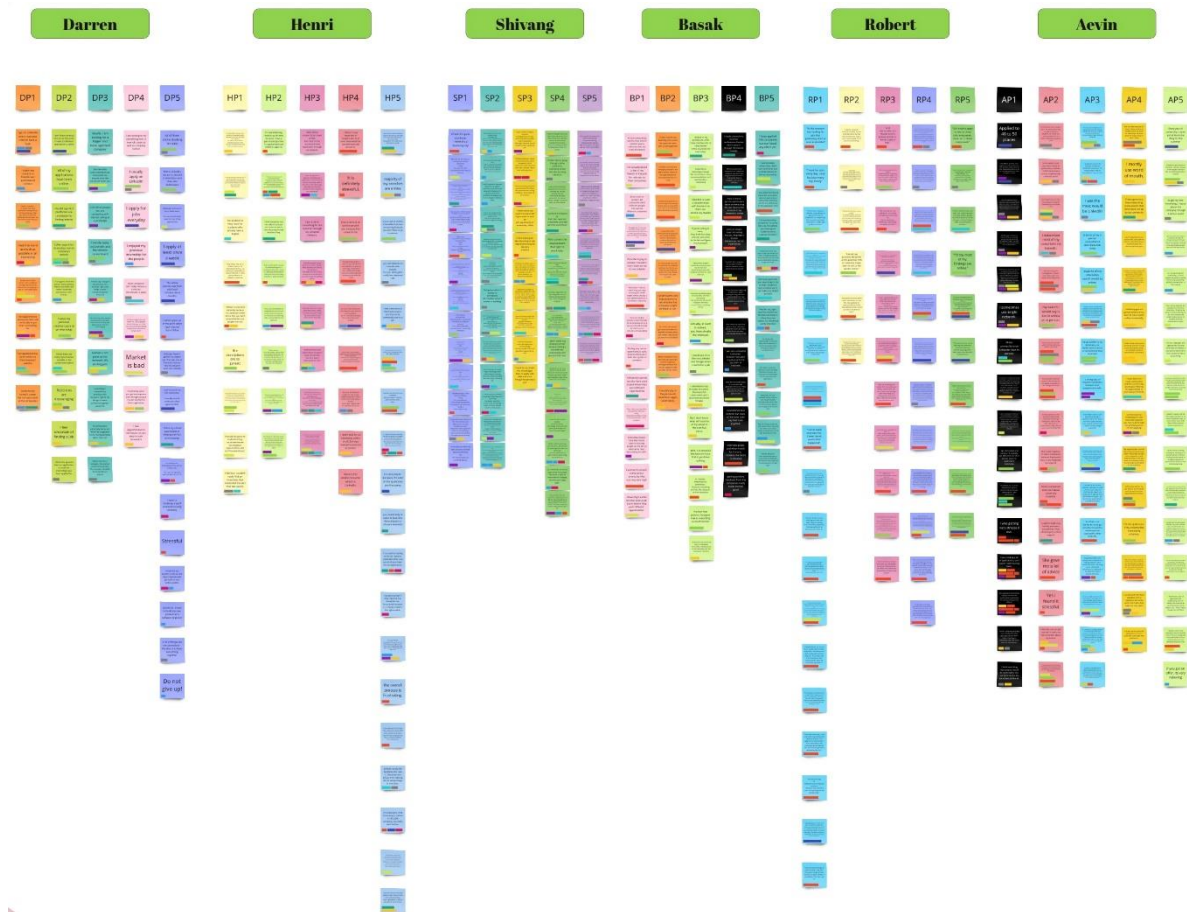
[First letter of interviewer name] + “P” + [ID of interviewer participant from 1 to 5]  
For instance, the third participant of interviewer Henri will be anonymised as “HP3”.

Furthermore, we improved our colouring of quotes based on the feedback. Previously, we coloured our quotes based on the interviewer rather than the participant. In accordance with the interim report feedback, we improved this by colouring each participant with a different within each interviewer. Although we were unable to assign distinct colours for each participant across interviewers, as Miro only provides 16 colours for sticky notes, the new colouring process paired with the new anonymisation improves the overall readability of quotes.

Coding is the process of assigning labels to sequences of spoken text that fall into a specific theme or category. Codes give a qualitative description of a feeling or thought that is expressed by the interviewee on the subject matter. In our case, this would be their experience in finding a job or internship.

Given this context, our new coded quotes section is the following:



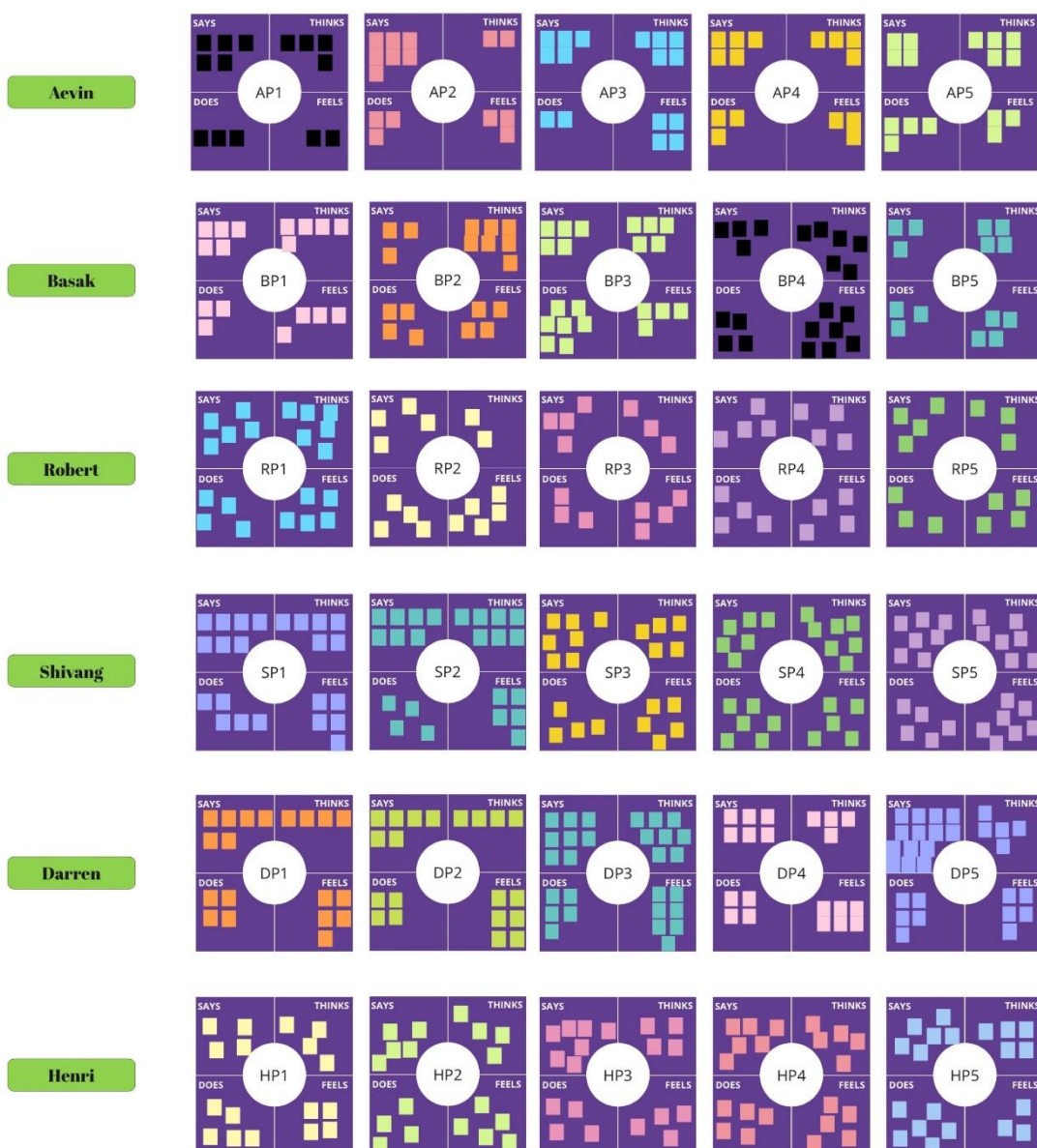


## 1.3 | Analysis

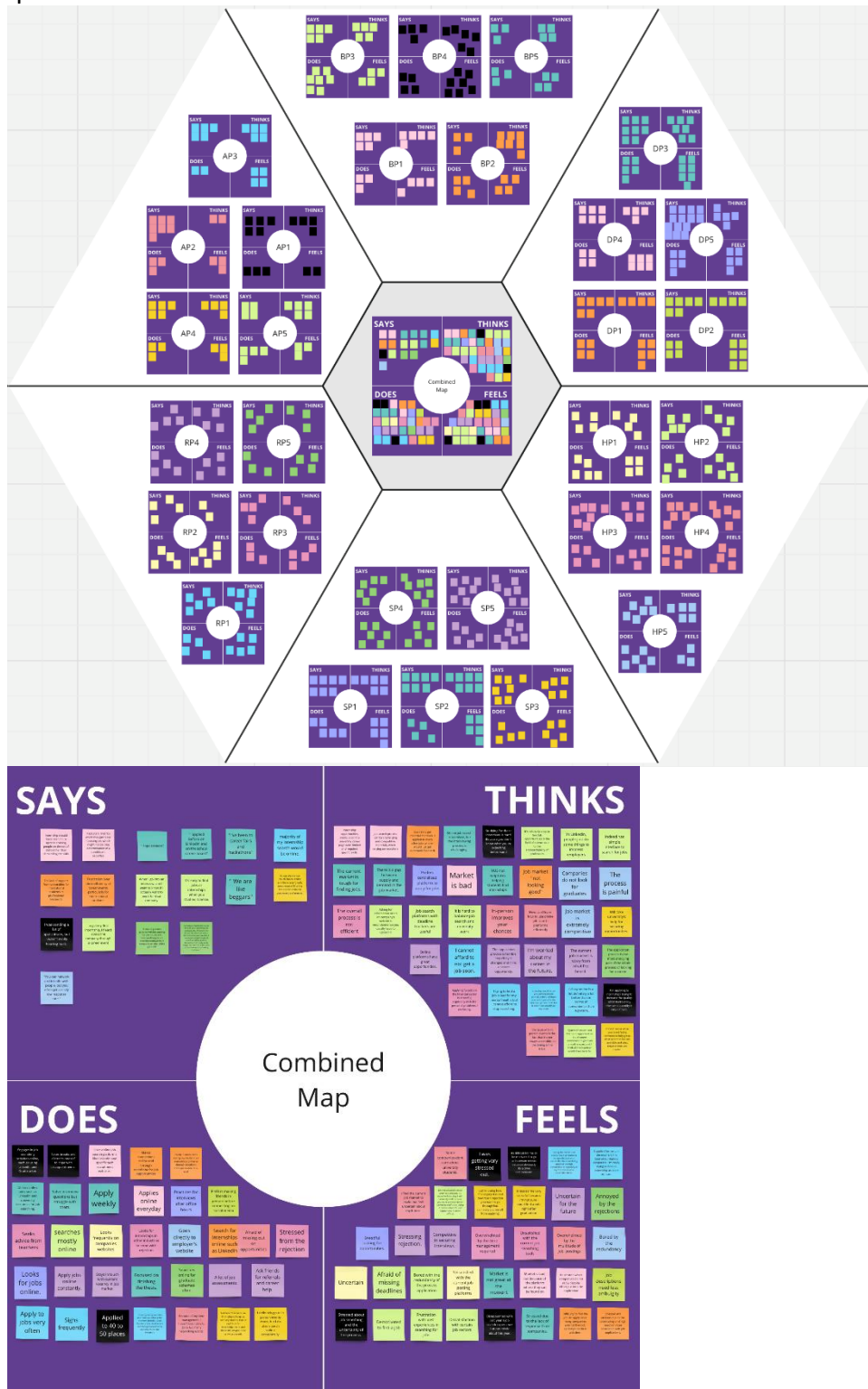
### 1.3.1 | Empathy Maps

From the generated coded quotes, we created empathy maps. The empathy maps were a tremendous help in locating the emotions and implicit thoughts of each participant regarding the procedure of looking for new jobs. The empathy maps clearly describe what each interviewee says, what they have done while looking for opportunities, what they think about the process and how they feel about it.

Following the interim feedback report, we reconstructed the empathy maps according to our improved colouring and anonymization process:



The next step was to combine the individual empathy maps in to one empathy map that captures the essence of the topics we identified across all interviews. The combined empathy map is produced by selecting key/common notions from each empathy map quadrant:



### 1.3.2 | Themes

Upon analysing the organised codes gathered from the participants, an inductive thematic analysis was conducted. Our inductive thematic analysis approach follows the principle of inductive reasoning.

Following the interim report feedback, we improved the thematic analysis process to obtain themes that better reflect our interview data. Our revised thematic analysis process is the following:

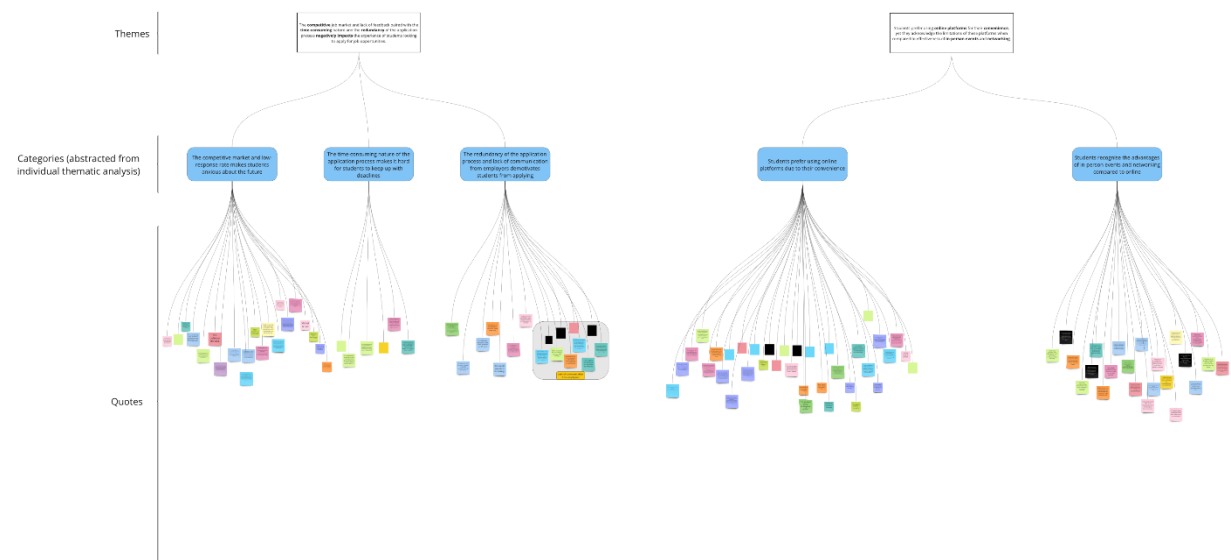
First, each team member performs an individual thematic analysis by clustering their respective quotes:



Following this individual thematic analysis, general sub-themes were identified across all clusters. In total, 5 main themes were identified:

- Online job searching is preferred over in-person
- Stress / negative emotions induced by application process
- Tools for success
- The importance of a good network
- Student face struggles
- No theme

By combining codes, quotes, and sub-themes from the individual thematic analysis, we created the final thematic analysis, where direct quotes are clustered into categories according to the individual thematic analysis themes, which themselves are then clustered into themes:



In total, 2 themes were identified:

**Theme 1:** The **competitive** job market and lack of feedback paired with the **time-consuming** nature and the **redundancy** of the application process **negatively impacts** the experience of students looking to apply for job opportunities.

**Theme 2:** Students prefer using **online platforms** for their **convenience**, yet they acknowledge the limitations of these platforms when compared to effectiveness of **in-person events** and **networking**.

We believe that our improved thematic analysis is reflected in the quality of our themes that generalize well with our quotes and empathy maps.

## 1.4 | Personas

Further, based on the interview results, user personas are created to represent the different archetypes of students interviewed. Personas are a requirement to the project because of their relevance since not all the participants displayed the same personality but face similar experiences in their job search. As such, the personas are what the team hoped the interviewee may turn out to be. This is because the interview guide needs to stay focused on the topic of helping the students specifically to look for new job opportunities and making the process for them to do it much easier. Thus, most of the personas built are of students looking for a job either first time or at their second experience if not so.

### 1.4.1 | Persona 1: Rose

Rose's persona epitomizes the modern creative professional navigating the complexities of the job market. Her experience, as mirrored in the user data, reveals a preference for online job searches, where she can access a wide range of opportunities from the comfort of her home. Rose is proactive, utilizing online job boards and professional social media platforms like LinkedIn to explore potential roles. This online-centric approach aligns with the sentiments expressed by users who state, "majority of my searches are online," showcasing a broader trend of job seekers leveraging digital resources to find employment.

However, Rose faces a common obstacle: the vague and often unclear job descriptions that riddle many online listings. This lack of clarity leads to uncertainty and makes it challenging for her to ascertain whether a job is truly a good fit, as captured in the feedback, "the descriptions are so generic." The frustration this causes is not unique to Rose but is a widespread issue that resonates with many in our user data. Participants express a need for more detailed and tailored job listings that align with their qualifications and professional goals.

Moreover, Rose's strategic use of technology to filter job opportunities that align with her skills and personality is indicative of a larger movement among job seekers who desire a more personalized job search experience, this is also captured in the quote "I feel like having a website with a personality test that tells you exactly what type of internships you could be doing that are even very unheard of, like very niche". Yet, the challenge remains: Rose, along with many others, must navigate through a sea of generic listings to find those rare opportunities that offer not just a job, but a role that matches her unique professional identity and creative passion.

In conclusion, Rose's online job search narrative, defined by a reliance on digital platforms and an eye for detail, reflects a job market that is expansive yet often imprecise. Her story, supported by the user data, highlights the need for clarity and specificity in job listings to better cater to the aspirations of job seekers in the creative field. It is a call for a job market that not only boasts volume but also provides the clarity and detail necessary for candidates to find their ideal match.



## Rose



*Rose is seeking an entry-level role in a company that values innovation and provides clear pathways for professional advancement and skill development.*

**Brief description**

Rose is a 24-year-old graphic design graduate who thrives in the quietude of their home environment, delving into digital art and game development during their well-structured days. Having excelled in an online educational setting, they wield a Bachelor's degree bolstered by a talent for virtual collaboration and a penchant for the tranquility that solo projects provide.

**Persona Main Job (Main goals)**

- To secure a remote or freelance graphic design position that allows for creative autonomy and project ownership.
- To build a diverse portfolio that showcases a wide range of skills, including digital art and game design.
- To continuously enhance technical expertise through online courses and self-directed learning, ensuring up-to-date industry

**Personality**

- Independent:** Prefers working alone and enjoys settings where self-direction is valued.
- Introverted:** Feels drained by large social gatherings and thrives in quiet, solitary environments.
- Technophile:** Embraces all things digital and is always exploring new design software and online platforms.

**Interests**

- Digital Art
- Indie Game Development
- Virtual Collaboration
- Online Learning
- Graphic Design Trends

**Job Search Behavior**

- Utilizes online job boards and company websites exclusively in job searches, believing they offer a broader range of opportunities and more detailed information about potential employers.
- Active on professional social media platforms like LinkedIn, often engaging with posts and content rather than direct messaging.
- Subscribes to several design and tech industry newsletters to stay informed about job openings and trends.

**Gains**

- Finds the wealth of online resources and job postings empowering, providing many options to choose from.
- Values the efficiency of filtering job searches to specific criteria that align with personal and professional goals.

**Pains**

- Struggles with the impersonal nature of online applications, finding it hard to convey personality and creativity through digital means alone.
- Experiences anxiety over the need to network in-person and avoids situations that require face-to-face interaction.
- Feels overwhelmed by the sheer volume of online listings and the impersonal nature of digital communication, which often seems like a barrier to truly showcasing a creative portfolio.

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### 1.4.2 | Persona 2: Lucas

Lucas's persona as a Business Administration junior with a focus on Marketing is a classic representation of the driven and goal-oriented student navigating the complexities of securing an internship in a competitive digital job market. The user data reveal that, like Lucas, many students are adopting a proactive approach in their job search, as evidenced by the participant who mentions, "I apply for jobs every day."

Lucas's job search behaviour is intensive and thorough, as he leverages university career services and professional social media platforms, particularly LinkedIn, to identify opportunities. This mirrors the quotes indicating a diligent search strategy, with students often expressing the need to learn as much as possible in an internship ("I want to learn as much as possible in an internship") and the utilization of various platforms for job hunting ("I usually apply on LinkedIn and the school's career board").

The gains Lucas seeks from an internship align with those expressed by participants who find value in the substantial experience and learning opportunities internships provide. However, Lucas also shares the pains that come with the uncertainty of the search, including the looming deadlines that contribute to stress and distraction from his studies. This reflects the sentiment of another participant: "It's stressful because it's uncertain in the sense that you don't know whether you will get it or not."

The need for personalized application strategies due to the scarcity of responses also resonates with Lucas's experiences, as he frequently attends job fairs aimed at forging connections that could lead to his desired internship, aligning with the importance of networking emphasized by participants ("I met a recruiter at the finance event, and that could potentially lead to a job").

In sum, Lucas's narrative is one of dedication and active pursuit, reflecting the wider experiences of students who engage in a multifaceted job search. His story showcases the

ambition to secure an impactful internship that can bridge the gap between academic theory and practical marketing acumen, a goal shared by many of his peers in the dynamic and often unpredictable job market.

## Lucas

Alex is looking for an internship to fulfill his course requirements and gain practical experience



### Brief description

Lucas, a 21-year-old Business Administration junior with a focus on Marketing, leads a budget-conscious life in shared housing, stays physically active with jogging and university sports, and sharpens his entrepreneurial acumen in case competitions.

### Persona Main Job (Main goals)

- Lucas is on the hunt for a pivotal internship experience in a marketing firm to apply his theoretical knowledge.
- He aspires to delve into digital marketing and brand management, hoping to make a substantial impact.

### Personality

**Adaptive:** Lucas is quick to adjust his strategies and is always seeking new ways to enhance his job search.

**Sociable:** Enjoys meeting new people and is eager to build his professional network but is still learning the ropes of effective networking.

**Anxious:** The pressure to secure an internship and the competitiveness of the process often lead to stress.

### Interests

- Digital marketing trends
- Brand development strategies
- Social media analytics
- Sport
- Healthy Lifestyle

### Job Search Behavior

- Tirelessly searches for internship opportunities through university career services and on platforms like LinkedIn.
- Frequently attends job fairs, aimed at forging connections that could lead to his desired internship.
- Application personalization for each role is routine, though the scarcity of responses leads to frustration.

### Gains

- Lucas is in search of an internship that provides substantive professional experience to augment his academic learning.
- A mentor to steer him through the intricacies of his early career choices is high on his wish list.
- He wants an internship where his contributions are significant and recognized.

### Pains

- The looming uncertainty of his internship search is a source of constant anxiety and distraction from studies.
- Aligning an internship with his skills and ambitions has become a formidable challenge.
- The prospect of having to settle for an unpaid internship is daunting, considering his financial constraints.

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### 1.4.3 | Persona 3: Bella

Bella, a recent computer science graduate, is on the quest for an entry-level position that aligns with her clear goal of growth and learning opportunities. Her persona is a vivid illustration of a detail-oriented and community-driven individual who thrives in vibrant, collaborative environments. Bella's proactive approach to job searching involves regularly updating her LinkedIn, setting alerts on tech job boards, and maintaining a meticulous list of applications and follow-ups, which is a behaviour echoed by participants stating, "I look for jobs every day, every few days. Really."

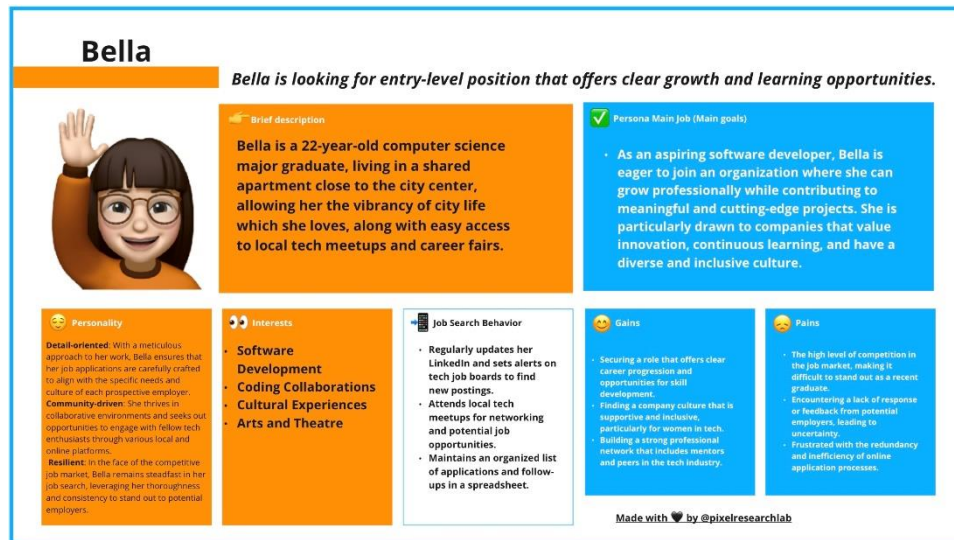
The struggles Bella faces, such as the high level of competition in the job market and the redundancy and inefficiency of online application processes, are common sentiments shared across the user data. Participants who shared feelings of frustration over the job search process, particularly with statements like, "It's redundant. And it's boring. [...] when it's the 20th company, you really can't bother." and another sharing, "Market is not great at the moment. We are beggars," highlighting the difficult job market.

Despite these challenges, Bella remains driven and detail-oriented in her search, attending local tech meetups and career fairs for networking opportunities, aligning with another user's approach, "I usually apply on LinkedIn." However, she also grapples with the pains of encountering a lack of response or feedback from potential employers, resonating with the user experience of feeling undervalued, as one user reflected, "rejection can be very annoying if you've invested a lot of your time and energy."

Bella's story is one of resilience and adaptability, mirroring the experiences of many fresh graduates who seek to make their mark in the tech industry. She represents the bridge between academic theory and industry practice, eager to join an organization that fosters



continuous learning and innovation within a diverse and inclusive culture. Her journey, much like that of her peers, is characterized by the persistent pursuit of opportunities despite the competitive and often disheartening landscape of the job search.



## 1.5 | Problem Statements

After analysing the main empathy maps and themes, it was important to understand the research group more by figuring out the main issues and highlighting it. An effective method that was used in this study to focus on this was by framing a problem statement, which focuses on what the main thing the user base is trying to accomplish. In the case of this research, the main problem statement covers the approach that would be the most suitable towards helping the students find more efficient and less stressful mediums while looking for better opportunities.

In the original deprecated problem statements, there was not much documentation on the process of framing them and the team's unique insights. All of these were tackled in the new version on Miro, as seen on the image below.

**Problem statements**

Problem Statement #1	Problem Statement #2	Problem Statement #3
<p><b>We meet:</b> Students</p> <p><b>We discovered:</b> that most students find that there is a lack of communication from employers regarding the roles when applying to opportunities online, as they are often limited to a generic description of the role and company.</p> <p><b>We wonder if:</b> this is discouraging students from applying since they are unsure whether the roles fit their expectations and personality.</p> <p><b>We aim to:</b> enable students to learn more about company and job specifics.</p>	<p><b>We meet:</b> Students</p> <p><b>We discovered:</b> that online platforms, although they are heavily used by students to find opportunities, lack the personal connection and first-hand contact with employers and employees that an in-person event can provide.</p> <p><b>We wonder if:</b> the lack of contact with company employees when applying online makes it harder for students to be confident in their choice of application.</p> <p><b>We aim to:</b> enable students to have a closer contact with employees from the companies they are looking to work for online.</p>	<p><b>We meet:</b> Students</p> <p><b>We discovered:</b> that the process of searching and applying to opportunities is extremely redundant and boring.</p> <p><b>We wonder if:</b> this time-consuming and mindless process produces frustration and pain from the applicants.</p> <p><b>We aim to:</b> simplify the process of looking for and applying to opportunities in order to increase engagement and make this process more stimulating for applicants.</p>
<p><b>Related quotes</b></p> <p>[Quotes represented by colored squares]</p>	<p><b>Related quotes</b></p> <p>[Quotes represented by colored squares]</p>	<p><b>Related quotes</b></p> <p>[Quotes represented by colored squares]</p>
<p><b>Vote for selection</b></p> <p>2 votes per participant</p> <p>[Voting icons: blue, black, purple, yellow, green, red]</p>	<p><b>Vote for selection</b></p> <p>[Voting icons: blue, black, purple, yellow, green, red]</p>	<p><b>Vote for selection</b></p> <p>[Voting icons: blue, black, purple, yellow, green, red]</p>

**Send feedback**

In this updated version, it is shown how every individual in the team decided which problem they agreed with the most. Since the third problem statement was rarely agreed on, the decision to form the main revised problem statement off the other two problem statements was imminent.

### 1.5.1 | Problem Statement #1

In the first iteration of analysing and brainstorming through the data issues between the communication between students and employers about company culture and what the role entails persisted quite often. So, it formed the basis of the first problem statement.

It was wondered whether a lot of dissatisfaction of students with roles during the application process or when they would potentially work in that role was due to the lack of information provided to that applicant in the first place about the obstacles/difficulty the role entails. Thus, the goal was to make sure that there was as much information about the company and its role in the Employers website as possible.

### 1.5.2 | Problem Statement #2

On the topic of lack of communication, there was a pattern of students not being able to form personal connections with the employers that was noticed. Quotes such as “I use Google. On mostly Google, indeed as well. What I also do is LinkedIn, so not try message anybody but like just to see where people who graduate from my course are sort of working just so I can like, you know, be familiar with like companies.” and “I think I will be going through online platforms, searching online and also by using reference.” would show that

even though a lot of students usually prefer to go online to find jobs, there are still limitations to what using the internet can do for careers compared to networking.

Therefore, it was wondered if this lack of personal connection between employers and students contributed to the feelings of anxiety and low self-esteem during their application process. It was important to make sure that there was a convenient way to make sure that there was as much of that effective personable interaction as possible.

### 1.5.3 | Problem Statement #3

The final pattern noticed with the data gathered was how redundant, draining and boring the students found the searching and application process. From the many quotes that justify this, quotes like “it's redundant. And it's boring. [...] when it's the 20th company, you really can't bother.” and “I feel like you get turned down a lot and it's hard to keep applying and getting turned down. And there are also a lot of structural constraints that you can't really do anything about.” emphasise this finding clearly.

Thus, it was wondered if the daunting process contributes to the negative mental health effects that a lot of the students were facing pertaining the entire process of getting employed. So, to tackle this problem, it was aimed to gamify the process on the Employers website to make sure that it would make the users life better and easier, while increasing their engagement.

### 1.5.4 | Revised Problem Statement & POVs

After finalizing the problem statements from previous processes, we came up with new revised problem statement in order to move on to the ideation methods.

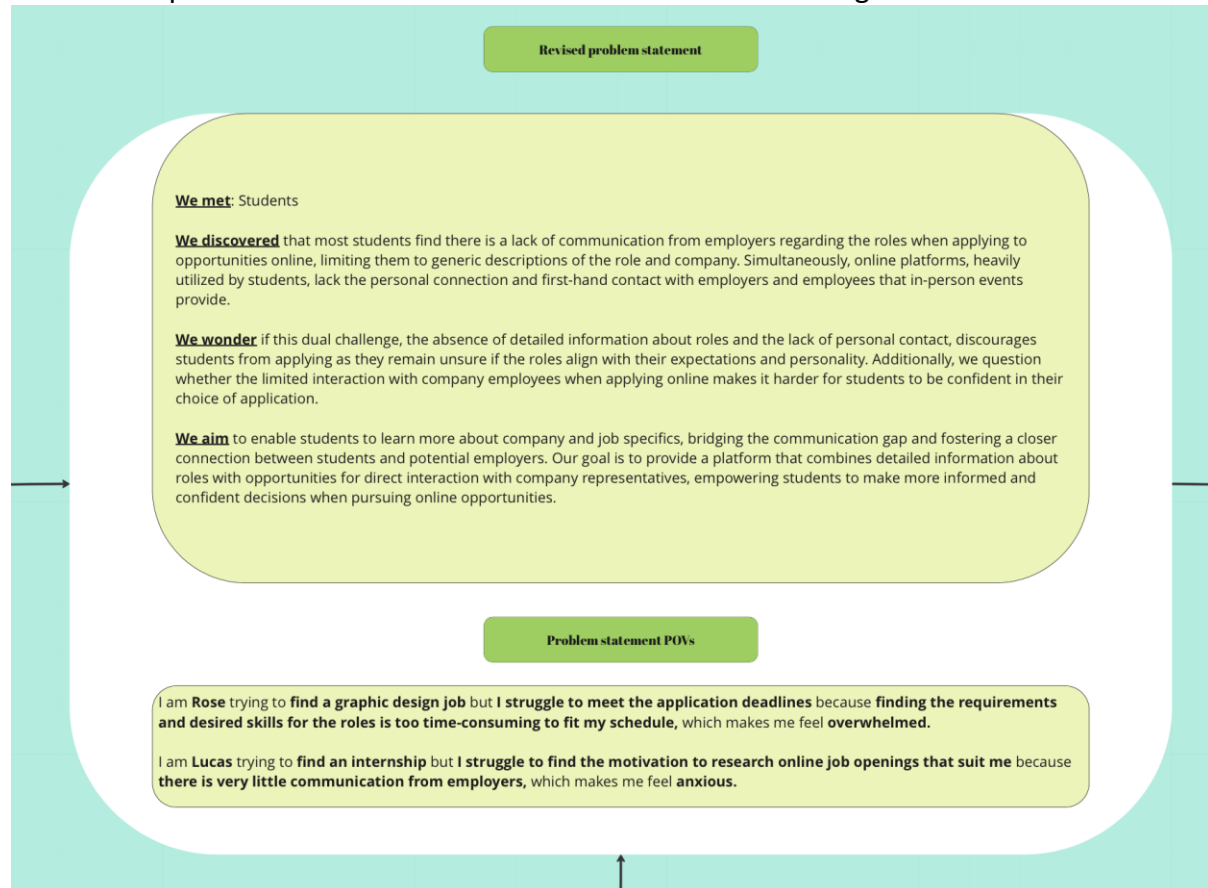
Understanding the preceding problem statements, it became evident to merge the intention behind the problems (problem statements 1 and 2) so that the final or revised problem statement can serve as a unified aim for the main product to provide a solution for. The revised problem statement thus resulted from merging the students' struggles in problem statements 1 and 2 and unified the aim that can be satiated by developing a common and efficient solution.

The next step is to make up POVs (point-of-views) so that we can break them further down in later phases. The personas chosen for this phase are Rose and Lucas.

In summary, Rose is a graphic designer in search of a suitable job but is overwhelmed by the stressful application process and the fear of not getting any response from her applications is increasing her stress whenever she decides to apply. Lucas is looking for an internship but feels constantly discouraged for the same reason and receiving no reply on the applications he has worked hard for is adding to his anxiety.

Due to the tension shared between the two provided personalities, it seems ideal to choose them as our personas. Given the aim of the revised problem statement which refers to providing more specifics on intended jobs and fostering the communication between applicants and pre-existing employees, using these personas will serve as to how this intention of the problem statement can be fulfilled.

Our revised problem statement and POVs resulted in the following:



## 2 | Ideate

### 2.1 | Ideation stages and overview

As given, ideation is supposed to pave the way towards reaching the most creative goals. It is through this process that the overall session of generating ideas on a given topic can there be a result of arriving at a conclusion that must be materialized later. But getting through this process is imperative because it can be quite challenging to gain an accurate perspective and thus there is a need for dedicated environment and making perceptions from all angles necessary.

Therefore, following given are the methods adopted for processing all the phases of ideation: -

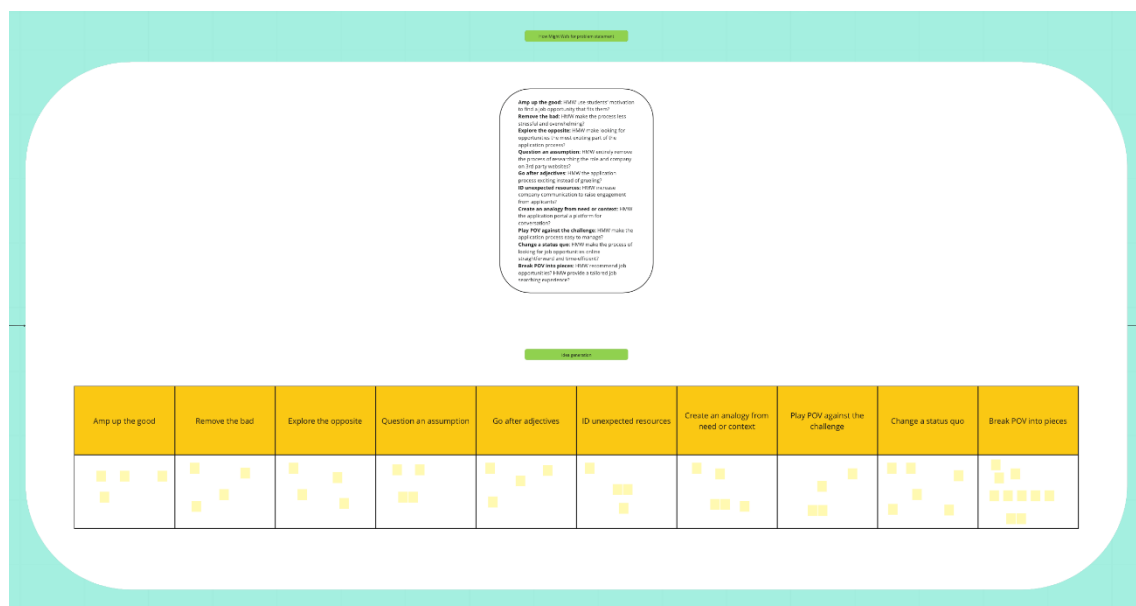
#### 2.1.1 | How Might We's

Having attained clear picture on personas and POVs, the next phase is deciding the How Might We questions: -

1. **Arm up the good:** HMW motivate students to look for their desired jobs.
2. **Remove the bad:** HMW make the process less stressful and overwhelming.
3. **Explore the opposite:** HMW make job searching process an exciting process.
4. **Question an assumption:** HMW reduce the difficulty of searching for required roles and companies on third party websites.

5. **Go after adjectives:** HMW make application process exciting and not grueling.
6. **ID unexpected sources:** HMW increase applicant to company communication for maximizing interaction.
7. **Create analogy from need or context:** HMW make application portal also a platform for communication.
8. **Play POV against challenge:** HMW make application process more manageable.
9. **Change status quo:** HMW make job searching more straightforward and time-efficient process.
10. **Break POV to pieces:** HMW provide tailored job-searching experience.

These HMWs (how might we) were explored by building individual categories for all listed above and then all the participants equally contributed in dropping solution ideas as sticky notes in the respective sections.



### 2.1.3 | Affinity diagramming

After gathering all the ideas, the current step involves presenting the ideas in a suitable manner. Thus, adopting the method of affinity diagramming to cluster the ideas together by categorizing them appropriately.

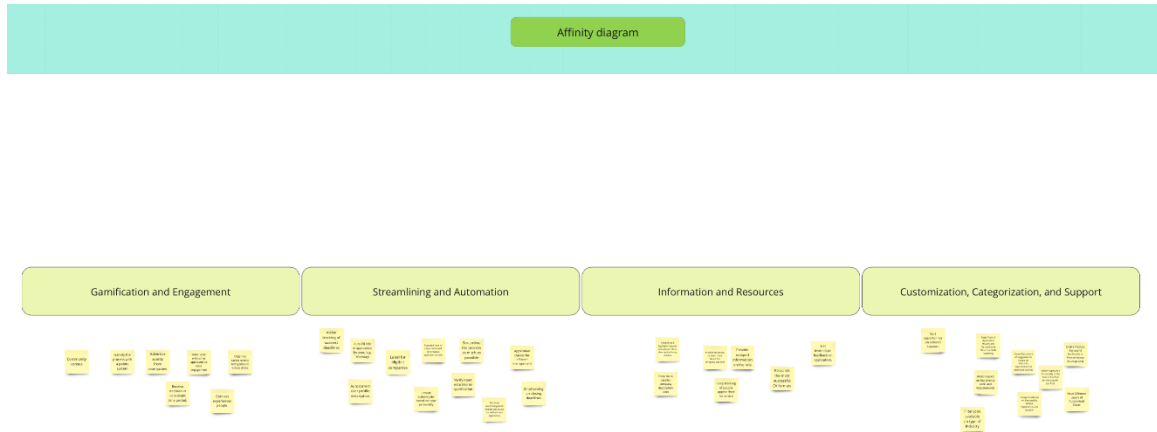
This is helpful in determining the next step in the design process.

Following this helped our team with: -

- Gaining a shared understanding.
- Refresh memories and having the most intriguing discussion.
- Hopefully, the summarization of results will be more efficient when making design changes after the user tests.

The finalized categories for the affinity diagram are as follows: -

1. Gamification and engagement
2. Streamlining and automation
3. Information and resources
4. Customization, categorization and support.



### 2.1.4 | How-Now-Wow matrix

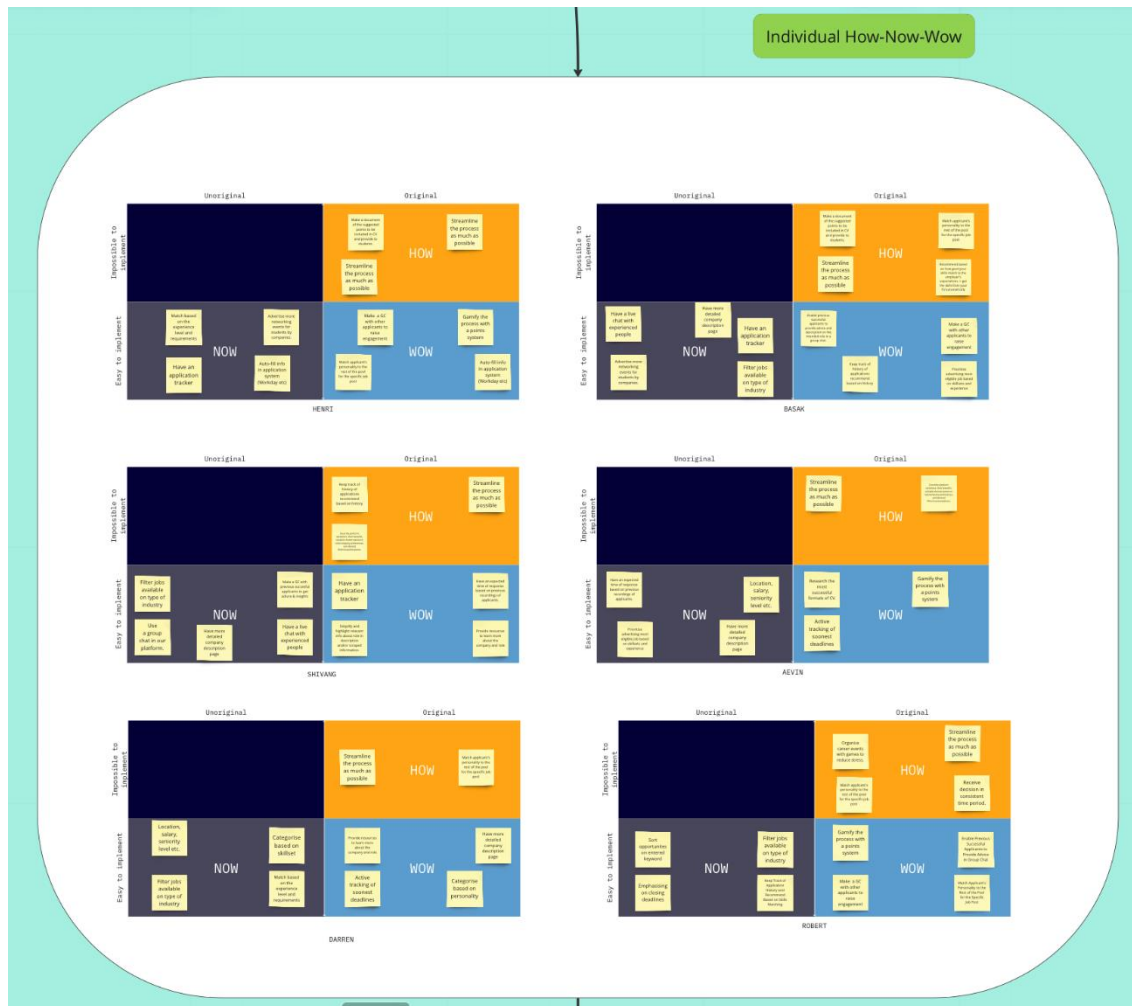
For this, it was imperative to gather as many data initially as possible. Therefore, given the amount of quotes each participant gathered every one of the participants built their own individual how-now-wow matrix.

Then once this was done, we moved on to converging the finalized how-now-wow matrix to further the process of prototype designing.

This unified matrix consisted of the most radiant ideas that became the new aims for implementation in the subsequent product-making.

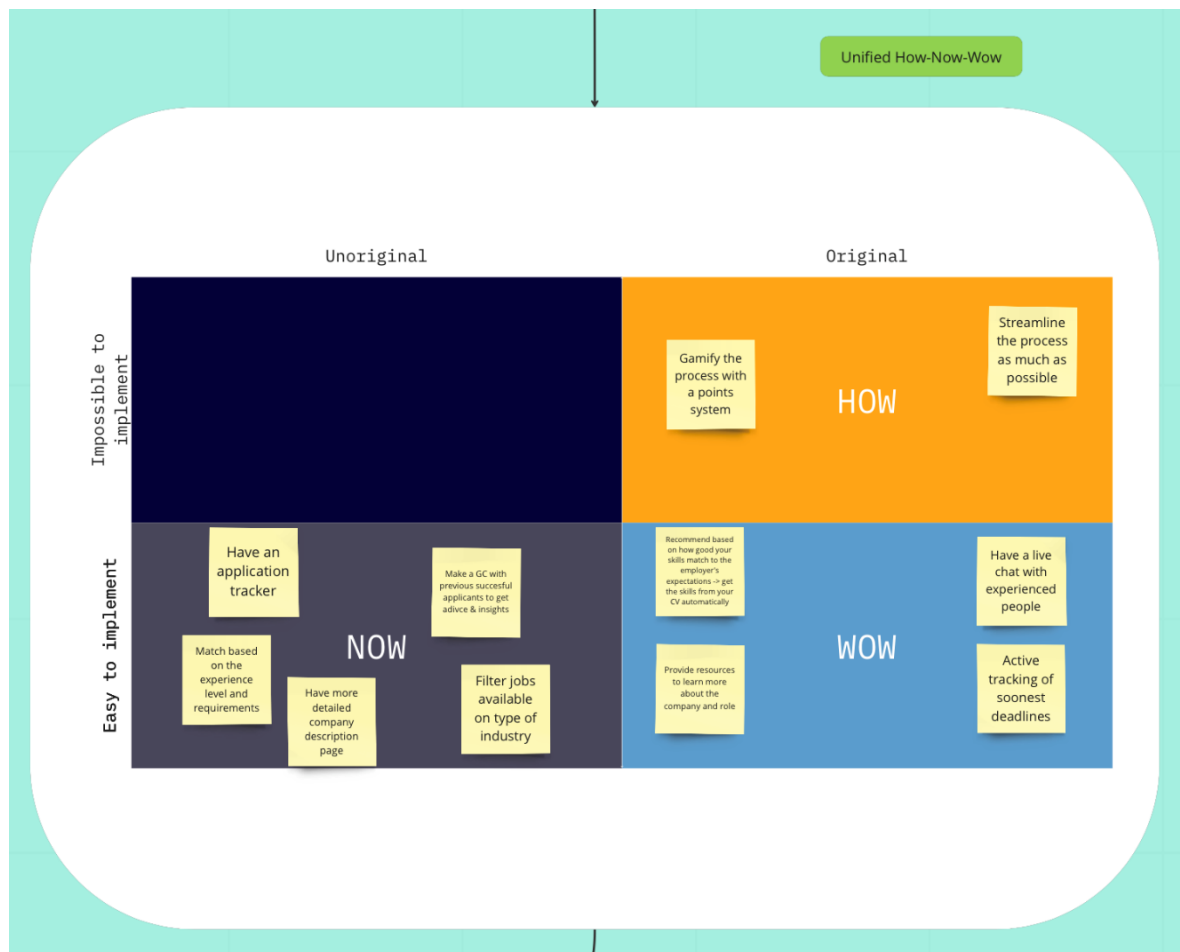
The how-now-wow matrix consisted of the following components: -

- **First quadrant:** empty.
- **Second quadrant or How:** The most breakthrough ideas that can be materialized in the future given the potential they store but not necessarily right now.
- **Third quadrant or Now:** Aimed for incremental benefits. These are the ideas that can be easily achieved. These fill up the gaps in the problems that already exist.
- **Fourth quadrant or Wow:** These contribute the most in the product-making and so it did in the current final design as well. The kind of ideas aimed to materialize which will the most amount of weight to the overall product with its orbit-shifting property.



In the final unified how-now-wow matrix, the ideas finalized are: -

1. **How:**
  - Streamline the process as much as possible.
  - Gamify the process of application.
2. **Wow:**
  - Best job recommendation
  - Live chat with employees
  - Soonest deadline tracking
  - More information on intended companies
3. **Now:**
  - Having an application tracker
  - Group chat of experienced and successful applicants.
  - Filtering jobs on intended industry type.
  - Detailed description of companies.
  - Matching applicants to jobs via past experiences and qualifications.



### 2.1.5 | Storyboards and sketching

Storyboards ends the ideation process by culminating all the previously performed activities. For the built storyboards, scenarios were constructed Lucas, Rose and Bella. Having distinct personalities but similar goals, further their respective scenarios detail the process of how the application can be useful to them.

To commence such process, we took the real habits and situations of each persona and made paper-sketches representing their interaction with the application in various phases to formulate a complete story for each clearly expressing the intended features in the real prototype.

We put up labels above every individual storyboard to clarify the scenario and the problems of personas that it intended to find solution for.

The components to the storyboard are: -

- Persona specification
- User case/scenario
- Corresponding captions to each scenario

The scenarios are as follows: -

1. **Lucas:** Lucas being a social person decided to attend a get-together with his close friends where they express their concerns about the job market and how it has become increasingly difficult day by day to attain any new internships or job opportunities.



Hearing this, after getting home Lucas decides to explore the job market to finalize his next opportunity and he is elated by the feature of employee interaction that advises on how to do a follow-up on the application he's made so that he can attain some clarity on the status of his application that reduces his stress when he fails to get a reply for considerable time-period.

Ideas implemented: -

- Application tracker
- Chat with company employees
- Applying to bookmarked jobs
- Receiving the expected time of response from the intended company.

2. **Bella:** Bella having just graduated is looking for a job in her field of graphic designing. But having the kind of nature she possesses, she is already stressed and overwhelmed in finding an appropriate medium for looking for intended opportunities.

So, when she starts looking for a job on the application, she comes across the feature of chatting with any team member inside the company with department-specific feature. This further helps her find appropriate guidance on the companies she has considered applying to get into even more specifics of the job and attain more clarity on whether she is eligible for the job.

Ideas implemented: -

- Researching eligible jobs.
- Chatting with company employees.
- Searching for appropriate jobs on guidance received.
- Getting more information on company description.

3. **Rose:** Rose wants to finalize her job listings. Even though she has some preferences, she cannot find the appropriate medium in help filter jobs according to her preferences. Therefore, when she starts using the application, she feels excited to learn about the various features of the application that helps cure her stress such as book-marking jobs, attaining even more information on the specific role and tracking the deadlines on the jobs she has applied to. Also, she can easily check her eligibility for the role. These features become very useful for Rose.

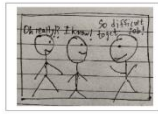
Ideas implemented: -

- Researching eligible jobs.
- Filter jobs on desired industry type.
- Track the soonest deadlines.
- Prioritize the most eligible job role.
- Getting more information on company description.

## PERSONA: LUCAS

## USER STORY/SCENARIO 1:

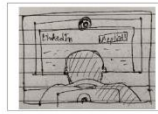
Have an application tracker  
Have or receive flow information from a person knowledge of opportunity  
Applying to bookmarked jobs  
Chatting with the employees of awarded company



At a casual meet-up with regular friends on the weekend.  
The friends after some usual conversation, express their own concerns about looking for jobs with Lucas.



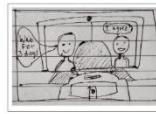
Lucas on reaching home thinks about this carefully and decides to take action.  
Knowing he's done with imperative deadline, can move on to job search the following work day.



Sits down to search for appropriate positions and decides on one. Finalizes and bookmarks the job he wishes to apply for.  
Decides to apply and wait until he gets the reply.



Deriding the results from applied opportunities.  
Patient, though not yet received feedback. Unaware of appropriate time to wait for before following up.



Looks for option to chat with company employees.  
Checks for average duration for response from company.



After waiting for appropriate period of time, mails them back for confirmation.

## PERSONA: BELLA

## USER STORY/SCENARIO 2:

Researching eligible jobs  
Chatting with the employees of awarded company  
Searching for appropriate marks in the awarded company  
Have more detailed company description page



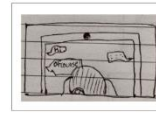
Bella can finally start applying to her dream jobs now that she has graduated.



Being keen with her work, wants to get advice from experienced people in the field so as to polish her application.



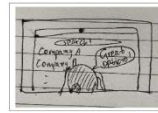
Discovers that she can chat with specific people from specific departments.  
Overjoyed, Bella decides to proceed.



Bella writes to one of the members patiently waiting for a feedback. She wants to make sure her application is eligible enough to apply.



Researches the company profile further to make sure her feedback was accurate. Learns some unexpected information about the opportunity from the company advertised.



Bella does some minor changes to her application from the feedback she got. Browse through all the opportunities available to her and applies.

## PERSONA: ROSE

## USER STORY/SCENARIO 3:

Researching eligible jobs  
Filter jobs available on type of industry  
Active tracking of shortest deadlines  
Reads interesting read on education and experience  
Have more detailed company description page



Rose can finally start applying to her dream jobs now that she has graduated.



When she started searching for jobs, she was confused about job descriptions to decide which jobs meet her background and skills and overwhelmed by number of job listings.



In adverts, she can easily see clear indication about her eligibility and how jobs match with her skill sets.  
Also, she can filter jobs so she does not get lost among them.



She saved desired jobs to apply later. Thanks to deadline tracker, she can decide which job to apply first and never miss any deadline.



When she apply for the company, she checked company description to learn some unexpected information about the opportunity from the company advertised and feel confident about her choice.



Rose finally applies jobs without having any doubt and never feel overwhelmed by sheer volume of job listings.

## 3 | Prototype specification

### 3.1 | Process description

Prototyping is an iterative process within design thinking. It is responsible as the bridge between ideation and implementation. Prototyping aims to gain first-hand insights from how end-users, in this case students, will interact with the final product. This process allows for the visualisation of concepts, testing of hypotheses, and gathering of valuable feedback. The early stages of prototyping often involve low-fidelity representations, such as sketches or paper prototypes. This allows for the quick exploration of ideas. Next, higher-fidelity prototypes, including interactive models or physical mock-ups, are developed to simulate the user experience more closely.

Prototyping promotes a user-centric approach by providing a tangible platform for users to interact with and offer insights. Iterative testing and refinement of prototypes are integral components, ensuring that the final design addresses user needs more effectively. Through the dynamic and adaptive nature of prototyping in design thinking, designers gain the flexibility to experiment. It also gives developers the ability to isolate any usability or design issues before finalising the product, allowing them to learn from flaws and failures. This ultimately bring the product closer to addressing user needs. In this study, the following describes the sequence of prototyping methods utilised.

1. Low-fidelity prototyping
2. High-fidelity prototyping
3. User Testing

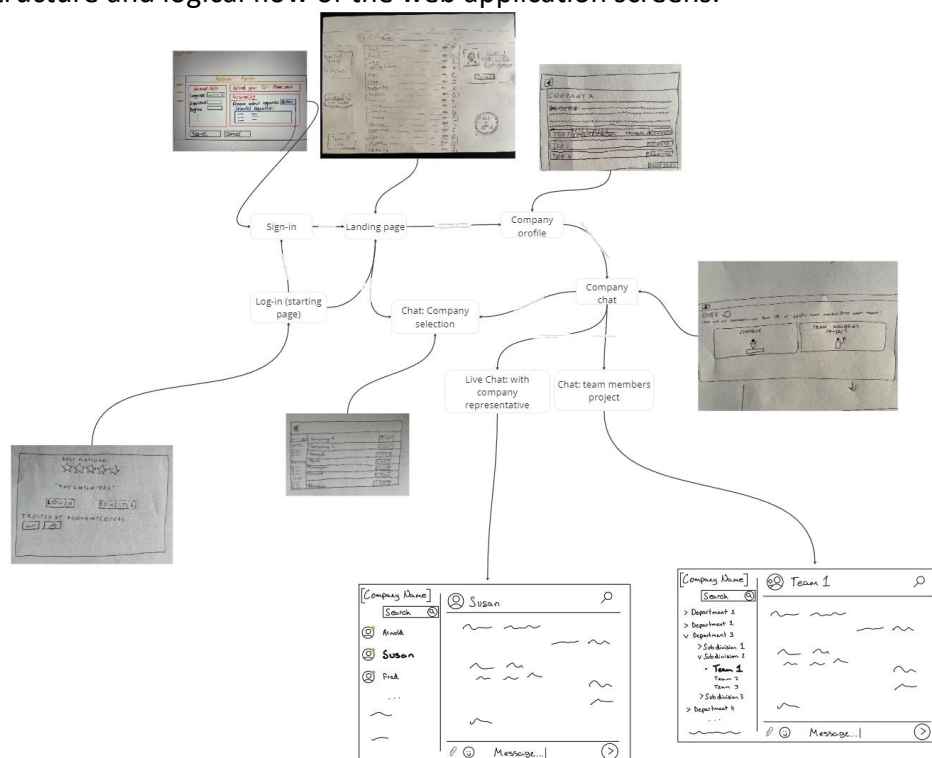
The following subsections provides a walkthrough of the methods with greater context to the project.

### 3.1.1 | Low-Fidelity Prototyping

A Low-Fidelity Prototype is a simple diagram utilised to quickly test ideas. This identifies common gaps of understanding between the developer and users. Low-fidelity prototypes are paramount to the innovation of basic page layers, organisation of contents and the logical flow at which the user will interact with the prototype.

In the context of The Employers, paper prototypes were utilised for the low-fidelity prototype. Paper prototyping describes the process of creating paper representations of digital screens to help designers communicate the affordance of each concept and design from a high-level. Owing to the low-cost nature of paper prototypes, as well as low-fidelity prototyping, these enables the quick and efficient exploration of ideas when building a web application solution for students.

The paper prototypes used in this project come in a series of digital screens depicting the different states of a web application. The web application is made for students like Lucas, Bella and Rose, who desire additional features that will aid them immensely in their job search. Combining the “screens” together creates a wireframe. This wireframe describes the structure and logical flow of the web application screens.



From the wireframe, the user first needs to sign-in. Next, the landing page shows a list of all companies. Clicking into an individual company banner brings the user to the company profile. The company profile consists of job listings and buttons to chat with company representatives, where students can choose to interact directly with a Human Resource representative of the company or a member of a sub-division.

On Miro, the revised wireframes can be found.

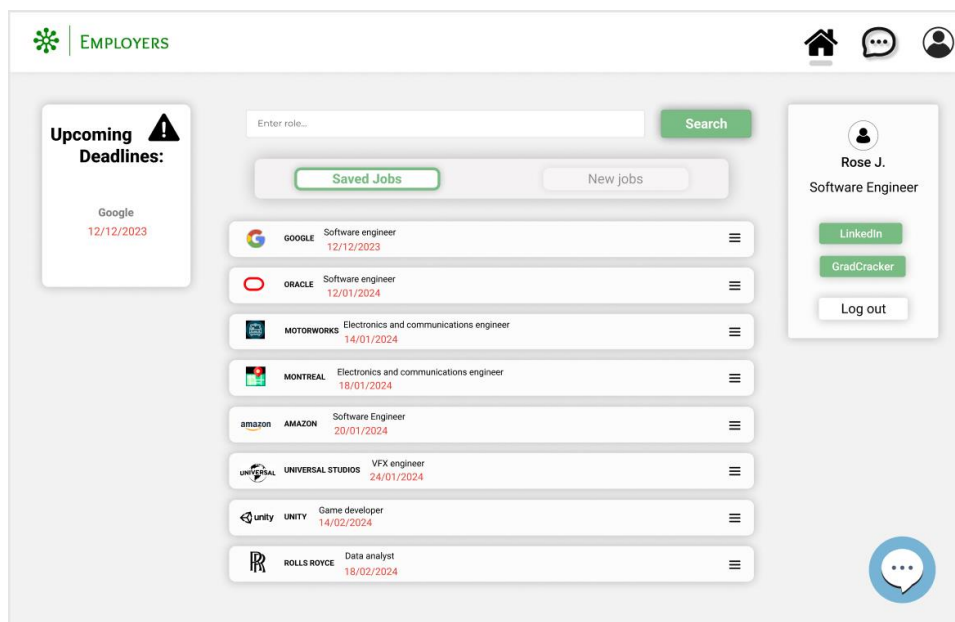
### 3.1.2 | High-Fidelity Prototyping

A High-Fidelity Prototype is a prototype that closely resembles the final product, especially in the regard of how it will look and feel. The prototype will contain all intended features of a product, allowing testers to fully immerse in the application; to gain valuable insights based on their interaction and behaviour with the prototype. As such, the key to high-fidelity prototypes is testing usability and user experience.

In the context of The Employers, the high-fidelity prototype was conducted on Figma. Clicking of different buttons on the prototype will simulate the intended change in screens as described in the wireframe.

At the same time, more details were added. For example, in the main landing page, there are two main tabs, “Saved Jobs” and “New Jobs”, which differs from the low-fidelity prototype where it only had one tab. In detail, “Saved Jobs” provides students a central area to view all the jobs that they have saved or applied for. “New Jobs” on the other hand shows all available job listings available in the present moment.

The choice to implement the additional features, to build on what was drawn in the low-fidelity prototype, is because usability and user experience testing is paramount to the high-fidelity prototype. In this case, providing a section of “Saved Jobs” brings students to a landing page where they can view all the jobs that they have applied for. This makes it very simple for students to keep track of all their job applications. Meanwhile, the “New Jobs” tab allows students to intuitively view all job opportunities available in a single click. As such, the high-fidelity prototype aims to make the student’s user experience as intuitive and seamless as possible.



### 3.1.3 | User Testing

User testing with prototypes is a critical phase in the design thinking process. It provides designers with valuable insights to refine and improve their solutions. User testing involves the evaluation of prototypes by actual users to gather feedback on the design's usability, effectiveness, and overall user experience. Here's a description of user testing with prototypes in the context of design thinking

### **Cognitive Walkthrough**

A cognitive walkthrough is a usability evaluation method to assess the user experience and identify potential usability issues in a product or system. It involves systematically simulating the user's thought processes as they interact with a prototype or a design to evaluate the effectiveness and intuitiveness of the user interface. In a cognitive walkthrough:

1. Define the user and tasks:
  - Define the target user group and the specific tasks or scenarios that users are expected to perform within the design. This step establishes the context for the cognitive walkthrough. In this context, the user will be students finding a job opportunity.
2. Identify User Goals:
  - The tasks are broken down into smaller steps, and it is crucial to identify the goals that users aim to achieve at each stage. These goals serve as the basis for evaluating whether the design supports users in accomplishing their objectives.
3. Walkthrough Scenarios:
  - Assuming the role of students, testers will walk through the predefined scenarios or tasks step by step. For each step, team members consider the following: What goal is the user trying to achieve at this point?
    - What action would the user take to accomplish the goal?
    - How would the user interpret the feedback or response from the system?
4. Identify usability issues:
  - Document any perceived usability issues, challenges, or points of confusion that testers encounter during the walkthrough. Testers afford usability differently from inconsistencies, ambiguous instructions, or unexpected system responses.
5. Repeat for Multiple Perspectives:
  - If possible, conduct multiple cognitive walkthroughs from different user perspectives. Each tester can bring unique insights based on their expertise and background.

Using the high-fidelity Figma prototype, testers were invited to assume the role of students applying for internships or job opportunities. As such, testers will go through the process of interacting with the sign in page, main landing page, contacting company representatives, etc. Testers are not given information on how

Through the cognitive, we have found the following issues and recommendations.

Issue	Adaptation
On the personal details page, language selection was to select one's proficient programming language. On the contrary, testers expected the selection to be on their spoken language instead	By observing this behaviour, the language option has been simplified to the skills section, where programming languages count as skills rather than a selection.
On the main landing page, testers were unclear if the companies appearing are the companies they have applied to, or the companies with listings available	Two tabs were created, one for viewing saved jobs and one to view job openings. This way, it is much clearer to students and users what they are viewing.

The cognitive walkthrough was key in aiding the design process, to highlight the gaps in expectation from the developer and user. This allows the prototype and hence the product to move towards improving usability and user experience, and ultimately meeting user requirements.

## 3.2 | Design Arguments

Prototyping highlights the importance in facilitating innovation, collaboration, and developing a user-centred design. The key design arguments for prototyping are as follows:

1. Visualisation of concepts:
  - Prototypes are tangible manifestations of abstract ideas, making it easier for users and developers alike to understand and visualize design concepts.
2. Quick Iteration
  - Prototyping allows for the rapid exploration of multiple design ideas in a low-risk, low-cost environment. Designers can quickly iterate and refine concepts based on feedback, leading to more effective solutions.
3. User-Centricity
  - Prototypes enable designers to embody user experiences via empathy, fostering a deeper understanding of user preferences.
4. Feedback:
  - Prototypes are communication tools to gather feedback from users and end-users early in the design process. This engagement helps in refining the design based on user-centric insights.
5. Risk Reduction:
  - Building prototypes allows designers to identify potential issues and challenges early in the design process, reducing the risk of implementing costly or impractical solutions.
6. Innovation:
  - Prototyping promotes experimentation. It provides a platform for trying out both conventional and unconventional ideas; to pushing the boundaries of what is possible.
7. Alignment with Design Objectives:
  - Prototyping helps ensure that the final design aligns with the overall objectives and goals of the project. It serves as a reality check, allowing designers to assess whether the design effectively addresses the identified problem or challenge.
8. Validation of Assumptions:
  - Another key aspect of prototyping serves to validate assumptions made during the ideation phase. Through user testing and feedback, designers can confirm or adjust their initial assumptions.



### 3.3 | How do existing approaches Fail

Prototyping in Design Thinking harbour benefits, however developers should exercise caution to avoid these errors during this phase.

1. Overemphasis on High-Fidelity Prototypes:
  - Focusing too heavily on creating high-fidelity prototypes well in the early stages can be time-consuming and limit exploration. This may hinder the iteration and flexibility during the early stages of development.
2. Neglecting Perspectives:
  - Overlooking of crucial insights and preferences can occur if prototypes are developed without incorporating diverse perspectives from potential end-users. Prototyping should involve continuous feedback to ensure well-rounded solutions.
3. Insufficient User Involvement:
  - Prototyping approaches can fail when there is a lack user involvement. The final product may not effectively address user needs or may even miss critical pain points.
4. Limited Integration with Iterative Processes:
  - Prototyping should be tightly integrated with an iterative design process. Failing to iterate on prototypes based on feedback can result in persisting design flaws.
5. Resource Constraints:
  - Prototyping approaches can fail if they do not consider resource constraints such as time, budget, or technological limitations. Creating elaborate prototypes that are difficult to implement or sustain may result in impractical solutions.
6. Failure to Learn from Failure:
  - Design thinking emphasizes learning from failure and using it as a key source of insights. Avoiding iteration and learning from failures can lead to opportunities for improvement being missed out on.
7. Poor Communication of Design Intent:
  - Prototypes should effectively communicate design intent to end-users. If the prototyping approach results in unclear, it can lead to misunderstandings and misguided decisions.

### 3.4 | Key Assumptions & Features

Assumptions play a crucial role in prototyping. They extend from the findings *Empathise and Design*, where assumptions made are based from the observations of students' behaviours in finding job opportunities.

Assumptions play a crucial role in prototyping as:

1. Designers have incomplete information:
  - Information on users is not always complete. As such, the full context of their requirements is not always available. Assumptions are educated guesses or hypotheses that fill the gaps in understanding, allowing the design process to move forward.
2. Encourages rapid iteration:
  - The design thinking process emphasizes quick iteration and prototyping. Assumptions eliminates the need for the extensive research for complete information as it slows down the ideation and iteration processes.
3. Focus on user-centric solutions:
  - Assumptions help direct the design process toward user-centric solutions. By making educated guesses about user needs, preferences, and behaviours, designers can create prototypes that can resonate with and benefit end-users.
4. Testing and validation of assumptions:
  - Prototyping involves testing ideas and concepts with real users to gather feedback. This is critical in aiding designers to validate assumptions, as well as helping designers reflect on user requirements in the event where expectations were not met.
5. Managing ambiguity:
  - Design problems are often ambiguous and multifaceted. Assumptions provide a structured way to handle this ambiguity, helping designers make informed decisions and focus on specific aspects of the design challenge.

As such, making assumptions during prototyping is a pragmatic approach to acknowledging uncertainties and fostering user-centric solutions.

In the context of The Employers, an assumptions table has been created on Miro. The following table below depicts the same assumptions table, along with a justification column to explain why the team decided to go forward with each assumption. It is crucial to reiterate the fact that the assumptions are based on the observations of the interviewees' behaviours, analysed in *Empathise and Design*.

Assumption ID	Assumption	Justification
1	Students will be more motivated to apply for jobs where a high percentage of their skills match the role requirements, as indicated by our skill matching feature. This could lead to an increased number of applications to roles where the skill match is above a certain threshold.	Students find job applications redundant when there is lacking information in a company's job description and culture. Improving the communication of these aspects will allow students to more clearly see if the company's role and gain an understanding of their working environment. This can motivate them to apply.
2	Providing a clear and immediate eligibility indicator, such as "You are eligible for this role," streamlines the job search process for students. This feature is assumed to increase engagement with the application process, as it boosts confidence by affirmatively matching their skillsets with job requirements.	From the thematic analysis, it was seen that students struggle to see where they stand with regards to their eligibility to applying to a company. Providing a simple feature for students to verify their eligibility improves user experience and allows improved efficiency of job applications.
3	The ability to filter jobs by specific criteria such as location, industry, and salary expectations leads to a more efficient job search experience. This efficiency reduces the time users spend sifting through irrelevant job listings and may increase the frequency and engagement of users on the platform.	As students find job searching time-consuming, being able to narrow down and filter opportunities can save a great deal of time in their job hunt.
4	Users who utilize the filter to select their preferred industry and salary expectations are more likely to find and apply for jobs that closely match their qualifications and needs. This targeted search	Similar to Assumption #1, students can be demotivated to apply to opportunities that do not match their expectations. Thus, being able to assist students to better find opportunities that meets

	approach increases user satisfaction and the likelihood of successful job placements.	their expectations can improve their productivity in their job search.
5	The presence of an "Upcoming Deadlines" alert and a list of saved jobs will help job seekers to manage their applications more effectively. This feature is assumed to decrease the number of missed opportunities due to deadlines passing unnoticed.	As students often apply to jobs online, they can be overwhelmed with the sheer volume of opportunities available. As such, providing an interface for students to be able to view their upcoming deadlines aims to improve their user experience navigating job applications.
6	Users are more likely to apply to jobs if they can save and track them easily. The saved jobs feature assumes that by reducing the cognitive load on the user to remember and manage application deadlines, the platform will see an increase in the number of applications submitted.	Similarly, as students prefer searching for jobs online, the volume of opportunities available correlates with higher numbers of application. Higher numbers of application can lead to students losing track of all the opportunities they have applied to. As such, helping students keep track of jobs improves their user experience.
7	By integrating a live chat feature with company representatives on our platform, students will feel more connected and informed, leading to a higher rate of completed applications and engagement with potential employers.	Students find applications redundant when there is a lack of communication between employers. As such, students may feel that their applications are neglected and demoralised when they do not hear from their employers. As such, allowing students to more easily communicate with their potential employers can motivate them to apply to more opportunities as they feel more connected to the company. This also allows more exchange of information, enabling students to also gain more

		information on the company culture and determine if they are good fits.
8	Providing comprehensive descriptions of companies and their organizational structures on the job platform helps students better understand the work environment and ethos, reducing ambiguity about the job and company specifics. This detailed information aids students in tailoring their applications to better fit the company culture and requirements.	Similarly, having more information on the company's culture and background allows students to make a better decision when it comes to applications. Providing a feature that provides company details improves user experience and helps students make more informed decisions more efficiently.
9	Providing a platform for real-time conversations with employees involved in specific projects will increase user engagement by offering personalized insights and a deeper understanding of the roles and projects that interest them.	Building on company fit, students can reduce the ambiguity of job descriptions by being able to engage with representatives from departments that they are applying to. As such, they can find out if the company job description as well as culture are a good fit for them
10	Centralizing all messages from company representatives and employees in one location will simplify the user's communication management, leading to increased efficiency and reduced likelihood of missed or unaddressed messages. This feature is assumed to enhance user engagement with the platform by providing a streamlined communication experience.	Centralising messages is an improvement to the usability and user experience of the platform, allowing students to be able to keep track of all their conversations with companies. This allows students to feel more connected to each company, just as they do with their friends on various chatting platforms.

### 3.5 | Prototype Features

This section describes and explains the features present in the high-fidelity prototype created on Figma.

The features table displayed below can be found on the Miro, where the corresponding Figma screenshots and related quotes with respect to each feature is recorded in detail.

Feature ID	Feature	Description	Assumption ID	User requirement satisfied
1	View and add career-tailored personal details	The user should be able to input information about their degree, industry, work experience, CV, and skills	#1	Users can present their professional background and qualifications in a manner tailored to their career aspirations, enhancing the relevance of job recommendations.
2	Get recommended more eligible roles	The user should be able to see a role and how much of they would match it based on the skills that they inputted previously	#2	Users can have an eligibility indicator that would help in streamlining the job search process to make it simpler, efficient, and more personalized.
3	Apply for Jobs tailored to filters	The user should be able to click on different filtering options to have preferred jobs pop up	#3, #4	Users can streamline their job search to see only those listings that match their specified criteria, making the search process more efficient and personalized.
4	View specific company profile information	The user should be able to see more details about any chosen company, such as what the company is about and the type of roles available (and how well the individual matches that role).	#8	Users can gain deeper insights into potential employers, enabling them to make informed decisions about whether to apply based on company culture and values alignment.

5	Chat in real-time with company representatives	The user should be able to talk to anyone representing the company, such as hiring agents	#7	Users can obtain immediate clarification and insights directly from employers, fostering a more engaging and informative job search experience.
6	Chat in real-time with people working on projects you are interested in	The user should be able to communicate in real-time with employees that have worked in fields and projects that they find interesting	#9	Users can connect with professionals to learn about real-world experiences, gaining a better understanding of potential job roles and projects.
7	View all messages sent/received in one common place	The user should be able to track their chat history with different companies and their representatives/employees	#10	Users can effectively manage their communications with potential employers, ensuring no important information is overlooked.
8	View saved applications together with their deadlines	The user should be able to track the deadline for applying to different roles on each job on the landing page, and see the jobs that they saved	#5, #6	Users can keep track of application deadlines, helping to manage their time and application submissions proactively to avoid missing opportunities.

## 4 | Testing

### 4.1 | Usability Study

The problem statements to which the usability study aims to assess on the success of the prototype is as follows:

1. Equip students with the necessary insights to make informed decisions about job opportunities that align with their skills and career aspirations.
2. Enable students to have a closer level of contact with employees from the companies they are looking to work for online.

The prototype is evaluated as successful when these 2 two aims have been met. This process will require testing to be completed, so that feedback can be received and as a result, deploy an iterative development process to improve upon the prototype.

By conducting this usability study, we aim to produce a cohesive and effective end-product that can deliver on the problem statements' aims.

#### **Description of the test:**

- Monitor how easy it is for a user to navigate the website
- Monitor how easy it is for a user given a task, to complete it via their mental model's understanding
- Our research is focused on what people do with our Employers website (Behavioural). It also focuses on how to make our website better (Qualitative).
- Our research goal is to improve the usability of the design of our Employers website, thus proving more to why we need Usability Testing.

The key sections of the website to be tested include:

1. Users are displayed with roles they can apply to
  - a. Clicking into a role will display further details of said role and information about the employer/company
2. Users have the ability to chat with each company/role that are displayed on their screen.
  - a. Users can either chat with company representatives or team members from specific departments in the form of a group chat

#### **Format and Setting of the Study:**

- The study will be conducted **in lab**.



- The study will be **moderated**.
- The study will be **in-person and online**.

The reasonings behind these decisions are as follows:

1. Being in lab produces a comfortable environment for moderated studies.
2. We plan on moderating studies so that we can monitor how users' mental models match up to the natural intuitiveness of the website - AKA how easy to understand/use is the website
3. The study will be conducted online and in person. Online provides easy access to facilitators and participants as they are no longer required to meet in person. In-person, on the other hand, allows us to assess the body language of the user and other intricate details such as facial expressions which can help to indicate a further level of understanding. However, given that we plan to record the entire study, the benefit of in-person should now also be shared with online conducted studies as well.

### **Participants:**

The right participants for our study are students, given that they are the sole target user group. The participant is unaware of the product beforehand and will be assessed on their first time using/seeing the website. This is to remove potential bias. As mentioned before, our research only targets one user group: Students. As a result of this, we will be conducting the testing on the recommended amount of 3 participants.

## 4.2 | Post-task, Scenario based questions

### **Specific questions:**

1. Let's assume that you are a new user, could you please attempt to sign up as a new user.
  - a. Could you please press "log out" on the right-hand side of your screen.
2. Let's now assume that you are a returning user, could you please sign in.
  - a. Please navigate to the home screen.
3. You realise that when you signed up, the degree you put on your account was inaccurate. Could you please change that?
  - a. Please navigate back to the home page.
4. You want to see the new jobs that are available to you. Please try to find a job that suits your skill set.
  - a. Please now apply to that role.
  - b. Please return to the Employers website's home screen.

5. You would like to get more information about the Software Engineer role at Google. Could you please go to the chat section of one of Google's company representatives: Suzan.
  - a. Please return to the home screen.
6. You would like to see all the chats you have currently open on your account. Please navigate to that screen.
  - a. Please navigate to the Home Screen.
7. You have saved a role at Google: Software Engineer. You would like to see the company's details. Please try to find the relevant screen.
  - a. Please navigate to the Home Screen.

**Exploratory questions:**

1. You are interested in finding a career opportunity. See if you can find anything you might deem useful in the Employers website.
2. You are feeling nervous about an interview you have with google. Try to communicate with Google to ease your nerves.

4.3 | Usability Test Results

**Participant 1:**

## Post-Test Questionnaire:

Questions	Score (0-10)	Extra notes
How easy to use was the Employers website?	6	"Some stuff is straightforward but some stuff took a little bit of exploring before I could find it properly. For example the chat section" "The chat icon in the top right makes me think that all the chat options can be accessed from there but there's different chat sections in reality"
How helpful do you think the Employers website was to students who are currently seeking employment/interhip opportunities?	7	"Especially with the feature of seeing how similar each role is to your skillset/ how suited you are to each role"
How cohesive do you think the different features of the website were. Do you think the website functions well?	7	N/A
How likely are you recommend this website to someone else?	8	"Once fully implemented I would give it an eight, but at the moment as a prototype I can see it needs slight improvements, but still pretty useful"
How effective do you think this website would be to students?	8/9	"Most students need an internship, so being able to narrow down and be able to find what you need is useful"

## PT Open-ended Questions:

Questions	Feedback
What is the first thing you would prioritise to change about the website?	"The main changes I would make are not to do with functionality, but more to do with form/appearance. Moving on from the prototype, maybe work on the UI a little bit, but apart from that, the functionality is all good"
What about the website do you least like?	"Again, probably just more UI stuff. I guess its not that important, but work on the appearance"
What about the website do you most like?	"I like the job search section with the job filtering on the side. I also like the orange part which lists the how well the skills match for the role- that's pretty useful"
Do you think the website achieves its purpose?	"I'd say so, it seems pretty useful in displaying roles specifically suited for you"

## Specific Test metrics:

Task	Error Rate (mis-clicks)	Time taken	Successful
1	0	18s	✓
2	0	2s	✓
3	0	13s	✓
4	1	22s	✓
5	0	39s	✓
6	12	1s	✓
7	3	6s	✓

## Exploratory Test metrics:

Task	Error Rate (mis-clicks)	Time taken	Success
1	5	16s	✓
2	4	21s	✓

**Participant 2:**

## Post-Test Questionnaire:

Questions	Score (0-10)	Extra notes
How easy to use was the Employers website?	6	Quite simple, though some icons and labels could be improved for better user experience.
How helpful do you think the Employers website was to students who are currently seeking employment/internship opportunities?	7	Very helpful for new students. Deadline trackers are a great feature!
How cohesive do you think the different features of the website were. Do you think the website functions well?	6	"I would say they were pretty good, except the buttons and input fields could be improved."
How likely are you recommend this website to someone else?	5	I would highly recommend it to people who are looking for jobs. And to students or for people who have just finished their degrees.
How effective do you think this website would be to students?	6	Should help them with bookmarking and keeping track of all applied jobs.

## PT Open-ended Questions:

Questions	Feedback
What is the first thing you would prioritise to change about the website?	The setup of first page was confusing with bookmarked jobs theme.
What about the website do you least like?	The icons at the sign up page about job look like buttons are confusing.
What about the website do you most like?	Deadline trackers – soonest and on individual job tags. Also, the job description feature.
Do you think the website achieves its purpose?	Yes, the website is quite worthwhile for new students. But, tags or captions under icons can be more informative though. Pages and features can be more descriptive than given.

## Specific Test metrics:

Task	Error Rate (mis-clicks)	Time taken	Successful
1	8	20s	✓
2	0	7s	✓
3	1	15s	✓
4	3	10s	✓
5	0	45s	✓
6	10	7s	✓
7	3	4s	✓

## Exploratory Test metrics:

Task	Error Rate (mis-clicks)	Time taken	Success
1	7	45s	✓
2	8	33s	✓

### Participant 3:

#### Post-Test Questionnaire:

Questions	Score (0-10)	Extra notes
How easy to use was the Employers website?	9	The only confusing aspect is the two chat icons on the same page
How helpful do you think the Employers website was to students who are currently seeking employment/ internship opportunities?	10	Particularly impressed by the company chat
How cohesive do you think the different features of the website were. Do you think the website functions well?	8	Would like pages to be more uniform and with less information in each page
How likely are you recommend this website to someone else?	7	Depends on the purpose of the user
How effective do you think this website would be to students?	8	Finds that the matching is complete and provides more functionalities such as the company chat

#### PT Open-ended Questions:

Questions	Feedback
What is the first thing you would prioritise to change about the website?	Remove information on the sign-up page as it is overwhelming
What about the website do you least like?	Chat page was a bit aggressive in its design
What about the website do you most like?	The completeness of the home page with the deadline tracker and summary of account
Do you think the website achieves its purpose?	Believes it does achieve its purpose of helping students to find job opportunities online

#### Specific Test metrics:

Task	Error Rate (mis-clicks)	Time taken	Successful
1	0	35s	✓
2	0	5s	✓
3	0	55s	✓
4	0	15s	✓
5	1	55s	✓
6	0	6s	✓
7	0	5s	✓

#### Exploratory Test metrics:

Task	Error Rate (mis-clicks)	Time taken	Success
1	2	50s	✓
2	4	1min	✓

## 4.4 | Common issues

Both Participant 1 and Participant 2 reported that the chat section of the website was confusing. This was because there were multiple chat buttons on the home screen and not every single button led to the same page.

Participant 2 was very appealed by the designs. Yet, there were some minor changes they suggested that would be quite helpful to new students.

Some of them are:

- Confused about whether they could log in to the website without creating the account.
- A little troubled in choosing specific company departments to chat with, when looking for specific job.
- At first, little worried about getting to job description but found the feature very helpful once they got acquainted with the feature.

#### 4.5 | Usability Heuristics Violated

Even though the designs are promising, some minor heuristics are casually violated. Though the focus of the product was also on inverse heuristics, or the user interaction designed in a subtle way.

Regardless, some of the casual problems are:

- Image icons looked interactive but were not.
- Not all the buttons were functional. Though not all were intended to be functional. Priority of functioning in the prototype is given to in-built features of the website.
- Extra detailing or crowding of details on “Applied jobs” website. Very informative but not necessary for new students.

#### 4.6 | Improvements

Suggested improvements from the interviewees when testing the prototype are:

- Usability improvements on buttons and text fields.
- Highlight the differences between the different chat buttons
- Marketing icons at the initial pages could be made functional as it looked so.
- Very detailed, but new students can do with just main functions of the website as well.
- Option for CV uploading would be enough for students in writing or arts field. Though looks convincing, skillsets options are not that important.

## 5 | Conclusion

The purpose of the project was to generalize a particular section of users for which we chose the new students in dire need of finding internships or job opportunities as soon as they complete their education. Students always commit to immense amount of arduous work just to get to their dream universities, but their struggles do not necessarily end there. Most of them still must keep looking for better opportunities to enter the real world so that they can apply their teachings. But the process is even more stressful in a pragmatic world. Therefore, we aim to help students to lessen their burden by providing them with the most appropriate solutions and so came the opportunity to ideate for such a product prototype. The overall procedure was quite helpful in not only increasing the exposure towards the development of real-world applications to us as designers but also learning a lot from the students themselves as to how they would like the most effective solutions to look like.

In conclusion, our project has successfully discovered the diverse perspectives of students as they navigate the landscape of job, internship, and volunteering opportunities. As showcased in the report, the findings ascertained by our various methods, have contributed significantly to our understanding of the subject. Our overarching goal was to identify ways to better assist students during their search and maximize their chances of success, and we believe that this criterion has been met by our prototype. We have received important feedback and were this project to carry on, the feedback from testing would be utilised to iteratively improve upon the prototype.

This is particularly true of the personalities of students chosen for our project as it provided a lot of clarity about the overall general population of students in the city or any other place with students facing similar common issues. The personas built thus served as strong foundational base of users to materialize the project's aims which contributed to the success of the development of the desired prototype.