

وزارة التعليم جامعة الأميرة نورة بنت عبد الرحمن كلية علوم الحاسب والمعلومات مشروع تخرج1

JAPP "JOB APPLICATION"



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Our sincere appreciation goes out to our loved ones, who have always been there for us, as well as our teachers and mentors.

At long last, we can say [System.out.println("Hello world");].



Abstract

Work is one of the basics of life. As important as it is, it is difficult to find, and what's even more difficult is knowing whether the job is a good fit for the employee or even if the employee is a good fit for the company.

"The right person for the right place "From this sentence's premise we got the idea to make an application that facilitates the process of finding the right job and the right employee, through a system that suggests matching percentage for the employee with the job offer that came from the organization, and that by a scan on the CV and entering the information on the JAPP application database. So, from the point of view of our application this sentence will change to "The right employee for the right job".

JAPP application will also provide many advantages for both the job seeker and organization, including the ability of the job seeker to follow up and apply for job offers updates from various interested and most compatible organization, and many other advantages. Organizations can also publish job offers, view the job profile of the job seekers and communicate with them with ease and many details that make our application different and distinctive from other applications.

Key words:	
JAPP	
Job Seekers	
Organization	
Job application system	
Job	
Company	
Resume	
CV	
job descriptions	
job search	
Skills set	

Chapter1



Introduction:

- Problem Statement and Significance
- Proposed Solution
- Project Domain & Limitations



Introduction:

In this chapter, we will discuss the main problem that made us choose to work on this project. We will also present the solutions that we were able to find. Finally, we will talk about the project domain and some of the limitations.

1.1 Problem Statement & Significance:

The proliferation of job-searching methods in a world characterized by speed and technology resulted in a significant investment of time and energy on the part of both employers and job-seekers; this was the primary reason we chose JAPP as our graduation project. Companies and job seekers agree on the major issue, however their respective sub-issues may differ. The job-seekers may encounter difficulties due to a lack of clarity on their skills and a lack of awareness of the field of work, which causes them to choose the incorrect position. Finding the proper person with the necessary skills is the most challenging task for businesses. Incorrect hiring not only results in a waste of time and effort, but also a financial loss that must be avoided. In our initiative, we will focus on matching the talents of job-seekers with those of potential employers in order to save time, effort, and money.



1.2 Proposed Solution:

JAPP application combines several companies under one system, and allows job seekers to register and browse jobs offered by these companies, then they could apply to them.

job seekers would create an account, and add their CV in their profile, then they would be able to complete and submit job applications.

Companies will be able to see the list of job seekers who applied to them, and decide whether they would be accepted in the program. Once a decision has been made, the application status will be updated, and the job seekers will be notified.

If a job seeker gets accepted in a program, they will receive a message from that company telling them to contact the HR department to complete the registration

During these steps, the application must achieve the following:

Clear and flexible user interface.

Proper placement of interface elements increases its usability and makes the resource more attractive to users. with the help of a competent layout of the site, users can navigate easily in the system.

Matching between companies and applicants' CVs

Basic control systems like fuzzy logic depend on the input's degrees of state, and the output is dependent on the input's state and rate of change. To put it another way, a fuzzy logic system bases its decisions on the chance that an input will be in a certain state.

so by using fuzzy matching algorithm In JAPP application, a job that is posted by a company will be linked to the best matching CVs and vice versa. This matching will be based on company requirements, if the applicants update their CVS the acceptance rate will increase.



Make employment more efficient

In JAPP application, The applicant can be told that They can increase the acceptance rate of their resume in a particular company by showing the application for courses, that if they take will help them increase the acceptance rate and thus increase the acceptance rate in that company.

Save and retrieve data from a database

For both companies and applicants, the system would save all data in a database and perform tasks such as updating, and retrieving data from the database. And security control access to information

• Using Artificial Intelligence

Artificial Intelligence (AI) means a new technology that does things automatically using algorithms and machine learning.

-Predictive Analysis – candidate prediction based on AI

Predictive analytics is a form of AI that uses data mining and modeling techniques to predict outcomes. It can be used in a recruitment setting to predict a candidate's likelihood of being a good fit for a position. This can be done by analyzing a candidate's resume and comparing it to data on successful employees in similar positions. Thus it helps decision-making and saves time and effort.

-Intelligent job search engine recruiting tools

Intelligence job search engines, use Artificial Intelligence to match candidates to nearby jobs that are potentially good fits, based on profile information and previous interactions.

-Chatbots or conversational

Chatbots or conversational AI can be used to answer questions to help candidates find jobs or understand the hiring process. They can also be used in the screening process conducting the first stage of the interview process. Chatbots can benefit your job search making it easier for you to ask questions and successfully navigate the hiring process.



1.3 Project Domain & Limitations:

Applying computer science aim sat is the main domain for our project to help us solving real-world problems, It is divided into several domains such as programming, Artificial intelligence and Computer security that help the government and private sectors in searching and providing jobs and help the job seekers to discover and develop there skills in addition to finding the most suitable job for them based on there resume and make sure there information will be safe

Database domain is another main domain for our project, our application will save the data in a database after it scans and it will be retrieved when it is called, surely it will be subject to conditions either from the system or from the user.

One limitation of our product is that the application's interfaces are only written in English and Arabic; for instance, the settings list cannot be changed to French. Our second limitation is that our software only caters to users who are at least 16 years old. Only smartphones running the iOS or Android operating systems can use the program. Finally, since there is no web version, the app only work on mobile devices.

Chapter2



Background Information and Related Work:

- Background Information
- Related work Survey
- Proposed and Similar System Comparison



Background Information & Related Work:

2.1 Background Information:

Learning the principles of computer science provides us with a plethora of information and expertise in low-level programming languages, such as assembly language, as well as other areas, such as programming, database administration, and system architecture, we utilized C#, Python, Java, C++, and markup languages such as XML and HTML. We utilized SQL, MYSQL, and Oracle Database, and we designed the user interface using Java also We utilize prototypes to present the product and app and real versions to users.



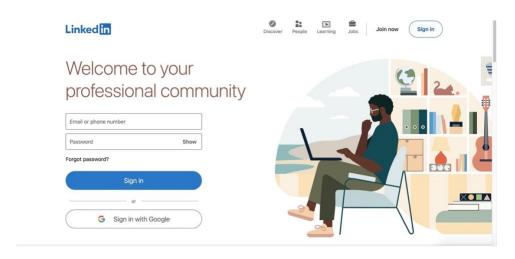
2.2 Related work Survey:

2.2.1 Linked in:

What is LinkedIn?

LinkedIn is the world's most popular professional social networking platform. LinkedIn can be used to find a job or internship, create and strengthen professional relationships, and gain the required skills for career success. You can browse LinkedIn via a desktop computer, the LinkedIn mobile application, the mobile web, or the LinkedIn Lite Android mobile application [4]. as shown in (Figure 2.1)





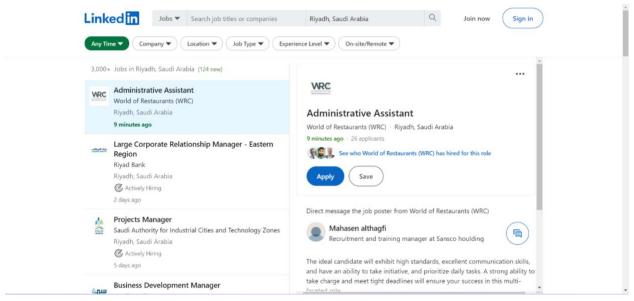
(Figure 2. 1) Linkedin home page

Pros & Cons:

Pros:

- It's free. There is a paid option that offers additional benefits, but the basic free version offers plenty of features.
 - People who are important use LinkedIn. When a recruiter or hiring manager gets a resume or job application from a candidate, they often look them up on LinkedIn .
- It's a useful method for researching firms. Researching companies is a crucial component of the application and interview process. LinkedIn can assist you with this. In addition, you can research interviewees on the platform, which might help you prepare for the talk. as shown in (Figure 2.2)



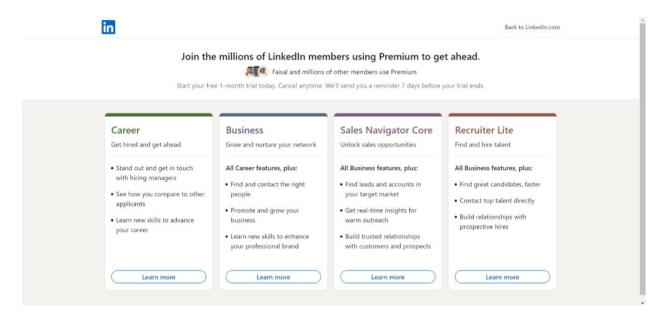


(Figure 2. 2) jobs search for LinkedIn

Cons:

- It is easy to lose concentration because it is a social networking tool. Similar to other social media networks, LinkedIn desires frequent and engaged users. Similarly to applying to hundreds of jobs that are not a good fit for your experience, spending hours browsing to the bottom of hiring managers' LinkedIn profiles is not productive. It eventually resembles Instagram or Facebook browsing more than job searching.
- It can be costly (Figure 2.3) and is not always effective. "Job Seeker Premium" is one of the features LinkedIn offers. There is a free trial period followed by a monthly charge.





(Figure 2. 3) premium page for LinkedIn

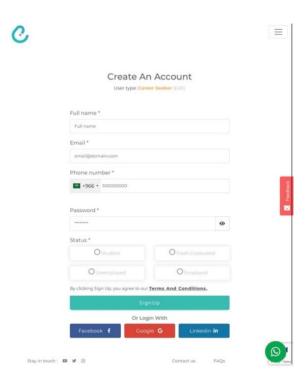
2.2.2 Ns3a



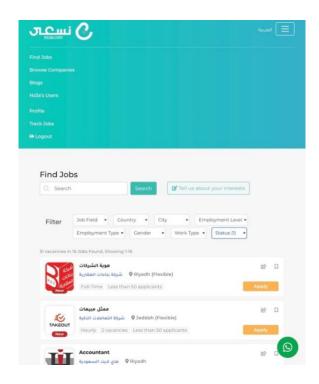
What is ns3a?

Ns3a is an application that is concerned with the employment fields, whether they be part-time or full-time, and which allows businesses to post job openings, so making it easier for job-seekers to locate suitable positions [18].





(Figure 2. 4) Ns3a Registration page



(Figure 2. 5) Ns3a browsing page

In browsing page shown in (Figure 2.3), In order to find a job that's a good fit, job-seekers can narrow their results by filtering based on criteria like location, gender, and more.



Pros & Cons:

Pros:

- The user interface is straightforward and easy to navigate
- You can find the right position by using the search bar
- You may get it through the website, the App Store, and Google Play

Cons:

• There are no businesses or government agencies on the site.

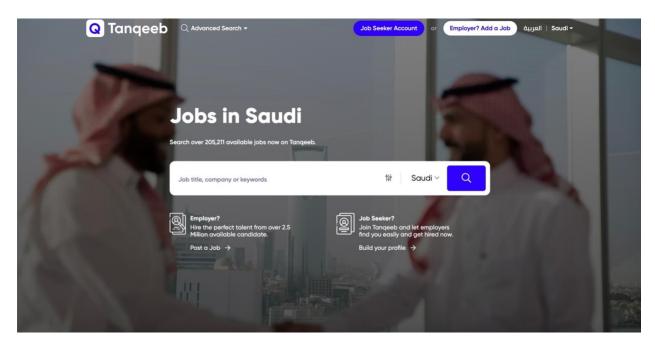


2.2.3 Tanqeeb



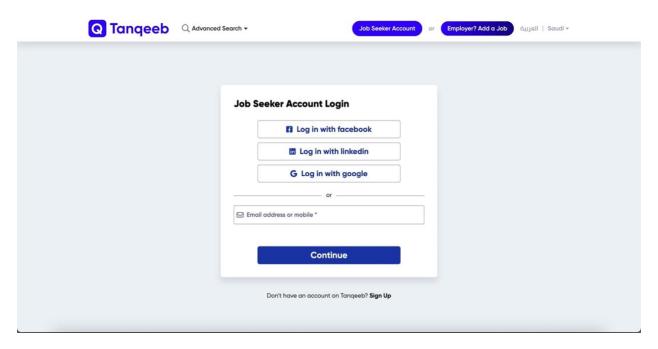
What is Tanqeeb?

The largest job search engine in the MENA region is Tanqeeb. Tanqeeb is useful to millions of people because it collects job listings from a variety of online and offline sources, including job portals and media [19].



(Figure 2. 6) Tanqeeb homepage





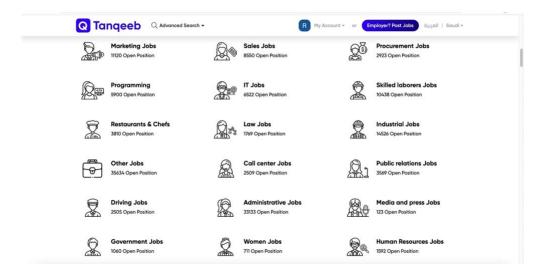
(Figure 2. 7) Tanqeeb Signup page

Pros & Cons:

Pros:

- All Arab countries have access to the application
- Number of jobs available under each category as shown in (Figure 2.8)
- Supports advanced search





(Figure 2. 8) Tanqeeb job category

Cons:

- The application includes numerous irritating advertisements
- When using the application, the signup and login pages are not immediately accessible. Rather, the user must first select a job before the signup page appears.



2.3 Proposed and Similar System Comparison

(Table 2. 1) Proposed & Similar Systems Comparison

	JAAP	LinkedIn	Ns3a	Tanqeeb
Problem Solved	main problem JAAP app solve it by putting all job offers from each company on one platform. That makes it easier for job seekers also.	The LinkedIn is more global and includes jobs from different countries . considered a unified global platform for jobs and employment	Ns3a is helping employers and job seekers to take confident and accurate workforce and career decisions focusing more in detecting individuals' values, personal traits, abilities rather than only focusing on degrees	It has solved the issue of disorganized by arranging all category and put numbers of jobs under it.
Online Resume	Can upload your cv or fill your info in profile	Add your info by edit public profile	Cv display from profile information	Cv display from profile information
Installation	easy	easy	easy	easy
Main Country of Interest	Saudi Arabia	global	Saudi Arabia	Arab countries
Language	Arabic and English	+10 language	Arabic and English	Arabic and English
Compony and job Seeker	both	both	both	both
Website or application interface	Simple, clear, Easy navigation and clear shortcuts build familiarity and get users up to speed quickly.	basic color for interface that makes easy of the eye . also all user can understand the shape of icon	Consistent. No surprises, no ambiguities! Logical navigation and hierarchy make an application easier to learn.	The application has a lot of advertising that makes the user feel bored.

Chapter3



Requirements Determination & Analysis

- Requirements specification
- Requirements Analysis



System Analysis

3.1 Requirements specification

JAPP application aims to be more effective for both job seekers and Business owners by matching appropriate applicants with available jobs based on data and records that store their skills.

We collected the main requirements by making a survey. From the survey, it concluded that most of the job seekers aged between 18-25, and 92% of them faced a problem of finding the appropriate job that matches their skills. Most people are looking for a job on LinkedIn and sociomedical, 59% of people prefer a job that matches their skills by 80% wise percentage no less. regarding Business owners, 67% of them facing a problem finding a suitable employee, 90% of them prefer a program that shows a suitable employee for the job before reviewing the CVs list, and 67% of them wish to find an employee who matches the job requirements by 80% wise percentage no less. Finally, the application of JAPP would solve the problem of difficulty to find the appropriate job and will make it easier.

3.2 Functional requirements

Job seekers:

- 1. Job seekers shall be able to sign in and login processes efficiently.
- 2. Job seekers shall be able to sign up.
- 3. Job seekers shall be able to reset the password if they have forgotten it on the login stage.
- 4. Job seekers shall enter their Email, Phone Number.
- 5. Job seekers shall authenticate their identity by receiving a code in an SMS and Email.
- 6. Job seekers shall be able to register as job seekers.
- 7. Job seekers shall be able to edit profile information.
- 8. Job seekers shall be able to add personal information.
- 9. Job seekers shall be able to upload their CV.
- 10. Job seekers shall be able to apply for jobs.
- 11. Job seekers shall be able to view job offers.
- 12. Job seekers shall be able to search for jobs by the name of the company, city, or percentage of matching along with search filters.
- 13. Job seekers shall be able to accept or reject the invitation.
- 14. Job seekers shall be able to specify the location of their residence place.
- 15. Job seekers shall be able to view the organization's profile.
- 16. Job seekers shall be able to view the percentage matching with jobs.
- 17. Job seekers shall be able to track their request status by accessing the "My Job" page.
- 18. Job seekers shall be able to save jobs.
- 19. Job seekers shall be able to get notified with updates of their requests.
- 20. Job seekers shall be able to select English or Arabic language.



- 21. Job seekers shall be able to Update passwords.
- 22. Job seekers shall be able to Logout.

Organization:

- 1. Organization shall be able to sign in and login processes efficiently.
- 2. Organization shall be able to sign up.
- 3. Organization shall be able to reset the password if they have forgotten it on the login stage.
- 4. Organization shall enter its Email, Phone Number.
- 5. Organization shall authenticate its identity by receiving a code in an SMS and Email.
- 6. Organization shall be able to register as an organization.
- 7. Organization shall be able to edit profile information.
- 8. Organization shall be able to add personal information.
- 9. Organization shall be able to view the applicant's profile.
- 10. Organization shall be able to view the applicant list.
- 11. Organization shall be able to view the matching CVs with their job requirement.
- 12. Organization shall be able to post a Job offer with a specific deadline.
- 13. Organization shall be able to delete the job offers.
- 14. Organization shall be able to view jobs that they have posted before on the "My job" page.
- 15. Organization shall be able to search for employees by categories, city, or percentage of matching along with search filters.
- 16. Organization shall be able to get notified about updated states.
- 17. Organization shall be able to select English or Arabic language.
- 18. Organization shall be able to Update passwords.
- 19. Organization shall be able to Logout.

System Requirements:

- 1. The system shall be able to authenticate the identity.
- 2. The system shall be able to check the signup information with the database.
- 3. The system shall be able to sort the information into the database.
- 4. The system shall be able to reset the information in the database.
- 5. The system shall suggest the matching percentage to both job seekers and organizations.
- 6. The system shall list the job seekers who applied for a job application.
- 7. The system shall keep track status of the application.
- 8. The system shall send notifications to job seekers and organizations about the update state.



3.3 Non-Functional Requirements:

Performance: the system should process the requests of job seekers and list them directly on the home page of the organization. The system should process all the offered jobs that the organizations have posted, then list them on the home page of the job seekers.

Usability: the system will show a simple and easy interface to use for both job seekers and organizations. The user interface provides icons that show the percentage of matching and saving jobs. The system shows the main menu on all pages which will facilitate the navigation for the user.

Security: the system should authenticate the identity of both job seekers and the organization in the sign-up stage, by sending SMS to phone numbers and massage in email.

Availability: The organization can post jobs on the application throughout the week at any time during the day. In the case of unplanned system downtime, all features will be available again.

Maintenance: The system should be able to deal with sudden issues, restore data files from the backup and apply changes recorded in database redo logs, to recover the whole database.

Portability: the system should be working on IOS and ANDROID devices.

3.4 Software and Hardware Requirements:

Web skills The project team should have skills in HTML, CSS and JAVASCRIPT.

Native Platform framework: React native is our choice as framework for this project, it's used to develop applications for different operating system such as IOS and ANDROID OS by using the SDK that offered by the developing company.

Integrated Development Environment (IDE): we need IDE to help us combining common activities of writing software into a single application such as: editing source code, building executables, and debugging. As mentioned earlier we are using react native as our framework which made us choose Nuclide IDE since it has a built-in support for react native framework

Analytical tools: Google analysis it's the tool we want to use since It's wide and free, it will help us to know who the users really are and where they are coming from, as well as enabling us to follow the interaction of people with our app.



SQL Server: As it is clear from the idea of our application that it will contain large numbers of data and information that need to be stored in a secure place, So the choice fell on Microsoft SQL due to its high security and fast data recovery.

Smartphone: we need 2 smartphones one using IOS and one using ANDROID OS for testing the app.

Storage space: To install the app, we must make sure that there is enough storage space.

3.5 Requirement analysis

3.5.1 Use Case Diagram

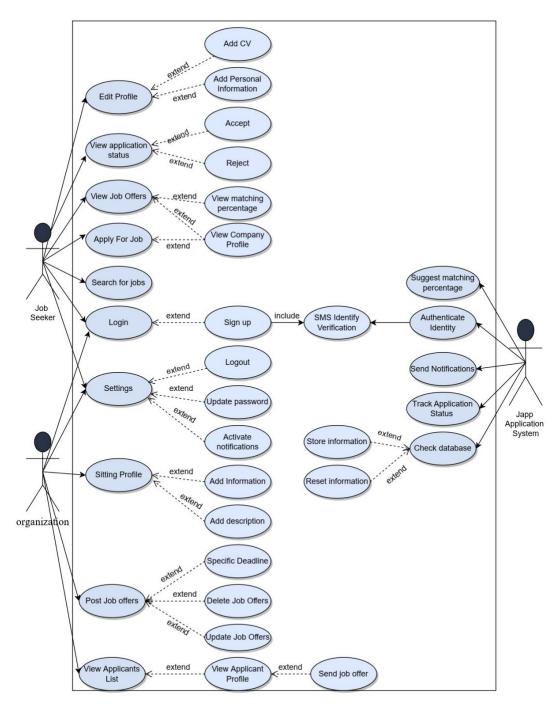
The use case diagram in Figure 3.5.1.1 shows the interaction between the system and actors, which are Job seeker, Organization, and JAPP system application.

Job seekers must log in and edit profile then add their CV and complete the required personal information. In the home page, job seekers can view job offers, and apply for job. Job seekers can view application status, update password, activate notifications, log out.

Organizations must log in and sitting profile and complete the required personal information, then the organization can post jobs with specific deadline. In the home page organization can view the applicant list. Organizations can delete job offers, update job offers ,update password, activate notifications, and log out.

JAPP system application will authenticate identity, suggest matching percentages, send notifications, track application status, and check the database.





(Figure 3. 1) USE CASE DIAGRAM FOR JAPP APPLICATION.



3.5.2 Use case scenarios

This table shows the process of signing up.

Goal: Job seeker and Organization sign up successfully.

(Table 3. 1) Sign up

Use Case Name:	Sign up
Actor	Job Seeker and Organization
Description	Job seeker and Organization need to sign up to the system successfully.
Precondition	Both should have an IOS or Android iOS device with good internet
Postcondition	 The Job seeker and Organization login the system The system will show different home pages for each one of them.

This table shows the process of login.

Goal: Job seeker and Organization login successfully.

(Table 3. 2) Login

Use Case Name:	Login
Actor	Job seeker and Organization.
Description	Job seekers and Organizations need to log in to the system successfully.
Precondition	Both should have a valid phone number or Email and password to login into the system.
Postcondition	The system will show different home pages for each one of them.



This table shows the process of editing the profile.

Goal: Job seekers successfully edit their profile.

(Table 3. 3) Edit profile

Use Case Name:	Edit profile
Actor	Job seeker.
Description	Job seeker must complete the required information that exists on the profile page and upload CV.
Precondition	Job seeker have to login successfully to the system.
Postcondition	The system will update and save the information.

This table shows the process of searching for a job.

Goal: Job seekers can search for a job by filters successfully.

(Table 3.4) Search for jobs.

Use Case Name:	Search for jobs
Actor	Job seeker.
Description	Job seeker can search for jobs by the name of the company, city, or percentage of matching along with search filters.
Precondition	Job seekers should have created a profile.
Postcondition	The system will show a new page with the proposed jobs according to the filter chosen by the job seeker

This table shows the process of viewing job offers.

Goal: Job seekers view the job offers with a matching percentage.

(Table 3.5) View Job offers

Use Case Name:	View job offers
Actor	Job seeker.
Description	Job seekers can view job offers matching percentage for each job from different companies.
Precondition	Job seekers should have created a profile.
Postcondition	The system will give the job seeker the ability to apply for a job.

This table shows the process of applying for a job.

Goal: Job seekers successfully apply for one or more jobs.

(Table 3. 6) Apply for job

Use Case Name:	Apply for job
Actor	Job seeker.
Description	A job seeker can apply to one or more of the offered jobs.
Precondition	Job seekers should have created a profile.
Postcondition	The system will add the job seeker information to the organization applicant's list.



This table shows the process of view application status.

Goal: Job seekers view the application status with the ability to reject or accept.

(Table 3. 7) View application status

Use Case Name:	View application status
Actor	Job seeker.
Description	After the job seekers apply for a job they will receive a message of acceptance, and they have the ability to reject or accept the job.
Precondition	1. The job seeker must apply for the job 2. The job seeker's request must be accepted
Postcondition	 1.If the Job seeker choose (reject) The system will delete the job from the application. 2. If the Job seeker choose (accept) The system will re-show the home page ,After that the job seeker will wait for the company to contact.

This table shows the process of editing profile.

Goal: organization edit the profile successfully.

(Table 3. 8) Edit profile

Use Case Name:	Sitting profile
Actor	Organization.
Description	Organizations must complete the required information and add a description that exists on the profile page.
Precondition	Organizations have to log in successfully to the system.
Postcondition	The system will update and save the information.



This table shows the process of adding posts.

Goal: organization post job offer successfully.

(Table 3.9) Post job offer

Use Case Name:	Post job offer
Actor	Organization.
Description	The organization has to post for the required job and add the details and information about the job within the specific time.
Precondition	The organization must have created a profile.
Postcondition	The system will add the job offer to the application.

This table shows the process of viewing the applicant list.

Goal: organization views the applicant list with a matching percentage.

(Table 3. 10) View Applicant list

Use Case Name:	View applicant list
Actor	Organization.
Description	Organizations can view the list of job seekers who have applied for job in the home page.
Precondition	The organization has added a job offer.
Postcondition	The system will show the matching percentage with the CVs.



This table shows the process of deleting a job offer.

Goal: Organization delete the job offer successfully.

(Table 3. 11) Delete job offer

Use Case Name:	Delete job offer
Actor	Organization
Description	The organization can delete the offered job that they have added before.
Precondition	The organization has added a job offer.
Postcondition	The system will delete the job offer from the application.

This table shows the process of sending notifications.

Goal: the system send a notification to the organization and job seekers successfully.

(Table 3. 12) Send notification

Use Case Name:	Send notification
Actor	JAPP application system.
Description	Notify the user of application status updates.
Precondition	The user must activate the notification feature.
Postcondition	The system allows sending notification.



This table shows the process of the authentication.

Goal: the system Authentication identity of the organization and job seekers successfully.

(Table 3. 13) Authentication identity

Use Case Name:	Authentication identity
Actor	Japp application system.
Description	The system should authenticate from the phone number and Email of each user.
Precondition	The user must enter the phone number and email.
Postcondition	The system will authenticate from entered information in the database.

This table shows the process of Logging-out.

Goal: Job seeker and Organization log-out successfully.

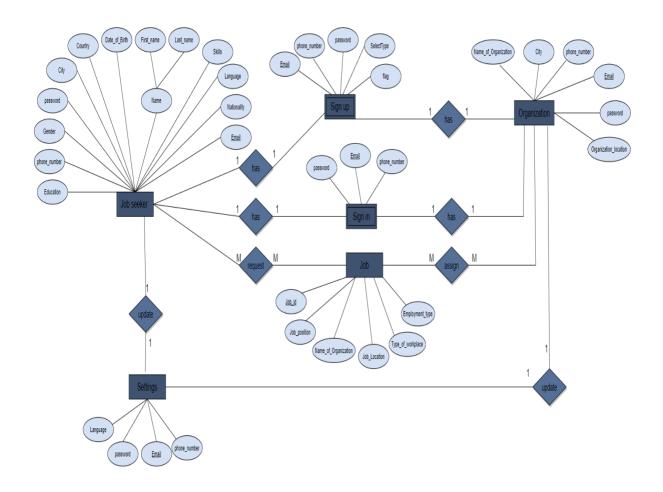
(Table 3. 14) Log-out

Use Case Name:	Log-out
Actor	Job seeker and Organization.
Description	Log out from the system.
Precondition	Enter the setting page and choose log-out.
Postcondition	Lou-out from the system successfully.



3.5.3 Entity Relationship Diagram (ERD)

The Entity Relationship Diagram in Figure 3.5.3.1 shows all the information about the system and it define the relationship between objects in JAPP Application [17].



(Figure 3. 2) JAPP Entity Relationship Diagram (ERD)



3.5.4 Class diagram

The class diagram is the main building in an object-oriented molding it shows the classes of the project, how they are related together and what is the attribute of each class, in figure 3.5.4.1 is shown class diagram of JAPP application

Visual Paradigm Online Free Edition Job seeke -First_Name: varchar(50) -Last_Name: varchar(50) -phoneNumber: int -Date_of_Birth: Date -Gender :boolean -Nationality : varchar(50) -password : varchar(50) -Country: varchar(50)
-City: varchar(50)
-Skills: varchar(50)
-Education: varchar(50) +SignIn(phoneNumber:int, Email:varchar(50),Password varchar(50) -Email: varchar(50) -Language : varchar(50) -phone_Number: int -Email : varchar(50) -Password: varchar(50) -Phone_Number: int -Language : varchar(50) -password: varchar(50) +Update_info() М -Name_of_ Organization : varchar(50) -Organization_location : location -City : varcahr(50) -Job_Position : varchar(50) -Phone_Number : int -Organization_description -Name_of_ Organization : varchar(50) -Job location: location ·Type_of_workplace: varchar(50) -Employment_type: varchar(50)
-Job_id : int -password: varchar(50) +JobStatus(job_id: int) - PhoneNumber : int -Email : varchar(50) -password : varchar(50) - SelectType : boolean -flag : boolean +CheckType(SelectType) +SignUp(phoneNumber:int , Email:varchar50 , password:varchar(50), selectType:boolean,flag:boolean)

Visual Paradigm Online Free Edition

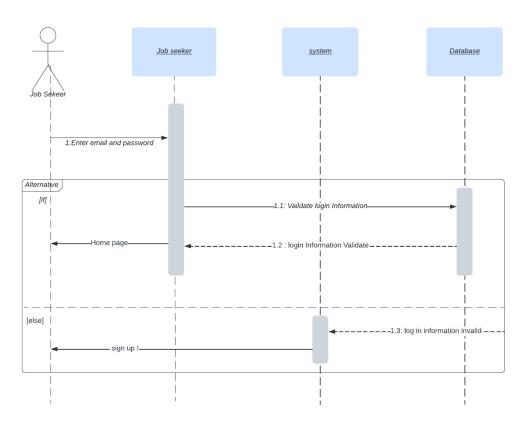
(Figure 3. 3)JAPP class diagram



3.5.5 sequence diagram

The sequence diagram helps us understand how the objects of our application interact with each other in a sequence manner.

Login of jobseeker: Explanation of the login process. In (**Figure 3. 4**) If the job seeker already has an account, the system will check his/her information is available on Database and make sure that the entered information is correct. Then it moves to the next page. if information of job seeker not valid or not available on Database that's mean should job seeker sign up in application.

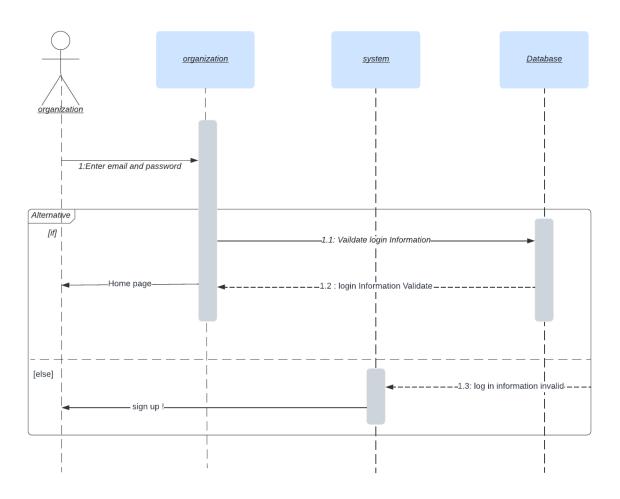


(Figure 3. 5) log in JAPP sequence diagram for job seeker



Login of organization: Explanation of the login process. In (Figure 3. 6)

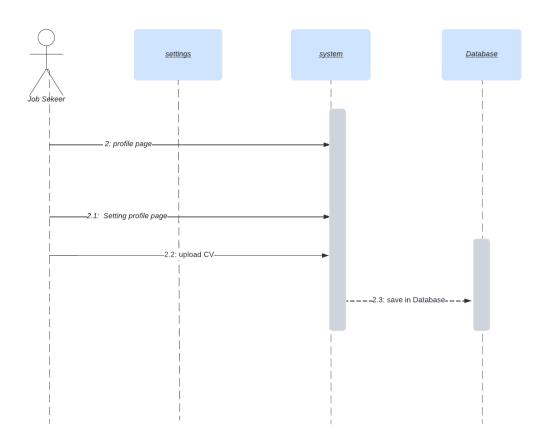
If the organization already has an account, the system will check to see if the information is in the database and ensure that it is valid. The following page is then turned. If an organization's information is inaccurate or not available in the database, it is necessary for the organization to register in the application.



(Figure 3. 7) log in JAPP sequence diagram for organization



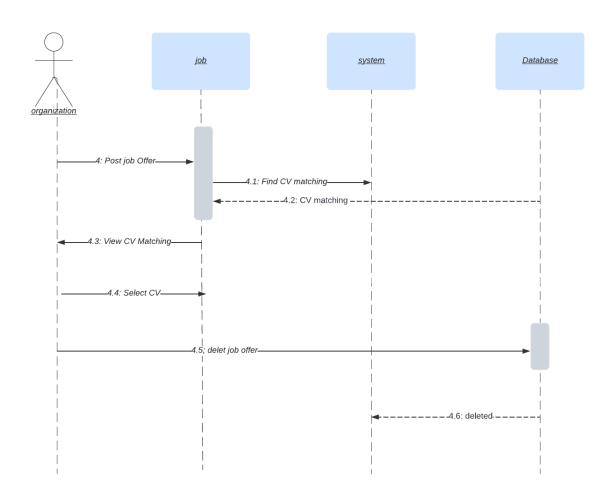
Job seeker setting profile: The job seeker must access their profile page and edit it if they so choose, and then upload their CV to complete their information. after finished, it saves in the database. In(Figure 3. 8)



(Figure 3. 9) settings JAPP sequence diagram for job seeker



organization posted job offer: Organizations post job offers, and then a system searches for cv that match the jobs offered. The system will locate matching CVs in the database, which will be organized for viewing and selection. After this process, the organization will delete the job offer from the database. In(Figure 3. 10)

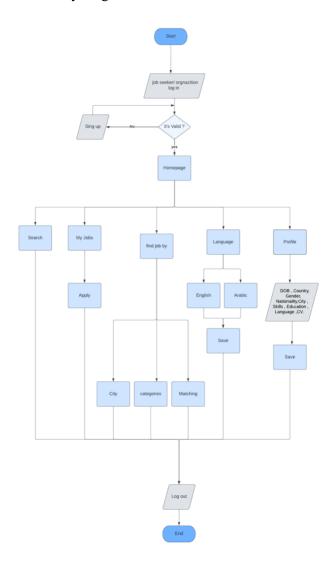


(Figure 3. 11) matching of CV JAPP sequence diagram for organization



3.5.6 Data flow

For more system explanation a Data Flow is added (Figure 3. 12) it's shows login process in first step for job seeker and organization. if the login information is valid will continue to homepage if not valid it should sign up. in homepage shows 5 Sections to choose it. first one is "profile" it includes profile information like DOB, City, Skills ... etc. second its "language" have two type to change it its English and Arabic. third, "find job by". can search to find jobs by city or categories or matching. fourth its" my job" to show jobs published by organization or jobs that have been applied for by job seekers. "Search" last Section it's to Search anything's in JAPP.

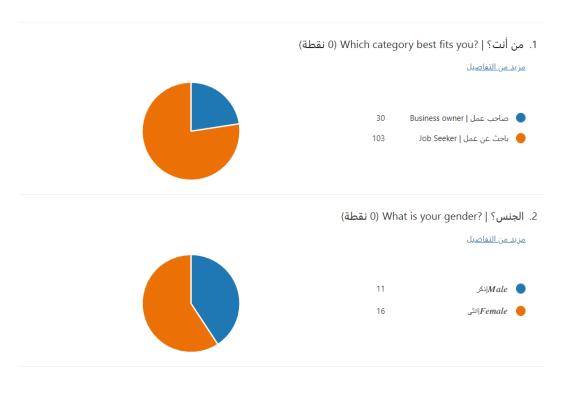


(Figure 3. 13) JAPP Data flow



3.6 Survey Questions

we have created this survey to help us during this project, by asking some questions to both job seekers and business owner, which will help us gather large amounts of information, and help us to know what type of problem that is facing to them. and how we can find a solution to this problem.



(Figure 3. 14) Survey Question







4. هل سبق ووجدت/ي صعوبة في اختيار الموظف المناسب؟ | (0 نقطة) Have you ever had trouble finding a suitable employee ?



(Figure 3. 15) Survey Question

5. كيف يكون الموظف مناسب للوظيفة من وجهة نظرك؟| ?How can an employee be most suitable for a job from your point of view

الاستجابات	الاسم	↑ ID
ان يكون يملك خبره في المجال الموكل اليه	anonymous	1
Efficient	anonymous	2
التحلي بأخلاقيات المهنه . صاحب قدرات ومهارات	anonymous	3
يكون نخلص	anonymous	4
عنده القدرة والموهبه والمعرفه والانضباط	anonymous	5
الذي لايتغيب ويضع الاهداف والخطط الناجحة	anonymous	6
ذو كفائة وخبرة بالعمل	anonymous	7
موافقة امكانياته المعرفية وخبراته السابقة لرجال العمل	anonymous	8
بالخبرة في مجال عمله ، الأمانة، الإخلاص ، التطوير أساليب العمل ، المرونه في العمل	anonymous	9
يمتلك جدارات وظيفية او لديه خبرة سابقة	anonymous	10
تكون عندھ خبرة في مجال الوظيفة	anonymous	11

(Figure 3. 16) Survey Question

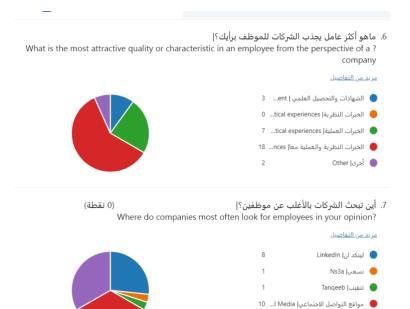


5. كيف يكون الموظف مناسب للوظيفة من وجهة نظرك؟| ?How can an employee be most suitable for a job from your point of view

26 الاستجابات

15	anonymous	اذا عنده رغبه ووعي
16	anonymous	بجديته ونشاطه واخلاصه في العمل وحبه لتطوير ذاته وعمله
17	anonymous	متلقي تدريب جيد لديه خبرة
18	anonymous	بالتجربة
19	anonymous	التخصص والدافعية
20	anonymous	حرصه على نجاح المنشأة
21	anonymous	ان يكون مؤهلا اكاديميا وتربويا
22	anonymous	خبرات في نفس المجال ذكاء ومتكلم جيد
23	anonymous	من لديه خبرة في مجال العمل المطلوب
24	anonymous	ان يمتلك المهارات اللازمة للتعامل مع ظروف العمل
25	anonymous	يملك شغف
26	anonymous	عنده سابق خبرة وإنجاز في نفس المجال

Figure 3. 17 Survey Question

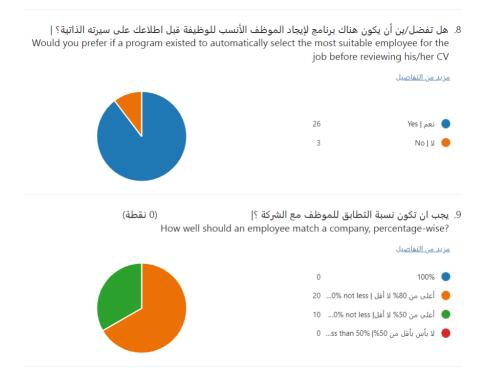


(Figure 3. 18) Survey Question

10

🔵 اخری| Other





(Figure 3. 19) Survey Question

10. وجود تطبيق يخمن الموظف المناسب يوفر لك؟| Having an app that could determine the most suitable employee on its own would save you which of the following



(Figure 3. 20) Survey Question



? ان كنت/ي تملك/ين أفكار قد تساعدنا أكثر في البحث عن الموظف المناسب الرجاء مشاركتنا بها؟ \cdot ...If you have any ideas that may help us more in searching for the right employee, please

18 الاستجابات

↑ ID	الاسم	الاستجابات
1	anonymous	И
2	anonymous	اختبارات تجريبيه على موقع الشركة للموظفين المتقدمين تحدد من خلالها سمات الموظفين الاخلاقيه والمهاراتيه
3	anonymous	الاهتمام بفكر وافكار الموظف اثناء المقابله
4	anonymous	الاطلاع على الشهادة او الخبرة
5	anonymous	ان بتحلى بالصدق والامانه وذا حكمة ومنظم يؤدي عمله على اكمل وجه
6	anonymous	لا يشترط خبرة في الموظف الجديد وتوفير دورات تدريبية تؤهله للعمل بشكل أفضل
7	anonymous	تطبيق يسجل فيه كل باحث عن عمل
8	anonymous	عن طريق الإعلانات الوظيفية في وسائل التواصل الاجتماعي
9	anonymous	И
10	anonymous	لا أملك
11	ananymayıc	₩e.de lal e.l. a L.le Haali a Aladi

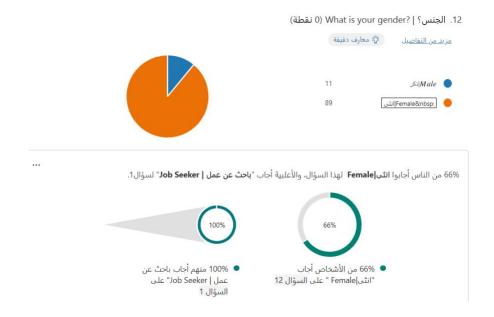
(Figure 3. 21) Survey Question

11. ان كنت/ي تملك/ين أفكار قد تساعدنا أكثر في البحث عن الموظف المناسب الرجاء مشاركتنا بها؟| ? If you have any ideas that may help us more in searching for the right employee, please...

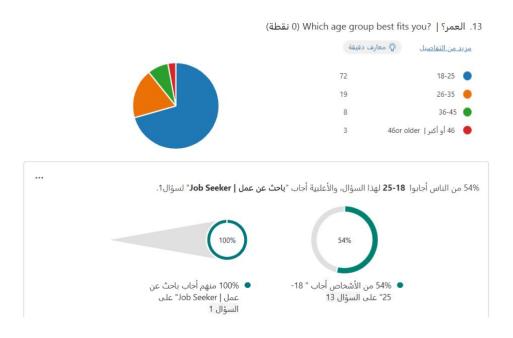
8	anonymous	عن طريق الإعلانات الوظيفية في وسائل التواصل الاجتماعي
9	anonymous	И
10	anonymous	لا أملك
11	anonymous	الإعلان في مواقع التواصل في حسابات لها متابعين كثر
12	anonymous	Л
13	anonymous	إعطاء الكوادر الوطنية الفرصة لاثبات وجودهم دون التشديد عليهم بالشروط
14	anonymous	أرى المقابله الشخصيه مهمة جدا
15	anonymous	اًیجاد مقیاس للمواهب تناسب الشرکه او الوظیفه المطلوبه لان لانرالتحصیلدوالشهاده قا تکون غیر حقیقیه دقیقه فی توضیح مالدی الشخص من مواهب وقدرات مامنهده
16	anonymous	الذهاب الي الجامعات والمعاهد التخصصية للإختبار والمقابلات الشخصية حتي وان لم يكمل الجامعة
17	anonymous	لا أملك
18	anonymous	إنجازه فيما سبق / أو مدى استعداده للعمل بالنسبة لحديث التخرج

(Figure) 3. 22 Survey Question





(Figure 3. 23) Survey Question



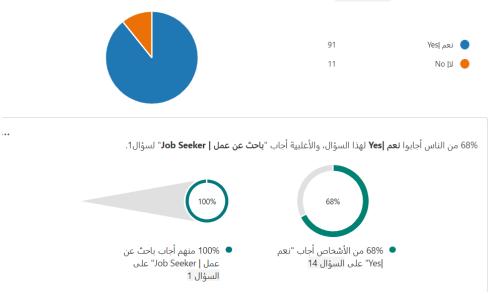
(Figure 3. 24) Survey Question



14. هل سبق ووجدت/ي صعوبة في البحث عن الوظيفة المناسبة؟| (0 نقطة) Have you ever had trouble finding an appropriate job ?

ن معارف دقیقة

<u>مزيد من التفاصيل</u>



(Figure 3. 25) Survey Question

15. كيف تكون الوظيفة مناسبة من وجهة نظرك؟| How can a job be most suitable for an? employee from your point of view

ıs 2	anonymous	-
ıs 3	anonymous	إذا كانت تتوافق مع أهدافي
ıs 4	anonymous	صقل الخبرات اريحيه في الدوام العمل على مشاريع يستفاد منها
ıs 5	anonymous	بالبيئه المناسبه لي
ıs 6	anonymous	تناسب شهادتي و موقعها و بيئتها جيدة
us 7	anonymous	بيئة عمل مناسبة - راتب مناسب
ıs 8	anonymous	اذ كانت تطور من مجالي المهني وذات راتب عالي لايهم المسمى يهم الراتب
us 9	anonymous	تكون مناسبه لتخصصي
us 10	anonymous	When it suits me in all aspects i care for such as the work environment and financial advantages and the location
us 11	anonymous	حينما يكون المُربِّب فيها بمقدار العمل والجهد لا أقل ولا أكثر لئلا يقع ظلم - حينما يكون الإلتحاق بها لا يؤثر سلبًاعلى حياة الموطِّف أو عائلته
us 12	anonymous	بیئة عمل مریحه و راتب عالی

(Figure 3. 26) Survey Question



15. كيف تكون الوظيفة مناسبة من وجهة نظرك؟| How can a job be most suitable for an? employee from your point of view

79 الاستجابات

14	anonymous	بيئة ايجابية محفزة فيها تعاون بين الموظفين والادارة
15	anonymous	يكون فيها قابلية للتطوير و التعلم - شركة تهتم بحقوق الموظفين - بئية عمل محترمة و متعاونة - مرتب جيد - اوقات جيدة
16	anonymous	تكون شي في الحاسب تقني حاسب
17	anonymous	اذا كان مجهودها يساوي راتبها
18	anonymous	بيئة عمل لطيفه، عمل متجدد بلا تكرار ، مهام تساعدني على التطوير من نفسي بشكل مستمر، راتب ممتاز
19	anonymous	بيئة عمل احترافيه ومناسبه
20	anonymous	من ناحية وقت العمل والمكان
21	anonymous	تكون على تخصصي مناسبة لتطوير قدراتي وفي بيئة عمل مناسبة
22	anonymous	تليق بالدرجه العلمية الخاصه بي
23	anonymous	متوافقة مع تخصصي
24	anonymous	بیٹه عمل مناسبه

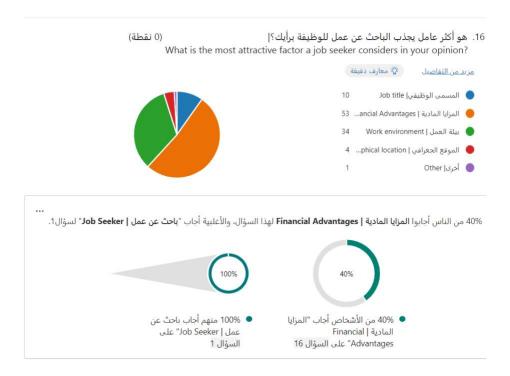
(Figure 3. 27)Survey Question

15. كيف تكون الوظيفة مناسبة من وجهة نظرك؟| How can a job be most suitable for an? employee from your point of view

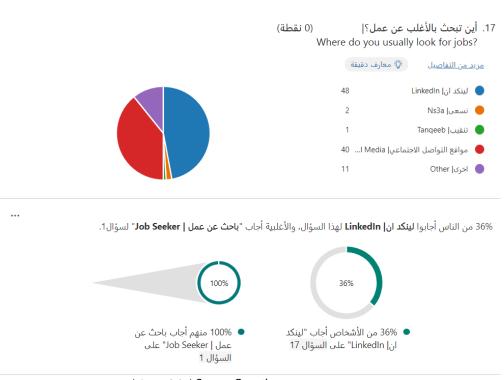
رر	анопуннова	تناسب مع العدرات واقدر اصور نعسي فيها
56	anonymous	ان تكون ذات دخل مناسب وان تتوافق مع امكانياتي
57	anonymous	ملائم لوضعنا الاجتماعي
58	anonymous	ملائمة لتخصصي وبراتب مناسب
59	anonymous	تناسب شهادتي وفي نفس تخصصي
60	anonymous	تكون في شركة سمعتها معروفه وممتازھ + المسمى الوظيفي الي اطمح له
61	anonymous	المسمى الوظيفي لها جيد والمزايا المادية وتكون بيئة العمل مُساعدة
62	anonymous	تناسب مهاراتي
63	anonymous	توفر الوقت والموقع المناسب
64	anonymous	if it meets the specifications i need/ my major
65	anonymous	تكون المهام مطابقه لما تعلمته ودرسته
66	anonymous	مدير متفهم ، راتب مجزي
67	anon/mous	تكون مناسبة من حيث قوة الشركة و سلامة بيئة العمل وطبعا يكون الدخل المادي

(Figure 3. 28) Survey Question





(Figure 3. 29) Survey Question



(Figure 3.25) Survey Question

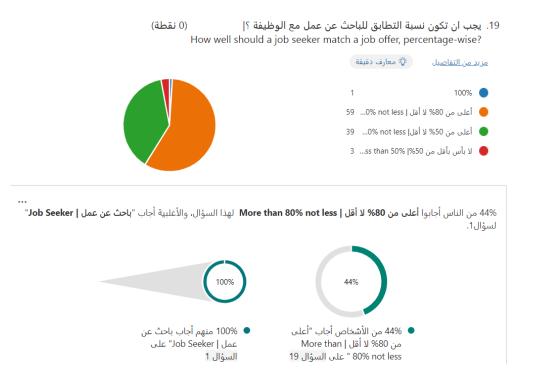


0) | ين أن يكون هناك برنامج يطابق لك عمل يتناسب مع مؤهلاتك قبل التقديم عليه شخصيا؟ | Would you prefer it if an app existed that could automatically show you suitable job offers based on your

specific qualities, without even applying in the first place?



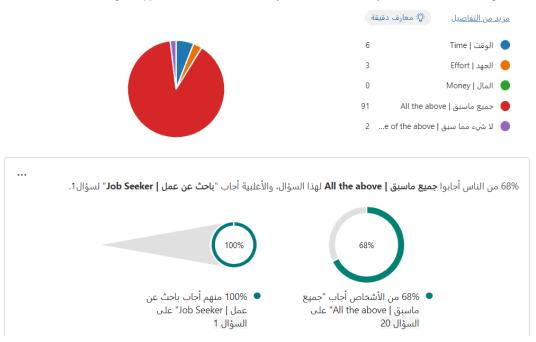
(Figure 3. 31) Survey Question



(Figure 3. 32) Survey Question



00. وجود تطبيق يبحث لك عن عمل يوفر لك؟| Having an app that can look for suitable job offers could save you which if the following?



(Figure 3. 33) Survey Question

21. ان كنت/ي تملك/ين أفكار قد تساعدنا أكثر في البحث عن عمل الرجاء مشاركتنا بها؟| ? If you have ideas that may help us in searching for the right employee, please share them with us

Most of the unemployed people use free time by working in car apps such as Uber , so the idea is to put an add in these type of apps which going to . help you to find the job seeker and job provider	anonymous	4
يكون بكل اعلان وظيفي استبيان يتبعى بمؤهلات الشخص الي يبغى الوظيفه	anonymous	5
ان يكون يوضح التطبيق ما اذا كان العمل في بيئة نسائية او مختلطة	anonymous	6
جميل يكون يجمع كل من الراغبين بالعمل وجهة العمل	anonymous	7
لا يوجد	anonymous	8
	anonymous	9
И	anonymous	10
لا املك شيئا للاسف	anonymous	11
منصة موحدة موثوقة	anonymous	12
الله يووووفقكم استمروا 👍	anonymous	13
И	anonymous	14

(Figure 3. 34) Survey Question

Chapter4



System Design:

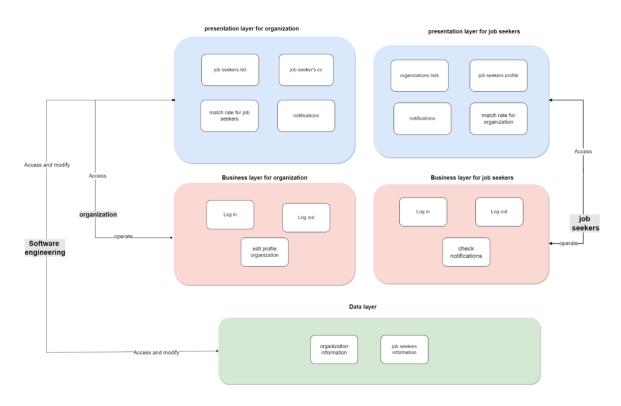
- System Architecture
- User Interface Design



System Design

4.1 System Architecture

Application architecture describes the patterns and techniques utilized in the design and development of an application. When developing an application, the architecture provides a road map and best practices to adhere to, resulting in a well-structured application. In the JAAP application architecture, we will describe how organization and users interact with the system. (Figure 4.1) . in presentation Layer for organization can show many objects and make operations on it from business layer of organization and can access at same time . in Data Layer and presentation Layer for organization can access and modify between them . in presentation Layer for job seeker can access from Business Layer but its make operation on presentation Layer for job seeker just from it [20].



(Figure 4. 2) application architecture



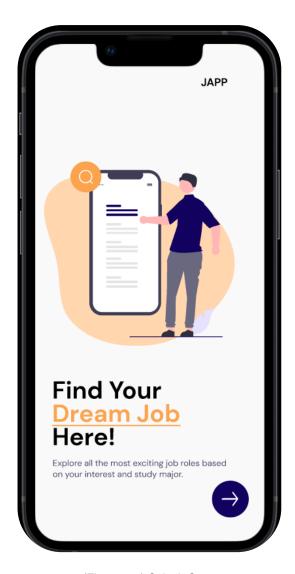
4.2 User Interface Design



(Figure 4.2) The First Interface



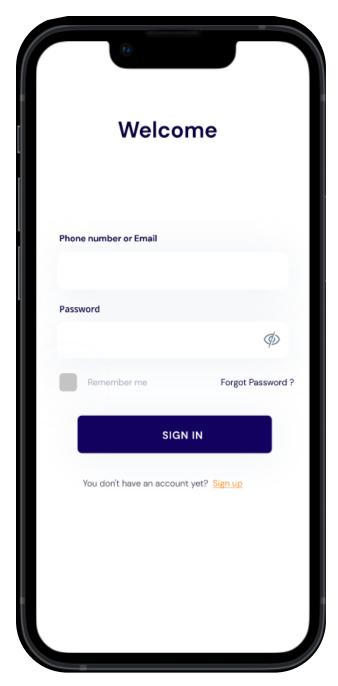
The First Interface: this will appear to the user when they enter the app, containing the logo and the name of the app. After a few seconds, it will navigate the user to the splash interface shown in (Figure 4.3) [1] [12] [14].



(Figure 4.3) Splash Screen

Splash Screen: this interface will show to the user a clear idea about the application, with the name of the app. When the user clicks on the arrow button, it will navigate them to the Login interface shown in (Figure 4.4)

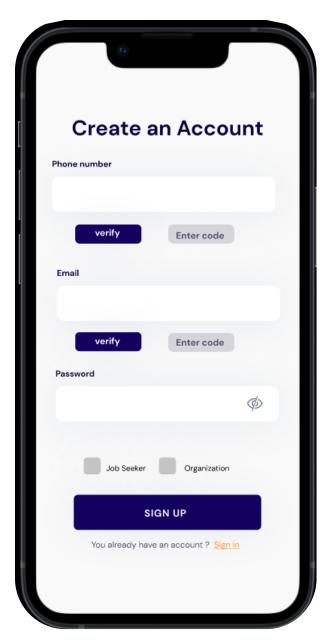




(Figure 4.4) User Login Interface

User Login Interface: for the user who has an account, this interface will require an email or phone number and password. After sign-in succeeds, the profile page will appear. Job seekers and organizations have different interfaces. If the user registers as a job seeker it will navigate them to the profile interface as shown in (Figure 4.8), but if the user registers as an organization it will navigate them to the profile interface as shown in (Figure 4.17)

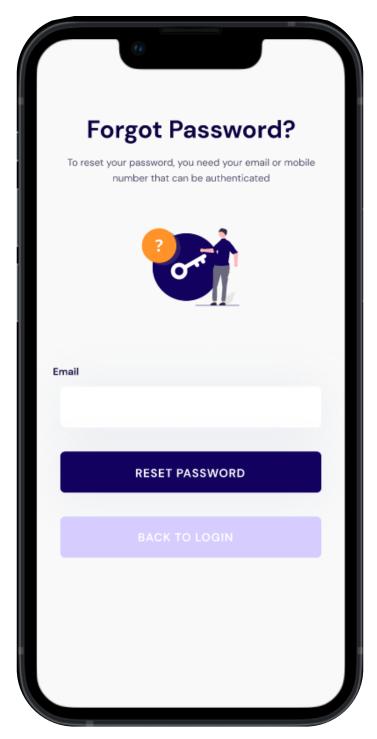




(Figure 4.5) User Sign-Up Interface

User Sign-Up Interface: this interface will appear when the user presses sign up, the user should enter their phone number, and email, and decide if they want to register as a job seeker or organization. The system must verify the entered email and phone number. If the user registers as a job seeker it will navigate them to the profile interface as shown in (Figure 4.8), but if the user registers as an organization it will navigate them to the profile interface as shown in (Figure 4.17)

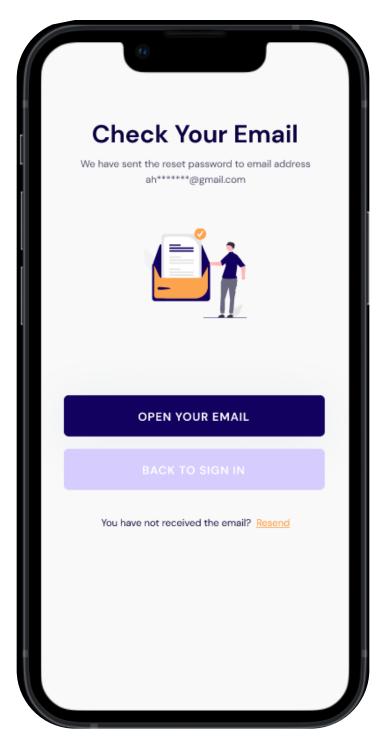




(Figure 4.6) Forget password interface

Forget password interface: If the user press "forget password" this interface will appear and they have to write their email. If the user press "reset password" it will navigate them to (Figure 4.7)

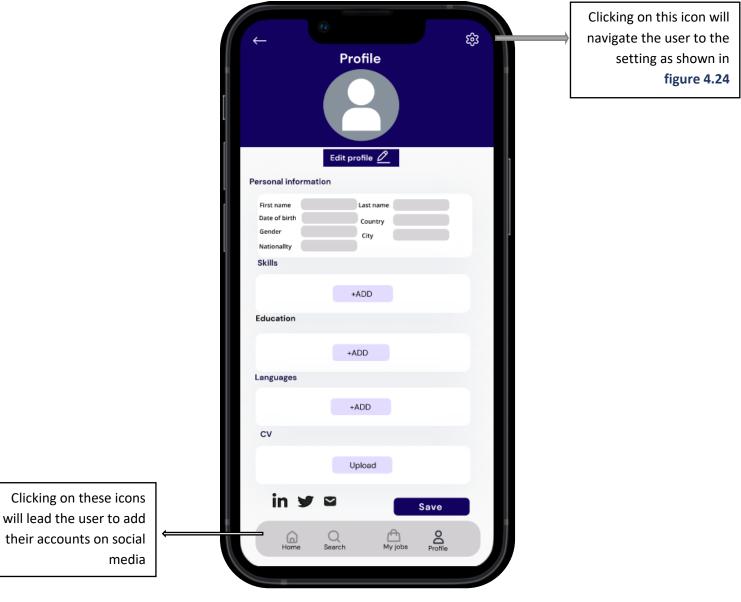




(Figure 4.7) Check Email Interface

Check Email Interface: After the user press "Reset Password" the system will authenticate from the email and send a message for authentication.

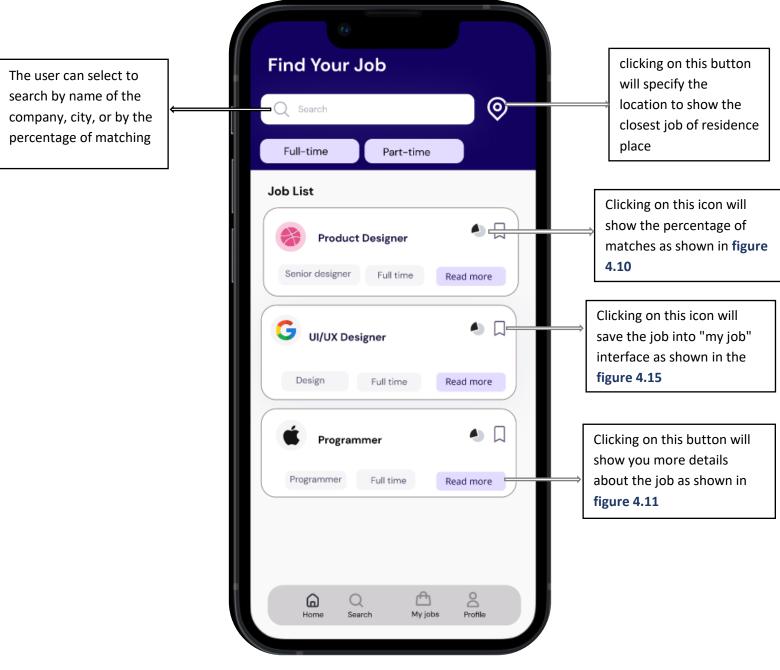




(Figure 4.8) Profile Interface of Job Seekers

Profile Interface of Job Seekers: After job seekers log in successfully the profile interface will appear, then the job seekers must complete the required information and add the skill, education, language, and upload the CV. And they can edit and save the changes of information



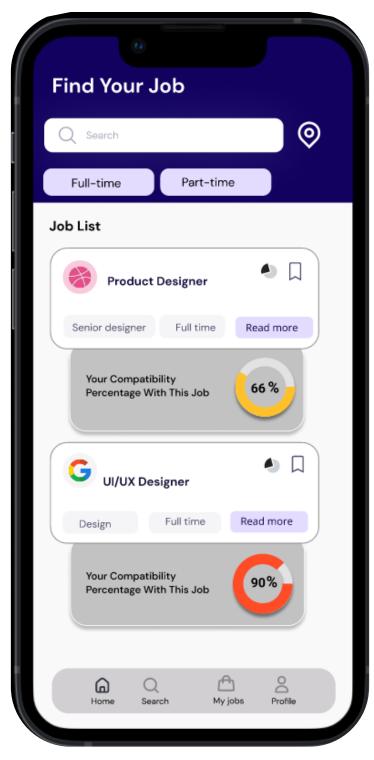


(Figure 4.9) Home Interface of Job Seekers

Home Interface of Job Seeker: After the job seeker completes the profile they can navigate to the home page or anything from the main menu. The home interface contains a list of job offers, full-time jobs, and part-time jobs, and the ability to use the quick search.

Main menu: including Home page, Search page, My job page, and Profile page.

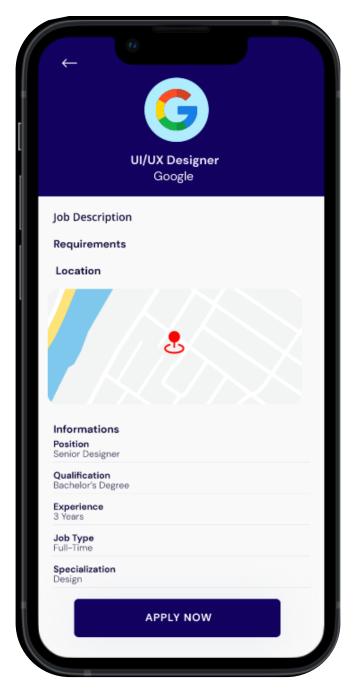




(Figure 4.10) Home Interface of Job Seekers

Home Interface of Job Seeker: This interface will show the percentage of matching to the particular job for Job Seekers.

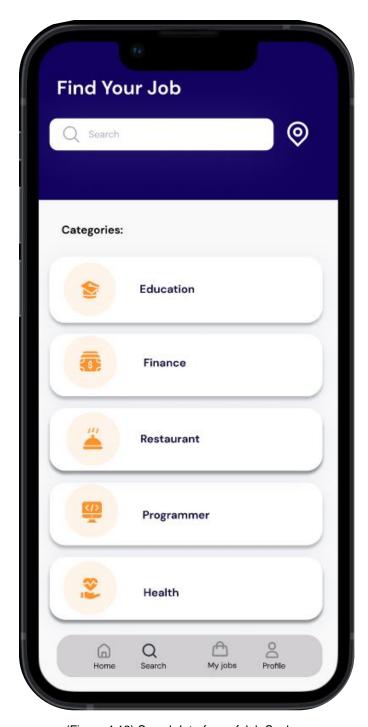




(Figure 4.11) Details Interface

Details Interface: After the job seekers press on "Read more" this interface will appear which is included the description and requirements of the job and location and other information

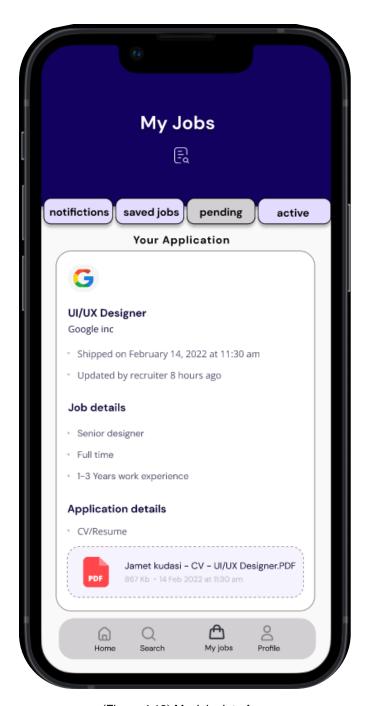




(Figure 4.12) Search Interface of Job Seekers

Search Interface of Job Seekers: This interface will show Categories of jobs, with the ability to use the quick search

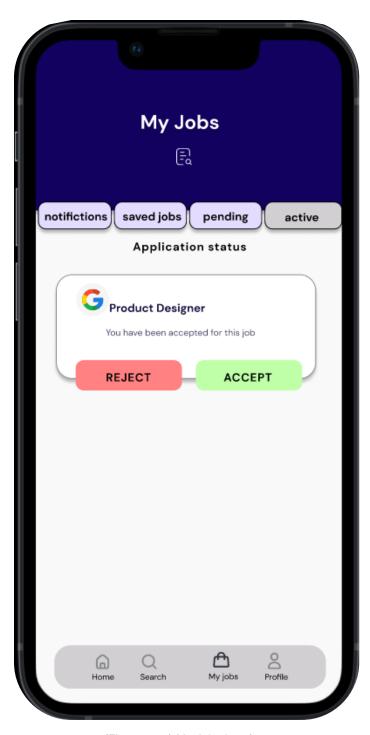




(Figure 4.13) My Jobs Interface

My jobs Interface: My job page includes (notifications, saved jobs, pending, active) .If the user press "pending" the system will show the jobs that they have previously applied for with details.

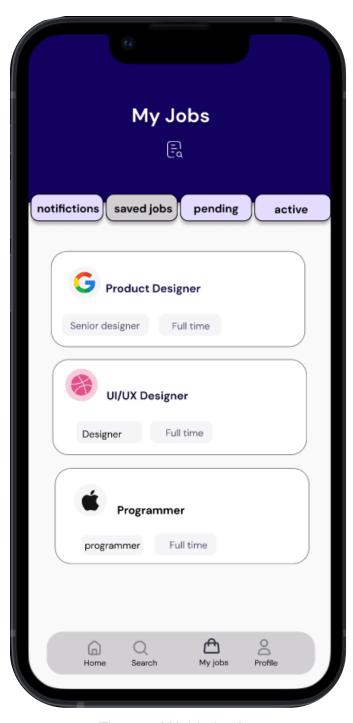




(Figure 4.14) My Jobs Interface

My jobs Interface: My jobs page includes (notifications, saved jobs, pending, active) .If the user press "active" The system will show the jobs that they have been accepted for, with the possibility of accepting or rejecting the offer.

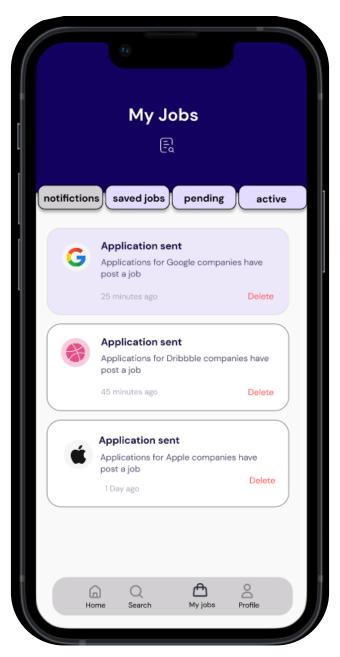




(Figure 4.15) My jobs Interface

My jobs Interface: My job page includes (notifications, saved jobs, pending, active) .If the user press " saved jobs " the system will be shown the jobs that they saved before.



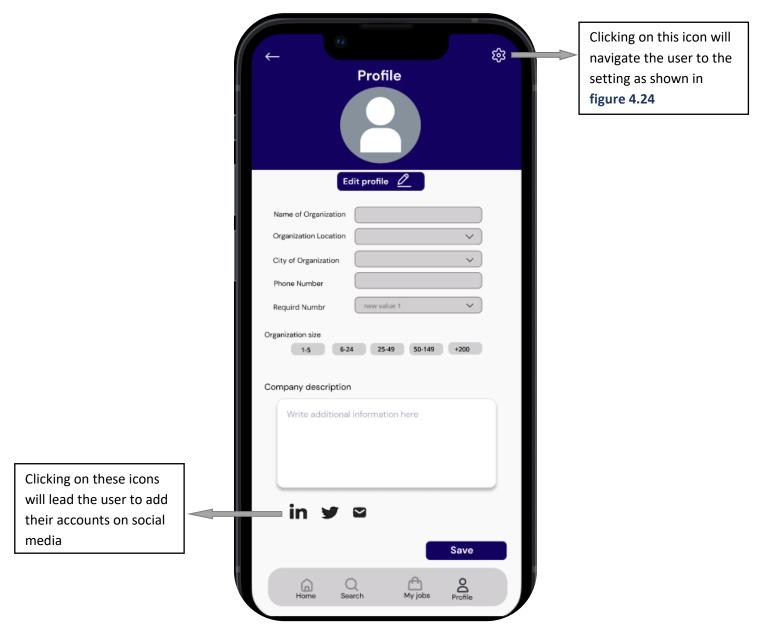


(Figure 4.16) My jobs Interface

My jobs Interface: My job page includes (notifications, saved jobs, pending, active) .If the user press "notifications" then the system will be shown the updates of the application



The Interfaces of organization

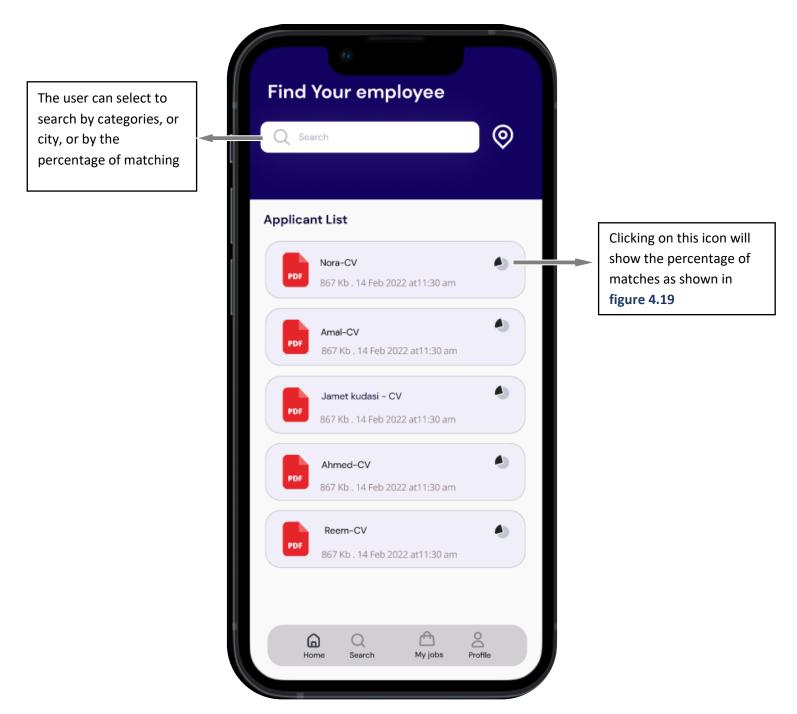


(Figure 4.17) Profile interface of organization

Profile interface of organization: If the business owner log in successfully the profile interface will appear, then the business owner have to complete the required information and add a description of the company. they can edit and save the changes of information

Main menu: including Home page, Search page, My job page, and Profile page.



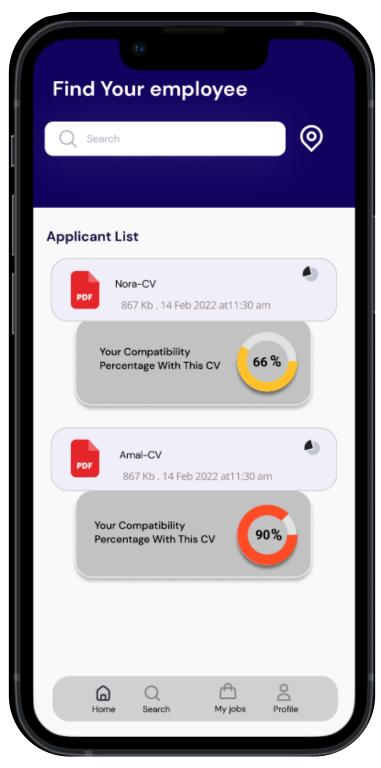


(Figure 4.18) Home Interface of orgnazitons

Home Interface of orgnazitons: After the business owner completes the profile they can navigate to the home page or anything from the main menu. The home interface contains a list of applicants, And the ability to use the quick search.

Main menu: including Home page, Search page, My job page, and Profile page.

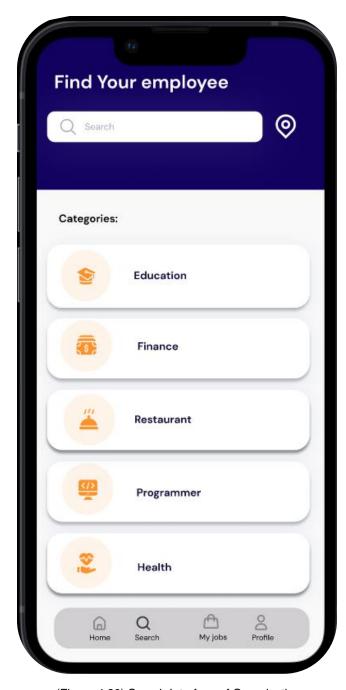




(Figure 4.19) Home Interface of Organization

Home Interface of Job Seeker: This interface will show the percentage of matching between the CV and the job requirements, which makes searching easier for the organization.

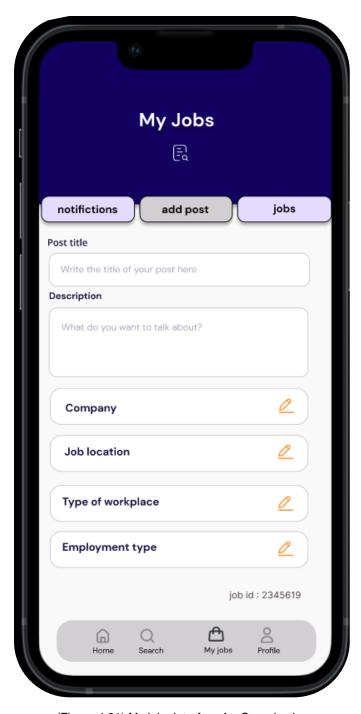




(Figure 4.20) Search Interface of Organization

Search Interface of Organization: This interface will show Categories of jobs, with the ability to use the quick search

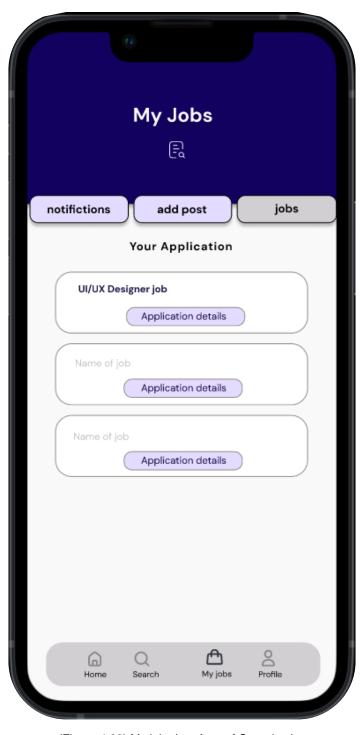




(Figure 4.21) My jobs Interface for Organization

My jobs Interface for Organization: My job page includes (notifications, add post, jobs). If the user press "add post" the organization have to post for the required job and add information about the post.



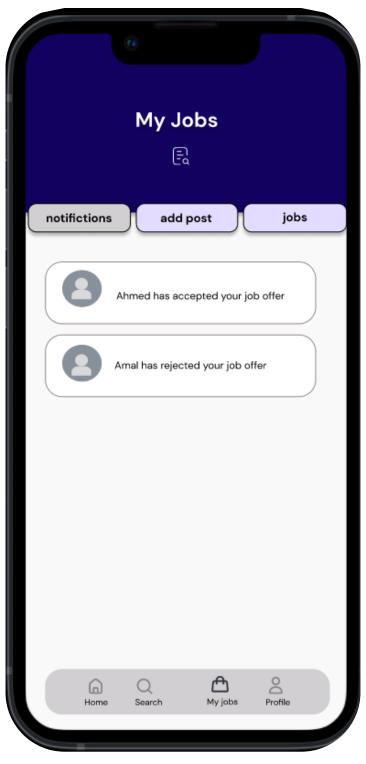


(Figure 4.22) My jobs Interface of Organization

My jobs Interface ff Organization: My job page includes (notifications, add post, jobs).

If the user press "jobs" the system will show them the jobs that they have posted for.

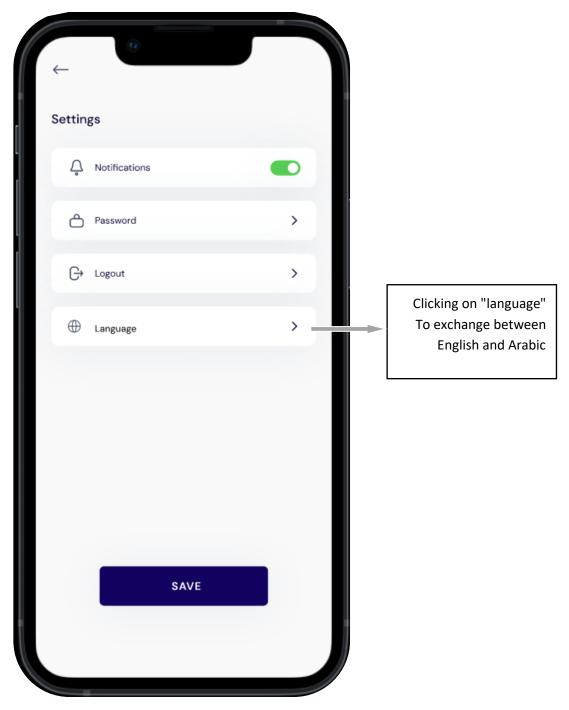




(Figure 4.23) My jobs Interface of organization

My jobs Interface: My job page includes (notifications, add post, jobs,). If the user press "notifications" then the system will be shown the updates of the application.

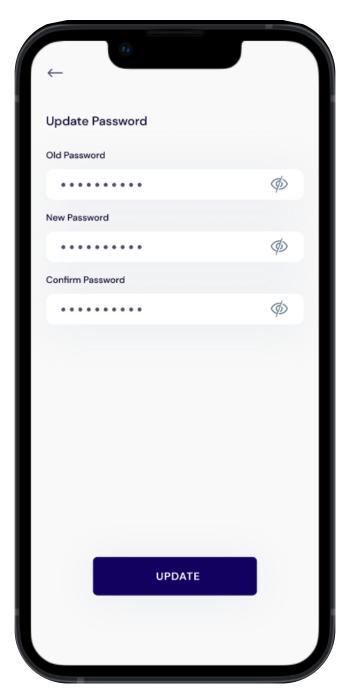




(Figure 4.24) Setting Interface

Setting Interface: this interface will appear when the user clicks on the setting icon that exists on the profile page.





(Figure 4.25) Update password Interface

Update password Interface: this page will appear when the user press on password, and its allows the user to change the password.



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