

IMPLEMENTATION OF DESIGN THINKING METHODS IN UI/UX DESIGNING JOB SEARCHING APPLICATIONS

Mohammad Didit Sriardi^{*1}, Tukino², Fitria Nurapriani³
Buana Perjuangan University, Karawang
Jl. HS. Ronggo Waluyo, Puseurjaya, East Telukjambe, Karawang, West Java 41361
E-mail: si17.mohammadsriardi@mhs.ubpkarawang.ac.id

ABSTRACT– Major changes in the job search have occurred with the development of the digital age. Therefore, user experience enhancement (*User Experience*, UX) and user interface (*User Interface*, UI) in job search applications is becoming an urgent need. This study aims to explore the application of the method *design thinking* in designing the UI/UX of a job search application named *Career Hunt Design thinking*, a user-centric approach, enabling developers to understand deeply the needs, challenges and expectations of users, and create innovative and effective solutions. There are five stages used in this study: empathy, definition, ideation, *prototype*, and testing / test. In this study, interviews and contextual observations were conducted to gain a deeper understanding of user behavior and needs. Based on these findings, the main issues need to be solved, and then facilitate the session *brain storming* to generate a variety of potential solutions. Then, develop *prototype* based on those ideas and do user testing. *Feedback* received is used for literacy and further improvement. As a result, use *Design Thinking* in design UI/UX This job search application has succeeded in increasing user satisfaction levels as well as job search efficiency.

Keywords: Job Search, *Career Hunt*, *Design Thinking*, UI/UX

1. INTRODUCTION

Lack of information on job vacancies is also one of the problems that makes it difficult to meet job seekers and job applicants so that the internet can be an alternative for finding work, therefore a job search application called Career Hunt was made. *Career Hunt* made to make it easier for people who want to find a job ideally with the desired salary in accordance with the skills and abilities they have. This application aims to provide convenience to the public in obtaining clearer and more accurate information about the job they are looking for. In addition, this application also makes it easier for company owners to find new workers. By knowing the types of jobs that are most sought after, job seekers can assess the abilities or skills that need to be improved to develop their careers. This process also provides benefits in optimizing the efficient use of time, so that job seekers can develop their skills while pursuing better job opportunities.[1]

Job search applications have become an important part of today's digital era, assisting individuals in finding desired job opportunities based on their skills and interests. However, many job search applications are still unattractive and quite confusing for users. This study aims to understand the needs and preferences of users in job search applications through stages *Empathy* And *Define* in *Design Thinking*. We conducted in-depth interviews with potential users of job search apps to understand the challenges and problems they face.

Results of stages *Empathy* And *Define* form the basis for formulating specific challenges and design goals in the Ideate and Stages *Prototype*. Then get user-focused design ideas, these ideas are then conceptualized into prototypes that can be tested by users. By applying the method *design thinking* as an approach that is sustainable and involves users at every stage of application development, it is hoped that it will make a significant contribution in improving the quality of

UI/UX in job search applications. With this approach, app *Career Hunt* is expected to provide a more intuitive, efficient, and user-friendly user experience. The results of this research can serve as a guide for job search app developers to adopt a user-focused approach in developing their UI/UX.

2. RESEARCH CONTENT

1. Research methodology

The method applied in designing this user interface is design thinking. The design thinking approach is focused on repeating the understanding of the problem so that the resulting prototype can suit the needs and provide relevant solutions for users. This approach places the user as the center of attention, so that the user's role becomes very important in this method to produce UI/UX designs that suit their needs and are attractive.[2]

Previously, the design thinking method consisted of three stages: the inspiration stage which included identifying needs or problems as motivation in finding solutions or innovations, the ideation stage which involved the process of generating ideas, developing and testing these ideas, and the implementation stage which focused on finalizing and implementing them. solution to users. However, over time, these three stages have now developed into five stages with several additions in several sections to provide more detailed procedures.[3]



Figure 1. A diagram illustrating the steps of the Design Thinking method.

Below are a series of steps from the design thinking method:

Emphasize

Empathize is a process in which we try to understand the emotions that are being felt by other people by feeling similar feelings towards the problems, situations, and conditions that they are experiencing.[4]

Define

The second stage, namely Define, is a process of identifying user problems by utilizing the results of research and observations that have been made at the Empathize stage.[5]

idea

The ideate process is the stage of gathering ideas which then becomes a solution to answer the problems that have been found. This process is carried out in order to know the priority of each feature which will be finalized and implemented in the form of a prototype.[6]

Prototype

In prototyping there are two types used, namely the manufacture of low-fidelity wireframes and high-fidelity prototypes. In this prototyping, the results from ideas in the form of features and also the customer journey are implemented into a display design or user interface. When you want to

create a good user experience, you must pay attention to the components in making the user interface at the hi-fi stage. These components are layout, color design, and interface control.[7]

test

The testing process, the last stage of the implementation of design thinking, This process is carried out with the aim of getting the right response or feedback from respondents to the prototype that has been made. This aims to find out whether the solutions that have been developed can overcome the problems faced by respondents.[8]

2. Results and Discussion

Through the UI/UX implementation process in the CareerHunt application, it is expected to be able to solve the problems faced by users. The prototype resulting from this research was developed using a design thinking approach. The following are the results and discussion of this study:

Emphasize

The empathize stage is carried out to understand how the problems and needs are faced by users by collecting information directly and social media about user habits when using job search websites, many job vacancies are found which sometimes cannot be confirmed for accuracy and the appearance and features are quite complicated , so as to produce ideas and solutions for the CareerHunt application which will be made to match the criteria, expertise and specifying job seekers only within the scope of the company.

Define

At this stage, data is collected by conducting interviews with users and conducting direct testing to obtain information about a problem that will become a reference in designing the prototype design of the CareerHunt application. The results obtained from some of the information obtained through interviews and application testing concluded that the CareerHunt application could be a solution for job seekers from new graduates or those who want to upgrade to a better job. CareerHunt provides a better, simpler and attractive UI display, with filters that will later filter the job criteria you want to search for, and final education criteria that make it easier to find jobs that match the user's skills and abilities.

idea

From the problem information that has been obtained, a feature display will be made which is felt to later produce an attractive and intuitive interface for users, making it easier for them to use it.

Prototype

In this stage a visual design will be made which will make it easier for the user when operating the system, but before making a prototype there are 2 types of prototypes that must be made namely, Making a low-fidelity wireframe and a high-fidelity prototype wireframe are two crucial stages in reaching the fourth level designing the UI/UX design that will be implemented. Low-fidelity display is one of the crucial stages in this process.[9] There are 2 low-fidelity displays, the first is a low-fidelity display for members and a low-fidelity display for companies. Here is a low-fidelity display for members:

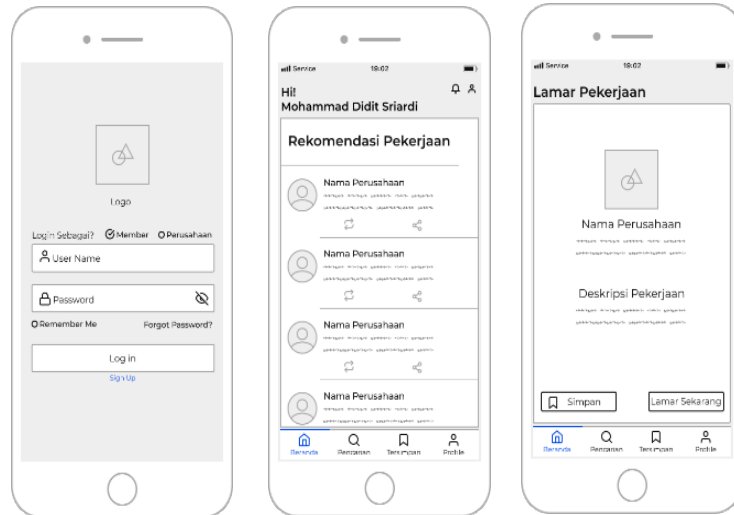


Figure 2. Fig low-fidelity members on the menu login, home and job applications.

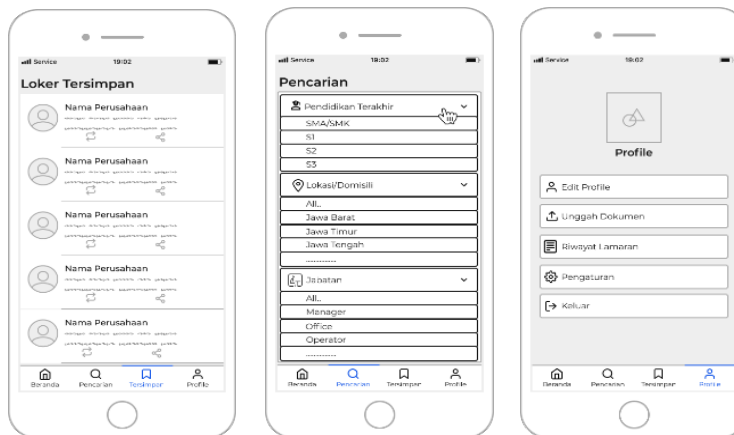


Figure 3. Fig low-fidelity members on the search menu, saved locker and profile.

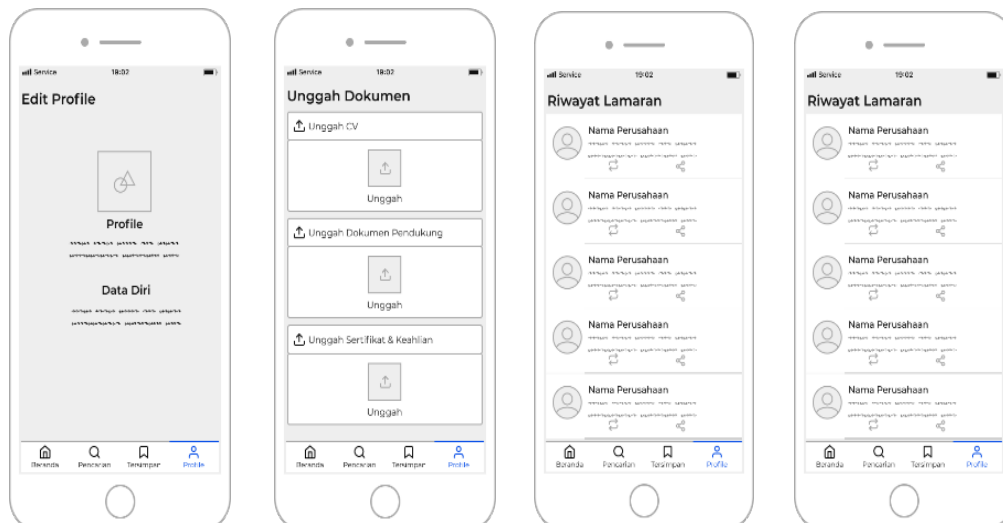


Figure 4. Fig low-fidelity members on the profile menu, namely, edit profile, upload documents, and application history



Figure 5. Fig *low-fidelity members* on the profile menu namely, settings and exit the application.

Next is low-fidelity for enterprises:

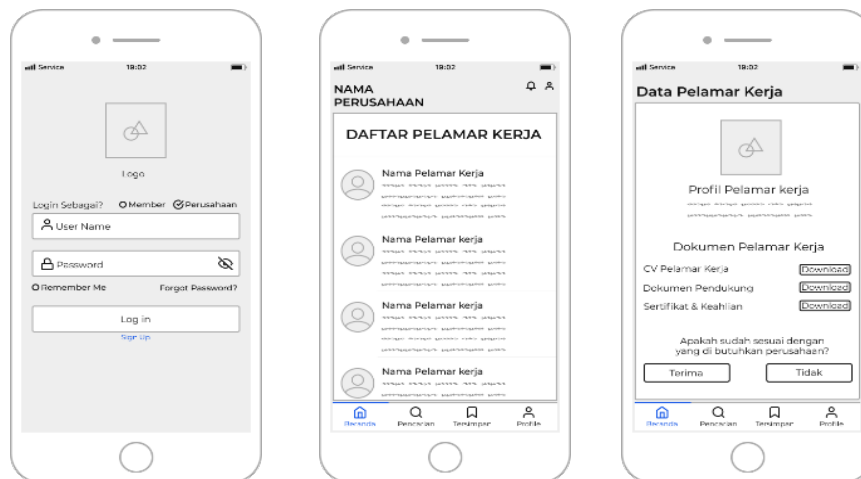


Figure 6. Fig *low-fidelity company* on the login menu, company homepage and job applicant data.

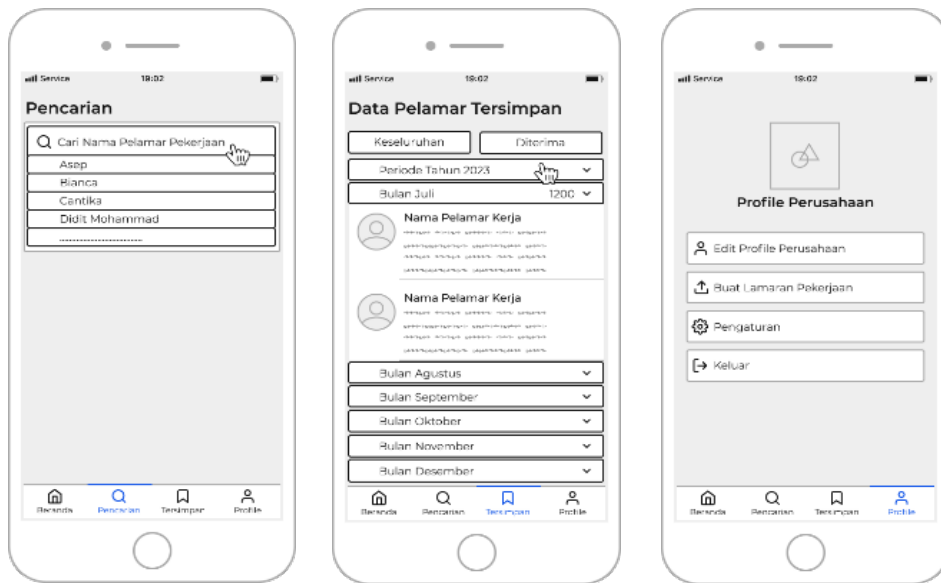


Figure 7. Fig *low-fidelity* companies on the search menu, stored applicant data and profiles

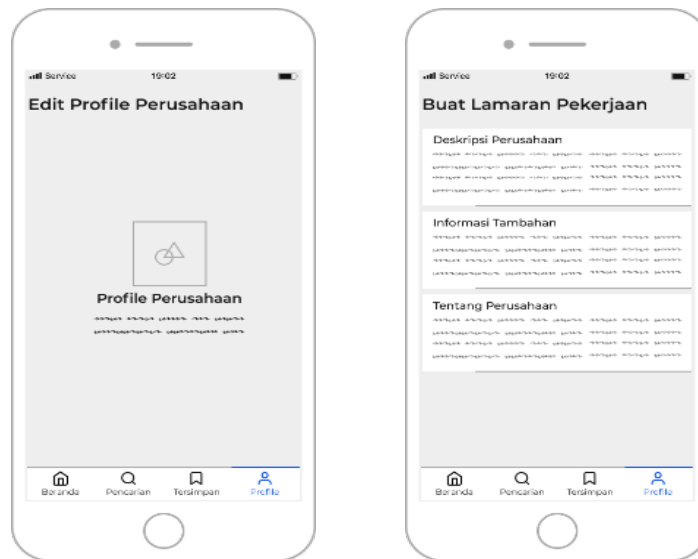


Figure 8. Fig *low-fidelit y*company on the profile menu, namely, edit profile, make a job application



Figure 9. Fig low-fidelity company on the profile menu that is, exit applications and settings

After making low-fidelity, the next step is making high-fidelity wireframes. High-fidelity wireframes are the ultimate form of application or website design designed with a high level of detail and accuracy. The manufacturing process involves elements such as colors, typography, icons, and other components, so as to provide a clear picture of the final appearance of the application or website. Thus, it will be easier for users to understand and interact with the interface.[10]An example of a high-fidelity wireframe can be seen in the image below:

High-fidelity on the member view.

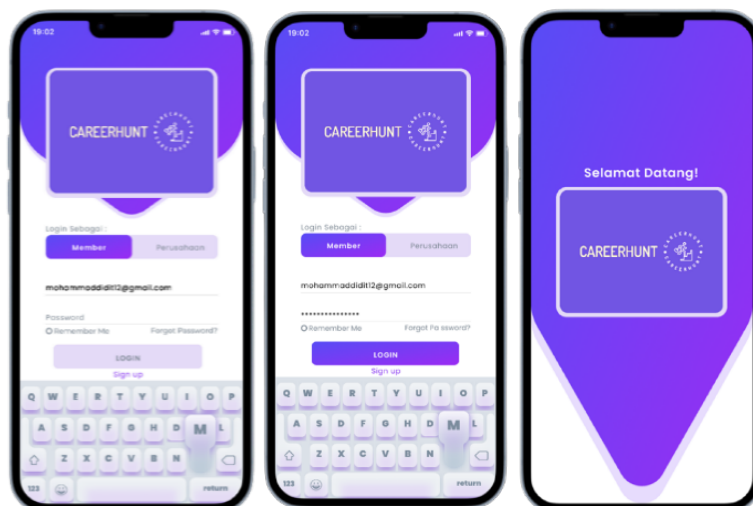


Figure 10. High-fidelity member on the login menu.

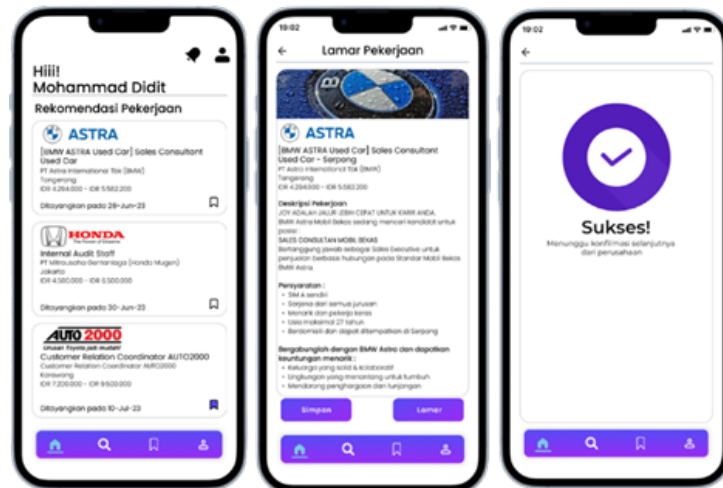
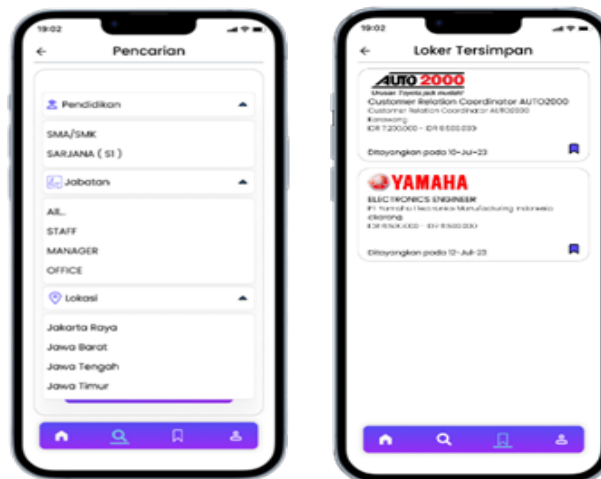


Figure 11. High-fidelity member on the menu apply for a job on the home menu



Gambar 12. High-fidelity member on the search menu and saved applications

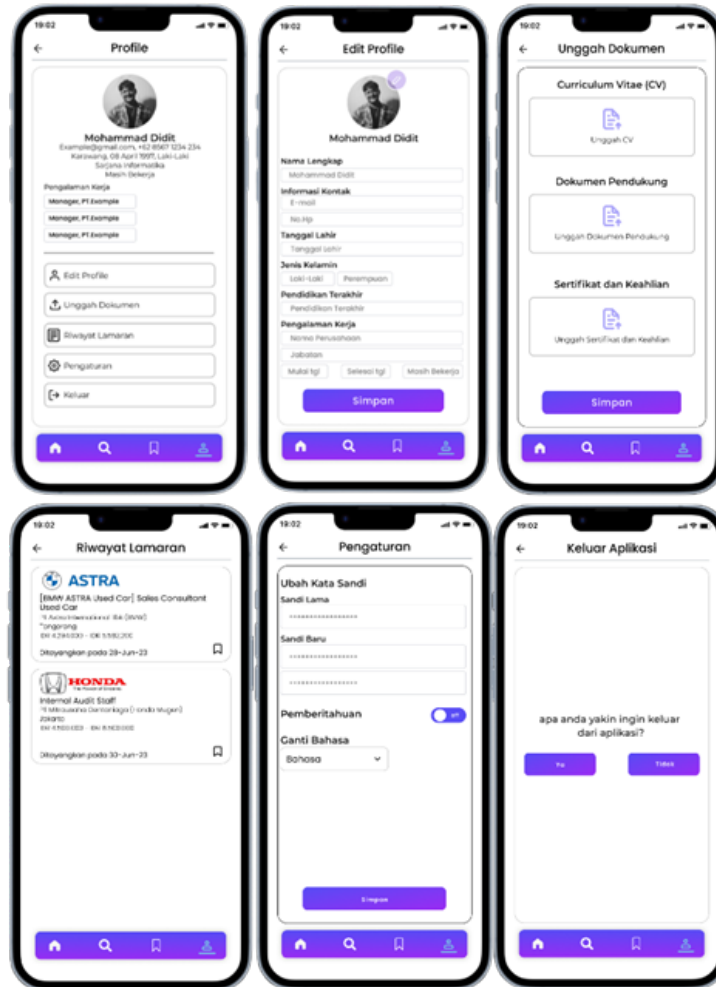


Figure 13. High-fidelity member on the profile menu (edit profile, upload applications, application history, settings and exit the application)

After creating a high-fidelity display on the Careerhunt application Next is to create a high-fidelity display on the company's Career hunt application:

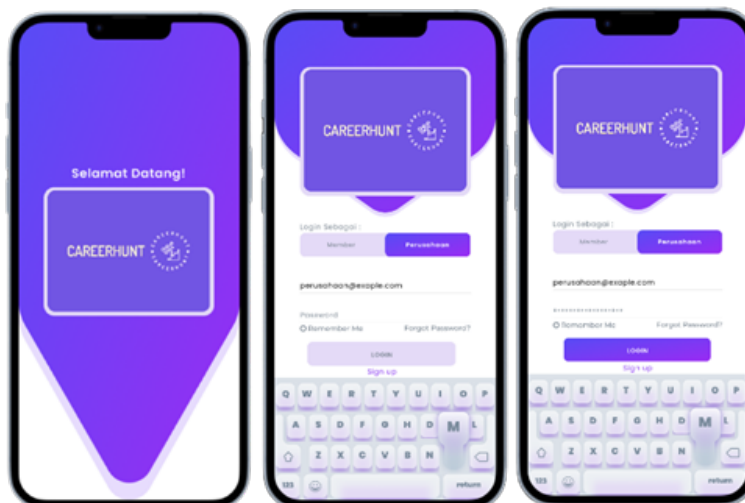


Figure 14. High-fidelity company on the login menu

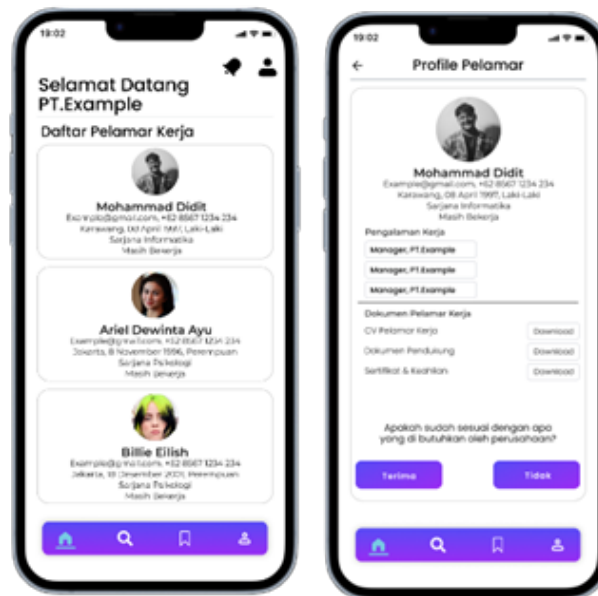


Figure 15. *High-fidelity* home menu company

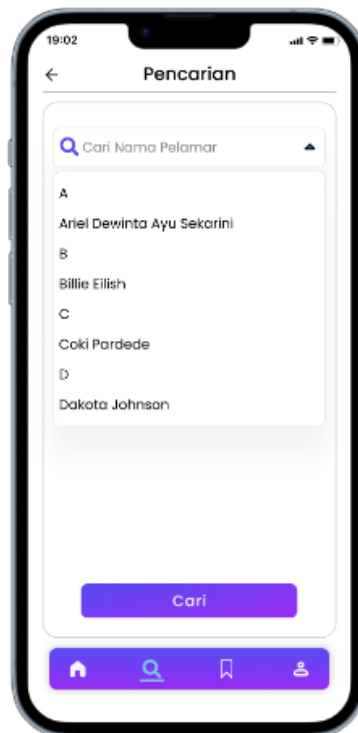


Figure 16. *High-fidelity* search menu company

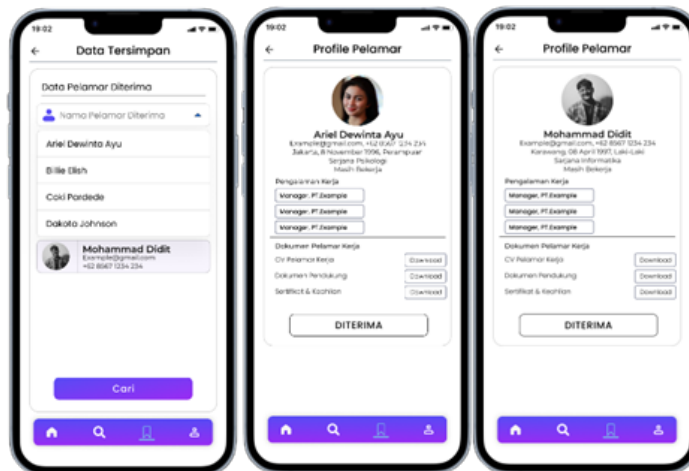


Figure 17. *High-fidelity* menu company stored application data

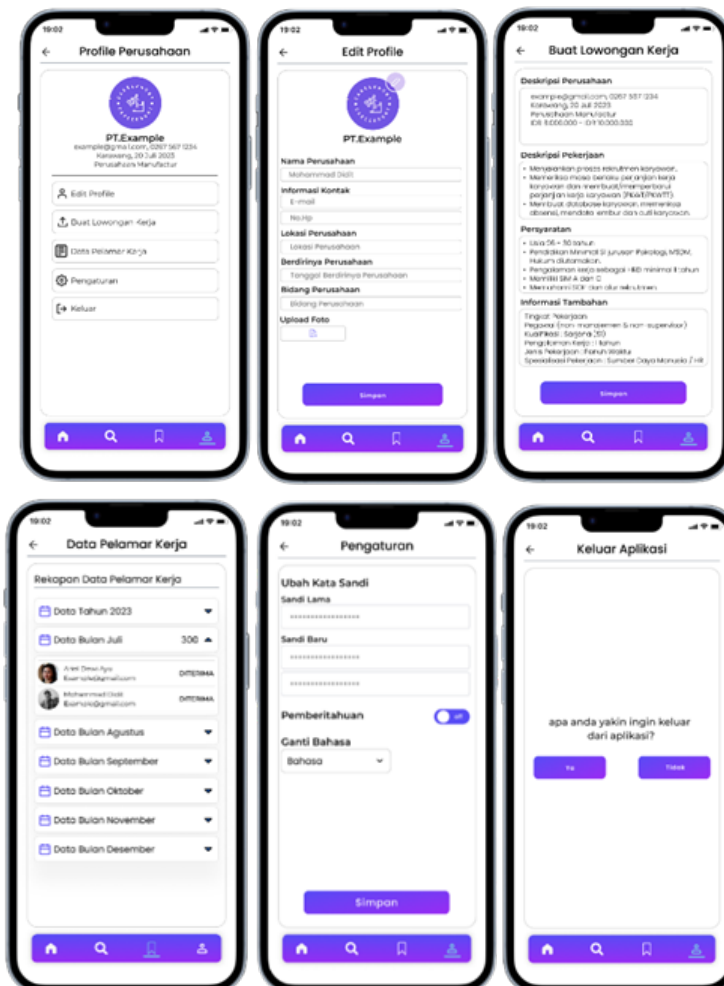


Figure 18. *High-fidelity* company on the profile menu (edit profile, upload application, application history, settings and exit the application)

test

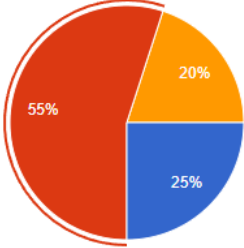
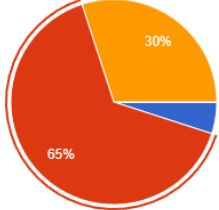
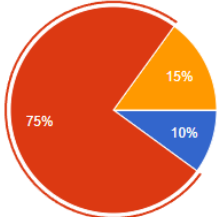
Then testing was carried out, for the method used, namely, where the writer looked for respondents to be interviewed, then the respondents were asked to try the tasks for each feature from the prototype results and carried out an assessment through the Google form which produced quite satisfactory results from the results of trials on users who would using the CareerHunt application. For the test itself, the author took from 20 respondents who would later test the Careerhunt application and fill out the Google form to find out the results of the level of satisfaction of the Careerhunt application users. The following are names that have tested the tasks for each feature from the prototype results and filled out the level of satisfaction via the Google form:
 Names of respondents who have filled out and tested the tasks for each feature from the prototype results:

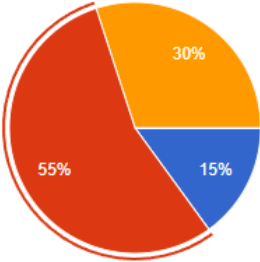
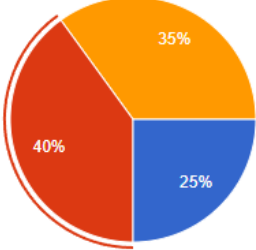
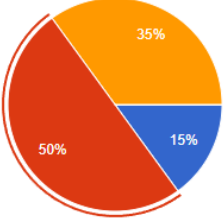
Aini Mutyasari	Dimas prasetyo utomo	
Nuratiwi	DINDA SAFITRI	
Ajie Sukma	Nugroho Susilo	BAGUS SUBANGKIT
Ahmad Hudori	Novianti	FINA FEBIOLA
Habib Sandi Pradna	Nerissa Sarfiana	Mei Asmarawati
Nur Muhamad Rajeb	Aditya Setiawan	Wahyu Ananda Hidayat
Hanivan	Aprilian Nughrah Pratama	
Gifaq sandi	Feby Pretiwi	

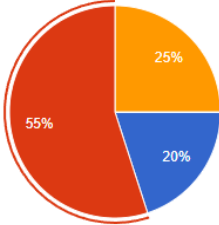
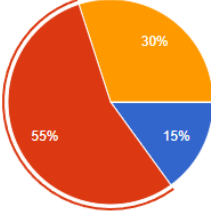
Figure 19. Name rthe respondent gave the rating

Table 1. Table of results from the assessment of respondents' satisfaction using the Google form

No.	A list of questions	Survey Results
1	How comfortable are you with the user interface (UI) when using the app?	<p>70% 20% 10%</p> <ul style="list-style-type: none"> Sangat nyaman Nyaman Netral Tidak nyaman Sangat tidak nyaman
2	How easy is it for you to understand our user interface (UI) navigation?	

		 <ul style="list-style-type: none"> ● Sangat Mudah ● Mudah ● Netral ● Sulit ● Sangat Sulit
<p>3</p>	<p>Is the user interface (UI) navigation easy to understand and directs you well to the different parts of the app you're building?</p>	 <ul style="list-style-type: none"> ● Sangat mudah dipahami dan mengarahkan dengan baik ● Mudah dipahami dan mengarahkan dengan baik ● Netral ● Sulit dipahami dan tidak mengarahkan dengan baik ● Sangat sulit dipahami dan tidak mengarahkan dengan baik
<p>4</p>	<p>How do you feel about the layout and organization of the information on the user interface (UI) you created?</p>	 <ul style="list-style-type: none"> ● Sangat Jelas dan Teratur ● Jelas, tapi perlu beberapa perbaikan ● Netral ● Kurang Jelas dan Tidak Teratur ● Sangat Kurang Jelas dan Tidak Teratur
<p>5</p>	<p>Do you find the visual elements (icons, buttons, images, etc.) easy to understand and easily identifiable by function?</p>	

		 <ul style="list-style-type: none"> ● Sangat Mudah Dipahami ● Mudah Dipahami ● Netral ● Sulit Dipahami ● Sangat Sulit Dipahami
<p>6</p>	<p>How do you feel about the colors and contrast used in the user interface (UI)?</p>	 <ul style="list-style-type: none"> ● Sangat Menyenangkan dan Membantu ● Menyenangkan, tapi perlu beberapa perbaikan ● Netral ● Kurang Menyenangkan dan Tidak Membantu ● Sangat Kurang Menyenangkan dan Tidak Membantu
<p>7</p>	<p>Do you find using animation or transition effects in your user interface (UI) fun and helpful for understanding your workflow?</p>	 <ul style="list-style-type: none"> ● Sangat Menyenangkan dan Membantu ● Menyenangkan, tapi perlu beberapa perbaikan ● Netral ● Kurang Menyenangkan dan Tidak Membantu ● Sangat Kurang Menyenangkan dan Tidak Membantu

8	How responsive is our user interface (UI) across mobile devices?	 <ul style="list-style-type: none"> ● Sangat Responsif ● Responsif ● Netral ● Kurang Responsif ● Sangat Kurang Responsif
9	To what extent are you satisfied with the consistency of the user interface (UI) design of the application?	 <ul style="list-style-type: none"> ● Sangat puas ● Puas ● Netral ● Tidak puas ● Sangat tidak puas

From the results of the survey the level of user satisfaction received a fairly good response when using the Careerhunt application, and some also provided some suggestions for development in terms of the appearance of the Careerhunt application.

After conducting an assessment of the respondents, the authors also made input or suggestions from the respondents which could later be used as a reference for the development of the Careerhunt application design, along with the results of the respondents' suggestions.

Questions for respondents: Are there additional features or functions that you would like to see in the user interface (UI) of the application you are creating? If yes, please explain further

Answers from respondents:

Tidak ada
Sudah baik tapi harus di beri beberapa perbaikan lagi
Masih banyak sebenarnya yang bisa di kembangkan lagi dari tampilan aplikasi dan harusnya ada coment atau retting soal perusahaan agar tau seberap bagus perusahaan yang ingin di lamar
Fitur sudah bagus tinggal pengembangan aja
Tidak ada karena sudah cukup baik
Tidak
Tidak perlu ada tambahan sudah nyaman untuk user pengguna
Tidak perlu ada tambahan
Mungkinterlalu simpel tapi sudah cukup menarik dan mudah di gunakan
sudah cukup baik
Simpel dan mudah di pahami
Sudah cukup baik
tidak sudah cukup
terlalu simpel dan masih bisa di tambahkan fitur lainnya
cukup simpel dan keren
TIDAK, UDAH CUKUP MENARIK
tidak, sudah sempel dan mudah di gunakan
tidak ada, sudah cukup

Figure 20. Results of suggestions from respondents

3. CONCLUSION

From the results of the study it can be concluded that the appearance of the Careerhunt application is quite attractive and easy to use by the respondents. As well as there are some inputs from respondents that can be used as a reference for further research.

4. CLOSING

It is hoped that the results of this research can be developed again by making it a reference for making applications or journals, and being able to add features that are felt if there are still missing and the appearance of applications that are still too simple can be developed to be even better and more interesting.

BIBLIOGRAPHY

- [1] S. Maharani, DP Kynta, BA Fernando, M. Naufal, B. Putra, and MR Pribadi, "NimbleSpace Using the Design Thinking Method," pp. 313–320, 2022.
- [2] YA Puteri, D. Aulia, A. Alya, and K. Sari, "Implementation of Design Thinking Methods in Designing Online Course Application User Interfaces," *J. Siliwangi Saints of Technology.*, vol. 8, no. 2, p. 2022, 2022, [Online]. Available: <https://jurnal.unsil.ac.id/index.php/jssainstek/article/view/6280/2499>
- [3] AK Nadhif, DTW Jati, MF Hussein, and IS Widiati, "Designing UI/UX Sales Applications with a Design Thinking Approach," *J. Ilm. CIDA IT*, vol. 7, no. 1, pp. [4] D. Haryuda, M. Asfi, and R. Fahrudin, "UI/UX Design Using the Company Method," *J. Ilm. Technol. Applied Information.*, vol. 8, no. 1, pp. 111–117, 2021, doi: [5] EC Shirvanadi, "Ui/Ux Redesign of Amikom Center E-Learning Site Using the Design Thinking Method (Case Study: Amikom Center)," *Francec. Reset Ui/Ux E-Learning Site Amikom Cent. With Method. dec. think. (Amikom Center Case Study)*, p. 8, 2021, [Online]. Available: <https://dSPACE.uii.ac.id/handle/123456789/34156>
- [6] MAD Pratama, YR Ramadhan, and TI Hermanto, "UI/UX Design Application of Japanese Language Learning in High Schools Using the Design Thinking Method," *JURIKOM*

- (Journal of Ris. Computer), vol. 9, no. 4, p. 980, 2022, doi: 10.30865/jurikom.v9i4.4442.
- [7] D. Saputra and R. Kania, "Implementation of Design Thinking for User Experience in Using Digital Applications," *ind. Research Work. Christmas. Monday.*, vol. 13, pp. 1174–1178, 2022.
- [8] RI Syabana, PY Saputra, and N. Anugrah, "Application of the Design Thinking Method in User Interface Design," *e-conversion - Propos. a Clust. excell.*, pp. 40–60, 2020, [Online]. Available: <http://jurnalti.polinema.ac.id/index.php/SIAP/article/view/719>
- [9] Z. Aulia Putri Prasetyo, O. Virgantara Putra, and T. Harmini, "Implementation of the Design Thinking Method in UI/UX Design of the TPS3R Sports Site in Batu City," *Ikraith-Informatics*, vol. 7, no. 2, pp. 1–10, 2022, doi: 10.37817/ikraith-informatika.v7i2.2245.
- [10] P. Studi and T. Informatics, "NURUL FIKRI HIGHER TECHNOLOGY INTEGRATED MODELING UI / UX APPLICATION TRAINING USING DESIGN THINKING METHOD INTEGRATED TECHNOLOGY HIGH SCHOOL NURUL FIKRI UI / UX MODELING APPLICATION TRAINING USING INTEGRATED TECHNOLOGY DESIGN METHOD NURUL FIKRI," 2023.