

Group K - High-Fidelity Prototypes of Volunteer Application: V are one

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1. Introduction

This paragraph is a brief introduction to our group's high-fidelity prototype. In our previous submission, our group decided to create a volunteer recruitment application that is user-friendly and accessible to various user groups. We named this program "V are one," signifying the unity of all volunteers. In this report, we will first demonstrate how we gradually developed the prototype and which qualitative requirements we have incorporated. Then, we will present each of our user interfaces, emphasising a unified style that enhances user-friendliness. For each interface, we provide relevant explanations and the application of design principles, encompassing all the principles we have encountered this semester (including Norman's design principles, Shneiderman's Eight Golden Rules, Navigation and Menus, Visual Design Principles, and Gestalt Principles). Additionally, WCAG's three principles have been integrated into our prototype design, which you can find further elaborated in section d. Upholding critical thinking, each member of our group utilised the Heuristic Evaluation method to assess the prototype, which revealed that while the prototype generally meets standards, there are still some shortcomings or violations of certain principles. In the Group Evaluation Summary section, we have identified the three most critical issues and proposed corresponding solutions. We believe that our high-fidelity prototype can meet the needs of various user groups and will impress you. Enjoy reading!

2. Group Work - Prototype

a. Implementation process and link to Figma prototype (accessible by the grading TA)

Implementation process:

We consolidated the feedback from submission 1 and submission 2 to finalise our high-fidelity prototype, which is presented below.

In submission1, we collected individual user preferences and feedback to inform our initial design. After forming the group, we discussed the application layout and main features, integrating user feedback into the low-fidelity prototype. We developed user stories to illustrate various user needs and created basic sample user interfaces, including the Home screen, job search, and voice control (see appendix). We adjusted the content and sequence of the interfaces based on our defined acceptance criteria to ensure logical consistency.

During the low-fidelity prototype development, we encountered challenges such as enhancing accessibility for people with disabilities through the inclusion of relevant buttons and prompts (details in the appendix). Additionally, there were differing opinions among team members regarding whether to use hand-drawn models or digital software (we reached a decision based on individual preferences).

We mainly focused on these 3 requirements extracted from the previous submissions, which are :

Requirement 1: the app should allow users to search and apply for volunteering jobs based on their own interests.

Requirement 2: the app should allow users to add their favourite job positions to the Like folder for further query.

Requirement 3: the app should allow users to modify any account settings based on their needs.

After receiving feedback on the second assignment, we actively engaged in group discussions and ultimately produced such a high-fidelity prototype.

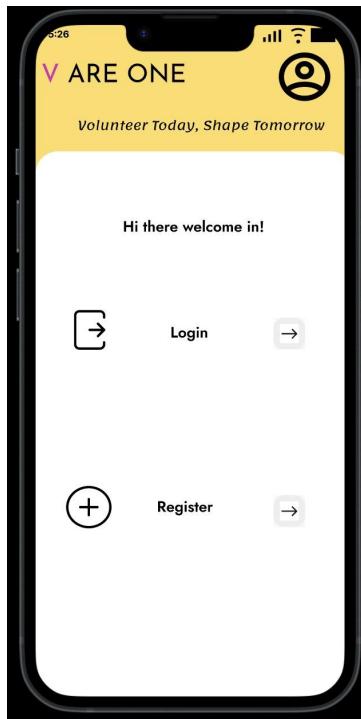
Link:

<https://www.figma.com/file/FEHJJiEnQcrJrxbfZ0qHeg/High-Fidelity-Prototype?type=design&node-id=0-1&mode=design&t=VFCek4R8iBxV4xxT-0>

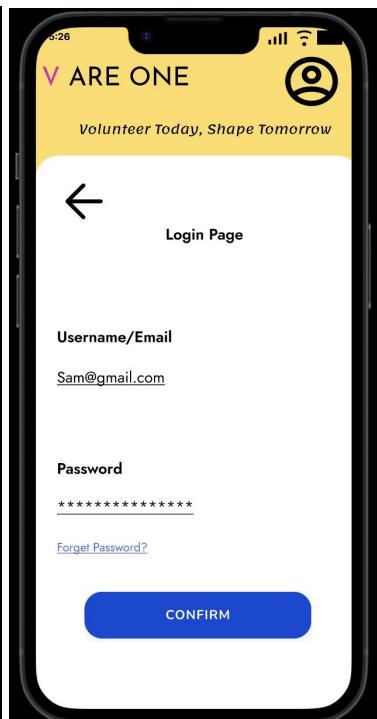
b. Screenshots of all prototype screens

1. Login pages

1.1 Welcome page



1.2 Login page

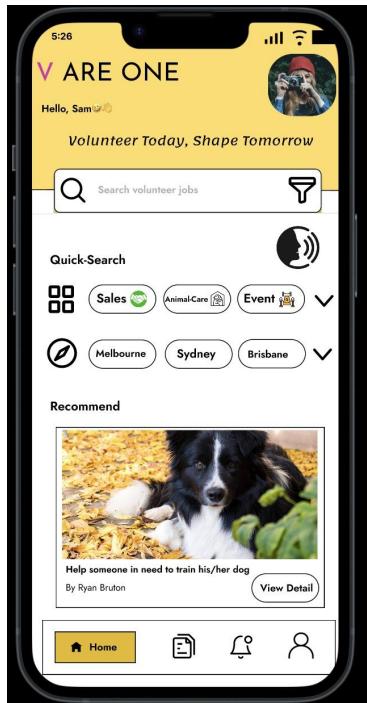


1.3 Error message

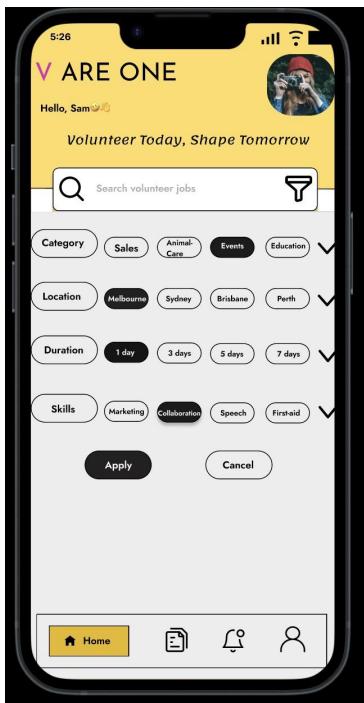


2. Home page

2.1 Home page

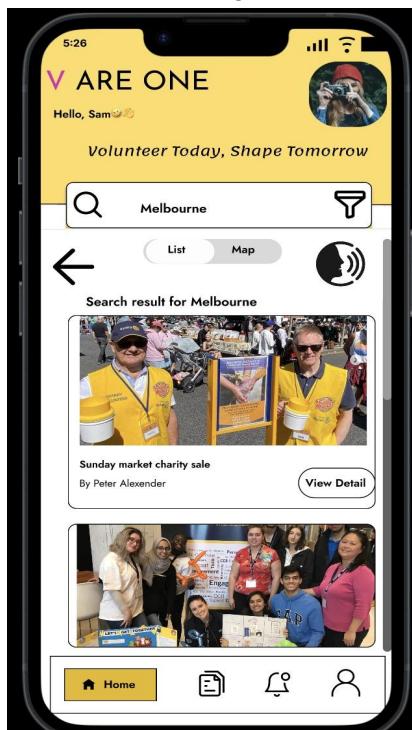


2.2 Filter Page

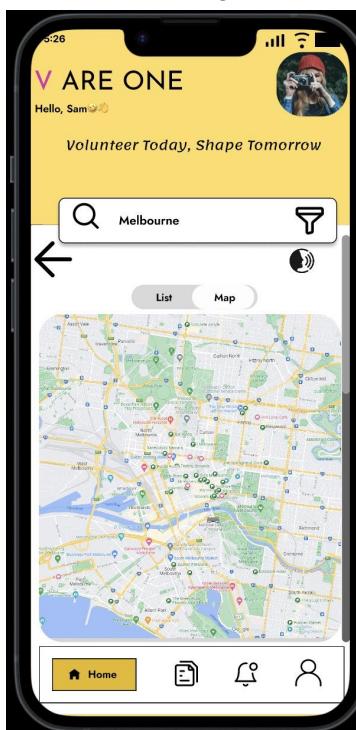


3. Search jobs pages

3.1 Job list page



3.2 Job map page

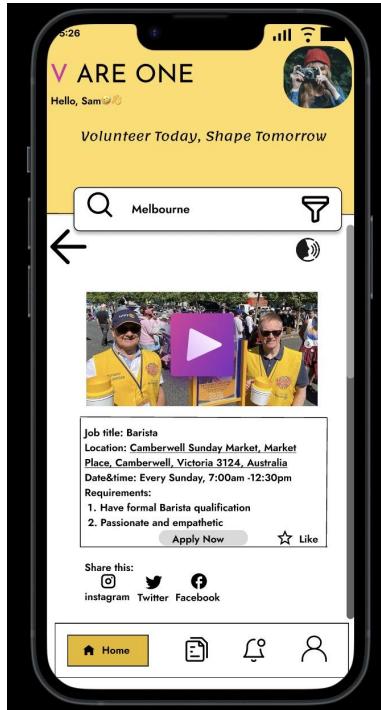


3.3 Error message



4. Job detail pages (after clicking the view detail button)

4.1 Job detail page

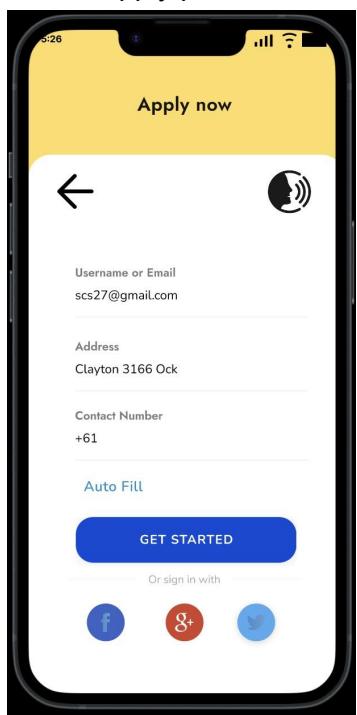


4.2 Job intro video

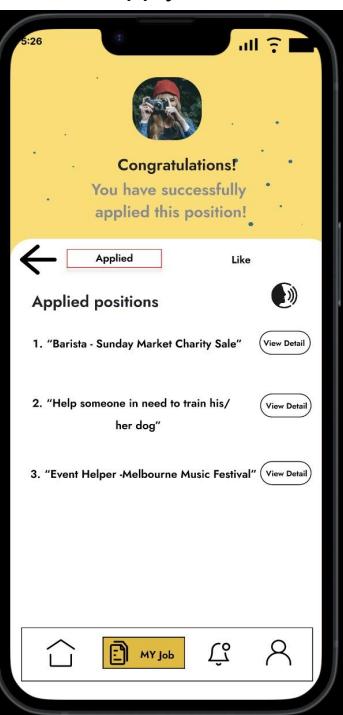


5. Job application pages (after clicking the apply now button)

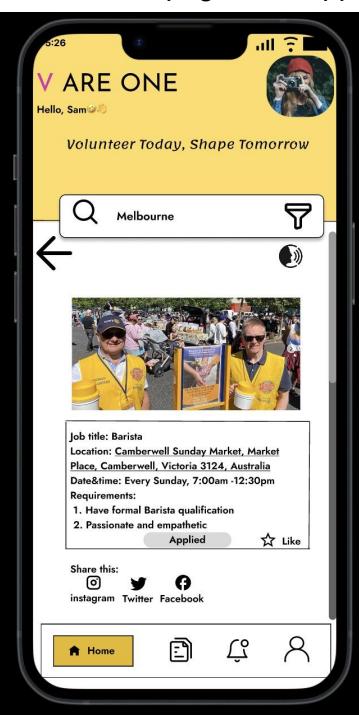
5.1 Apply process



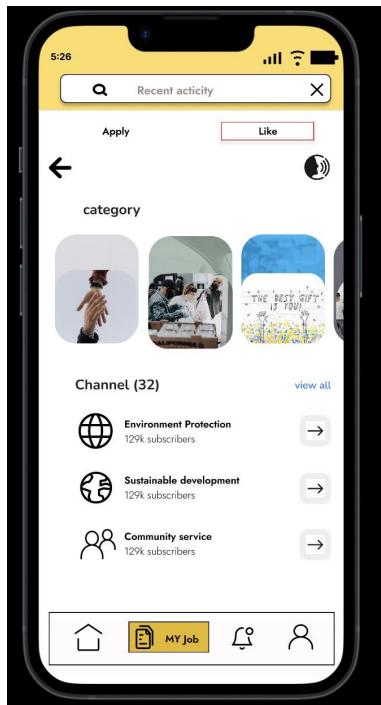
5.2 Apply result



5.3 Job page after application



6. Like page (after clicking the Like Star button)

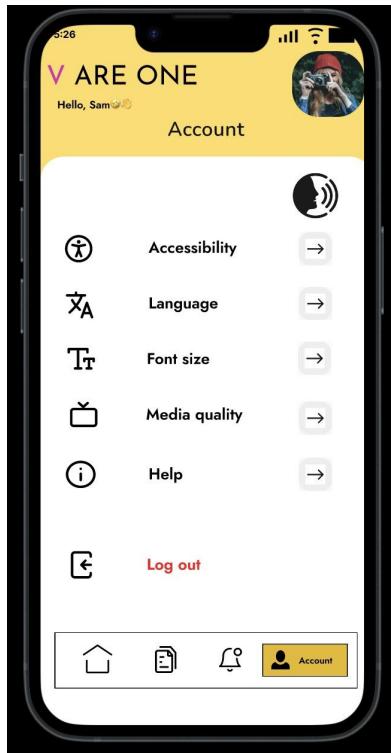


7. Notification Page

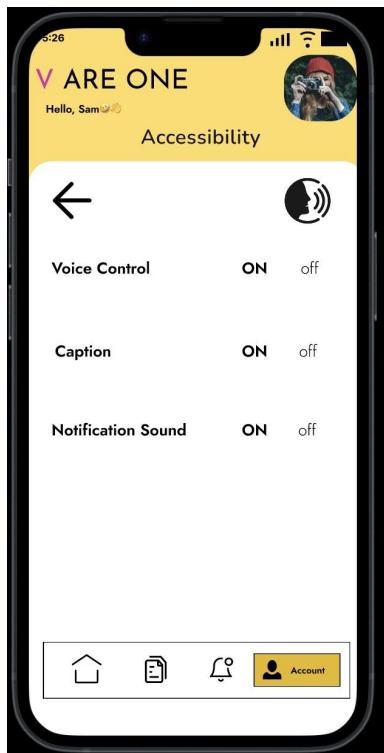


8. Account pages

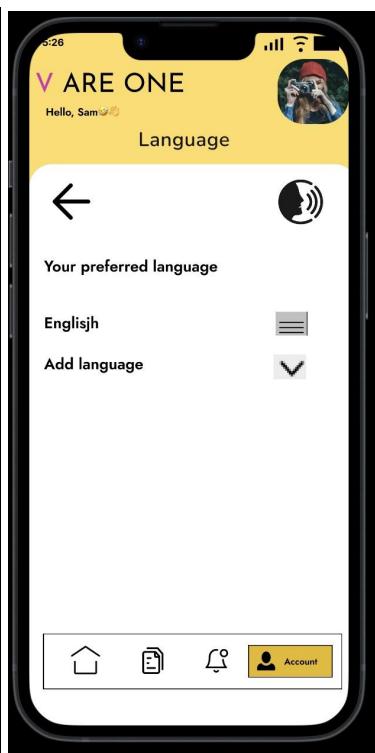
8.1 Account page



8.2 Accessibility page



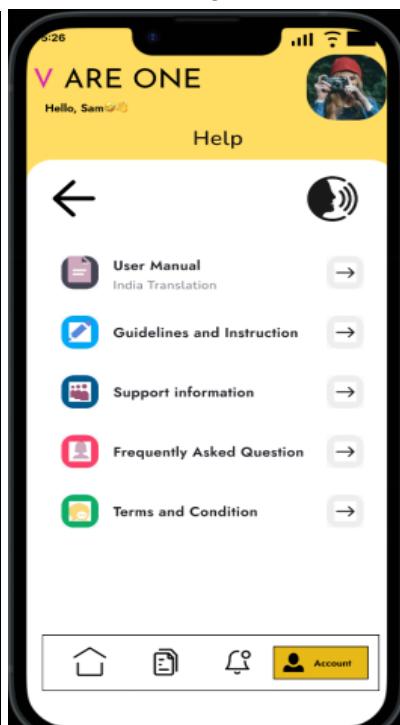
8.3 Language page



8.4 Media quality page



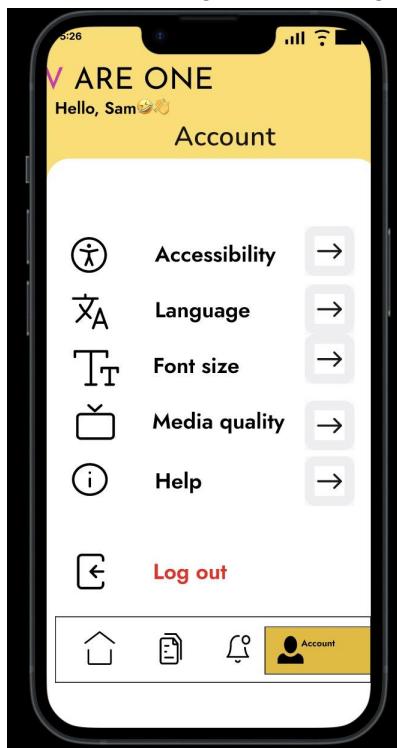
8.5 Help page



8.6 Font size page



8.7 Account page(after changing the font size)



8.8 Voice Control page (after clicking the speaking icon)



c. Description and justification of one design guideline implemented per screen

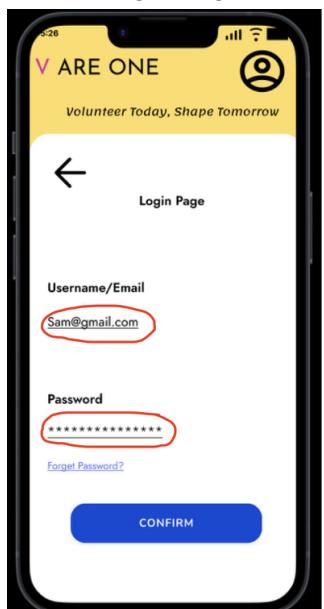
1.1 Welcome page



Description: Norman's design principle - visibility

Justification: In this interface, we aim to present minimal elements to the user, given it serves as the initial login/registration screen. We have included two right-facing arrows on the right side, ensuring easy visibility and access for users.

1.2 Login page



Description: Norman's design principle - feedback

Justification: In this interface, the system offers real-time feedback when users input their username, email, or password. This feature enables users to track their input, ensuring accurate and error-free information entry.

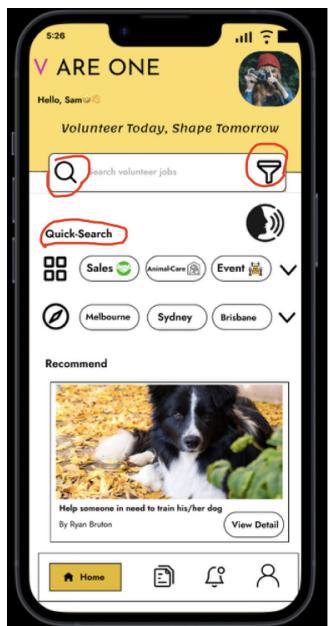
1.3 Error message



Description: Shneiderman's 8 Golden Rules - Prevents Error

Justification: When users input incorrect characters in the login interface, they are directed to this page offering straightforward, constructive, and precise recovery instructions. This feature helps users comprehend their errors and facilitates easy corrections.

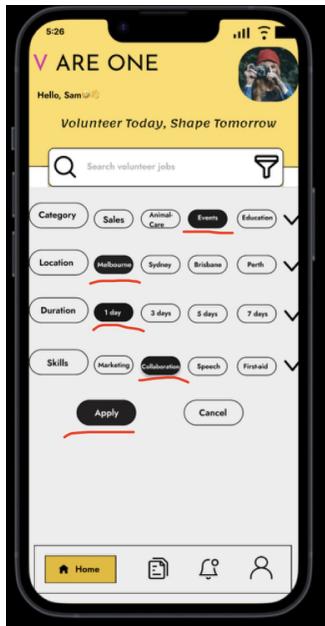
2.1 Home page



Description: Shneiderman's 8 Golden Rules - Seek universal usability

Justification: On our homepage, we cater to beginners with features like quick search and recommendations, while offering experienced users tools such as filters. By understanding diverse user needs, we employ adaptive design to enhance content conversion.

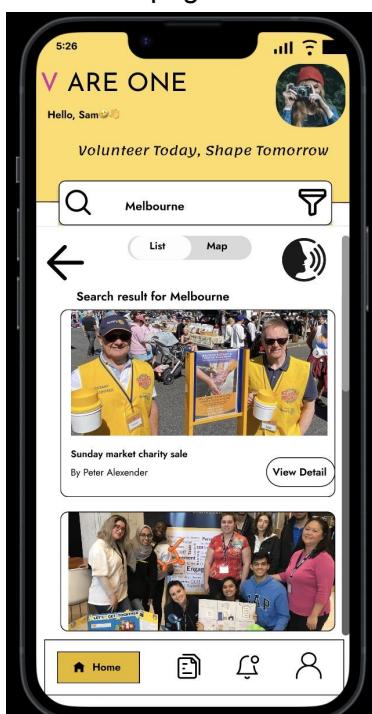
2.2 Filter page



Description: Norman's design principles - feedback

Justification: In the filter interface, when a user clicks on a filter condition, the button dims, providing real-time visibility of the system's response to their actions. This effective feedback enhances users' understanding of their actions, improving system usability and the overall user experience.

3.1 Job list page:



Description: Visual Design principles

Justification: Maintain a consistent typography style for legibility. Utilize a cohesive colour scheme aligned with brand identity to convey meaning. Effective use of whitespace for clean, organised appearance. High-quality, relevant images and graphics enhance

engagement without distraction. Organise content on a grid layout for a structured, user-friendly interface.

3.2 Job map page



Description: Norman's design principle - Visibility

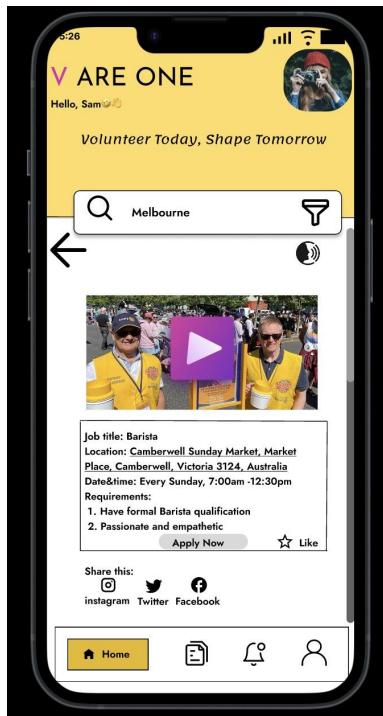
Justification: The map markers displaying job position provided users with a clear and visible representation of available opportunities in various geographic locations. This visibility allows users to quickly identify an identity and access job listing in their desired areas.

3.3 error message



Description: Shneiderman's 8 Golden Rules-Error Prevention

Justification:The page incorporated error prevention by providing clear and informative error messages.When a user makes a mistake or omission while using the platform,the error message immediately informs the user about the issue. The rule aligns with Shneiderman's principle of preventing errors by guiding users to correct their input or actions.



4.1 Job detail pages (after clicking the view detail button)

Description:Sheiderman's 8 Golden rules - Flexibility and Efficiency of Use

Justification:Detail Page caters to both users who want a quick overview and those who require in-depth information. Users can efficiently scan the main details or delve into specifics, offering flexibility and efficiency in the interaction.

4.2 Job intro video

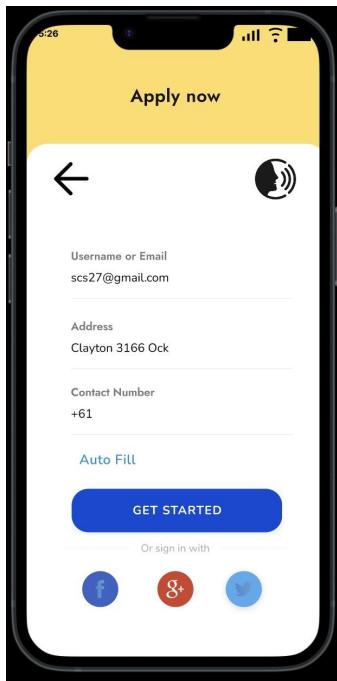


Description:Norman's design principle - Visibility

Justification:The inclusion of a "Job Intro Video" provides users with a visible and accessible source of information about a job position. Users can clearly see that there is an introductory

video available for certain job listings. This visibility ensures that users are aware of the feature's existence and can choose to engage with it if they find it relevant.

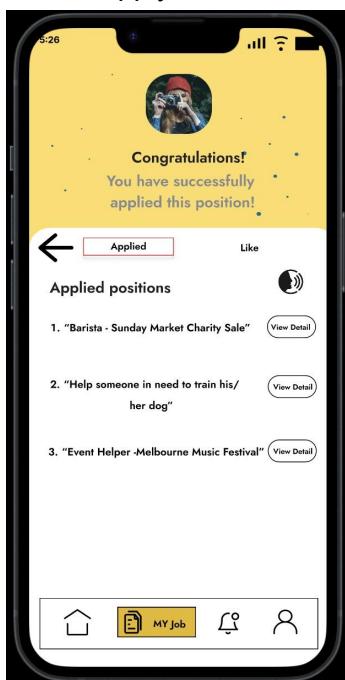
5.1 Apply process



Description:Norman's design principle-Affordance

Justification: The design of the "Apply Process" feature ensures that users can easily identify it as a means to apply for job positions. The presence of clear and intuitive buttons or links, such as "Apply Now," conveys the action that users can take. Users recognize these elements as affordances for initiating the application process, making it evident how to interact with the system.

5.2 Apply result



Description:Norman's design principle - Mapping

Justification:The relationship between the user's action (applying for a job) and the system's response (the result) is logically mapped. Users can easily connect their action to the corresponding outcome, as the system's feedback aligns with their expectations. This clear mapping of actions to results enhances the user's mental model of the system and fosters a better understanding of the cause-and-effect relationship.

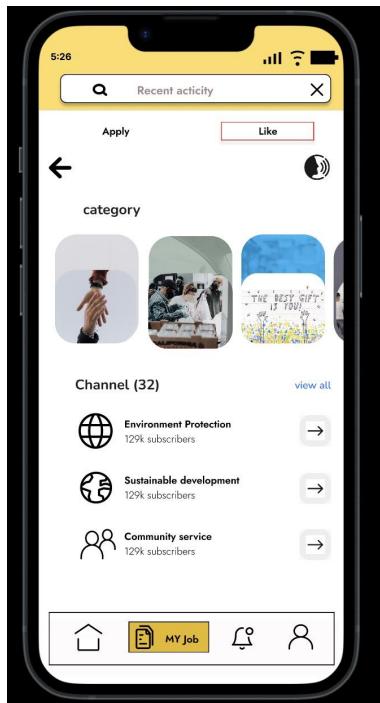
5.3 Job page after application



Description:Shneiderman's 8 Golden Rule design principles-Aesthetic and Minimalist Design

Justification:The design of the job page post-application adheres to the principle of a minimalist and aesthetically pleasing layout. Unnecessary elements or distractions are minimised, focusing on the essential information users need after applying for a job. This approach contributes to a clean and organised user interface, reducing visual clutter and ensuring users can easily access their application history and related details.

6. Like page (after clicking the Like Star button)



Description: Shneiderman's 8 Golden Rule design principles:-Flexibility and Efficiency of Use

Justification: Users can efficiently manage their liked content across various categories, such as job positions, videos, and channels, through a single interface. This flexibility caters to users' diverse preferences and allows them to perform tasks with ease.

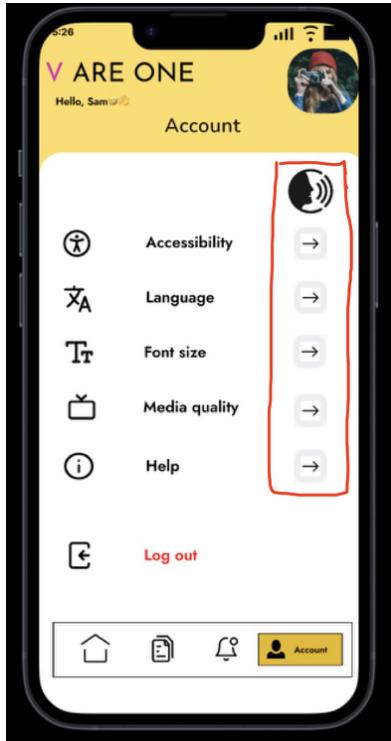
7. Notification Page



Description: Shneiderman's 8 Golden Rule design principles and Norman's design principles.

Justification: Users can effortlessly recognize and access their notifications without the need to recall specific actions or events. Notifications are clearly presented, reducing the cognitive load and simplifying the user experience.
Feedback: When users interact with notifications, they receive immediate feedback confirming their actions. For instance, marking a notification as read provides visual feedback to indicate its updated status. This feedback enhances the user's understanding of the system's response and fosters a sense of control.

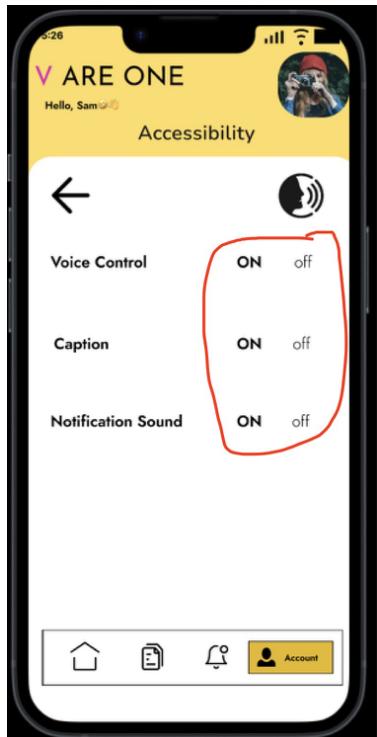
8.1 Account page



Description: Norman's design principles - consistency

Justification: In the Account interface, we maintained consistent right arrow styling from the previous Login and Like interfaces, ensuring users understand available actions. Similarly, we included a voice control button in the upper right section for enhanced accessibility.

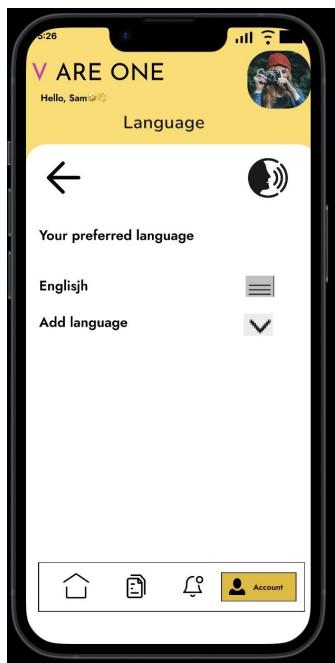
8.2 Accessibility page



Description: Norman's design principles - mapping

Justification: We aim to establish an intuitive interface that allows users to comprehend the cause-effect relationship between their actions and system changes. For instance, disabling voice control should lead to the disappearance of the voice button.

8.3 Language page



Description: Norman's design principles - mapping

Justification: In the language interface, we have designed the currently used language and adjusted your language so that people with different languages can use our APP without any barriers.

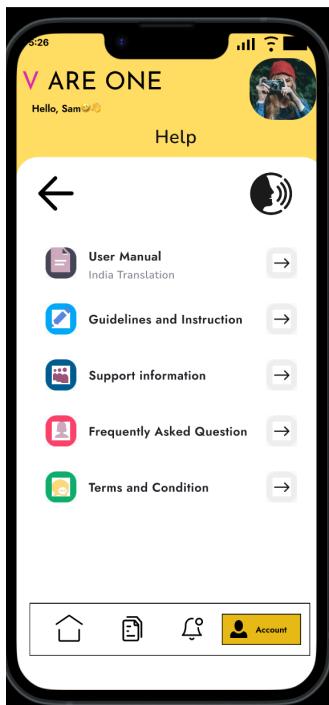
8.4 Media quality page



Description: Norman's design principles - mapping

Justification: In the media quality interface, we designed to use less mobile phone data and upload high-quality videos, so that users can still watch or upload videos under different circumstances.

8.5 Help page



Description: Visual design principles- A good distribution of elements in the screen shows balance.

Justification: In the help interface, we designed icons of different colors and the same size for each option, which not only makes the entire interface more beautiful, but also facilitates users to quickly identify and find the options they need.

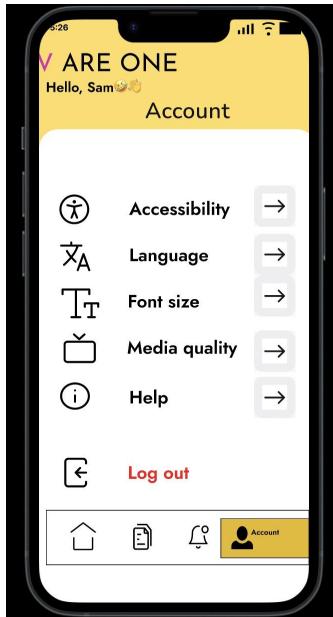
8.6 Font size page



Description: Visual design principles - Object can take predominance in a screen through scale.

Justification: In the font adjustment interface, we aim to create an interface that is easy to use for people with visual impairments. By adjusting the font size, the text on the entire page is enlarged, so even users with visual impairments can easily use our app.

8.7 Account page(after changing the font size)



Description: Visual design principles - Object can take predominance in a screen through scale

Justification: In the font adjustment interface, we aim to create an interface that is easy to use for people with visual impairments. By adjusting the font size, the text on the entire page is enlarged, so even users with visual impairments can easily use our app.

8.8 Voice Control page



Description: Visual design principles - A good distribution of elements in the screen shows balance

Justification: To create an accessible voice control interface, we plan to arrange four prominent words evenly at the interface's centre, offering users clear prompts and suggestions for potential actions.

d. Description and justification of three accessibility guidelines implemented throughout the prototype

We have applied the three important guidelines of WCAG, namely perceivable, operable, and understandable, to the prototype.

First, we ensure that every user, especially those with disabilities, can easily understand the layout and functionality of our application interface. For instance, when displaying job details, we provide both video and text introductions. Users with visual impairments can play the video through a voice assistant and understand the relevant job information through the sound; users with hearing impairments can either use the video's subtitle function or directly read the text description to comprehend the job details.

Regarding operability, we cater to diverse user needs through Account settings functions. Users with disabilities can activate voice control, accessing the voice assistant across multiple interfaces. Non-English speakers can easily switch languages, while users with visual impairments can adjust font sizes for improved readability.

Regarding understandability, our design focuses on maintaining interface consistency, simplicity, and cohesion. We employ a uniform layout across different interfaces, ensuring users can swiftly grasp our software's layout and functions. For instance, we utilise a standardised layout displaying user avatar, name, and search box, while distributing specific functions across different interfaces, such as placing detailed job information in the View Detail module. Furthermore, we have incorporated an accessible Help module within the Account interface, providing users with comprehensive resources like user guides and FAQs for more detailed instructions.

By strictly adhering to the three guidelines of WCAG, we are committed to creating an application that provides a good user experience for all user groups.

e. Description and justification of one change made per team member from the low fidelity prototype to the high fidelity prototype

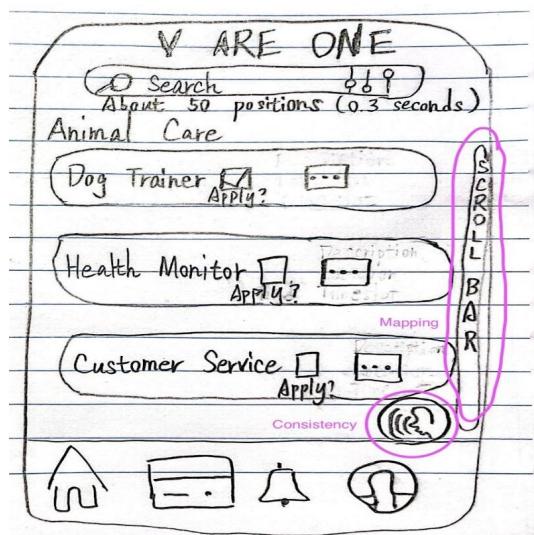
Qihang Wang

Description: We removed the tick-box feature next to each job position in the high-fidelity prototype, opting to display this information in the "My Job" card section instead.

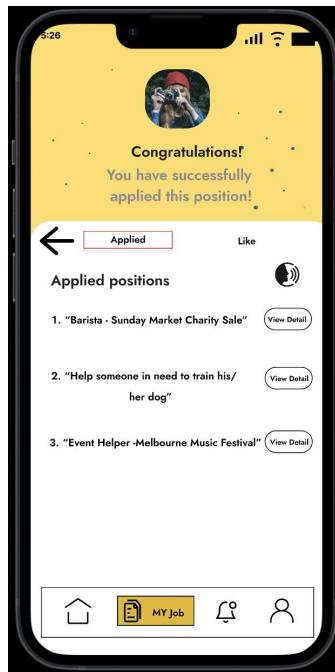
Justification: This change was made to enhance the page's cleanliness by reducing the amount of information presented on the same page. Additionally, we aimed to streamline the user experience by consolidating the applied positions into the "My Job" section, ensuring a more straightforward view for users. This decision aligns with Norman's principles of constraints and consistency, ensuring a uniform and simplified interface.

Screenshots:

Before



After



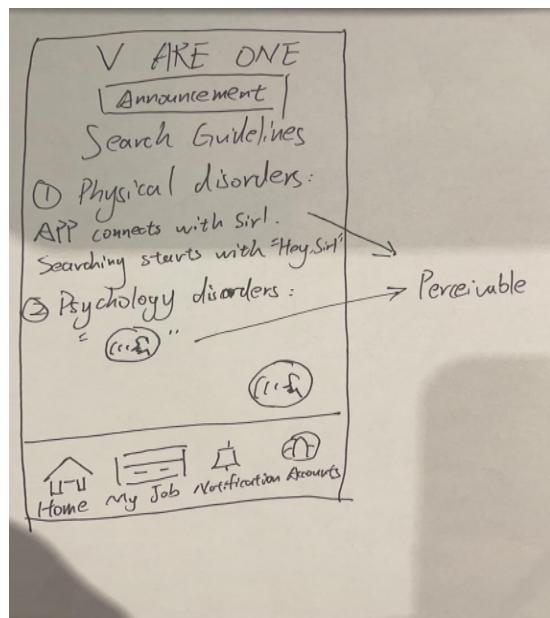
Yixiang Zhang

Description: In the high-fidelity prototype, we relocated relevant information about volunteer activities from the "account" page to the "my job" page. Additionally, we incorporated user-friendly settings like "language" and "font size" on the "account" page.

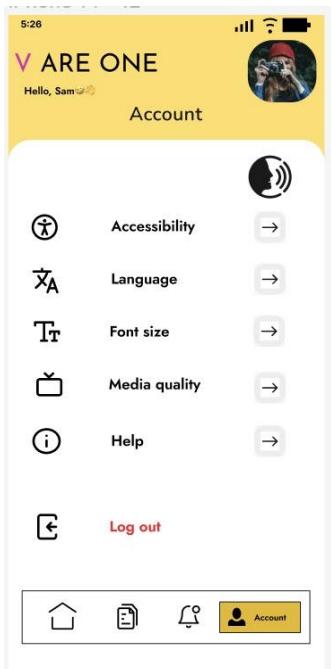
Justification: This decision was made for two main reasons. Firstly, most users are accustomed to accessing detailed information about volunteer activities and recommendations on the "my job" page. Secondly, users have different app usage habits, such as utilising voice control, adjusting font size, and selecting languages. By integrating these settings on the "account" page, we significantly enhance user comfort. This design decision aligns with Shneiderman's Golden Rules, ensuring a positive user experience for individuals with different abilities using our application.

Screenshots:

Before



After



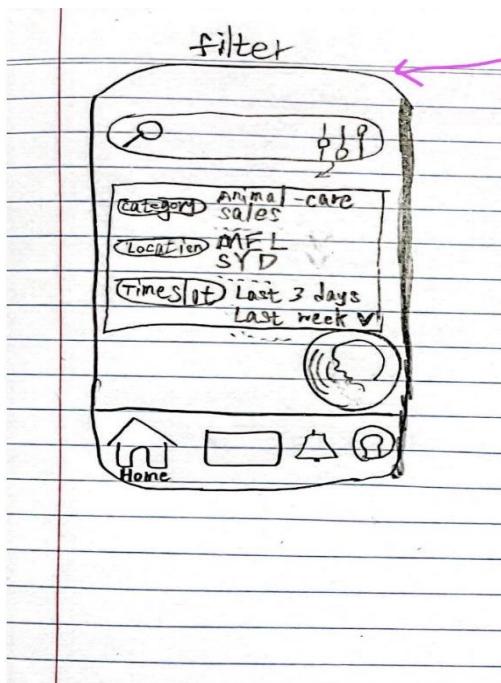
Zewen GU

Description: We have added prompts in the search box and swap the filter's icon to the high-fidelity prototype. At the same time, we have set different options in the categories as buttons, making it easier for users to recognize and operate.

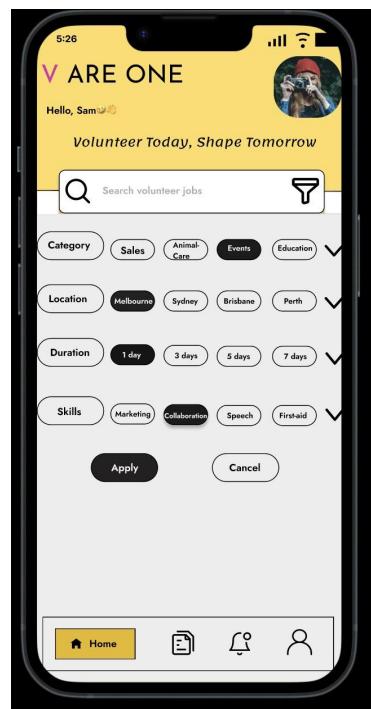
Justification: These prompts provide clarity, ensuring users navigate seamlessly. The icon swap aligns with consistent and intuitive design principles, while categorising options as buttons simplifies user interactions, reducing potential confusion. Collectively, these changes optimise user flow, balance aesthetics with functionality, and cater to an intuitive, user-centric design approach, ensuring our platform is both engaging and efficient for users.

Screenshots:

Before



After



Ziqi Pei

Description: We moved the ticket-box for job positions to the “My Job” card section, enabling users to classify and filter their preferred activities. Clicking ‘like’ on ‘My job’ grants access to favourite activities. Users can also swipe left or right to explore more categories and scroll down to find liked activities and videos.

Justification: We streamlined the design by removing unnecessary elements and improving the layout for enhanced clarity and visual appeal, resulting in a cleaner and more user-friendly interface.

Clear labels were added to the rectangular boxes to provide users with better guidance and enhance their understanding of elements purpose and functionality, facilitating effective interaction.

Screen sizes were optimised to align with standard mobile device dimensions, ensuring a more representative prototype that accurately reflects mobile app layout and interaction.

The positioning of the text-speech/voice interaction button was refined for improved usability and clarity, making its purpose apparent in an intuitive location.

Additional accessibility features were incorporated, catering to lower vision user with options for adjusting text size, contrast, and image alternative text, fostering inclusivity and alignment with WCAG guidelines.

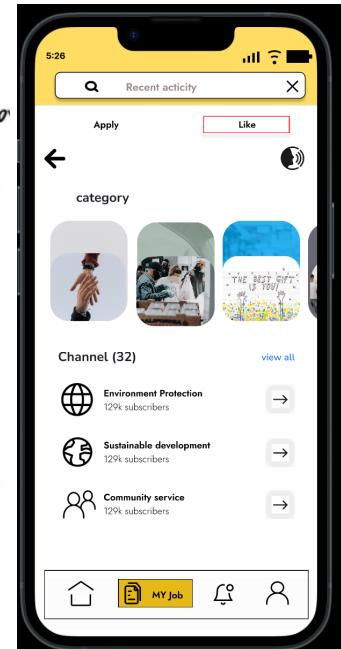
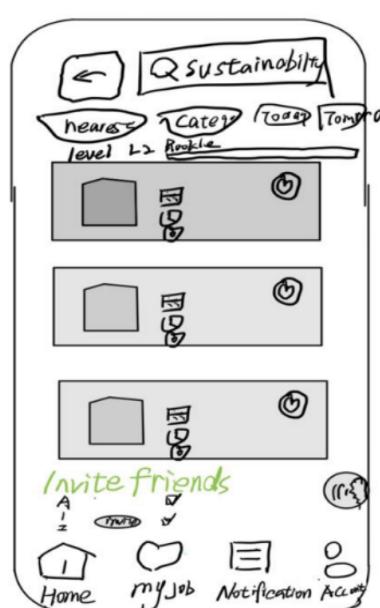
Annotations throughout the prototype were increased to provide transparent explanation and justifications for design choices based on various principles and guidelines, aiding user understanding of design decisions.

Screenshots:

Before



After



3. Individual Work - Heuristic Evaluation

3.1 Heuristic Evaluation - Qihang Wang

a. Introduction explaining how you evaluated the prototype

To refine our prototype to achieve optimal user experience, I tested the prototype to see if it could meet all the functional requirements that we gathered from submission 1, and the non-functional requirements that we set for the prototype. This includes all the main feature implementation, accessibility design, layout style and comprehension. We applied Nielsen's heuristic method to the evaluation because it offers a framework that covers every aspect that we need to consider when implementing our design, which can be further used to analyse and improve the prototype. By integrating this evaluation approach, we aim to elevate the product's user-friendliness and ensure seamless interaction for our users.

b. Summary tables of compliances

#	Instance of Compliance	Heuristic Rule	Evidence	Design choices justification
1	Go back button OR taskbar	#3	See Figure 1	With the go-back button set on almost every page, users can go back to the previous step easily. Also with the taskbar, users can jump to the main pages with one click.
2	View Detail Consistency	#4	See Figure 2	The view detail button means the same thing within different pages, which is "View the detail of that particular position".
3	Error message: compulsory go back	#5	See Figure 3	When the user tries to input any illegal characters, this message will appear and prompt the user to return to the previous page.
4	Form design: label all required fields	#6	See Figure 4	The form displays all necessary fields to avoid placing a burden on users' memory, making it

				easy for users to recognize and fill in the necessary details without needing to remember which information is required.
5	Advanced filters: shortcuts to experienced ones	#7	See Figure 5	By enabling experienced users to utilise complex filters, the system allows them to refine their search queries and find relevant information more quickly, while still providing basic search functionality for less-experienced users.
6	Error message: incorrect login input	#9	See Figure 6	When the user enters the wrong username or password, this message will pop out and ask the user to re-try.
7	Accessibility: additional instructions	#10	See Figure 7	We provide detailed instructions in the Voice Control section, including Caption and Notification Sound.

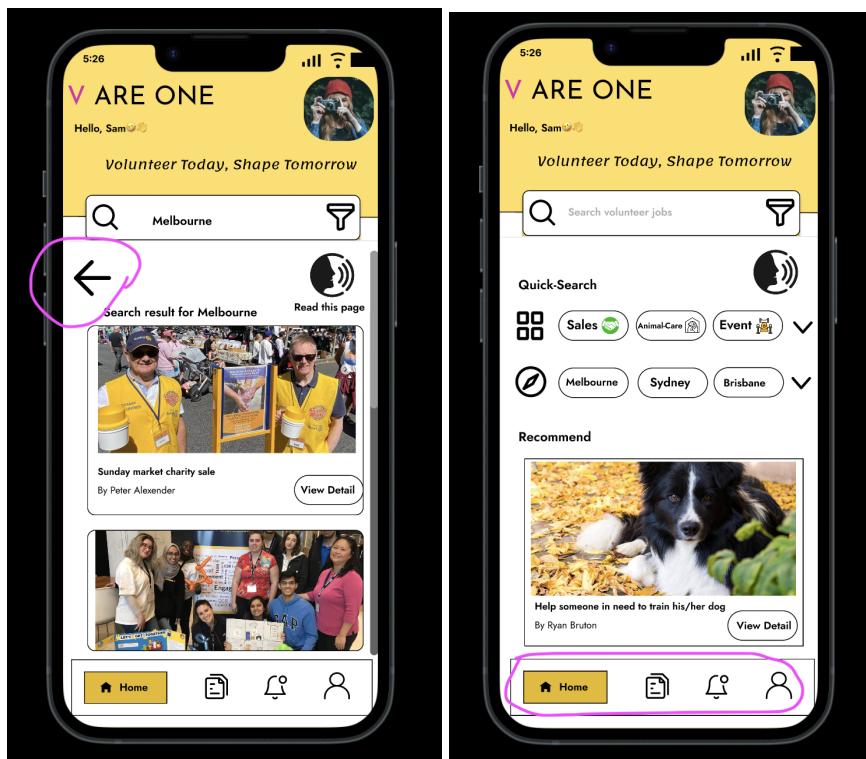


Figure 1: Go back button OR taskbar

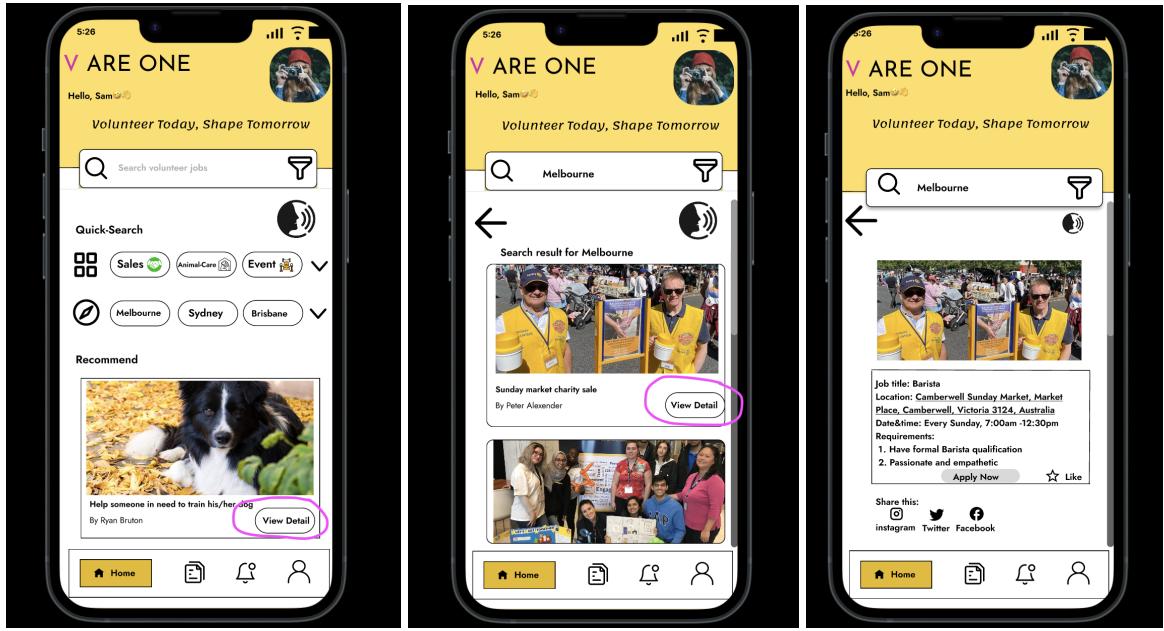


Figure 2: View Detail Consistency



Figure 3: Error message: compulsory go back

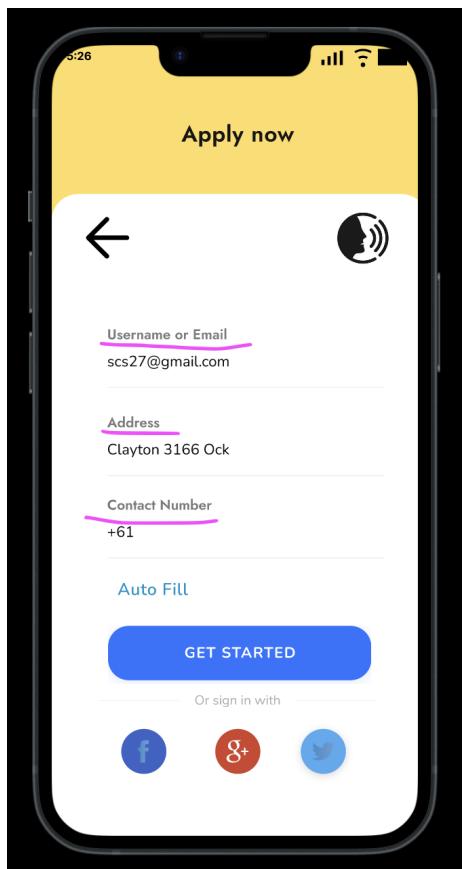


Figure 4: Form design: label all required fields

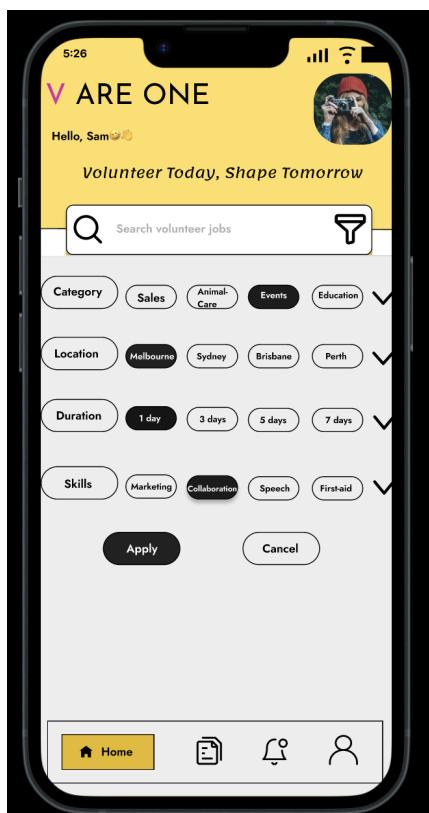


Figure 5: Advanced filters: shortcuts to experienced ones

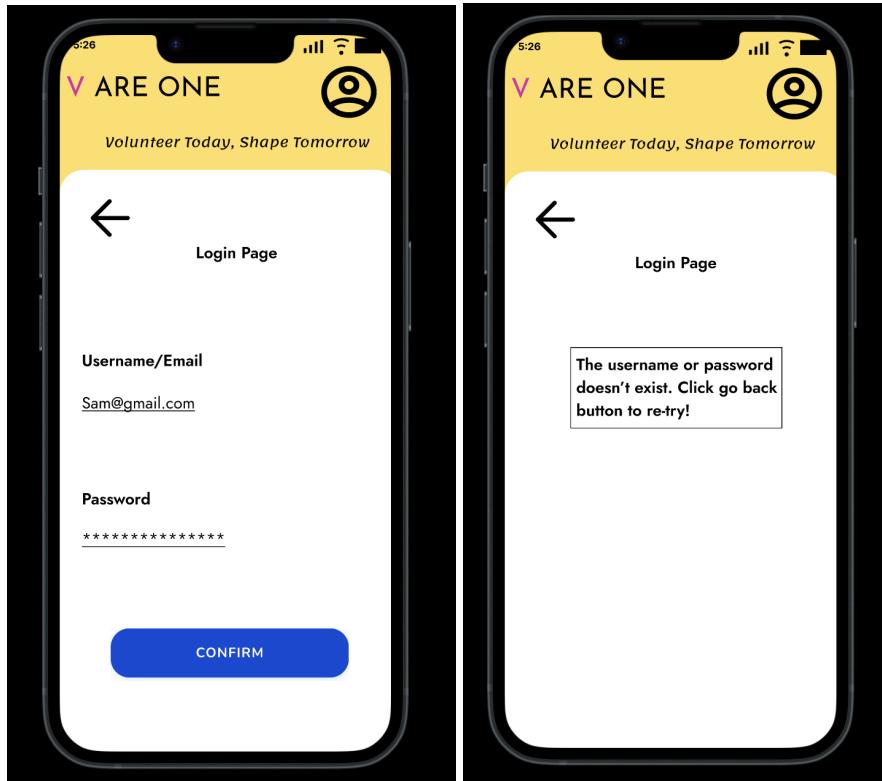


Figure 6: Error message: incorrect login input

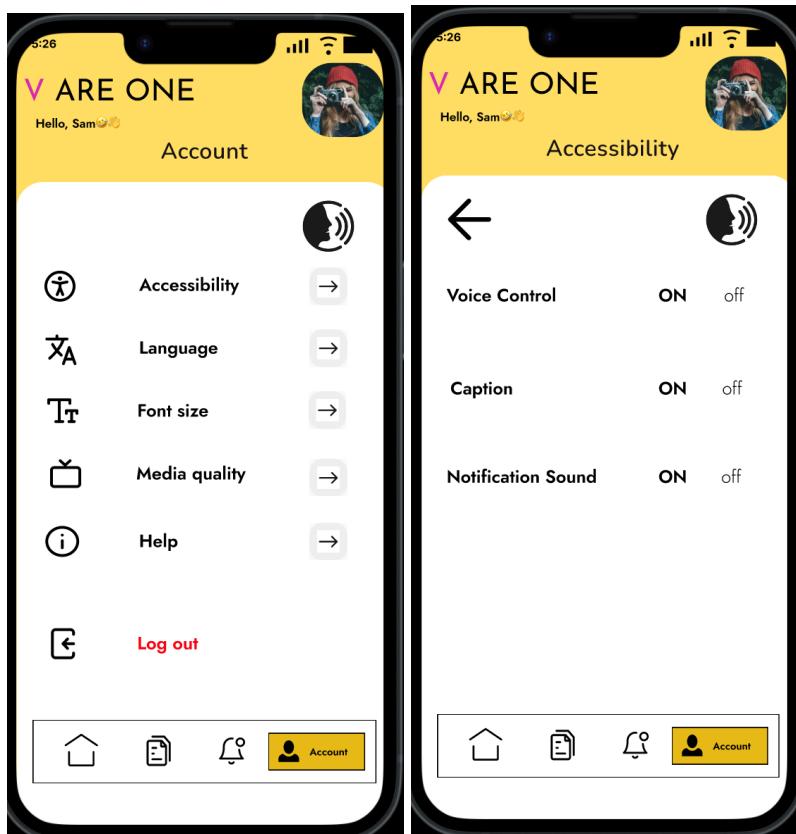


Figure 7: Accessibility: additional instructions

c. Summary tables of violations

#	Instance of violation	Heuristic Rule	Evidence	Severity Rating	Recommendation
1	Sign-in option: not relevant	#8	See Figure 8	4	Remove that option
2	Get started button: not matched with results	#2	See Figure 9	2	Change to “Finish” or “Confirm”
3	Like button: No signifier after “Like”	#1	See Figure10	3	Add signifier e.g. “Added to favourite”

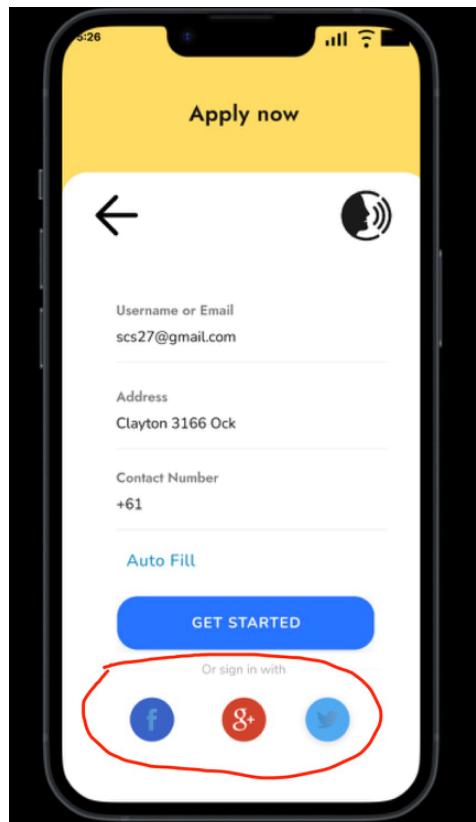


Figure 8: Sign-in option not relevant

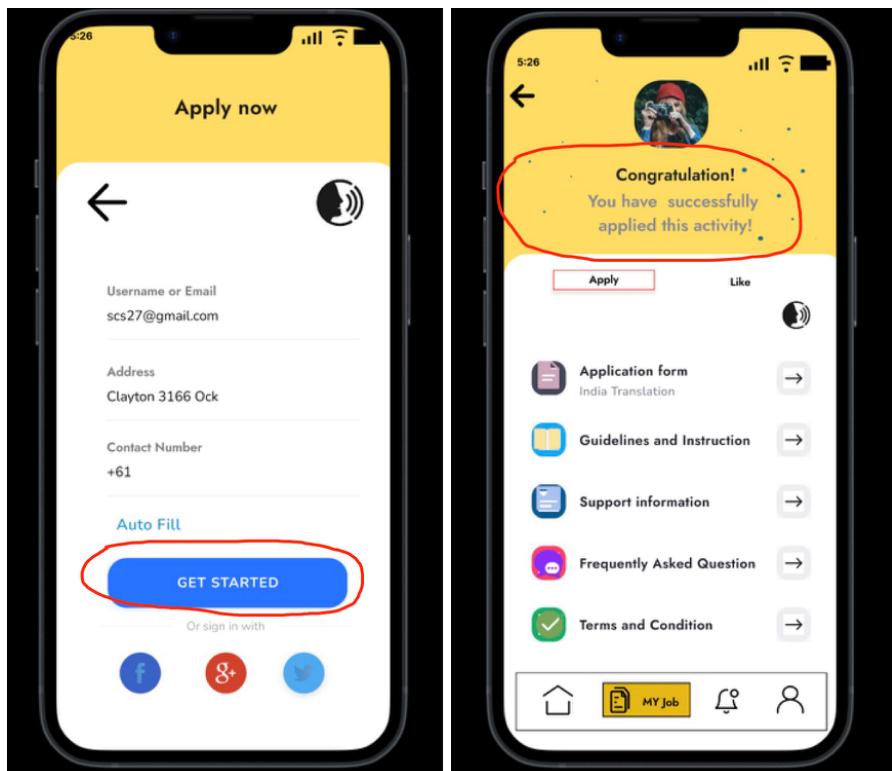


Figure 9: Get started button: not matched with results

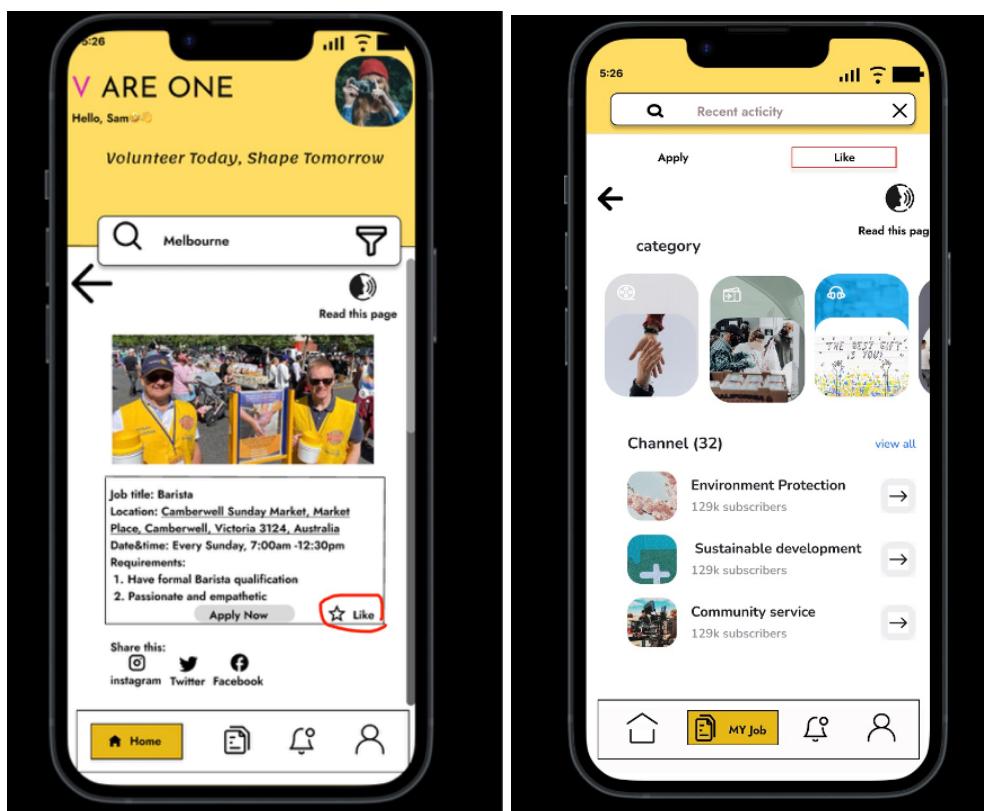


Figure 10: No signifier after “Like”

d. Detailed description of violations and justification of severity ratings

There are 3 violations in total that I concluded. The first one is related to aesthetic and minimalist design, which requires the UI to not contain information which is irrelevant or rarely needed. In figure 8, the extra sign-in options are not relevant to the application of one particular job position, as the user will have already logged in with his own email address and password by the time when he/she tries to make an application. In addition to that, if we actually implemented that option in our future application, there will be conflicts among the information stored in different accounts, if the user chooses to login using different credentials there. And the user will not even be able to recognize which aspect of the information has been swapped during the “second-time login”, which may cause potential wrong input or unwanted data breach. So in this case, I set the severity rating of the first violation to 4.

The second violation has conflicts with the second heuristic: Match between system and the real world: The system should speak the users' language, with words, phrases, and concepts familiar to the user. In the real world, the phrase “Get started” means starting to do something. Here in this scenario, which illustrates in figure 9, the user is about to complete the application as all relevant information has been filled. The phrase “Get started” makes no sense here and should be modified to something like “Confirm” or “Finish”. What is more, if we implement that in our final product, the actual users will get confused about the button when they have already filled out the form. As it won't affect the actual functionality of the application, I set the severity rating to 2.

The third violation is about the first heuristic, which is Visibility of system status: The system should always keep users informed about what is going on through appropriate feedback within a reasonable amount of time. Here in figure 10, after the user clicks on the Like star button, it just directly jumps to a “Like menu” with customised channels. However, it is not what the user will anticipate, they want feedback about whether that job position has been added to the favourite and can be seen under the customised folder. So what can be improved is that there has to be a signifier or reminder to indicate that successful operation. For example, “Successfully added to favourite”, and make the star solid. The user will feel perplexed if they jump to a modularised section without being noticed. As it can have a negative impact on user experience, I set the severity rating to 3.

e. Conclusion (for individual evaluation)

The evaluation of the prototype via Nielsen's heuristics exposed critical violations impacting user experience. Sign-in option redundancy posed severe security risks (severity rating: 4). Language incongruity with "Get started" caused moderate confusion (severity rating: 2). Lack of feedback on favoriting led to moderate user perplexity (severity rating: 3). Addressing these issues is imperative to optimise user satisfaction and ensure the product's usability aligns with design principles. Continuous user testing and feedback will guide further enhancements, cementing our commitment to delivering an intuitive, secure, and user-friendly final product.

3.2 Heuristic Evaluation - Yixiang Zhang

a. Introduction explaining how you evaluated the prototype

In this evaluation, I interacted with the prototype from submission one. I went through various screens and performed different actions to test the prototype to see if it fulfilled all the required functionality we had gleaned from commit 1, paying close attention to the user interface and interactions. I applied Nielsen's 10 usability heuristics to evaluate the usability of the prototype, focusing on identifying areas of compliance and noncompliance.

b. Summary tables of compliances

#	Instance of Compliance	Heuristic Rule	Evidence	Design choices justification
1	Minimalist Design	esthetic and Minimalist Design	See Figure 1	Adopting a minimalist design reduces cognitive load, helping users focus on their tasks without being overwhelmed by unnecessary information or options.
2	Accessible text and images	Accessibility	See Figure 2	Designing high-contrast background colors and resizable text can make relevant information easily accessible to people with disabilities, ensuring the app's usability and expanding its user base.
3	Easy Navigation to Home Screen	User Control and Freedom	See Figure 3	Providing an easy way to return to the home screen no matter which interface users are in gives users more control over navigation and enhances the overall usability of the application.



Figure1 Font size page

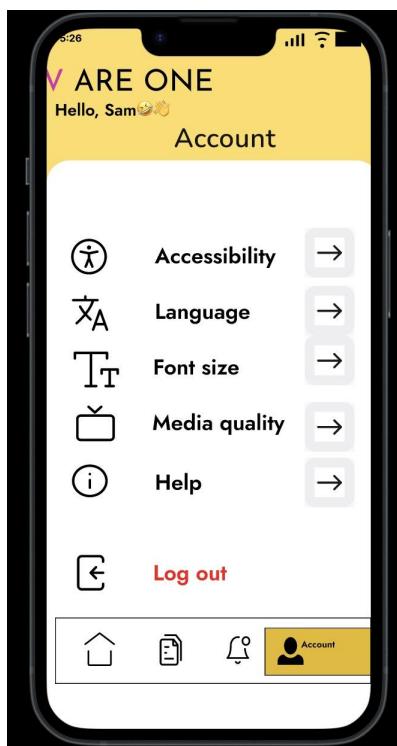


Figure 2 Account page(after changing the font size)

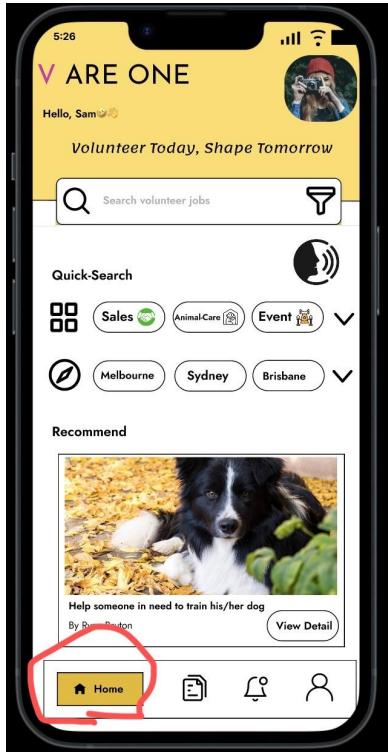


Figure 3 (home page)

c. Summary tables of violations

#	Instance of violation	Heuristic Rule	Evidence	Severity Rating	Recommendation
1	Inconsistent button styles	Consistency and standards	See Figure1	3	Standardise the button styles across the prototype to ensure visual consistency. Define a style guide that specifies the design of buttons and apply it consistency across all screens.
2	No confirmation before submission	Error prevention	See Figure 2	4	Implement a confirmation step before form submissions, especially for actions that can not be easily undone. Provide users with summary of their input and ask them to confirm their action before proceeding

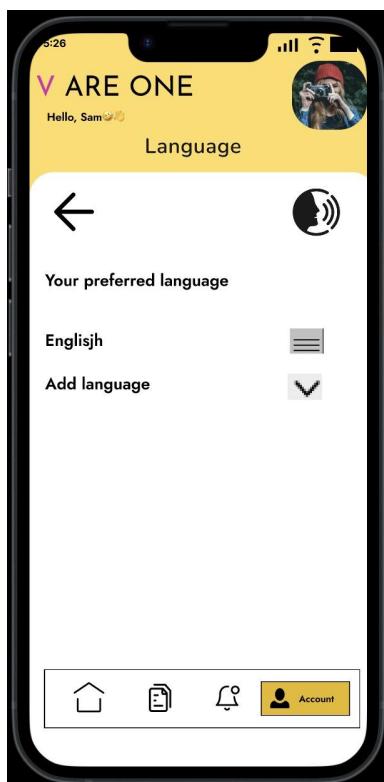


Figure 1 language page

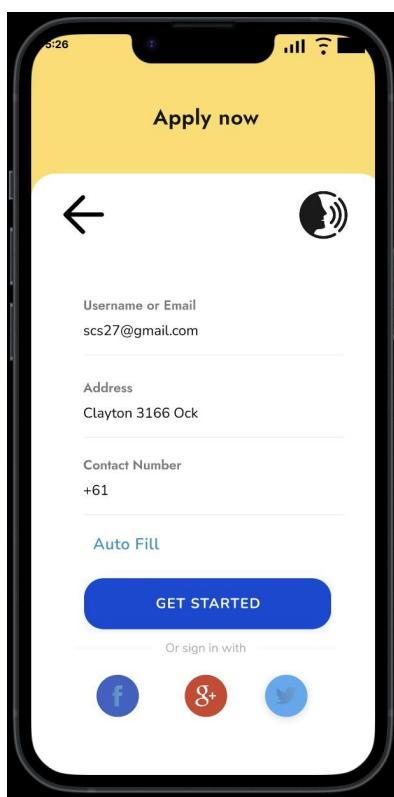


Figure 2 apply job

d. Detailed description of violations and justification of severity ratings

1. Inconsistent Button Styles: The prototype displays buttons with varying styles and colors, leading to a lack of visual consistency. This is a violation of the "Consistency and standards" heuristic. The severity rating is 3, as this inconsistency could confuse users but is not likely to prevent task completion.

2. No Confirmation Before Submission: The prototype allows users to submit forms without a confirmation step, increasing the risk of accidental submissions. This violates the "Error prevention" heuristic. The severity rating is 4, as this could lead to user frustration and wasted time if users have to resubmit forms.

e. Conclusion (for individual evaluation)

The prototype performs well in providing clear feedback to users and offering comprehensive help documentation. However, there are areas that need improvement to enhance usability. Specifically, the user interface needs to be more consistent, and there should be mechanisms in place to prevent user errors. Addressing these issues will lead to a more intuitive and user-friendly experience.

3.3 Individual Work - Heuristic Evaluation Zewen GU

a. Introduction explaining how you evaluated the prototype

This evaluation utilises heuristic analysis to assess our prototype's usability. I methodically examined each interface element against established usability principles, noting compliance and violations. Instances were documented, and issues were rated for severity to prioritise improvements, ensuring a user-centric design approach.

b. Summary tables of compliances

#	Instance of Compliance	Heuristic Rule	Evidence	Design choices justification
1	Switch of list or map	#7	See Figure 1	The switch of List and map allow users choose the way they like to view all the work opportunity in their selected area
2	Natural mapping of Scolla bar	#2	See Figure 1	Design of Scollarbar matches all the real world design, making the client easily understand how the interface works.
3	Video playing	#6	See Figure 2	The video gives the client more details about the job rather than the long text. That can reduce the information that users have to remember.

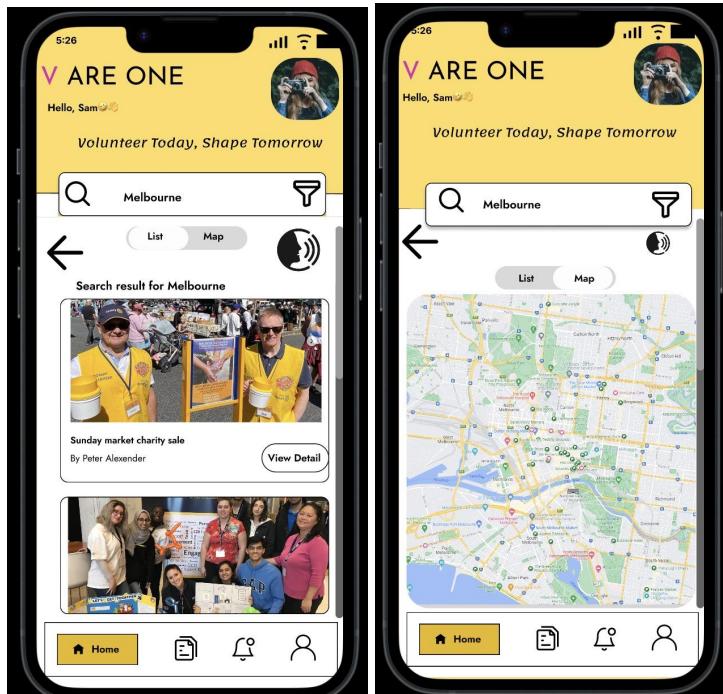


Figure 1: Job result in Melbourne



Figure 2: Video description of job

c. Summary tables of violations

#	Instance of violation	Heuristic Rule	Evidence	Severity Rating	Recommendation
1	Pin of job is not easily seen	#1	See figure 1	4	Change the radius of the pin to make it more visible
2	unnecessary elements	#8	See figure 2	3	Remove the menu bar on the right



Figure: 1 Job list on the map



Figure 2: video playing

d. Detailed description of violations and justification of severity ratings

1. Increase the size or contrast of the pin to enhance its visibility. A job pin that isn't easily noticeable can significantly hinder the user's ability to complete tasks efficiently.
2. Eliminate or integrate the menu bar into other parts of the interface. Excessive or irrelevant components can clutter the interface and detract from the user's experience by overwhelming them with information that is not essential to their goals.

e. Conclusion (for individual evaluation)

Our heuristic evaluation highlighted critical usability concerns and areas excelling in user experience. Addressing identified issues, especially the visibility and simplicity of design, is essential. By prioritising these enhancements, we aim to refine the prototype into an intuitive and efficient product that aligns with user needs and preferences.

3.4 Heuristic Evaluation - Ziqi Pei

a. Introduction explaining how you evaluated the prototype

In my evaluation of the photoye, I employed Nielsen's 10 usability heuristics to systematically access its usability and identify areas for improvement. This approach aimed to ensure alignment with established usability principles. I individually analysed the prototype,focusing on aspects like system status visibility and user control and freedom. The process was conducted independently to gather diverse perspectives and identified violations,rated their severity,provided recommendations, and justified mu findings. Additionally, I tested the prototype for functional and nonfunctional requirements, enhancing user-friendliness and interaction.

b. Summary tables of compliances

#	Instance of Compliance	Heuristic Rule	Evidence	Design choices justification
1	Apply successful	#1 Visibility of system status	See Figure 1	The "Congratulations" display tells the user that their operation completed successfully. This provides clear system status information and users know their application has been submitted successfully.
2	Consistent symbols and icons for a familiar user interface	#2 Match between the system and real world	See Figure 2	Use terminology and language that is familiar to users and avoid obscure terminology. Use consistent symbols and icons throughout the system so users can easily understand their meaning.
3	Provide explicit undo and redo functionality to allow users to correct errors when they occur.	#3 User control and freedom	See Figure 3	Provide clear navigation and exit paths so users can return to the previous state or leave the current task at any time.
4	Use Known symbol and icons	#4 Consistency and standard	See Figure 4	Use symbols and icons that are familiar to users so they can quickly recognize their meaning. For example,talk about groups as Support information

				Use portraits to represent frequently asked questions
5	Undoable actions:	#5 Error prevention	See Figure 5	Provide options in the design that the user can undo to correct any unwanted actions. This includes the Undo button or history.
6	Navigation and Menus:	#6 Recognition rather than recall	See Figure 6	For example, say a user logs into a website or application, they should be able to directly see a field labelled "Username" without having to remember where their username was entered. Likewise, if they need to access their email (Gmail), this option should appear on the interface as a clear label or icon, without requiring the user to remember its exact location.
7	Click location is easy for beginner find place	#7 Flexibility and efficiency of use	See Figure 7	This principle means that users, whether they are beginners or experienced, should have options to perform tasks in a way that suits their needs and skill level. The design should offer a user-friendly path for beginners to learn and navigate the system step by step, while also providing experienced users with shortcuts for faster task completion. In this context, the placement of clickable elements should be intuitive and easily discoverable, especially for beginners.

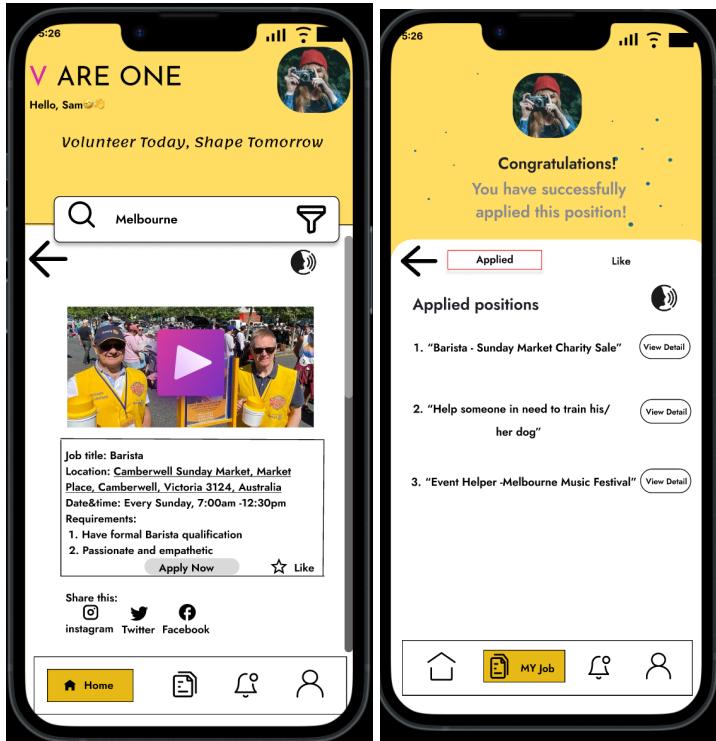


Figure 1: Click icon with Apply now (option choice user control)

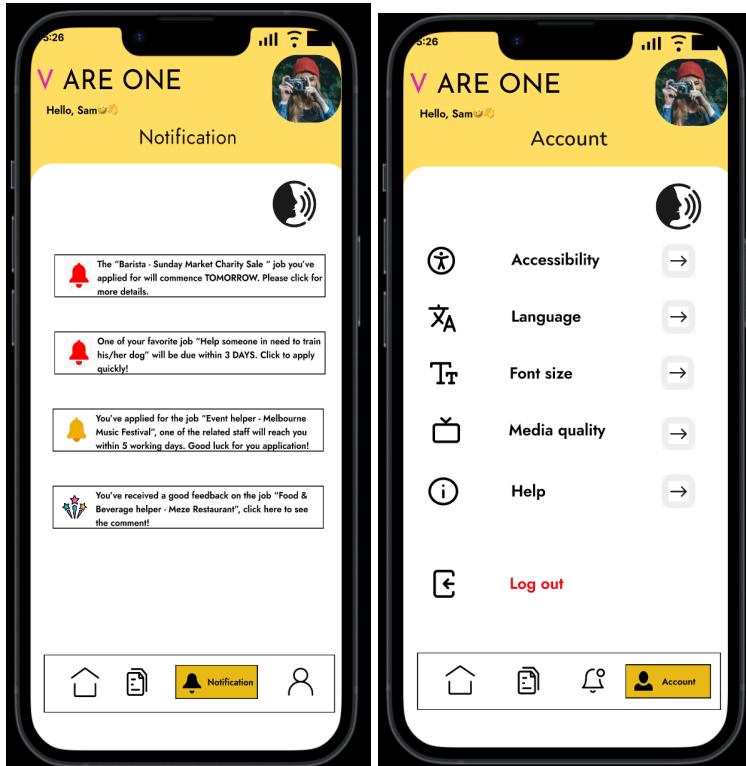


Figure 2: Interfaces and interactions that user familiar

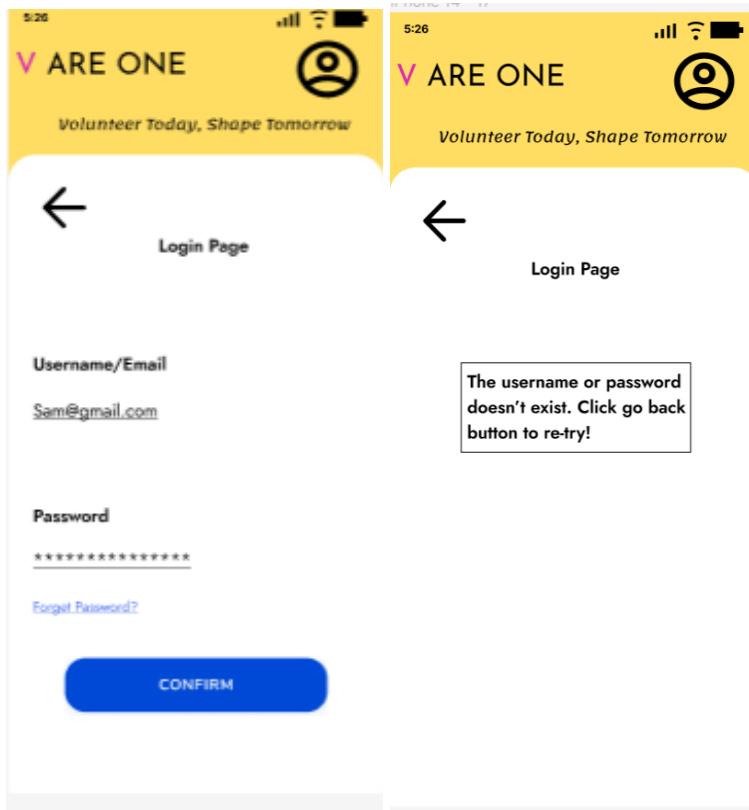


Figure 3: Provide function redo to allow users to correct error

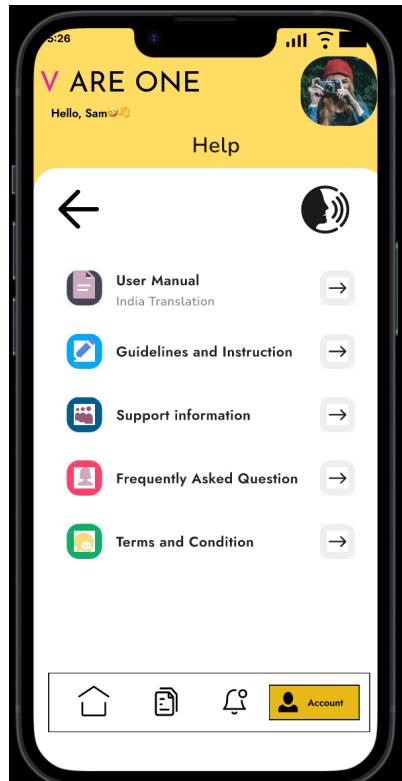


Figure 4: Form design: label all required fields

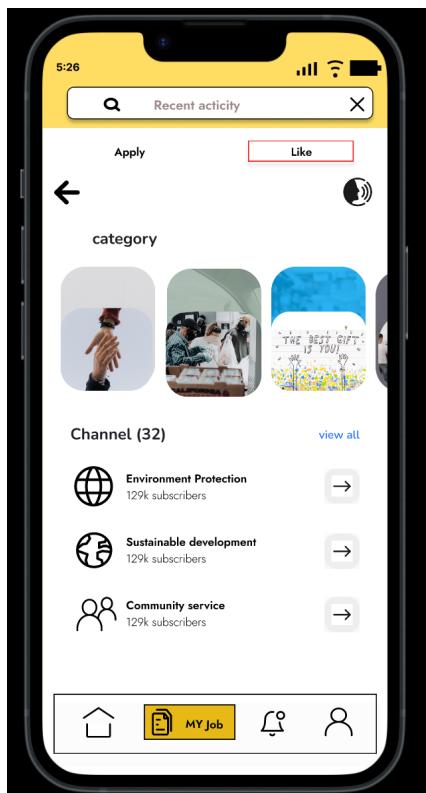


Figure 5: icon Cancel symbol

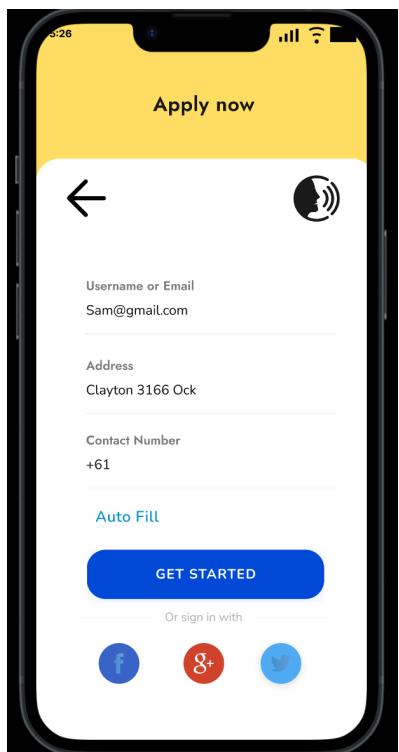


Figure 6: Navigation and Menus

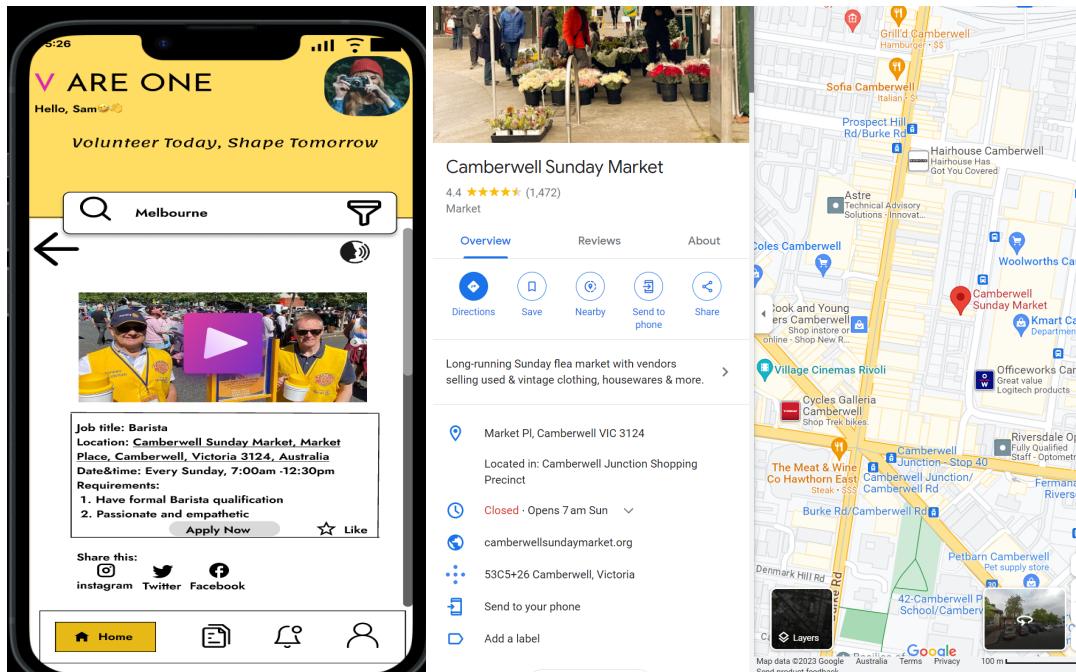


Figure 7: Click location is easy for beginner find place

c. Summary tables of violations

#	Instance of violation	Heuristic Rule	Evidence	Severity Rating	Recommendation
1	Sliding produces a sliding movement other than normal vertical or horizontal sliding	#2 Match between the system and real world	See Figure 8 8	4	Modify the scroll behaviour position and set it to horizontal or slide with the parent level
2	Classification button in the like result	#8 Aesthetic and minimalist design	See Figure 9	2	Modify unnecessary icons and content display
3	Provide accessible and comprehensive help resources	#9 Help and documentation	See Figure10	3	Added help function

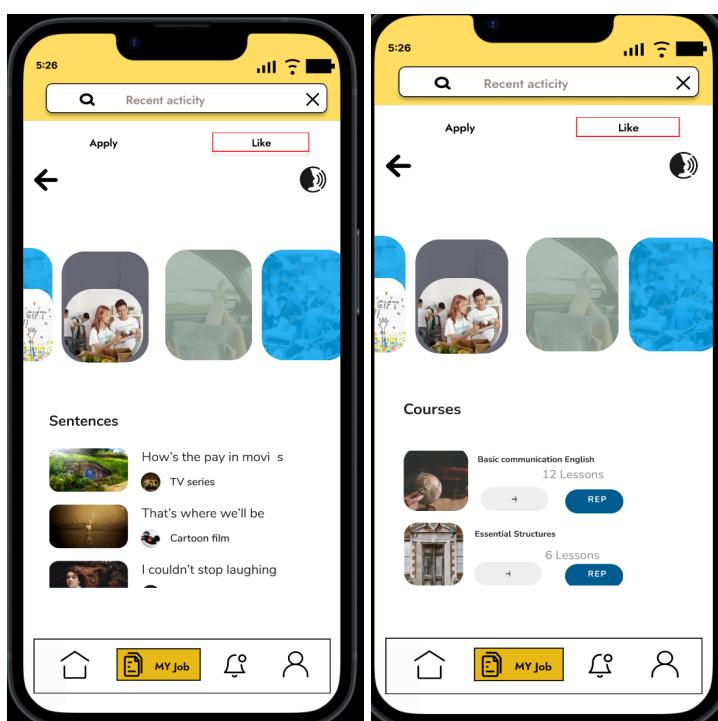
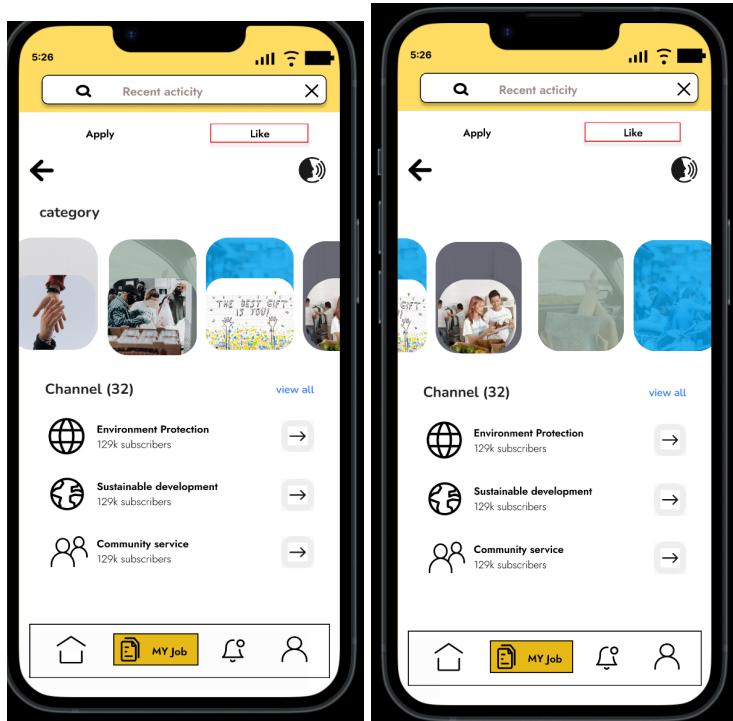


Figure 8: Scroll behaviour position and set it to horizontal

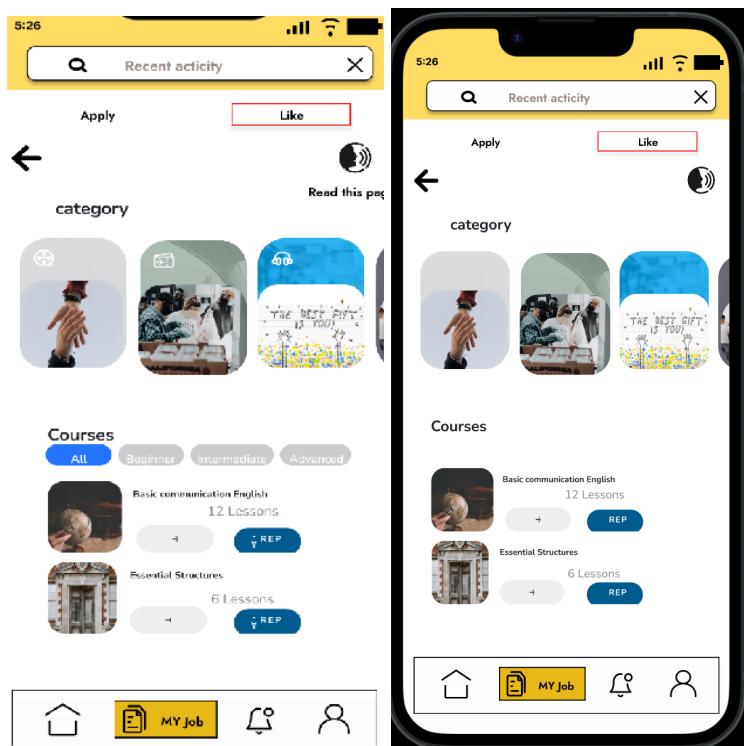


Figure 9: Modify unnecessary icons and content display

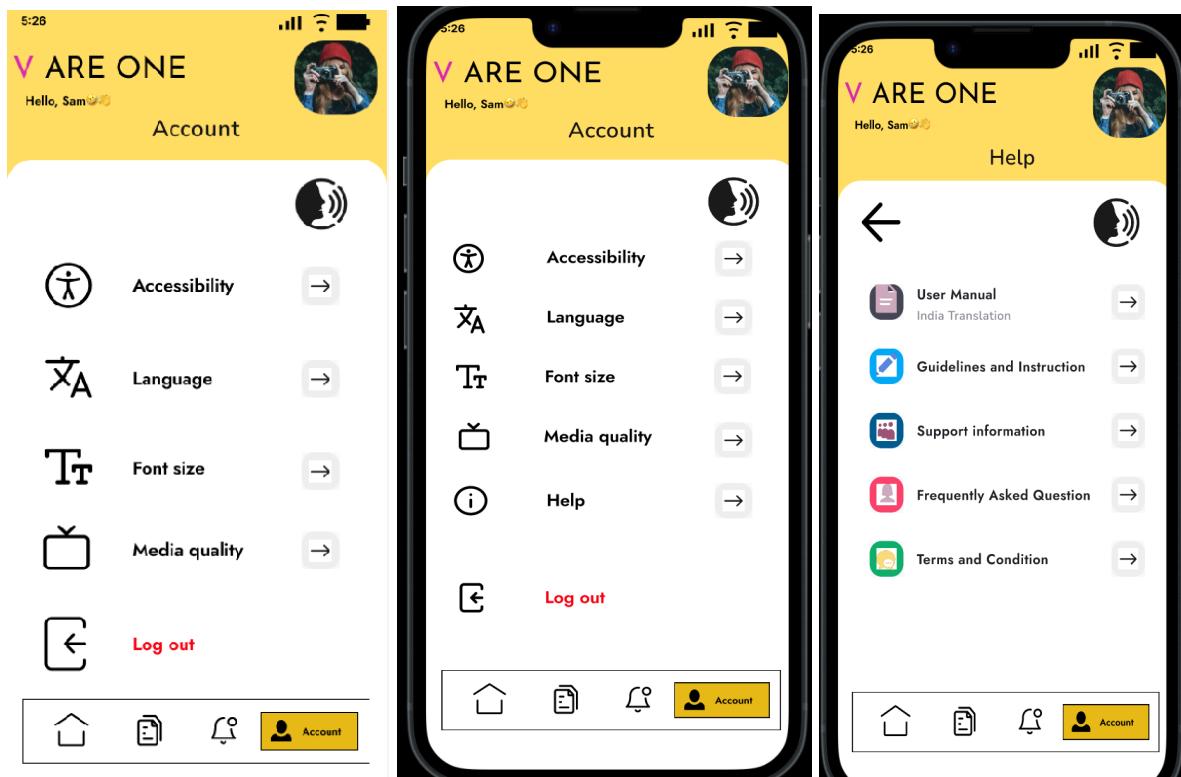


Figure 10: Add Help function

d. Detailed description of violations and justification of severity ratings

Firstly, there is a violation related to the sliding behaviour that differs from the typical vertical or horizontal sliding. This was evident in Figure 8, where the deviation from the expected sliding interaction could lead to user confusion. Although not a severe issue, this unconventional behaviour might require users to adapt to an unfamiliar interaction, hence a moderate severity rating of 4. To address this, it is recommended to modify the scroll behaviour for consistency and alignment with user expectations.

Secondly, we observed a violation regarding aesthetic and minimalist design in Figure 9. It involves the presence of an unnecessary classification button with irrelevant icons and content. While this issue has a low impact on usability, it introduces visual clutter that affects the overall interface aesthetics. As a result, it received a low severity rating of 2. To rectify this, we suggest simplifying the display by removing redundant icons and content for a cleaner and more minimalist design.

Lastly, there is a violation regarding the absence of accessible and comprehensive help resources, as seen in Figure 10. Although not a critical problem, it can lead to user frustration, particularly for those seeking guidance and support in understanding the system. Consequently, it received a moderate severity rating of 3. To address this, implementing accessible help functions with comprehensive resources is recommended to assist users in effectively navigating and comprehending the system.

e. Conclusion (for individual evaluation)

In my evaluation, I used Nielsen's 10 usability heuristics to assess the prototype. It adhered to various principles, providing a user-friendly experience. Three violations were identified: a sliding behaviour issue, a violation related to aesthetic design, and the absence of accessible help resources. While the first violation had a moderate impact, the second violation received a low severity rating. The third, although moderate, could lead to user frustration. Recommendations include modifying scroll behaviour, simplifying the design, and implementing accessible help functions. This evaluation informs the refinement of the prototype to enhance usability and user satisfaction in the final product.

4. Group Work - Evaluation Summary

a. Discussion of similarities and differences between your and your teammates' evaluations

In our heuristic evaluations, my team and I focused on assessing the prototype's compliance with established usability heuristics and design principles. Drawing from Norman's design principles and Shneiderman's 8 Golden Rule design principles, we individually evaluated different aspects of the prototype, which led to a comprehensive understanding of its strengths and weaknesses.

Ziqi's evaluation emphasised aspects such as navigation, aesthetics, and the absence of adequate help resources. This aligns with Norman's design principles, particularly the principle of "Visibility," highlighting the importance of providing clear and accessible information to users. Ziqi's recommendations for improvements aimed to enhance the prototype's conformity with these principles.

Zewen's evaluation brought attention to the overarching need for better visibility and design simplicity, which resonates with Shneiderman's principles, particularly those related to error prevention and user control and freedom. This emphasised the significance of adhering to the 8 Golden Rule design principles in creating a user-friendly interface.

Yixiang's evaluation emphasized consistency in the user interface and measures for error prevention, aligning with both Norman's and Shneiderman's principles. The emphasis on a consistent interface relates to Norman's design principles, while error prevention is a crucial aspect covered by both sets of principles. This underscored the importance of ensuring the prototype adheres to these fundamental design principles.

In contrast, my evaluation shed light on severe security risks, language clarity, and feedback on user actions, urging for specific and critical updates. These findings align with various design principles, including Norman's principles of "Feedback" and "Affordances," and Shneiderman's principles related to error prevention. These principles emphasise the significance of clear communication, feedback mechanisms, and preventing errors in the user interface.

Collectively, our evaluations found common ground in the importance of usability heuristics, Norman's design principles, and Shneiderman's 8 Golden Rule design principles. Our assessments provided a holistic view of the prototype's usability, highlighting areas for improvement to align with these core principles. This shared perspective emphasises the crucial role these principles play in enhancing the user experience and guiding the iterative development of the prototype.

Furthermore, our evaluations resonate with insights from related research. For example, Desolda et al. (2019) highlighted the critical role of UI design in addressing vulnerabilities, such as phishing attacks, which mirrors our emphasis on design clarity and error prevention. Studies like Kim et al. (2020) stress the importance of user-centred usability in augmented reality environments, reinforcing our concerns about providing a consistent and error-free user experience. In summary, our evaluations collectively underscore the critical importance

of UI design and usability principles, aligning with related research insights and emphasising the significance of addressing usability issues to enhance the overall user experience.

b. Detailed discussion of the 3 most severe violations and recommendations for fixes

1. Inadequate Feedback on User Actions

Description: Users are not provided with adequate feedback after performing actions, such as submitting a form or clicking a button, leaving them unsure if the action was successful.

Severity Rating: 4 - This issue affects user confidence and may lead to repeated actions, causing frustration.

Heuristic Violated: Visibility of system status - The system should always keep users informed about what is going on, through appropriate feedback within a reasonable time.

Recommendation for Fix: Implement visual or auditory feedback for user actions. For example, display a confirmation message or loading indicator after a form submission.

Justification for Recommendation: Providing immediate feedback on user actions will enhance user confidence, create a more responsive feel to the app, and improve the overall user experience.

2. Overloaded Information on a Single Screen

Description: The main dashboard of the app presents an overwhelming amount of information, making it difficult for users to quickly locate and understand the data they need.

Severity Rating: 4 - Overloading users with information can lead to cognitive fatigue and reduce the efficiency of the interface.

Heuristic Violated: Aesthetic and minimalist design - Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information competes with the essential information and diminishes its relative visibility.

Recommendation for Fix: Simplify the dashboard by grouping related information, using collapsible sections, and providing filtering options. Consider using visual hierarchy techniques to emphasise important data.

Justification for Recommendation: A cleaner, more organised interface will allow users to quickly find the information they need, improving the overall user experience.

3. Unintuitive Search Functionality

Description: The search functionality in the app does not provide auto-suggestions or corrections for typos, making it difficult for users to find what they are looking for if they make a mistake or are unsure of the spelling.

Severity Rating: 4 - This issue can lead to user frustration and may prevent users from effectively using the search function.

Heuristic Violated: Recognition rather than recall - Users should not have to remember information from one part of the interface to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

Recommendation for Fix: Implement auto-suggestions and auto-corrections in the search functionality to help users quickly find what they are looking for, even if they make a typo or are unsure of the exact spelling.

Justification for Recommendation: Enhancing the search functionality will make the app more user-friendly, reduce user frustration, and improve the overall user experience.

5. Conclusion (for prototype/overall evaluation findings)

In summation, the collective evaluation undertaken by the group has illuminated salient usability shortcomings within the application that, when rectified, promise to substantially refine the user experience. The assessment process, while yielding individual variations, converged on identifying fundamental areas where the application diverges from optimal usability heuristics.

The triad of critical violations identified by the group—the absence of sufficient feedback following user actions, the saturation of information on a single interface screen, and the non-intuitive nature of the search functionality—collectively underscore a central deficiency in the application's interaction design. The resolution of these issues is not a mere exercise in problem-solving; it is an endeavour to craft a more seamless, intuitive, and user-oriented interface.

The proposed remedies are directed towards fostering an environment where the system actively communicates with users, acknowledges their input promptly, and delivers a streamlined flow of information. Such enhancements are anticipated to augment user satisfaction, bolster engagement, and increase operational efficiency within the application.

The emphasis on immediate and explicit feedback is intended to bolster user assurance and autonomy. The rationalisation of information presentation aims to prevent cognitive overload, thereby permitting users to concentrate on their tasks without extraneous interference. Augmenting the search functionality with auto-suggestions and typo-tolerant features seeks to assist users in their informational retrieval endeavours, diminishing frustration and facilitating a smoother interactive experience.

Implementing these recommendations is expected to lead to a fortified and user-centred application, resonating with our group's dedication to upholding a superior user experience that aligns with the users' needs and surpasses their expectations. Such advancements will likely reinforce user trust and dependability in the application, promoting a more committed user base and laying a sturdy groundwork for ongoing improvements.

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7. Appendix

a. Personas/User Stories/Low fidelity prototype screens used from previous submissions (including any explanation of modifications made, eg. based on submission 1/2 feedback)

o Personas (from submission 1)

(1)

The screenshot shows a user persona template for "Rose Copper" from "JUSTIMIND". The template includes a photo of a woman with long dark hair, her name and age (31, Melbourne), her role (Restaurant Team Leader), and various demographic and professional details like status (Single), salary (\$25k), tier (Mid-level), and archetype (Romanticism). The persona is categorized under "PERSONALITY" with traits like Organizing, Accounting, Collaborating, Empathy, and Event management. The "BIO" section describes her background as a food-beverage attendant who has become a team leader in event management. It also mentions her free time activities, such as walking her dog Dylan. A quote at the top right states: "I want to work with my team to deliver great customer service". The "Motivations" section shows a scale from "TEAMWORK" to "USER NEEDS". The "Goals" section lists objectives like collaborating with co-workers and improving customer satisfaction. The "Frustrations" section lists challenges such as difficulty making good coffee and dealing with complex tasks. The "Influences" section lists organizations (Accor, Starbucks, PetDesk) and social media platforms. The "Frequently used apps" section shows icons for Accor, Starbucks, and PetDesk.

(2)

1. User Persona:

Name: Sarah Thompson

Age: 32

Occupation: Marketing Executive

Education: Bachelor's in Business Administration

Family: Single, no children

Interests: Professional development, travel, yoga

Challenges: Balancing work and personal life, staying updated with industry trends, managing multiple projects simultaneously.

(3)

Cam WANG



Job Title
Front-end developer

Age
25 to 34 years

Highest Level of Education
Master's degree (e.g. MA, MS)

Social Networks
f, i, t, in, p

Industry
Technology

Job Responsibilities

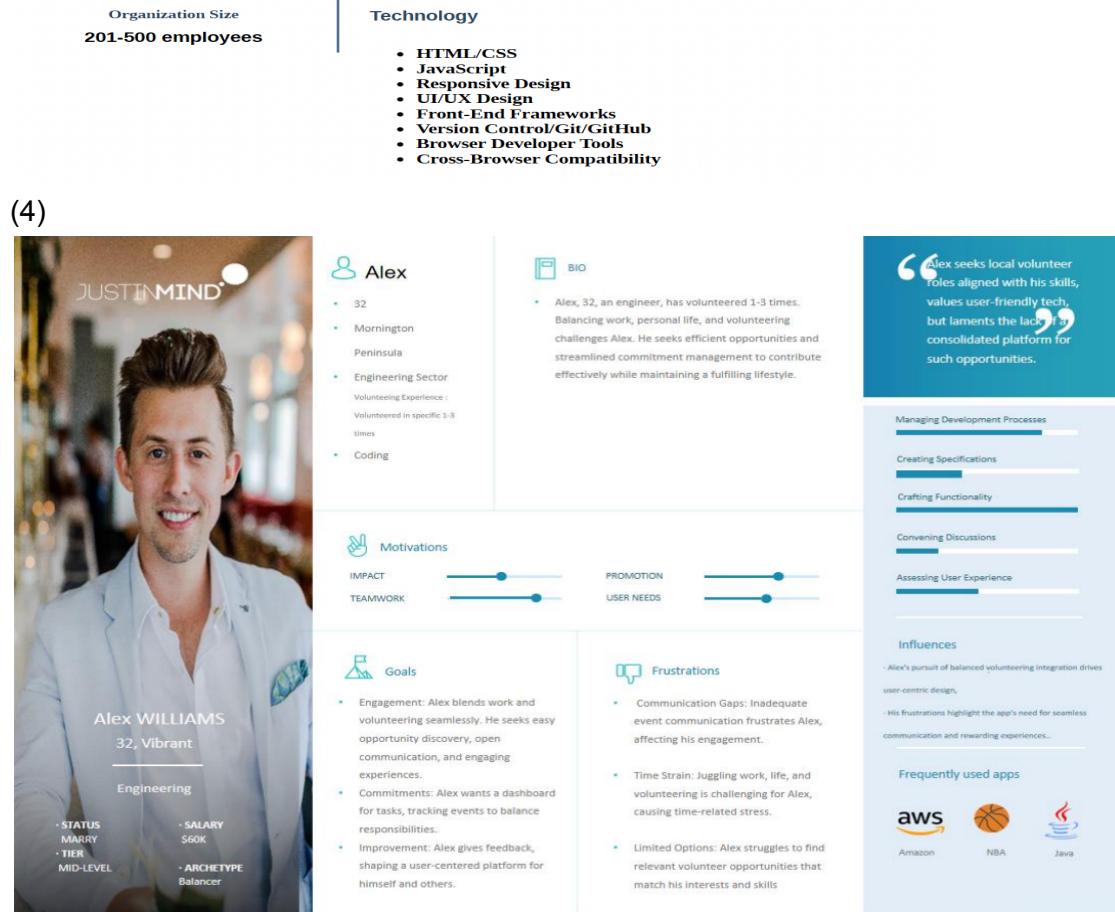
- Developing new user-facing features
- determining the structure and design of web pages
- building reusable codes
- optimizing page loading times
- using a variety of markup languages to create the web pages.

Goals or Objectives

- Engage in Meaningful Volunteer Work
- Combine Passions with Purpose
- Balance with Full-time Work
- Utilize Technical and Creative Skills
- Experience Camaraderie

Personality

- Adventurous
- Outgoing
- Helpful
- Creative
- Tech-Savvy
- Passionate
- Balanced



Organization Size
201-500 employees

Technology

- HTML/CSS
- JavaScript
- Responsive Design
- UI/UX Design
- Front-End Frameworks
- Version Control/Git/GitHub
- Browser Developer Tools
- Cross-Browser Compatibility

Alex

32, Mornington Peninsula, Engineering Sector, Coding

BIO

Alex, 32, an engineer, has volunteered 1-3 times. Balancing work, personal life, and volunteering challenges Alex. He seeks efficient opportunities and streamlined commitment management to contribute effectively while maintaining a fulfilling lifestyle.

Motivations

IMPACT, TEAMWORK, PROMOTION, USER NEEDS

Goals

Engagement: Alex blends work and volunteering seamlessly. He seeks easy opportunity discovery, open communication, and engaging experiences.

Commitments: Alex wants a dashboard for tasks, tracking events to balance responsibilities.

Improvement: Alex gives feedback, shaping a user-centered platform for himself and others.

Frustrations

Communication Gaps: Inadequate event communication frustrates Alex, affecting his engagement.

Time Strain: Juggling work, life, and volunteering is challenging for Alex, causing time-related stress.

Limited Options: Alex struggles to find relevant volunteer opportunities that match his interests and skills.

Influences

Alex's pursuit of balanced volunteering integration drives user-centric design. His frustrations highlight the app's need for seamless communication and rewarding experiences.

Frequently used apps

aws, NBA, Java

(4)

- **User stories (from submission 1)**

(1)

User Story - Search for jobs in a specific skill set (Must-Have) : As Rose, I want to connect with others who have no experience raising dogs so that I can help them with any dog-related issues.

(2)

Old User Story - daily summary of tasks (Must-Have): As Jason, I want a daily summary of my tasks so that I can plan my day efficiently.

New User Story - Category search for psychological problems(Must-Have):As Jason, I want to connect with those who have psychological issues so that I can help them with any psychological issues they have.

Modify reason: Previous user stories did not apply 4 of Norman's Design Principles and 3 Accessibility Guidelines/Principles

(3)

User Story - Efficient Volunteer Opportunity Matching (Must-Have): As Alex, I want the volunteer app to have a robust search and matching feature that considers my skills, availability, and interests. This will help me find volunteer opportunities that align with my busy schedule and varied interests.

(4)

Old user story -As an environmental enthusiast, I want to participate in volunteer opportunities focused on conservation efforts so that I can contribute to preserving our planet's natural beauty and biodiversity.

New user story -Category search for conservation (Must have): As Cam, I want to the app have the filter of category and have a category of conservation so that I participate in volunteer opportunities focused on conservation efforts.

Modify reason: The previous one don't clearly state the requirement of the app and not apply the Norman's principle.

(5)

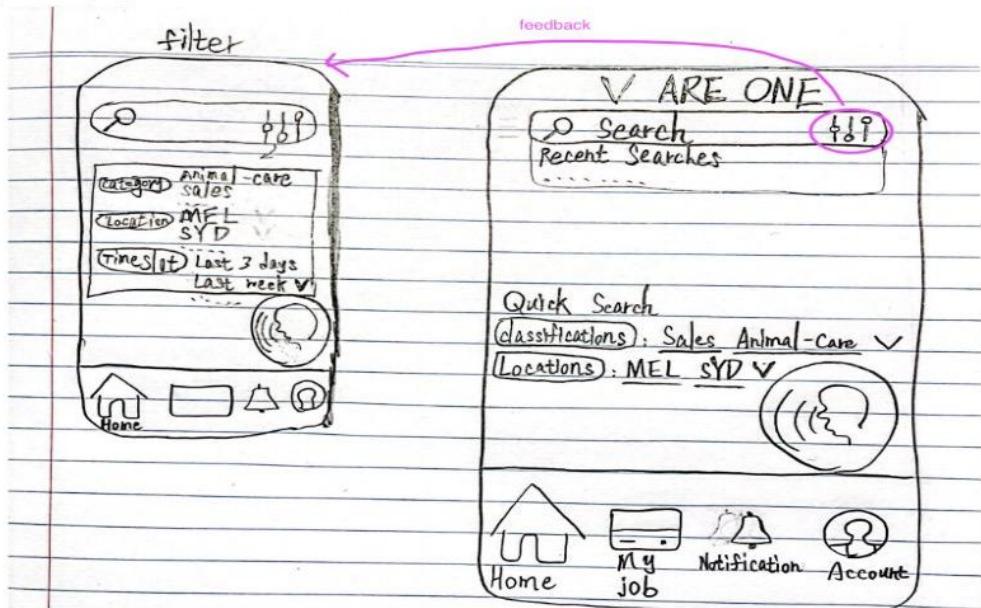
As a tech-savvy individual, I want to volunteer my programming skills to support educational initiatives so that I can help empower students through technology and learning.

(6)

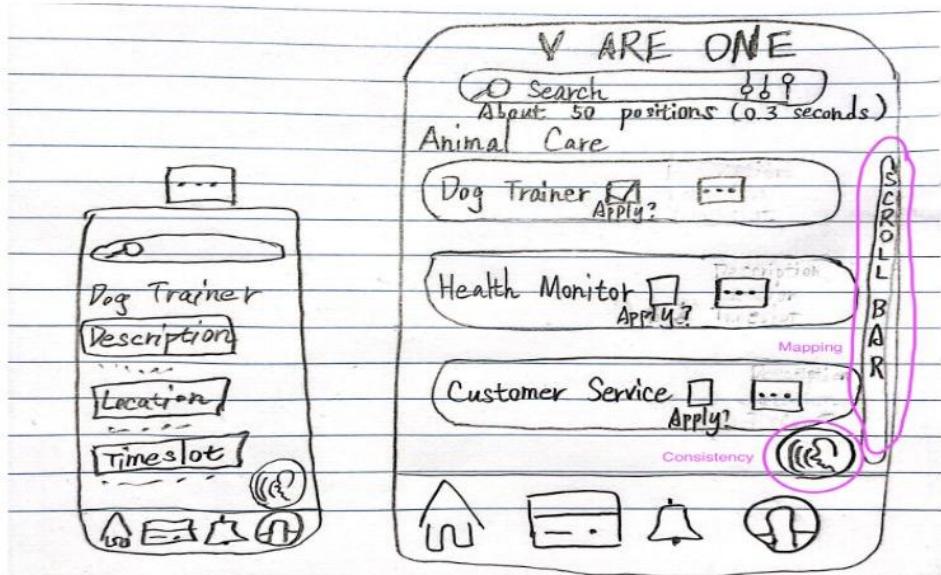
As a compassionate individual, I want to volunteer for healthcare and support organizations so that I can aid those in need and contribute to improving people's well-being.

- Low fidelity screens (from submission 2)

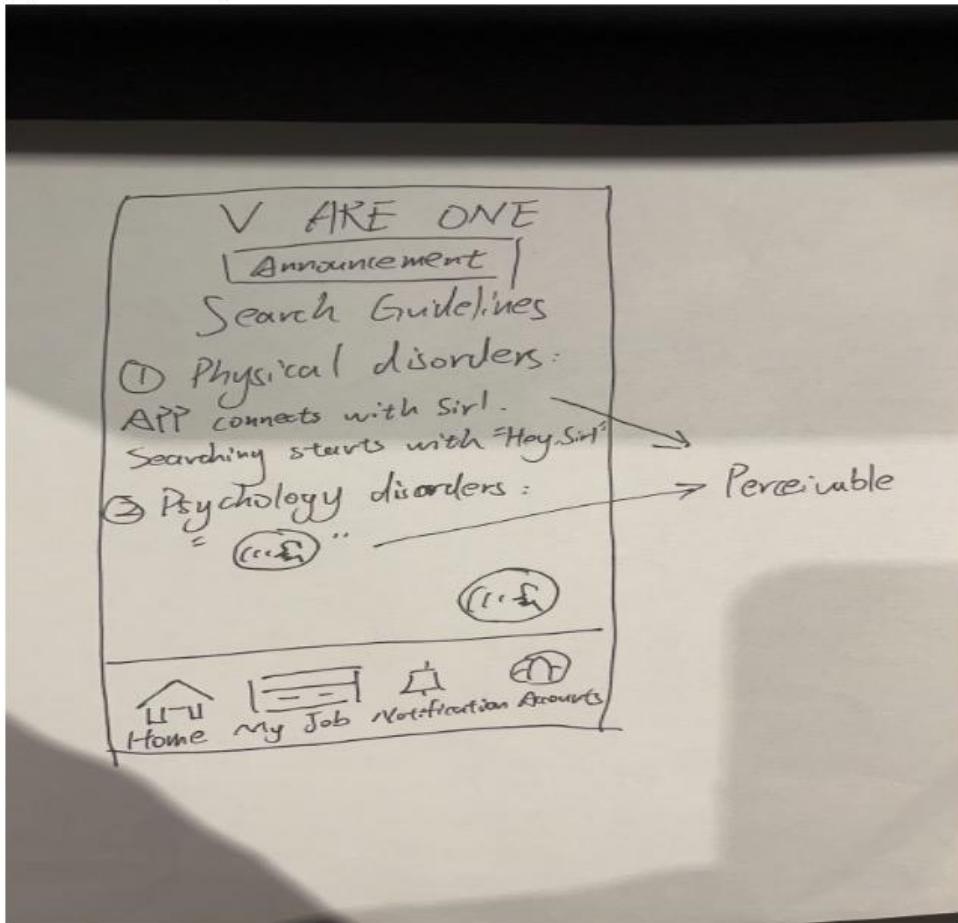
(1) Homepage



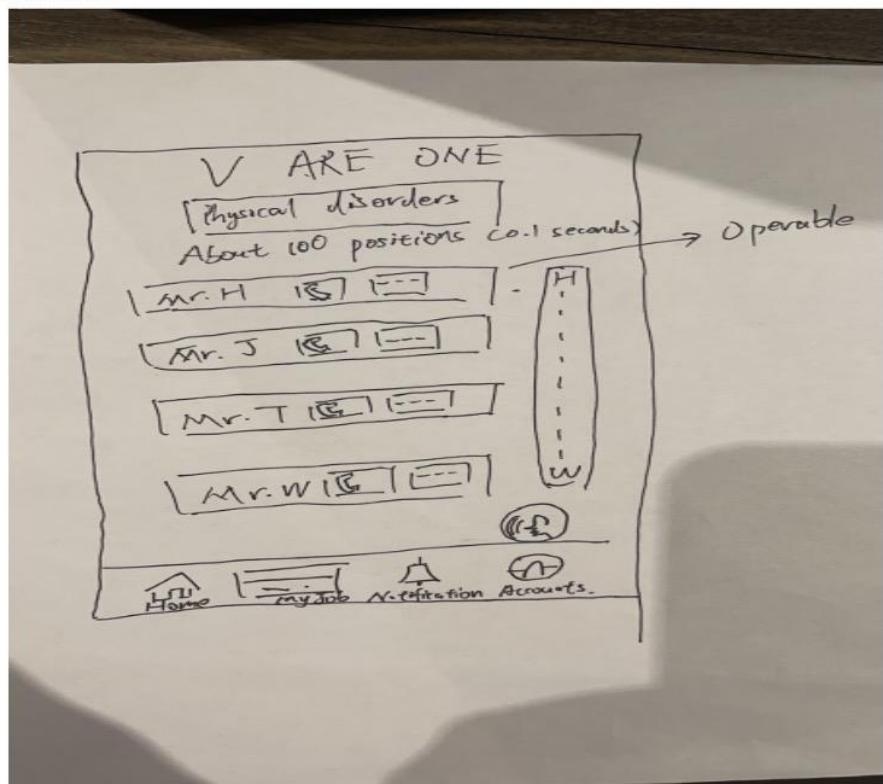
(2) Search For Jobs



(3)Search using Voice Control



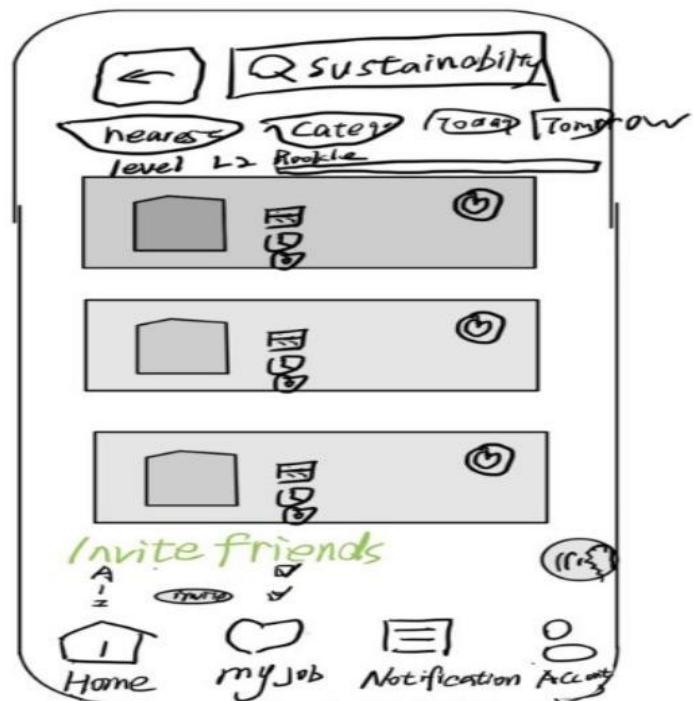
(4)search results



(5) Account



(6) Find events detail



FIT5152
Unit Project - Submission 3
Task Allocation Form

Group Member 1 ID and Name: _____ 33026459 QiHang Wang _____

Group Member 2 ID and Name: _____ 32774494 Yixiang Zhang _____

Group Member 3 ID and Name: _____ 29246237 Zewen GU _____

Group Member 4 ID and Name: _____ 33429472 Ziqi Pei _____

In the Team Member column, please write the name of the group member(s) who did the task. **The assignment deliverable is not limited to the tasks mentioned below.**

*(Tasks marked with * are applicable for groups with 3 or more members. Duplicate this field for additional group members)*

Task/Parts	Team Member(s)
Introduction	QiHang Wang
High fidelity prototype (Amount of screens by Group Member 1)	QiHang Wang 8
High fidelity prototype (Amount of screens by Group Member 2)	Zewen GU 5
High fidelity prototype (Amount of screens by Group Member 3)	Yixiang Zhang 5
High fidelity prototype (Amount of screens by Group Member 4)	Ziqi Pei 5
Implementation process	QiHang Wang, Zewen Gu, Yixiang Zhang, Ziqi Pei
Description & justification of design guidelines used	QiHang Wang, Zewen Gu, Yixiang Zhang, Ziqi Pei
Description & justification of accessibility guidelines used	QiHang Wang, Zewen Gu, Yixiang Zhang, Ziqi Pei
1st Change made to improve the design	Qihang Wang
2nd Change made to improve the design	Zewen Gu
3rd Change made to improve the design	Ziqi Pei
4th Change made to improve the design	Yixiang Zhang

Group discussion of violations and recommendation	QiHang Wang, Zewen Gu, Yixiang Zhang, Ziqi Pei
Discussion of similarities and differences	Zewen Gu
Other (formatting report, checking grammar etc.)	Ziqi Pei
Conclusion	Zewen Gu