



## CPCS381 – Human and Computer Interaction

Group Project – Jun 8<sup>th</sup>, 2023 @ 11:59



**Group number: 3**

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## **Part1: Introduction**

### **1.1 Aim and Problem**

Our application's overall goal is to make it easier for students and companies to communicate by providing three interfaces: newly graduated, internship, and part-time. Students can build profiles for their resumes. On the other hand, companies can use the application to search for potential candidates and communicate with them directly.

### **1.2 Problem**

It is important for students to gain practical experience and establish contacts with companies to achieve success in their careers. However, finding suitable opportunities and effective communication with potential employers is a daunting task, as finding summer training in the field in which the student wishes to train is difficult.

### **1.3 Impact of Successful Design**

Designing a solution to make the job search process more efficient and effective could have a significant impact on job seekers like saving them time and increasing their chances of finding a job that aligns with their career aspirations, which could help job seekers better present themselves to potential employers. Ultimately, improve their overall quality of life and contribute to a more productive workforce.

### **1.4 Proposed Solution**

After explaining the problem above, we recommended some solutions by highlighting some activities that can be done by the users of the system:




1. Employment requesters can search for appropriate jobs or internships by specifying period of time or by month by the employment requesters.
2. Employment requesters can search for specific jobs by specifying related fields or by selecting cities.

3. Companies and Human Resources employees (HR) can offer specific jobs either part-time or full-time jobs.
4. Companies and Human Resources employees (HR) can write the questionnaires that will be asked for the employment requesters, and they must put grades for each question.
5. After the employment requester chooses the job, they must upload their cvss and fill out the questionnaires that are provided by the company.
6. The system may show the job applicant the result of their answers in the survey (optional choose it to be available or not).
7. Companies can use the application and its survey or questionnaires to order the job applicant based on their suitability for the position.

## 1.5 Target Users

Seekers of jobs and internships from youth. Also, Human Resources employees can seek new employment with good specifications in the field that they want it.

## 1.6 A Review of Existing Designs

Websites/Applications	LinkedIn 	Facebook 	Twitter 
Similarities with our application	<p>LinkedIn was made with the intention for companies to post availabilities for jobs, and people looking for jobs to post their CVs and experiences.</p>	<p>Facebook started as a social media website/application for people to chat and post about their day and activities. Now there are business accounts that post about job availabilities, and some people use their Facebook as their CVs.</p>	<p>Twitter started as a social media website/application where people talk about their day or post quotes or any written post with a limit on the number of words they're allowed to write. Now businesses and companies post about job availabilities.</p>
Good practices	<p>It is easy to differentiate between companies and people looking for jobs.</p>	<p>Each company has an account where they post available jobs.</p>	<p>Each company has an account where they post available jobs.</p>
	<p>There is a place designated for available jobs.</p>	<p>Easy to find contact information on the companies' accounts.</p>	<p>Easy to find contact information on the companies' accounts.</p>

Poor practices	When applying for a job, it clearly states everything you need to know about the job, including the skills needed.	The colors used on the website/application are relaxing and easy on the eye.	The colors used on the website/application are relaxing and easy on the eye.
	When applying for a job, it clearly shows how many of your skills this job needs.	There are groups you can join that post about available jobs.	Some people post threads about available jobs.
	When people look at your profile, it's easy to find everything they need to know about you.		
	Their website design is a little boring.	Hard to find available jobs.	Hard to find available jobs.
	There are a lot of steps when creating an account.	Not all companies have finished setting up their accounts, therefore it can be challenging to contact them.	Not all companies have finished setting up their accounts, therefore it can be challenging to contact them.
	If you were a student and have no experience, your account looks empty, boring, and unappealing.	Hard to apply for a job, as you must personally contact the company on their email.	Hard to apply for a job, as you must personally contact the company on their email.

It takes time to learn your way around the website.

To know when a job is available you must follow companies' accounts, or people who post about available jobs.

To know when a job is available you must follow companies' accounts, or people who post about available jobs.

The colors for the website are a little boring.

There isn't a spot designated for posting about available jobs.

There isn't a spot designated for posting about available jobs.

## Part2: Requirements

### 2.1 Questionnaire

Type of Question		Question
User Characteristics	Age	<p>*:Age العمر</p> <p>18-20 <input type="radio"/></p> <p>21-29 <input type="radio"/></p> <p>30-39 <input type="radio"/></p> <p>40+ <input type="radio"/></p>
	Education	<p>*:Level of education مستوى التعليم:</p> <p>متوسط / Middle School <input type="radio"/></p> <p>ثانوي / High School <input type="radio"/></p> <p>دبلوم / Diploma <input type="radio"/></p> <p>بكالوريوس / Bachelor <input type="radio"/></p> <p>ماجستير / Master <input type="radio"/></p>
	Job	<p>*:Current Job الوظيفة الحالية:</p> <p>طالب / Student <input type="radio"/></p> <p>موظف / Employed <input type="radio"/></p> <p>غير موظف / Unemployed <input type="radio"/></p>
	Experience in using technology	<p>*:Experience in using technology خبرتك في استخدام التكنولوجيا:</p> <p>مبتدئ / Beginner <input type="radio"/></p> <p>متوسط / Intermediate <input type="radio"/></p> <p>خبير / Expert <input type="radio"/></p>
The user needs to use the application		<p>* Do you find it difficult to find available jobs ? (jobs including: summer training, part-time, jobs for newly graduates)</p> <p>هل تواجه صعوبة في البحث عن وظائف شاغرة ؟ (الوظائف تتضمن: التدريب الصيفي، العمل الجزئي، وظائف لحدثي التخرج)</p> <p>نعم / Yes <input type="radio"/></p> <p>لا / No <input type="radio"/></p>



## Context of use of the application

\* Do you find yourself asking around and looking in multiple applications for available jobs ?

(jobs including: summer training, part-time, jobs for newly graduates)

هل تلاحظ انك تسأل من حولك وتبحث في تطبيقات عدة لمعرفة الوظائف الشاغرة؟  
(الوظائف تتضمن: التدريب الصيفي، العمل الجزئي، وظائف لحدِيثي التخرج)

Yes / نعم ☐

No / لا ☐

\* ? Do you prefer being notified every time an available job appears  
(jobs including: summer training, part-time, jobs for newly graduates)

هل تفضل أن تصلك اشعارات كلما وجدت وظيفة شاغرة ؟  
(الوظائف تتضمن: التدريب الصيفي، العمل الجزئي، وظائف لحدِيثي التخرج)

Yes / نعم ☐

No / لا ☐

\* Do you prefer having a different section for each job (section1: for summer training, ? section2: for part-time, section3: for newly graduates)

هل تفضل أن يكون هناك قسم لكل وظيفة (قسم1: للتدريب الصيفي، قسم2: للعمل الجزئي، قسم3: للوظائف الموجهة لحدِيثي التخرج) ؟

Yes / نعم ☐

No / لا ☐

\* ? Do you find it helpful if there was a filter for the work environment  
(men, women, mixed)

هل تفضل وجود خيار لإظهار الوظائف ذات بيئة عمل معينة ؟  
(بيئة رجالية، بيئة نسائية، بيئة مختلطة)

Yes / نعم ☐

No / لا ☐

I don't care / لا يهمني ☐

\* How long does it take you to find an available job ?  
(jobs including: summer training, part-time, jobs for newly graduates)

كم من الوقت تستغرق في البحث عن وظيفة شاغرة ؟  
(الوظائف تتضمن: التدريب الصيفي، العمل الجزئي، وظائف لحدِيثي التخرج)

Minutes / دقائق ☐

Hours / ساعات ☐

Days / أيام ☐

Weeks / أسابيع ☐

Months / أشهر ☐

Years / سنين ☐

## Evaluate

How can the design make users happy / be more engaging?

\* ? How long does it take you to find the contact information for the company

كم من الوقت تستغرق للحصول على معلومات تواصل الشركة ؟

- ☐ 10 - 5 دقائق / minutes
- ☐ 10 - 20 دقيقة / minutes
- ☐ 20 - 30 دقيقة / minutes
- ☐ أكثر من 30 دقيقة / more than 30 minutes

\* ? How long does it take you to find information about a company

كم من الوقت تستغرق للحصول على معلومات عن شركة ؟

- ☐ 10 - 5 دقائق / minutes
- ☐ 10 - 20 دقيقة / minutes
- ☐ 20 - 30 دقيقة / minutes
- ☐ أكثر من 30 دقيقة / more than 30 minutes

\* Would giving the application fun colors make your experience in finding a job enjoyable ?

هل إعطاء التطبيق ألوان مبهجة يجعل عملية البحث عن وظيفة ممتعة ؟

- ☐ نعم / Yes
- ☐ لا / No

\* Would having cartoon characters around the application make your experience more enjoyable

هل وجود شخصيات كرتونية في التطبيق يجعل استخدام التطبيق أكثر متعة ؟

- ☐ نعم / Yes
- ☐ لا / No

## 2.2 Results

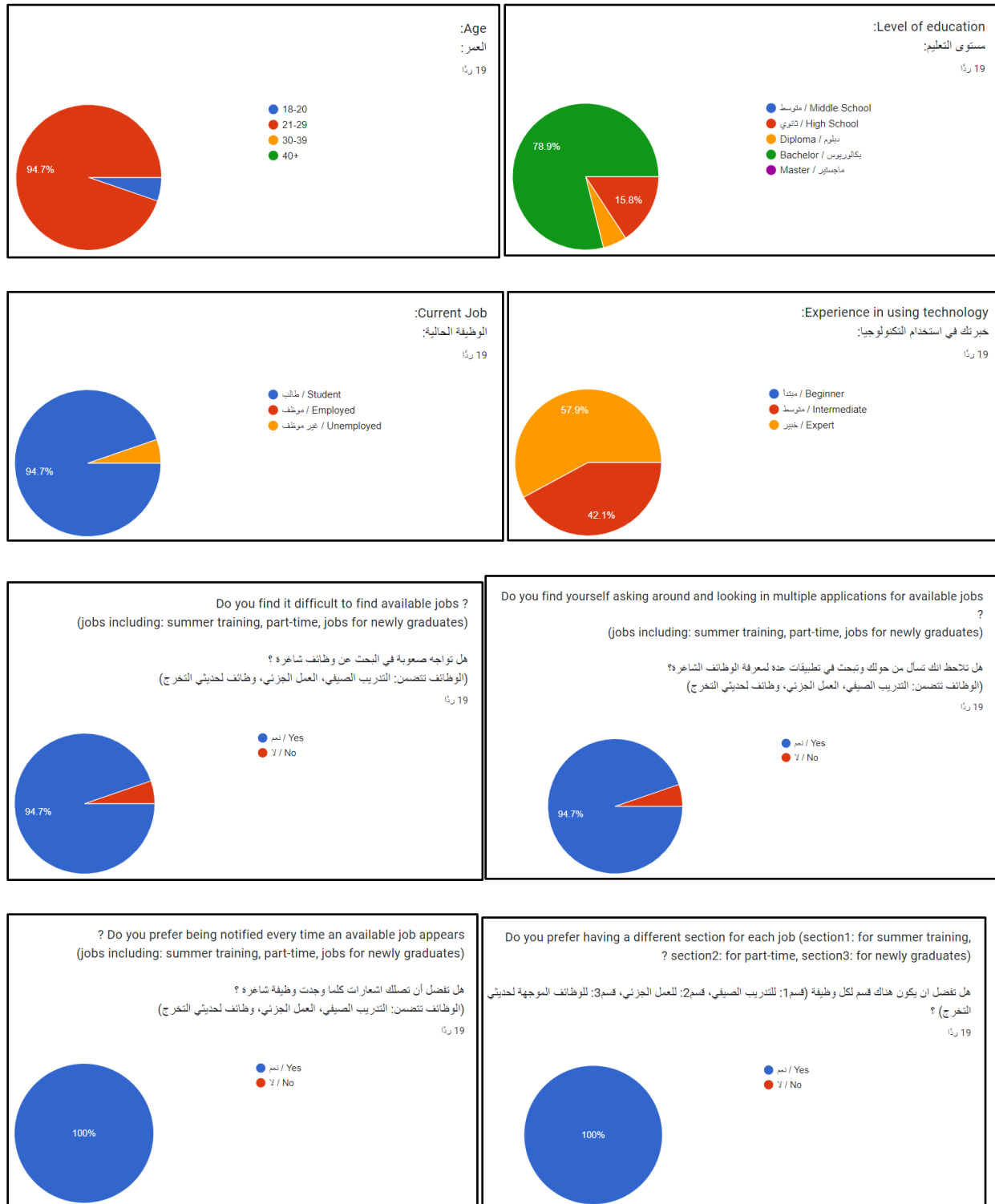
العمر:	Level of education / التعليم	Current Job / الوظيفة الحالية	Experience in using test ?	Do you find it difficult	Do you find yourself as	Do you prefer having a	Do you find it helpful if	? How long does it take	How long does it take y	How long does it take y	Would giving the applic	Would having cartoon
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Weeks / أسابيع	أكثر من 30 دقيقة / minutes	Yes / نعم	Yes / نعم
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Days / أيام	10 - 20 دقيقة / minutes	Yes / نعم	No / لا
21-29	High School / الثانوية	Student / طالب	Intermediate / متوسط	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	I don't care / لا يهمني	Days / أيام	20 - 30 دقيقة / minutes	Yes / نعم	Yes / نعم
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Months / أشهر	5 - 10 دقائق / minutes	Yes / نعم	Yes / نعم
21-29	High School / الثانوية	Unemployed / غير موظف	Intermediate / متوسط	Yes / نعم	No / لا	Yes / نعم	Yes / نعم	Yes / نعم	Days / أيام	10 - 20 دقائق / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Intermediate / متوسط	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Months / أشهر	20 - 30 دقائق / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Weeks / أسابيع	20 - 30 دقائق / minutes	Yes / نعم	Yes / نعم
18-20	Bachelor / البكالوريوس	Student / طالب	Intermediate / متوسط	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Months / أشهر	20 - 30 دقائق / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Months / أشهر	أكثر من 30 دقيقة / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Intermediate / متوسط	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Months / أشهر	10 - 20 دقائق / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Months / أشهر	أكثر من 30 دقيقة / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	I don't care / لا يهمني	Weeks / أسابيع	5 - 10 دقائق / minutes	No / لا	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Intermediate / متوسط	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Weeks / أسابيع	10 - 20 دقائق / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Months / أشهر	20 - 30 دقائق / minutes	Yes / نعم	No / لا
21-29	Diploma / دبلوم	Student / طالب	Intermediate / متوسط	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	I don't care / لا يهمني	Months / أشهر	20 - 30 دقائق / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Weeks / أسابيع	20 - 30 دقائق / minutes	Yes / نعم	Yes / نعم
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	No / لا	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Hours / ساعات	5 - 10 دقائق / minutes	Yes / نعم	No / لا
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	Months / أشهر	أكثر من 30 دقيقة / minutes	Yes / نعم	Yes / نعم
21-29	Bachelor / البكالوريوس	Student / طالب	Expert / خبير	Yes / نعم	Yes / نعم	Yes / نعم	Yes / نعم	I don't care / لا يهمني	Months / أشهر	20 - 30 دقائق / minutes	Yes / نعم	No / لا

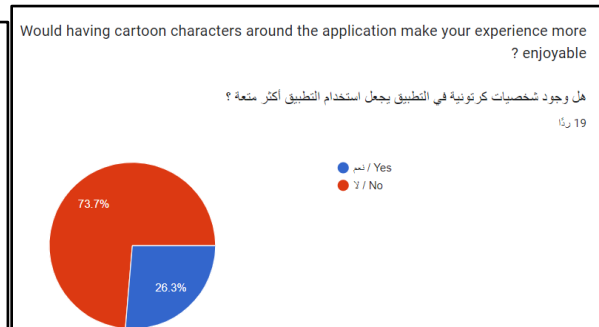
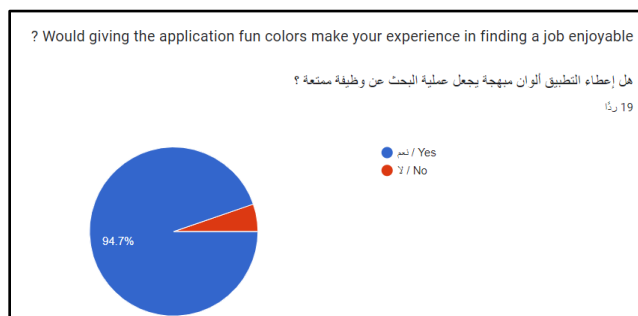
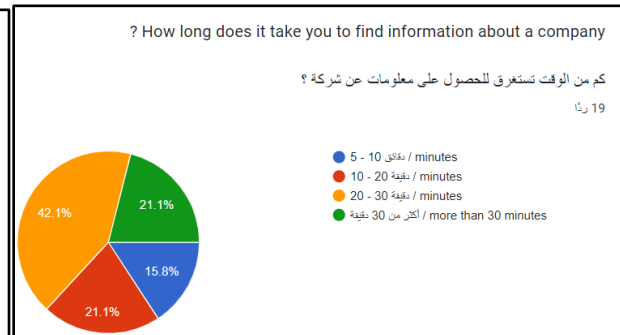
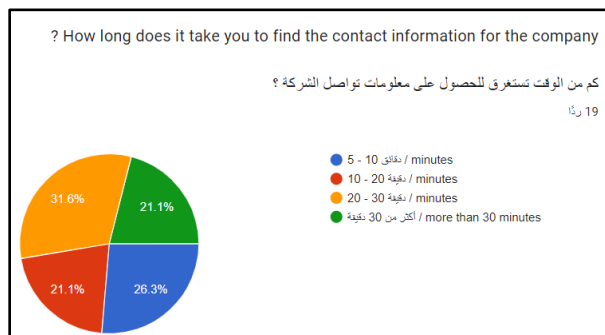
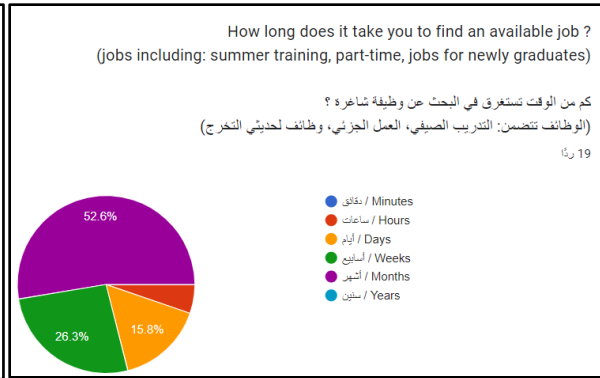
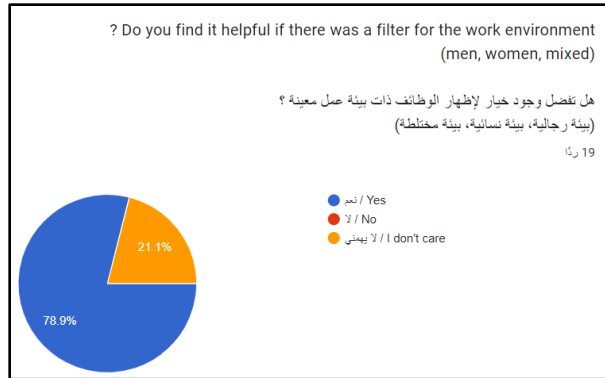
For a clearer view of the results, please click on the below icon to open the excel file.



Ms3ana (survey results).xlsx

## 2.3 Data Analysis





## 2.4 Data Summary

Through the survey, we noticed the following:

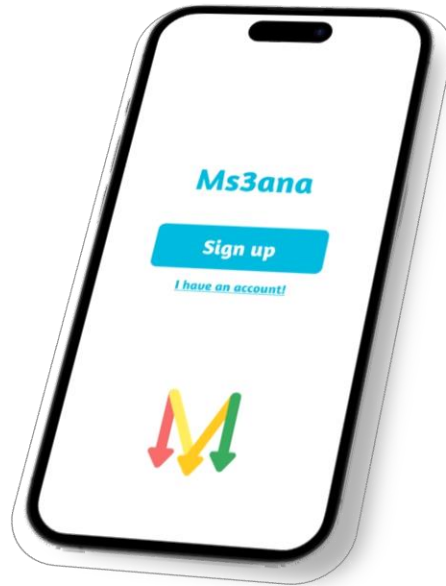
- 94.7% of participants are between 21 and 29 years old, and 5.3% are between 18-20 years old.
- 78.9% have bachelor's degree certificate, 15.8% have high school degree, and 5.3% have diploma degree.
- 94.7% of participants are students, and 5.3% are unemployed.
- 57.9% of participants are experts in using technology, and 42.1% have intermediate level in using technology.
- 94.7% of the responds find difficulties finding jobs and training.
- 94.7% of participants are using multiple applications to search for a job.
- 100% of participants prefer receiving notifications for jobs/internships.
- 100% of participants prefer having different sections for jobs and internship.
- 78,9% of participants prefer having filter for job environments such as: men, women, and mixed, and 21.1% do not care about the job environment.
- 52.6% of participants take months to search for jobs, 26.8% take weeks, and 15.8% take days.
- 31.6% of participants take 20-30 minutes to find contact information of companies, and 26.35 take 5minutes, and 21.1% take 10-20 minutes, and 21.1% take more than 30 minutes.
- 42.1% of participants take 20-30 minutes to find information about a company, 21.1% take more than 30 minutes, 21.1% take 10-20 minutes, and 15.8% take 5-10 minutes.
- 94.7% of participants prefer fun colors for the application interface.
- 73.3% of participants prefer having characters in the application, and 26.3% do not prefer it.

## 2.5 Requirements

- The Mas3ana application should notify the user of new opportunities for jobs and training.
- The Mas3ana application should allow registration of companies and individuals.

- The Mas3ana application should provide different sections of job and training.
- The Mas3ana application should provide information about the job environment.
- The Mas3ana application should provide the user with information about the company including contact information.
- The Mas3ana application may use colorful interfaces.

## Part3: Prototyping

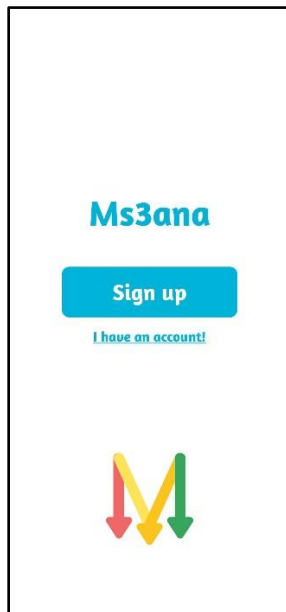


### 3.1 Tool Used

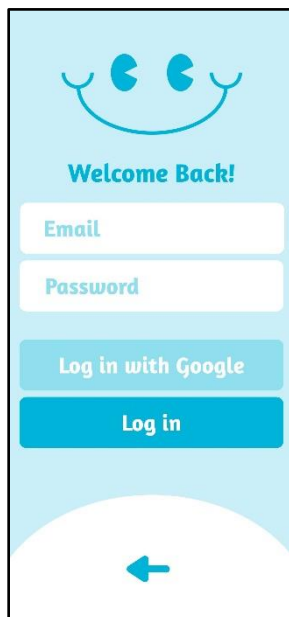
The prototyping tool used in this project is Figma prototype, it allows to create interactive design without coding. It uses draw, drag, and drop interface. Also, it supports many platforms such as: smartphones, tablets etc.

## 3.2 Interfaces

Main interface:



Log in interface:





Employee sign up:



Who are you ?

Company

Employee



### Employee

Email

Password

Sign up with Google

Sign up



### Employee

First Name

Last Name

Nationality

Phone number

Birth Date

Gender

female

male





I'm done





We sent you an email!

Please follow the instructions in the email to finish your sign up.

Didn't get an email ?


Send again

Welcome.



We're happy to have you with us!


Company sign up:



**Who are you ?**

Company

Employee




**Company**


Company Name:


Company Email:


Password:

Country:


Head office location 








I'm done






**We sent you an email!**

**Please follow the instructions in the email to finish your sign up.**

Didn't get an email ?

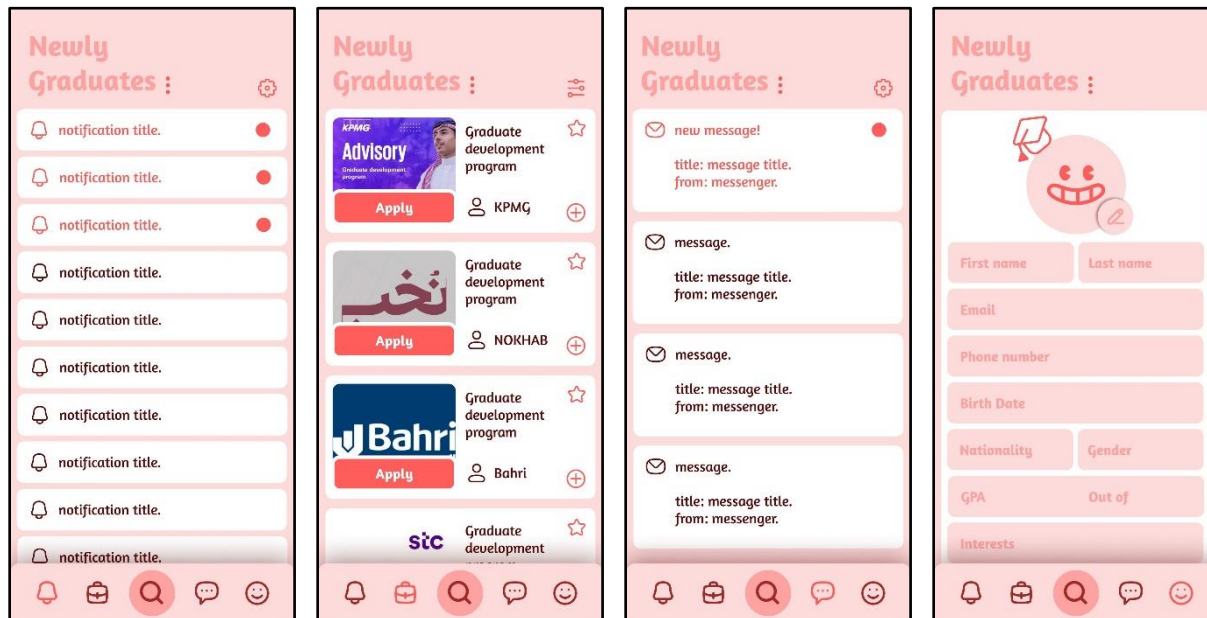
Send again

**Welcome.**

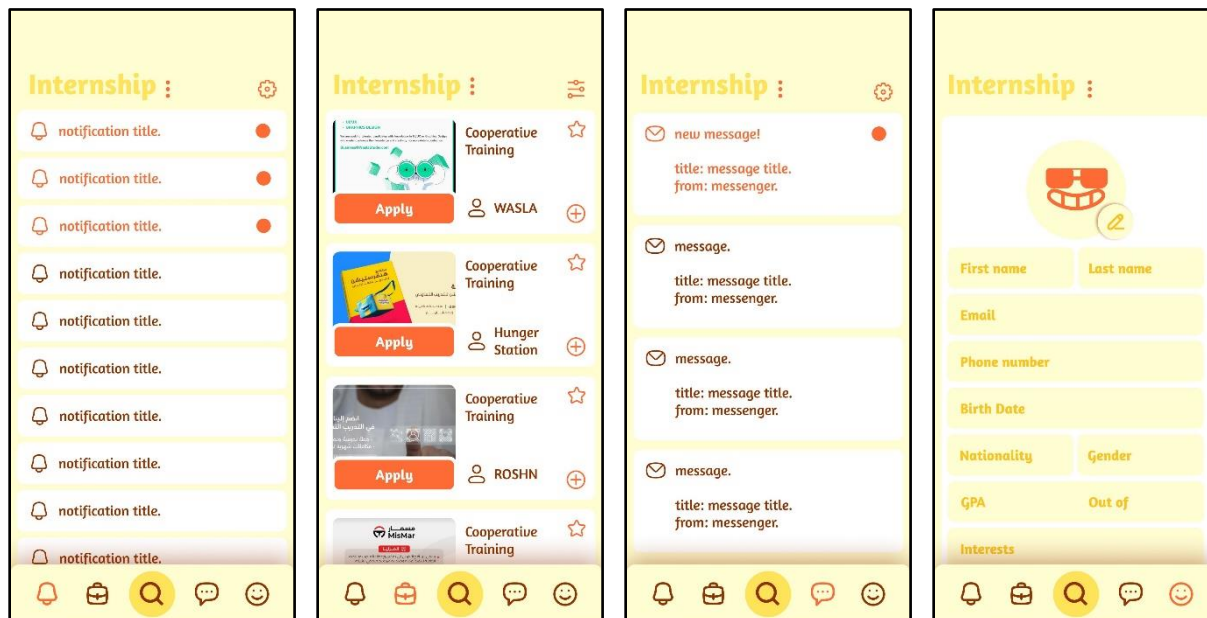


**We're happy to have you with us!**

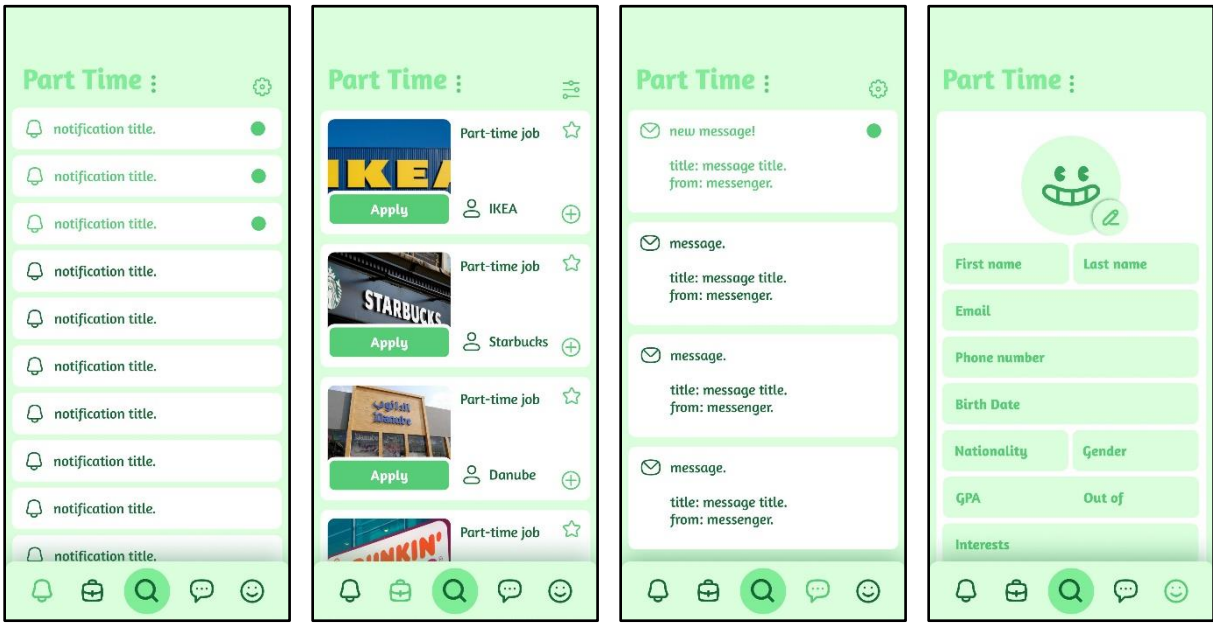
## Newly Graduate Interface:



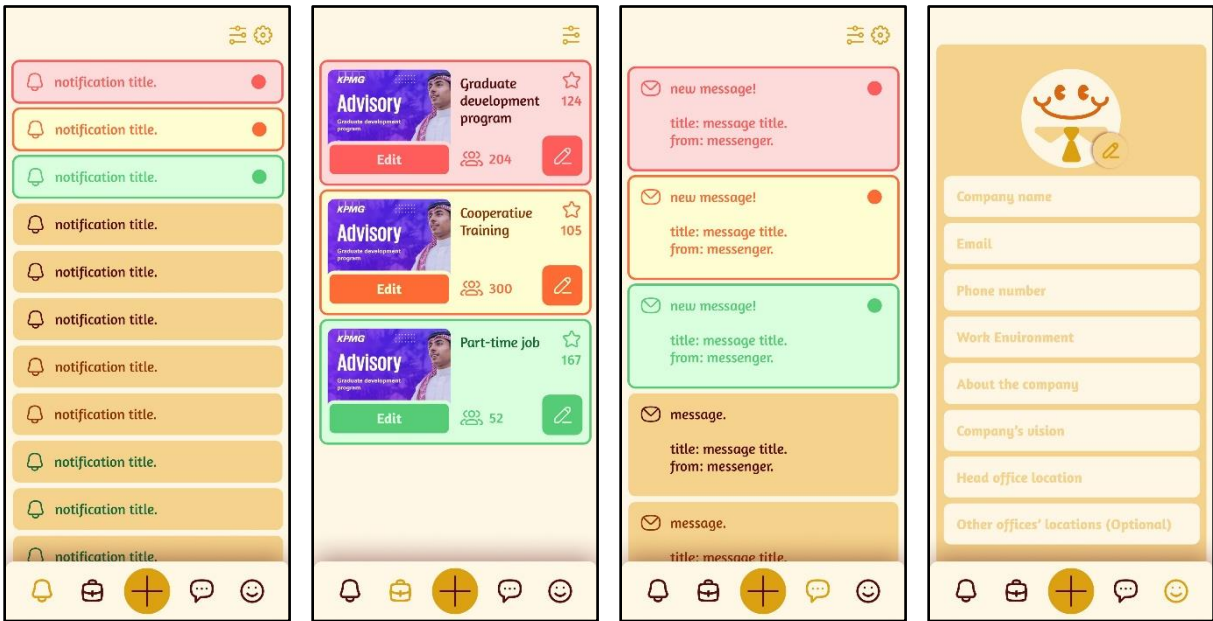
## Internship interface:



Part-time interface:

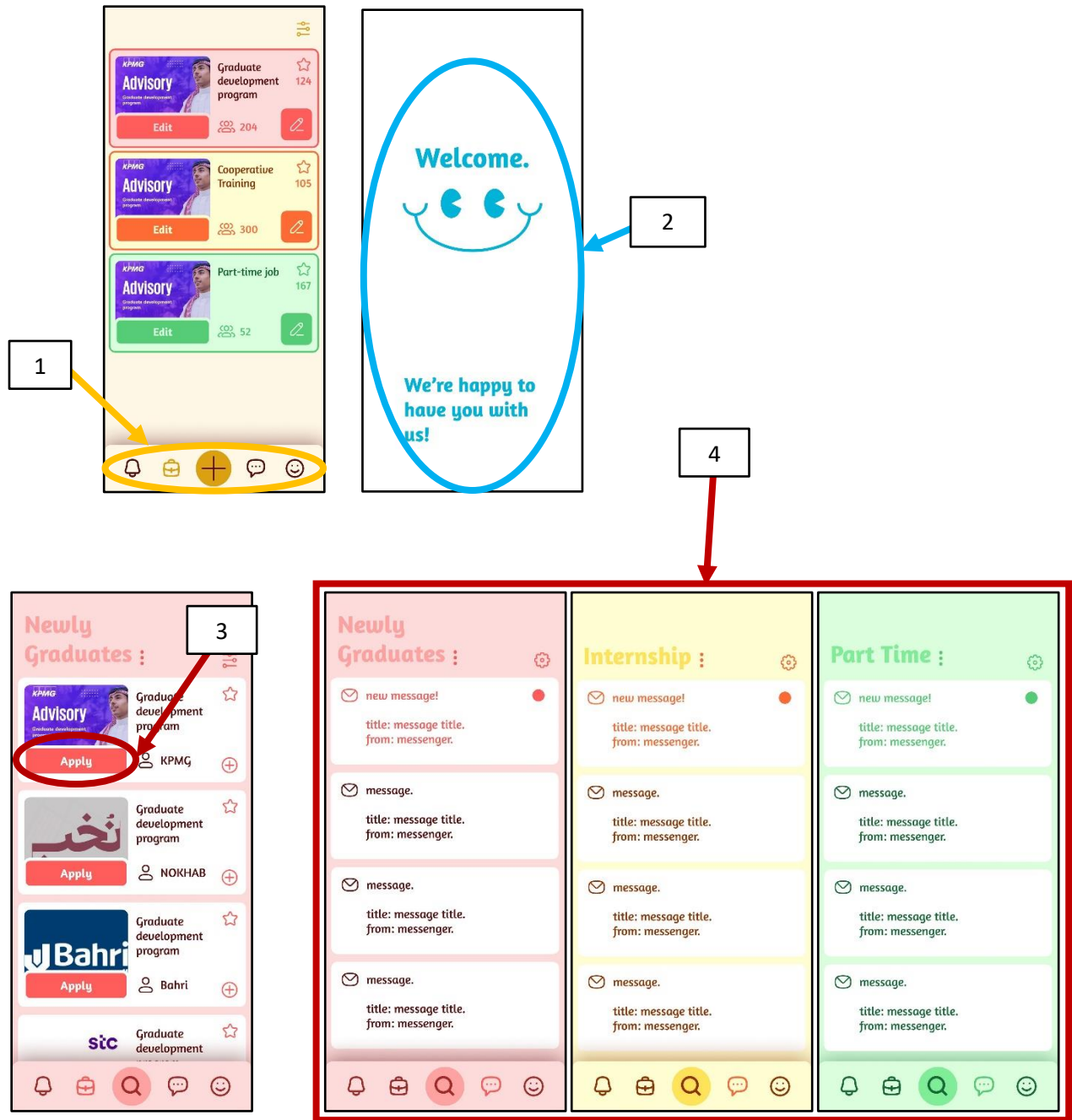


Company interface:



### 3.3 Design Principles

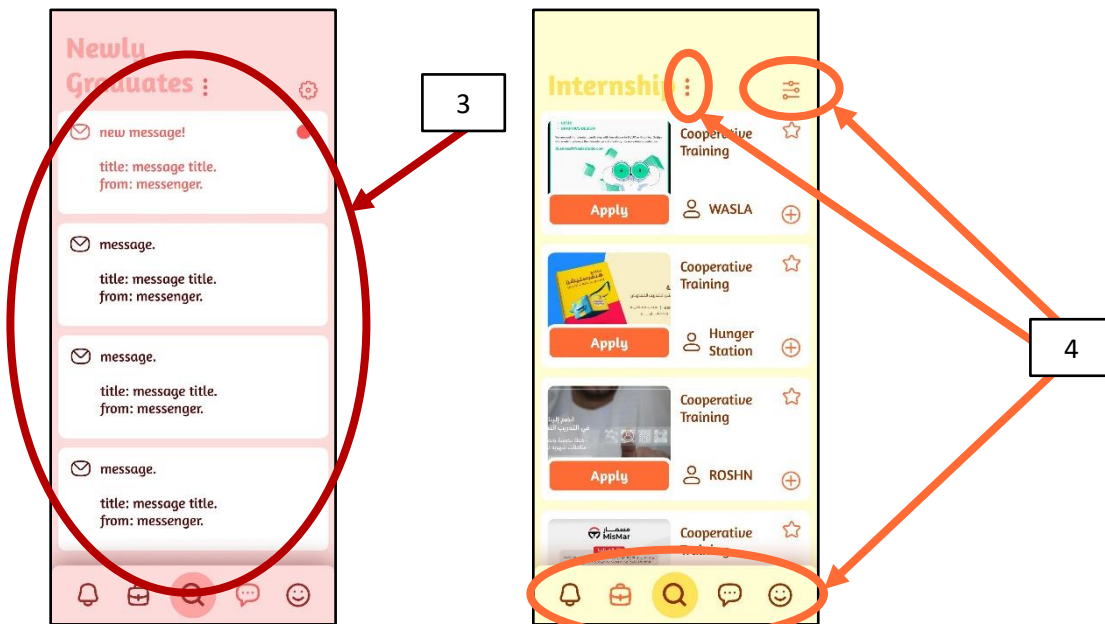
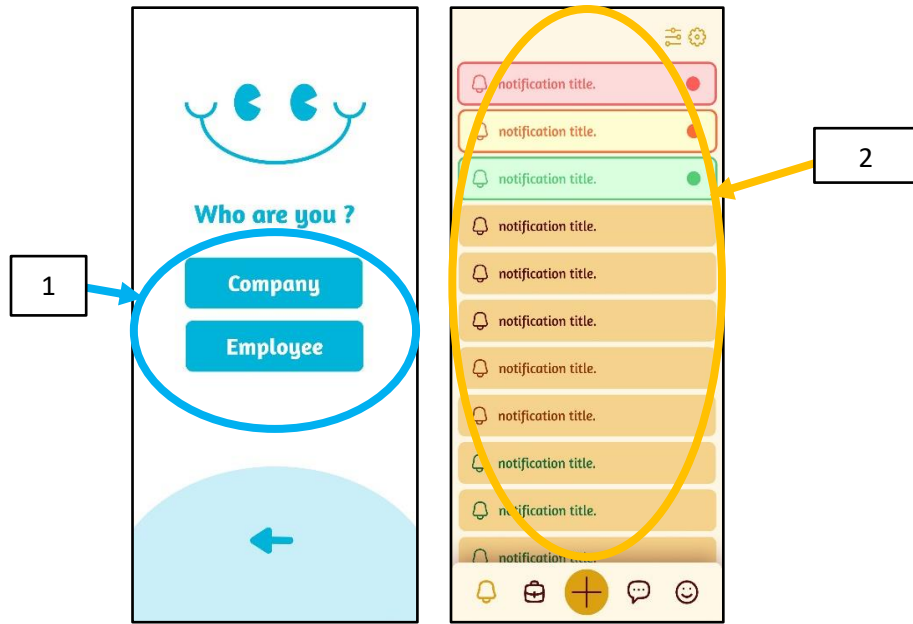
Arrow Number	Design Principle	Description
1	Visibility	It is easy to learn how to use and become accustomed to all the application icons. All buttons are easy to understand.
2	Feedback	If the registration is successful, the welcome screen will appear.
3	Constraints	There is only one way for applicants to apply for a job, and that is by pressing the “Apply” button under the job ad’s picture.
4	Consistency	All the interfaces follow the same design and rules, to make learning how to use the application easier for users, as they don’t need to relearn anything when switching from one interface to the other.



### 3.4 Cognitive Process

Arrow Number	Cognitive Process	Description
1	perception	Icons are designed to be simple for users to understand what they mean.
2	Memory	This page illustrates how the user gets notifications. The users can effectively use it because it is easy to memorize.
3	Attention	By using light colors for the background, it makes it easier to grab the user's attention with bright colors for important things like new messages and notifications.
4	Learning	The interfaces are easy to learn, because they constraint users with few buttons they can click, which also encourages them to explore the application by clicking all the different icons, and finding out where each icon takes them or does.







## Part4: Evaluation

### 4.1 List of tasks

1. Apply for a Graduate development program.
2. Edit Cooperative Training.
3. Apply for a Part-time job.

### 4.2 Participants

The number of participants that participated was 10 girls. The range of ages was between 19 and 23.

### 4.3 Environment

The test has been accomplished at university in one of the classes using their mobile phones.

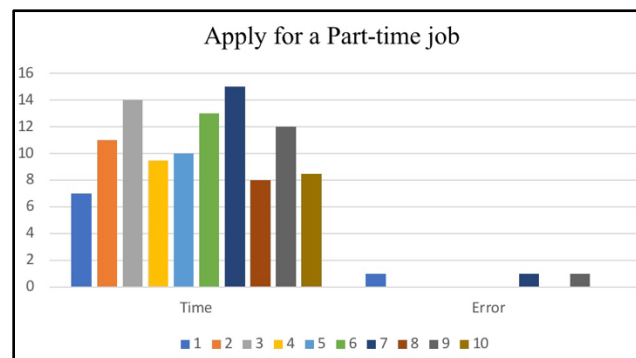
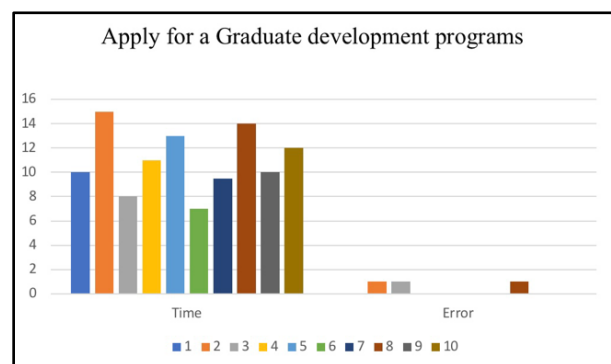
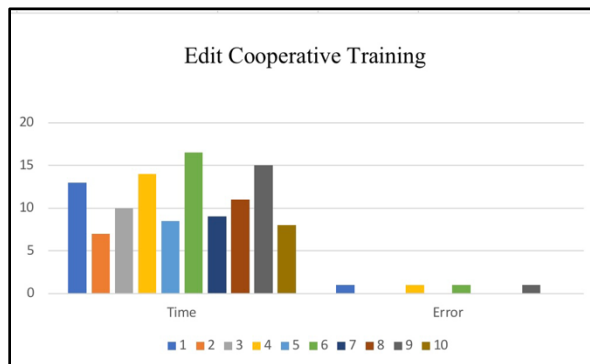
### 4.4 Evaluation

The following table will be the evaluation for 10 persons for the previous set of tasks:

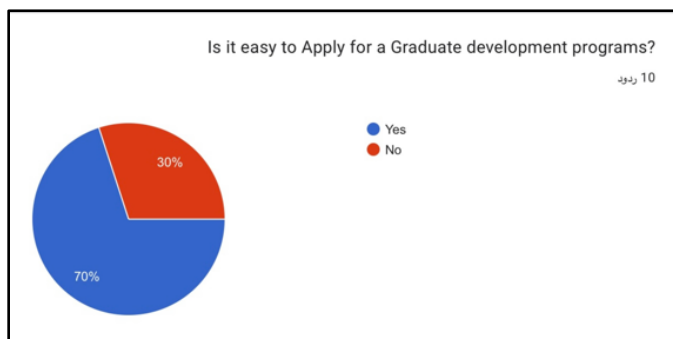
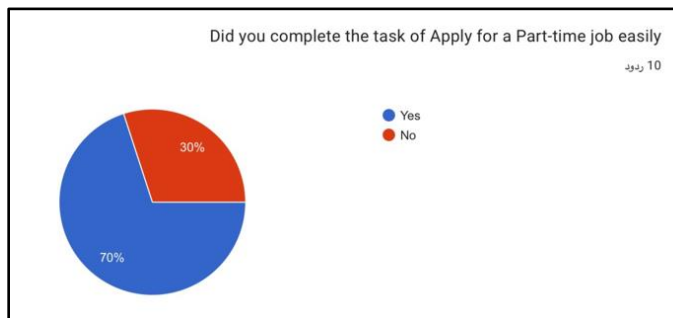
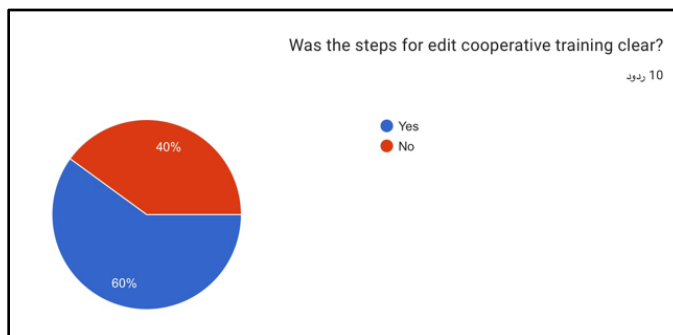
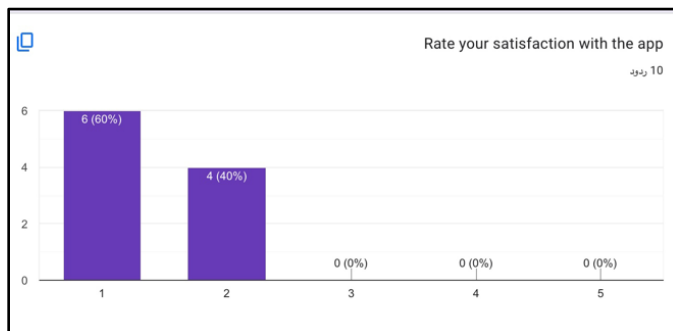
Tasks	Measure	Participants									
		1	2	3	4	5	6	7	8	9	10
Apply for a Graduate development programs	Time	10s	15s	8s	11s	13s	7s	9.5s	14s	10s	12
	Error	0	1	1	0	0	0	0	1	0	0
Edit Cooperative Training	Time	13s	7s	10s	14s	8.5s	16.5s	9s	11s	15s	8s
	Error	1	0	0	1	0	1	0	0	1	0
Apply for a Part-time job	Time	7s	11s	14s	9.5s	10s	13s	15s	8s	12s	8.5s
	Error	1	0	0	0	0	0	1	0	1	0

## 4.5 Analyze and interpret the result

As mentioned earlier, we met the participants at the university. There were 10 students, and we let them try the prototype on their mobile phones. We gave them 3 tasks to complete while we calculated the time it took to complete each task. After they were done, we gave them a post-test questionnaire to measure the user experience goals. 70% of students found that it easy to Apply for a Graduate development programs. And 60% of them found that the steps of edit cooperative training were clear. 70% of students completed the task of Apply for a Part-time job easily. Finally, for the satisfaction rate on the application, 6 participants had a 60% satisfaction rate, and the remaining 4 had a 40% satisfaction rate.



## 4.5.1 post-test questionnaire



## References

- [1] Sharp, H., Preece, J. and Rogers, Y. (2019) Interaction design: Beyond human-computer interaction. Indianapolis: Wiley.
- [2] Ganapathy, D., & Deepak, S. (1970, January 1). *A study on reskilling and networking on Linkedin on Employee Recruitment Success and career advancement*. SpringerLink. [https://link.springer.com/chapter/10.1007/978-981-99-3366-2\\_29](https://link.springer.com/chapter/10.1007/978-981-99-3366-2_29)
- [3] Indriana, M., & Adzani, M. R. (2017). *UI/UX analysis & design for mobile e-commerce application prototype on Gramedia.com*. <https://doi.org/10.1109/conmedia.2017.8266051>

## Appendix

### Survey link

Survey1:

[https://docs.google.com/forms/d/e/1FAIpQLSexWnCpO27Te4XoP4xPSOcae9tUw-TJdt3uOkKD5T\\_RKW48sg/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSexWnCpO27Te4XoP4xPSOcae9tUw-TJdt3uOkKD5T_RKW48sg/viewform?usp=sf_link)

Survey2:

<https://docs.google.com/forms/d/e/1FAIpQLSfJEICKQFSaMebGqzxHHx7rreXvZVGxHZbDLzdKEdJmEFoEGA/viewform>

### Prototype link

<https://www.figma.com/proto/41bWssnlihmyhHENtq7Ibd/Ms3ana?type=design&node-id=63-771&scaling=scale-down&page-id=0%3A1&starting-point-node-id=63%3A771&show-prototype-sidebar=1>