A Microjob website
Software Design document
(SDD)

Written by,

FORWAMBAA. ELISHA AND
NKAFU EFIABOH.

15/07/2022

1.INTRODUCTION

A software design document a.k.a SDD is the representation of a software design that is to be used for recording design information, addressing various design concerns and communicating that information to design stakeholders. An SDD usually accompanies an architecture diagram with pointers to detailed feature specification of small pieces of the design.

1.1 purpose

The purpose of the Software Design Document is to provide a description of the design of a system that will allow people browse and search for available jobs online. The Software Design Document provides information necessary to provide description of the details for the software and system to be built.

1.2 Scope

This Software Design Document is for a micro job website which will provide people with the ability to post and search for jobs. This Software Design is focused on the base level system and critical parts of the system. For this particular Software Design Document, the focus is placed on generation of the documents and modification of the documents. The system will be used in conjunction with other third party applications that will act as an interface between the user and the system.

The main aim of this website is to ease individuals to be notified about available jobs both online and offline. It will make it easier for employers and employees to communicate with each other.

1.3 Overview

The Software Design Document is divided into 11 sections with various subsections. The

sections of the Software Design Document are:

1 Introduction

2 Glossary

3 Use Cases

4 Design Overview

5 System Object Model

6 Object Descriptions

7 Object Collaborations

8 Data Design

9 Dynamic Model

10 Non-functional Requirements

11 Supplementary Documentation

1.4 References

- www.oasis-open.org
- www.images.sampletemplates.com.

1.3 Definitions, Acronyms, and Abbreviations

- **Data Objects** – Data objects are Java objects with predefined structures capable of holding data in a structure that is quickly and easily accessible by other parts of the software system. They provide also can help provide a convenient abstraction of the data in a database so that it can be retrieved into a format, such as a denormalized format, that makes access and manipulation of the data easier than if the database had to be called
directly. http://java.sun.com/products/jdo/
- **Denormalized** - Normalization of a database is the activity of restructuring the database to avoid data anomalies and inconsistencies by focusing on functional dependencies to help structure the data. A web address to reference about normalization is:
http://en.wikipedia.org/wiki/Database_normalization . Denormalization is the act of undoing some of the structural changes made during normalization to help with performance. http://en.wikipedia.org/wiki/Denormalization
- **Digital Signature** – A digital signature is a unique object which is strongly tied to a single
entity and the document which signature is intended for. In the same way that a ink on paper signature has characteristics that are unique to a person due to variations in writing

a digital signature has characteristics that uniquely tie it to a single person and signing instance. http://en.wikipedia.org/wiki/Digital_signature

● **Document Interaction Class, XMLDocumentInteractionEngine** – These are the two

terms that will be used to refer to the main software class described within this document.

● **Editable Form Layout-** A user interface presentation layout in which the contents of a document are presented to a user in the format of a form predefined editable areas based on the type of document which is being edited. This type of layout allows for changes to be made in a specific manner so that the data used in the form can be reassembled into a structured data format for transfer to other systems and archival.

● **FOP Libraries** – FOP stands for Formatting Objects Processor. The FOP Processor use an XSL-FO stylesheet and an XML instance to create PDF's, RTF's, and HTML files. FOP libraries bring the functionality of an FOP processor to a library form which can be used within another software program. http://xmlgraphics.apache.org/fop/● **JDBC/ODBC** – These two acronyms stand for Java Database Connectivity and Open Database Connectivity API which allow for standardized database access and interaction from software products. JDBC

http://www.learnthat.com/define/view.asp?id=106 .

ODBC: http://en.wikipedia.org/wiki/ODBC

● **LegalXML** – A standards body dedicated to issues related to the use of XML in the legal domain, http://www.legalxml.com/

● **PDF** – Portable Document Format,

http://en.wikipedia.org/wiki/Portable_Document_Format

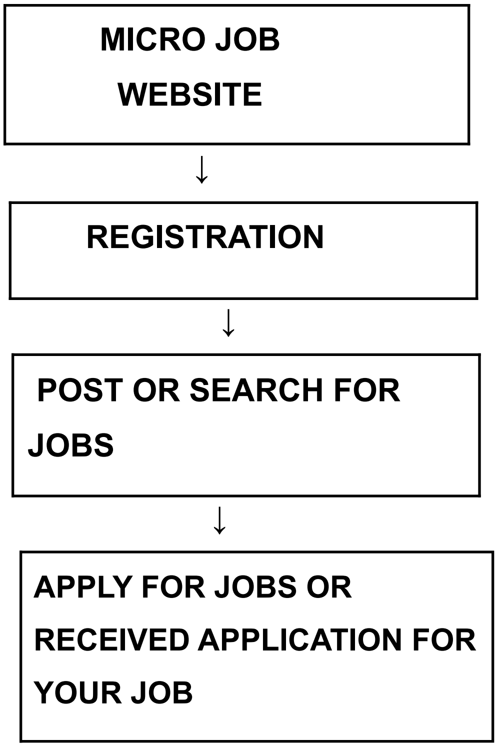
● **Pro se** – This is a Latin term which directly translated means “for self” and is used to indicate that a party to a case has chosen to represent themselves to the court instead of choosing for an attorney to represent them to the court.

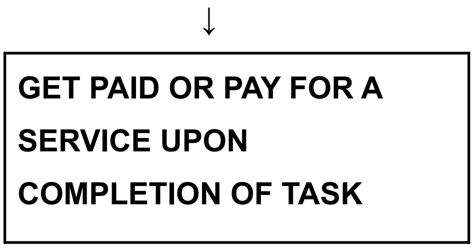
http://en.wikipedia.org/wiki/Pro_se

● **Required Field** – A critical field is a field in a data set for a document that is required for successful document generation. For example, missing parties in a case, missing county location of court, or other data elements that are required to create a valid legal document.

2. System Overview

While Micro Jobs site can differ widely in the nature and in functionality, the third party system they use, in the signal processing they perform, in the feedback they provide,they all need some common features amongst them:
data collection, signal processing, an output device searching for jobs etc.
The features of any micro job website might defer based on the developers.
We can illustrate the system using some pure diagrams;





3. SYSTEM ARCHITECTURE

3.1 Architectural Design

In this section we will talk about the 3 main bodies of these micro job websites. These bodies include; the administration, the employers and the employees.

3.1.1 The administration

Their function includes;

- Administrative can delete or remove existing accounts in the system
- Control all the functioning of the system making sure that both the user interface and user experience is good.
- Helps in creating a perfect relationship between the employers and employees

3.1.2 The employers

Their functions include include;

- Posting jobs on the website
- Reviewing customers bid on the website
- Communicating with administrators

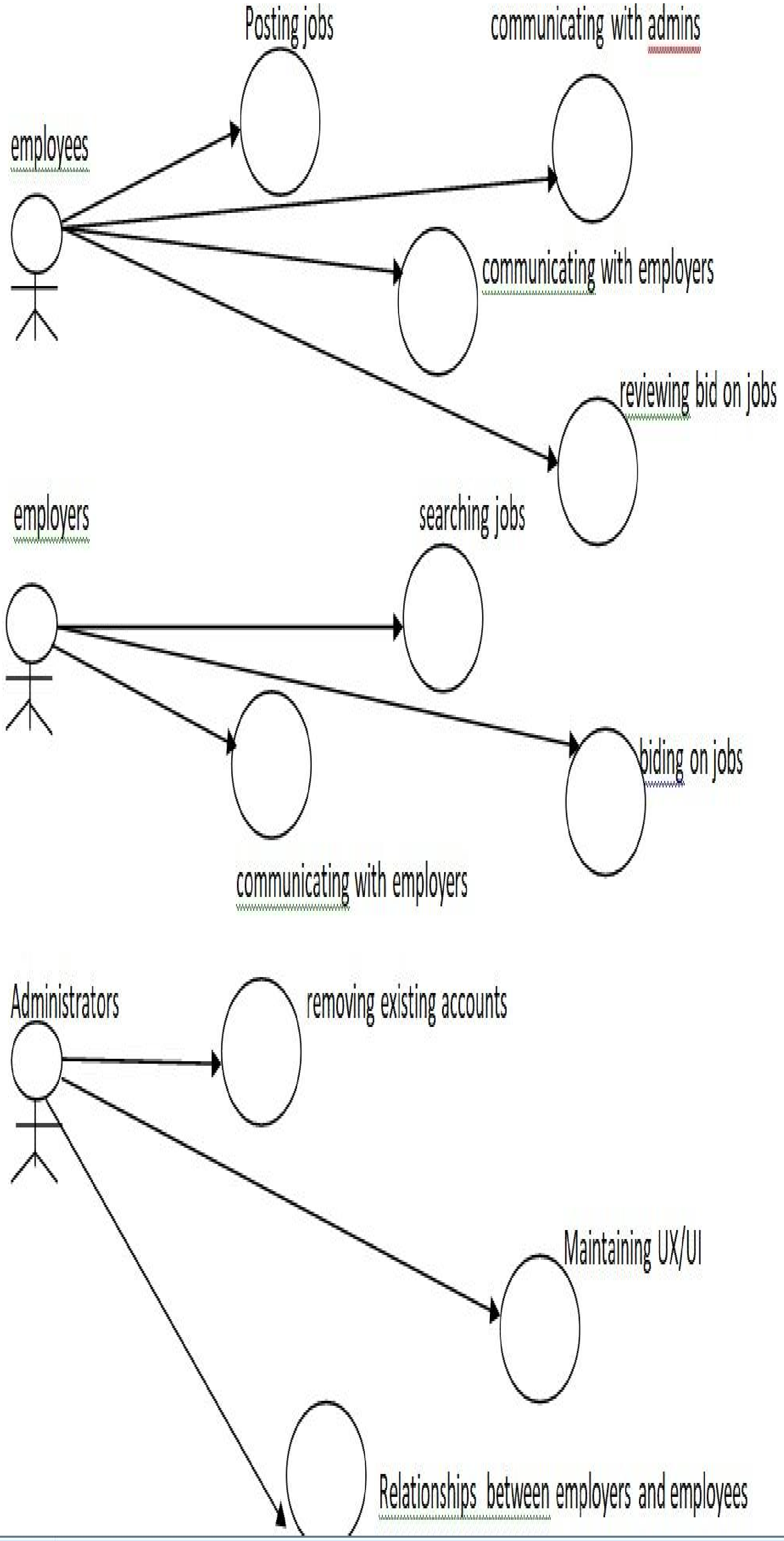
3.1.3 The employees

Their functions include include;

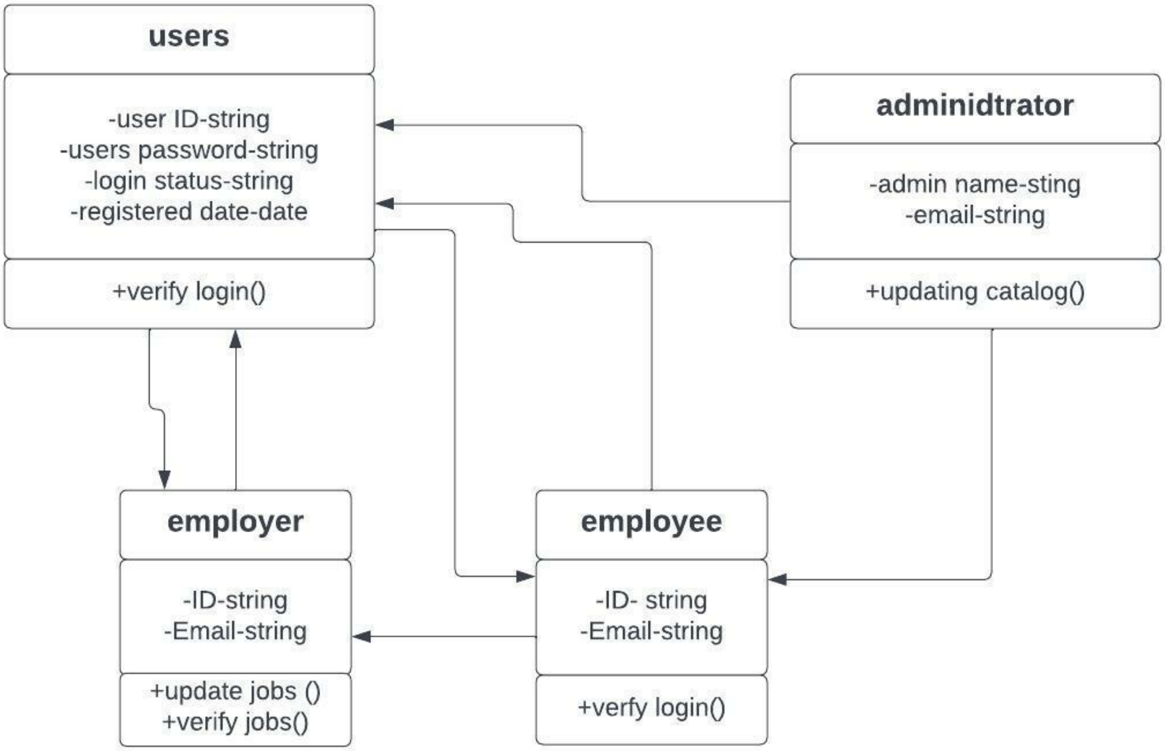
- Searching for available jobs
- Bidding on jobs that interest them
- Communicating with employers

3.2 Decomposition Description

This section is done based on our on our architectural design;


Posting jobs
communicating with admins
employees
communicating with employers
reviewing bid on jobs
employers
searching jobs
biding on jobs
communicating with employers
Administrators
removing existing accounts
Maintaining UX/UI
Relationships between employers and employees

3.3-class diagram



3.4- Design Rationale

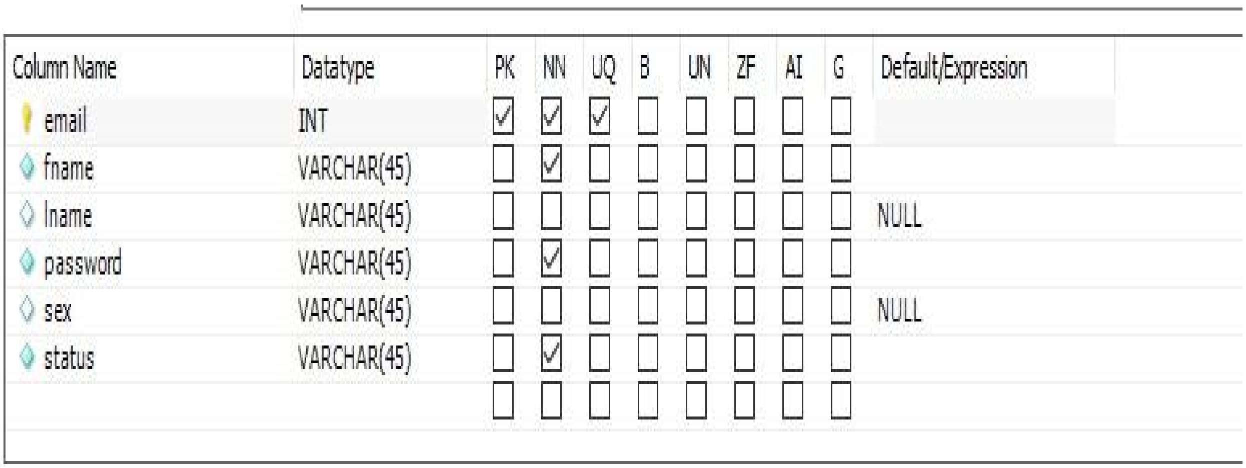
A design rationale is the explicit listing of decisions made during design progress, and the reasons why those decisions were made. Its primary goal is to support designers by providing a means to record and communicate the argumentation and reasoning behind the design process. It should therefore include:

- the reasons behind a design decision,
- the justification for it,
- the other alternatives considered,
- the trade offs evaluated.

4. DATA DESIGN.

4.1 data description

Registration table definition.



Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
email	INT	☑	☑	☑	□	□	□	□	□	
fname	VARCHAR(45)	□	☑	□	□	□	□	□	□	
lname	VARCHAR(45)	□	□	□	□	□	□	□	□	NULL
password	VARCHAR(45)	□	☑	□	□	□	□	□	□	
sex	VARCHAR(45)	□	□	□	□	□	□	□	□	NULL
status	VARCHAR(45)	□	☑	□	□	□	□	□	□	
		□	□	□	□	□	□	□	□	

4.2 data dictionary.

4.2.1 Login information for admin.

Field name	Data type	description
email	varchar(45)	email
password	varchar(45)	A secret word

4.2.2 Users or customers information.

Field name	Data type	description
Users id	Int	Users identification number
name	varchar(45)	Users name
Visiting date	date	Date of visiting
gender	varchar(45)	Male or female
email	varchar(45)	For sending information

4.2.3 Employers information.

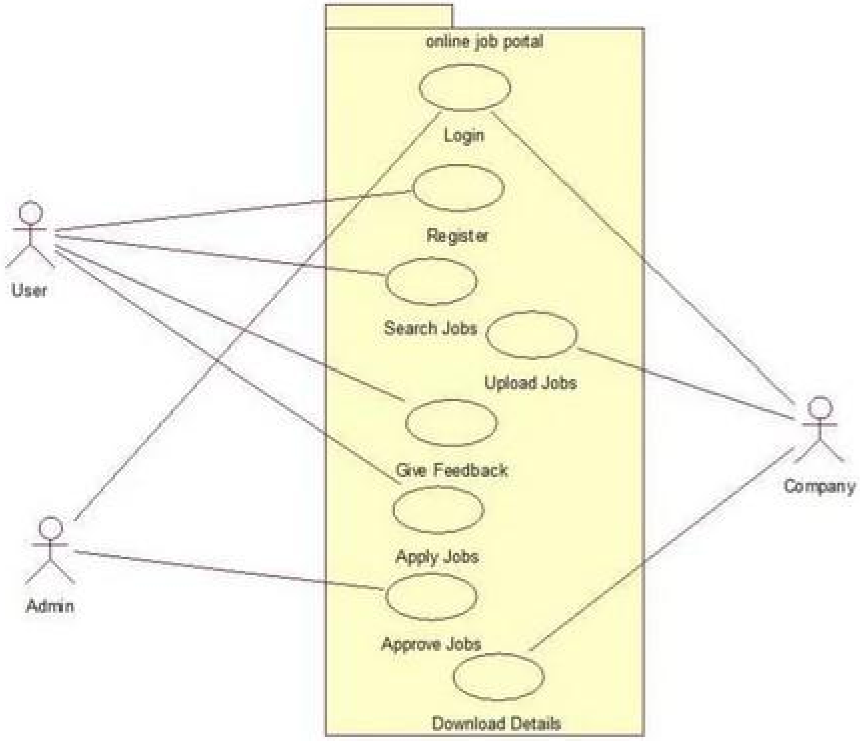
Field name	Data type	description

Employee id	Int	identification number
name	varchar(45)	employer's name
Joining date	date	Date of visiting
gender	varchar(45)	Male or female
email	varchar(45)	For sending information

4.3- Use case diagram

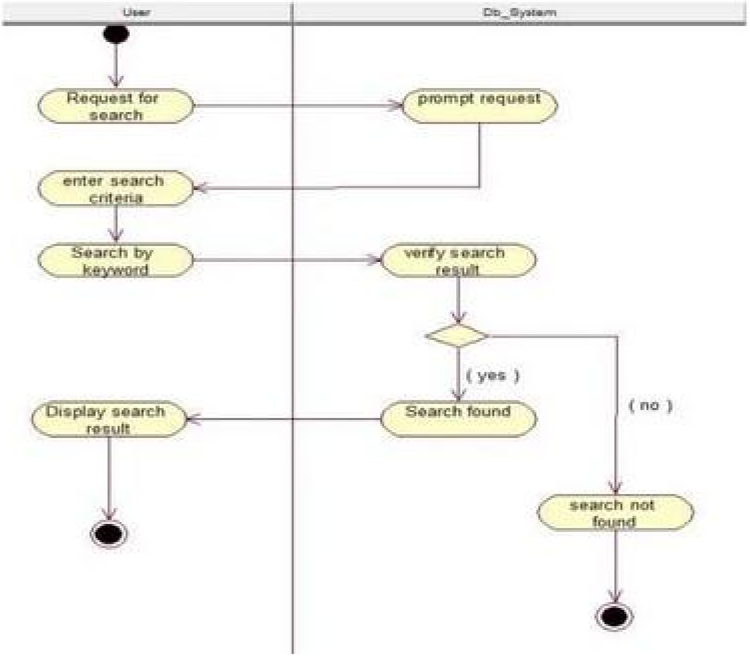
A use case diagram is a graphical depiction of a user's possible interactions with a system.

-Overall system



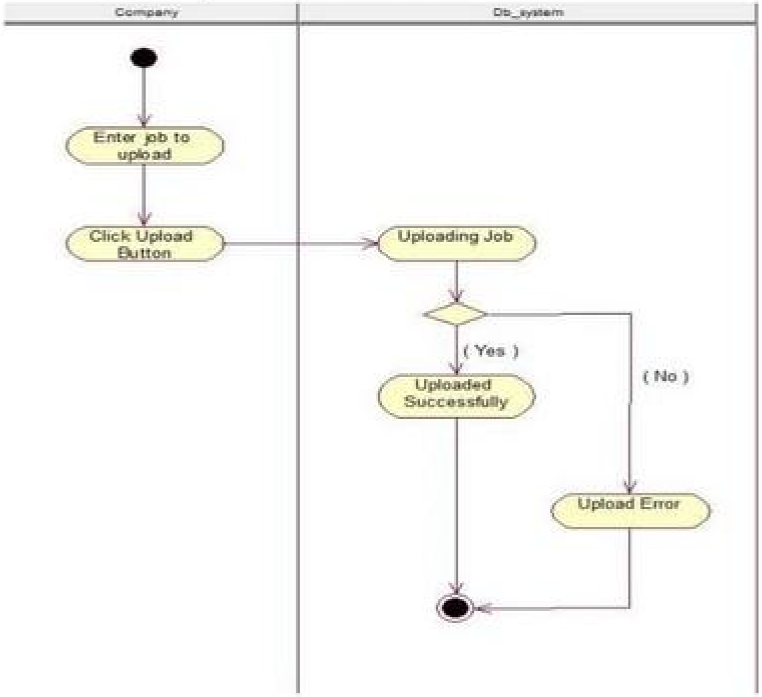
-Search Jobs

Search Jobs

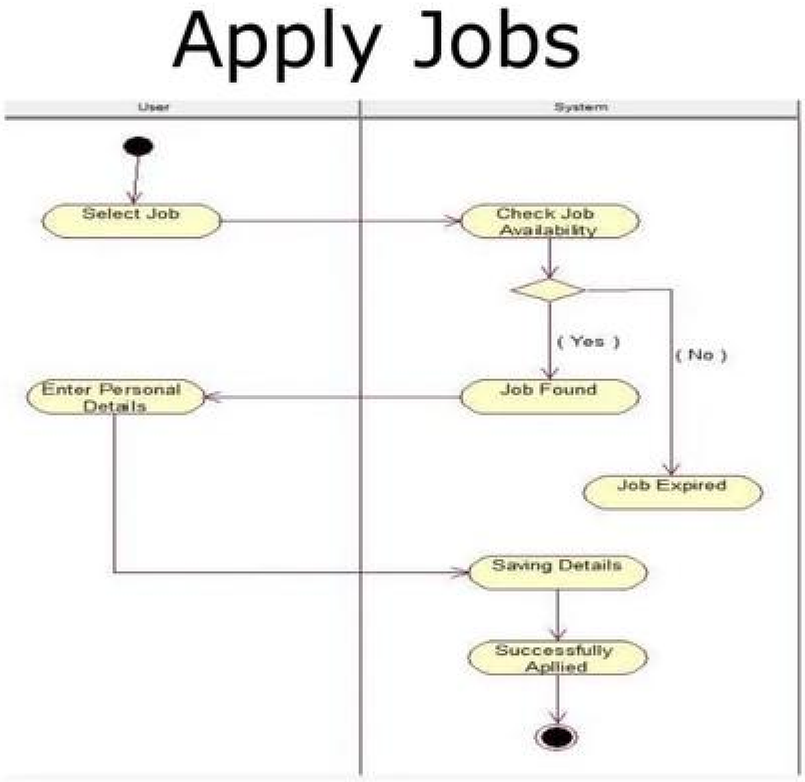


-Upload job

Upload Jobs

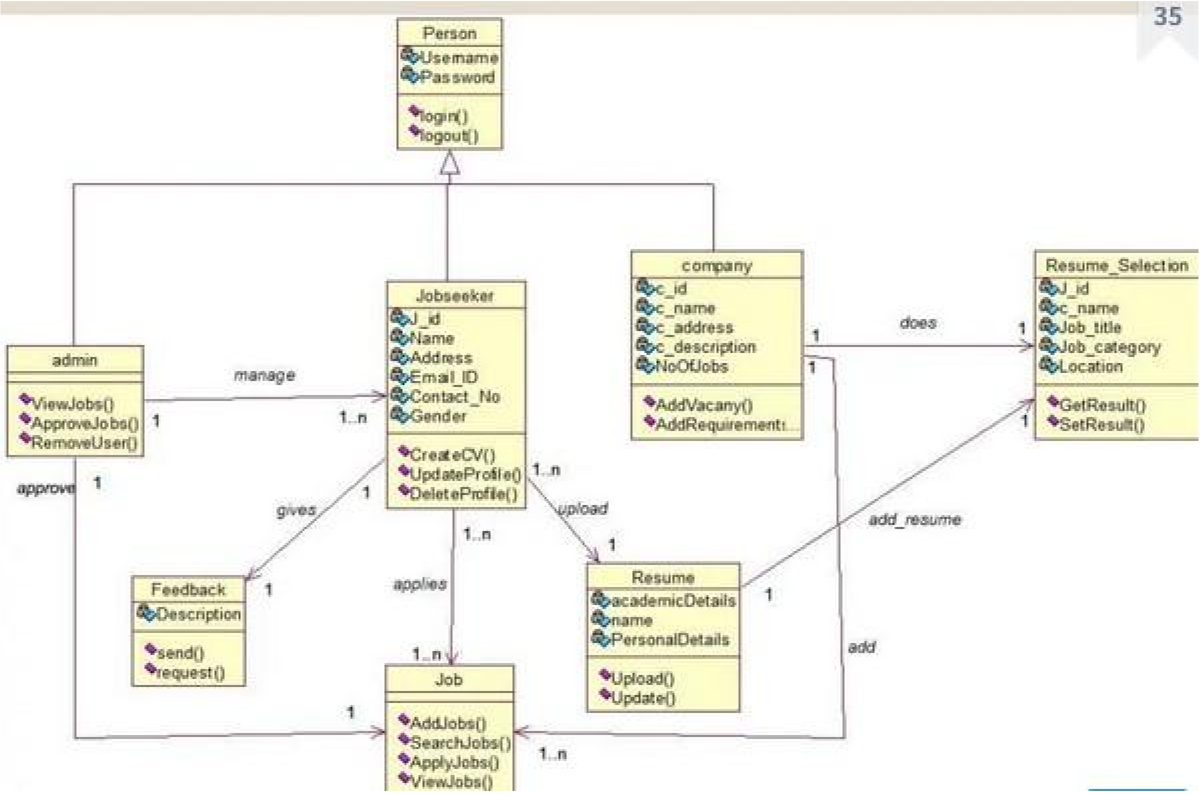


-Apply for jobs



4.4- Class diagram

Class diagram describes the attributes and operations of a class and also the constraints imposed on the system.



5. component design

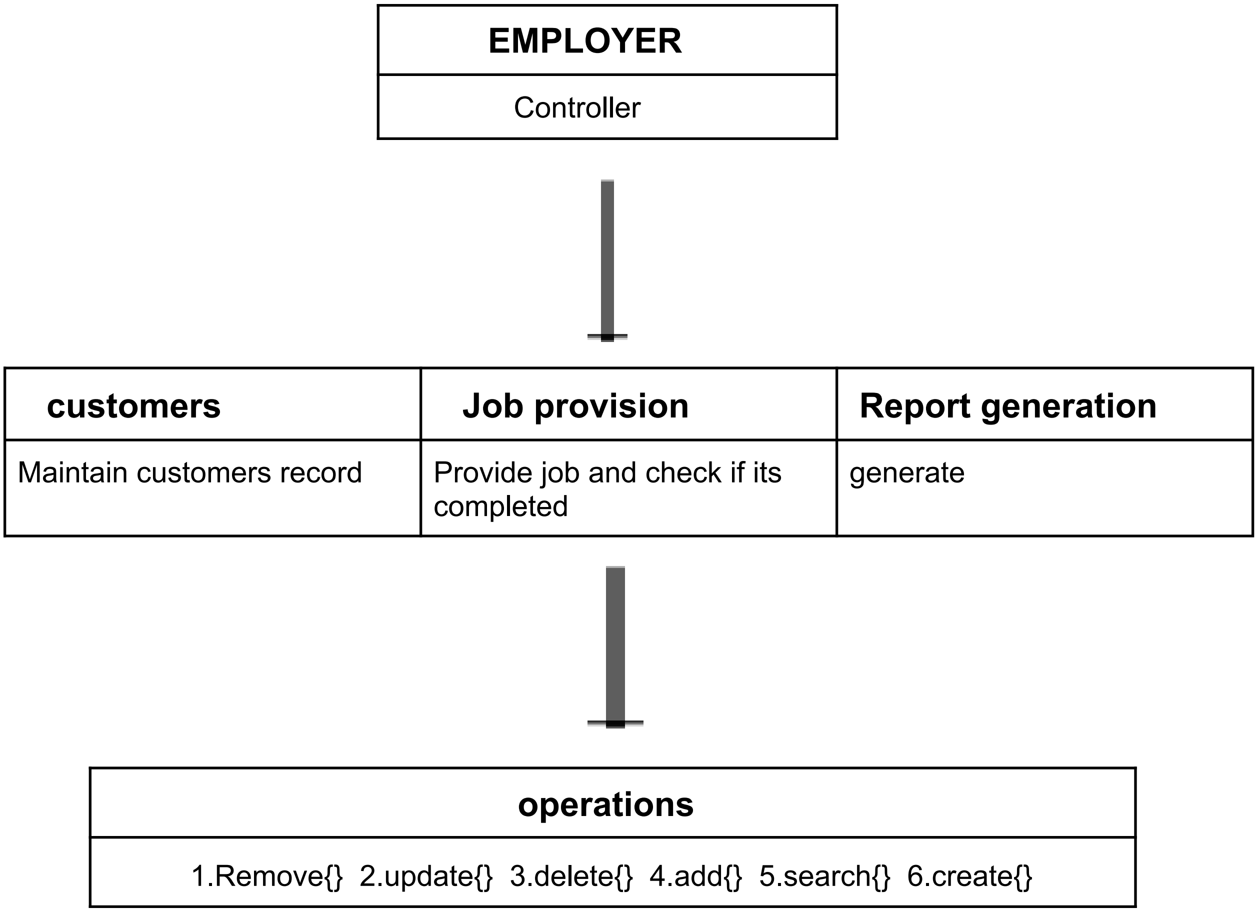
Object diagram for admin task.

ADMINISTRATOR
controller

employees	**transactions**	**Report generation**
Maintain employees record	transactions heck out	gernarate

operations
Add{+}   remove{}   search{} update{}

Object diagram for employers tasks:



EMPLOYER
Controller

customers	Job provision	Report generation
Maintain customers record	Provide job and check if its completed	generate

operations
1.Remove{} 2.update{} 3.delete{} 4.add{} 5.search{} 6.create{}

6.Human interface design.

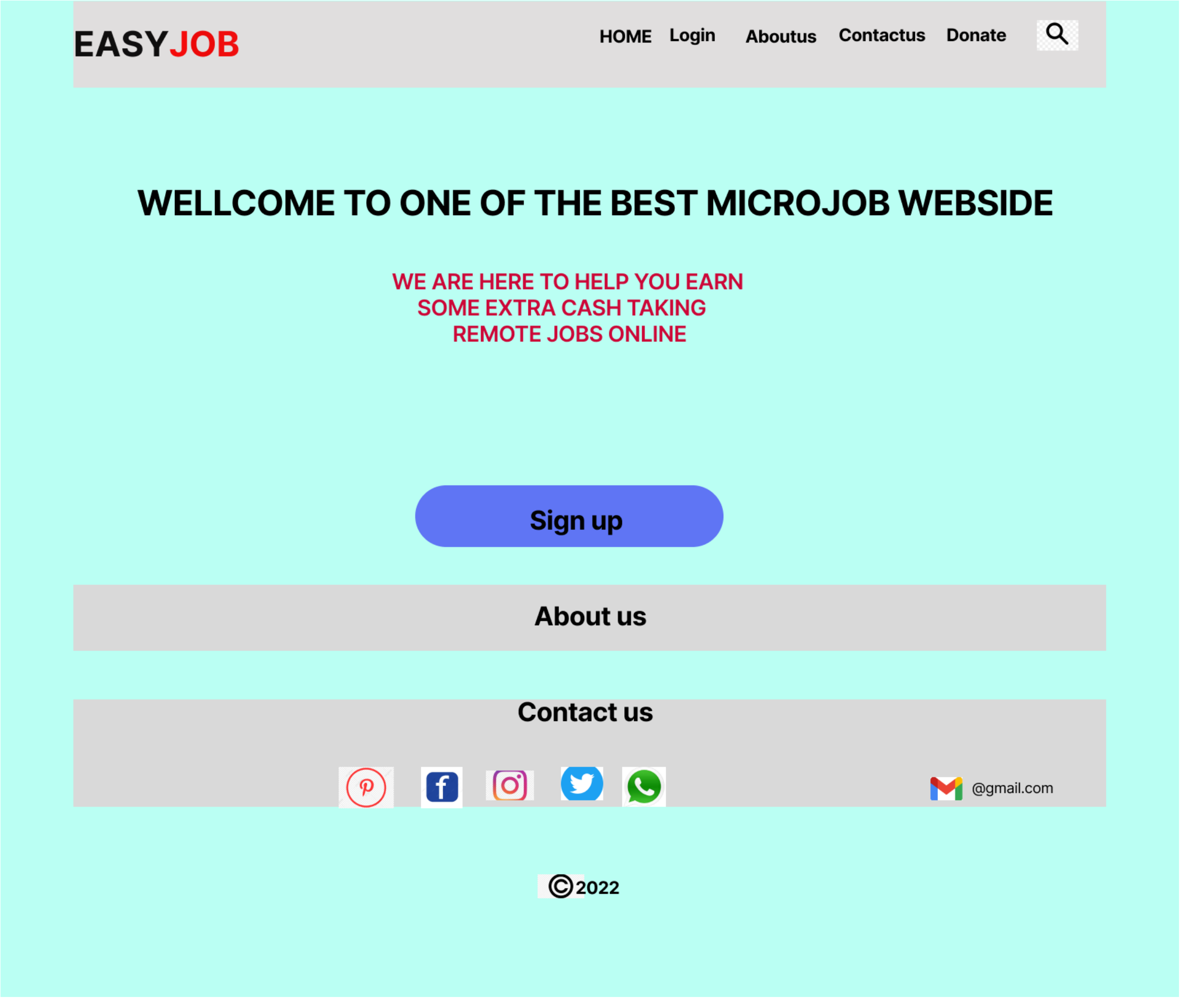
6.1 Overview of user interface.

This section describes how users will interact with the system through different windows forms and passes. Firstly, the main page is found in which the users can login, which are employees and administrators. After login they can perform their specified tasks.

6.2 Screen images.

Home page:

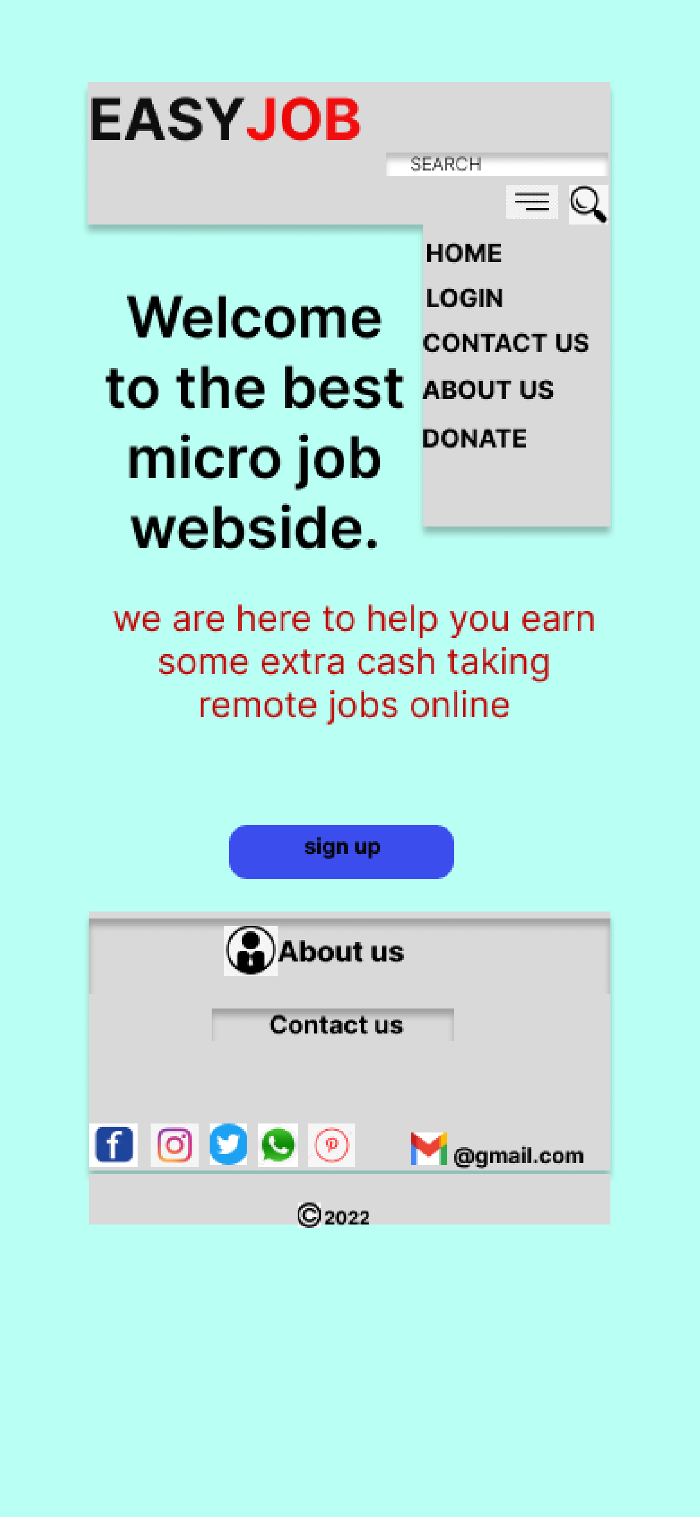
It contains or shows how the home page or user interface will be and how contents on the website will be displayed.



WELLCOME TO ONE OF THE BEST MICROJOB WEBSIDE

WE ARE HERE TO HELP YOU EARN
SOME EXTRA CASH TAKING
REMOTE JOBS ONLINE

Mobile view

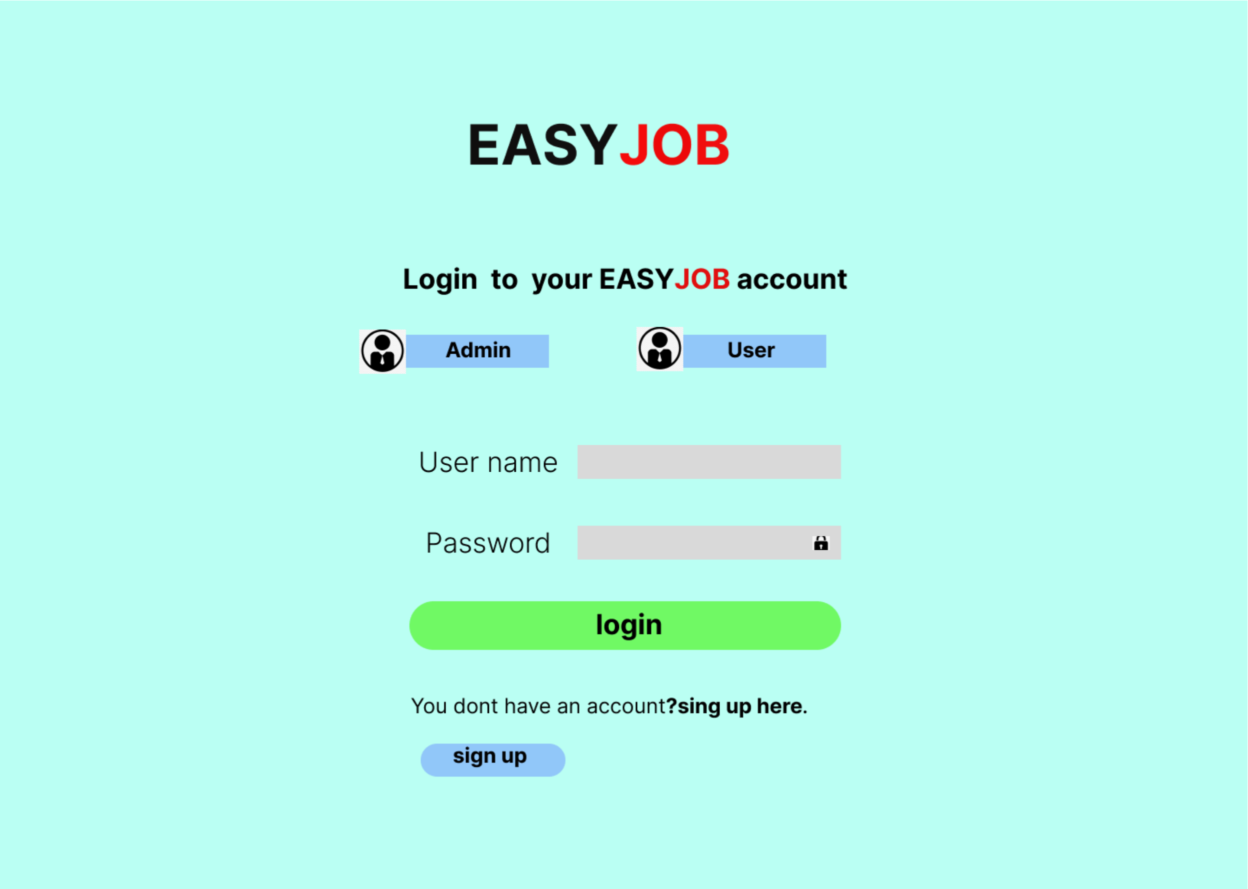


Welcome to the best micro job webside.

we are here to help you earn some extra cash taking remote jobs online

Login form:

This contains the two required fields for the login of users and admins.the username is the name of the admin or user and password is the secret word assigned to him/her.

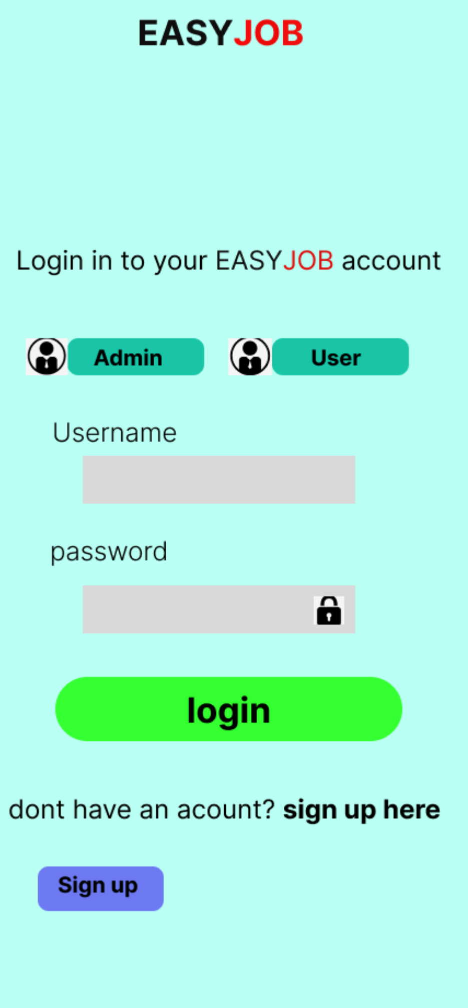


EASYJOB

Login to your EASYJOB account

You dont have an account?sing up here.

Mobile view.



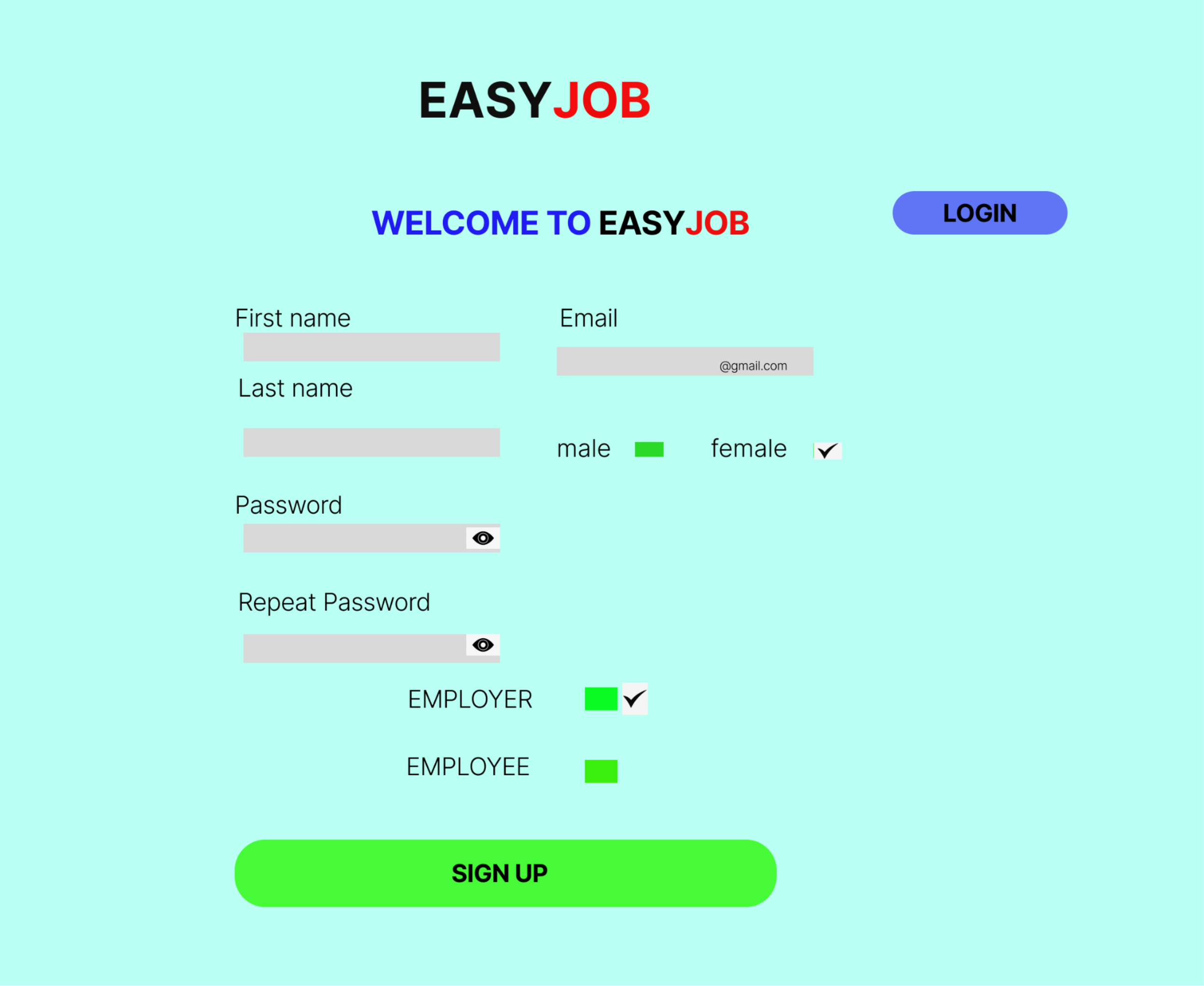
Login in to your EASYJOB account

dont have an acount? **sign up here**

6.3 Screen object action.

Users singin form:

This form contains information regarding the user that wants to sign in or create an account. They will choose if they are registering as employers or employees.(CHOOSE OPTION).



First name

Last name

Password 👁

Repeat Password 👁

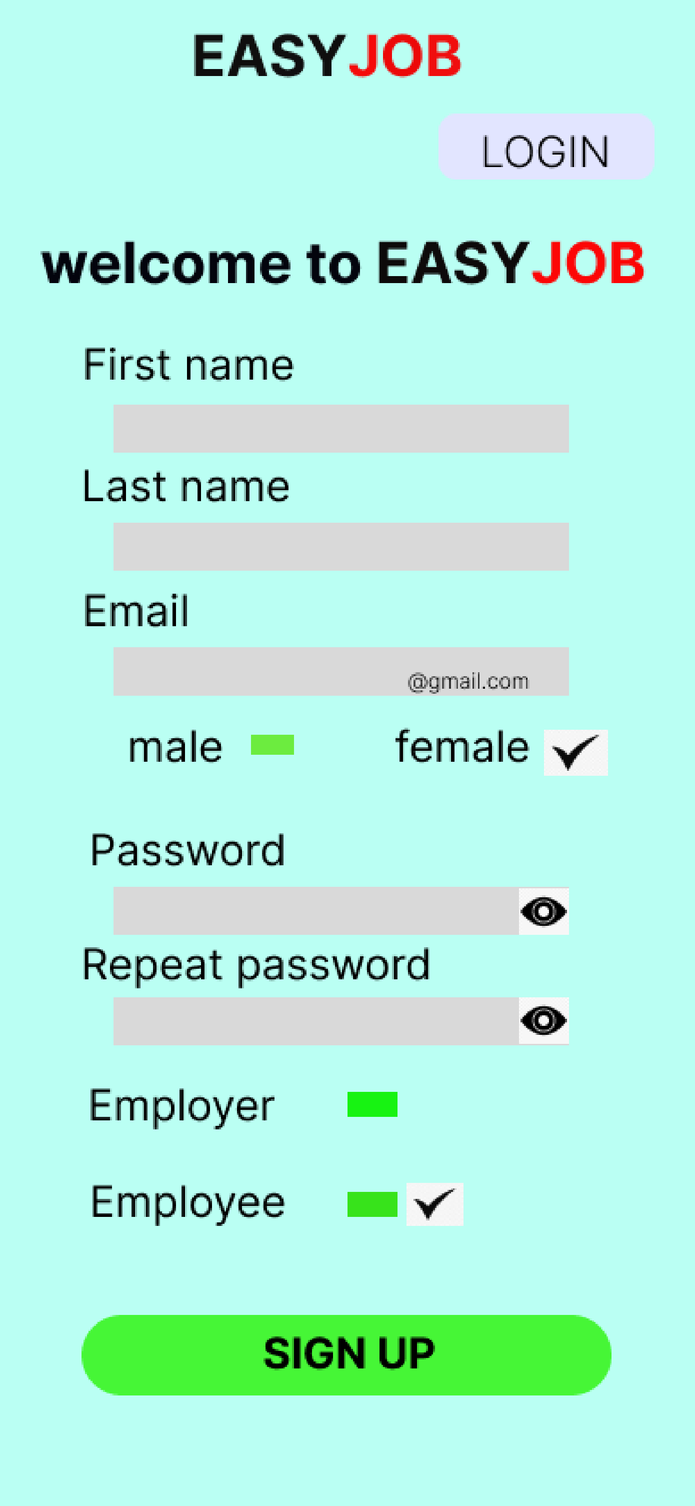
Email @gmail.com

male 🟩 female ✓

EMPLOYER 🟩 ✓

EMPLOYEE 🟩

Mobile view



welcome to EASYJOB

First name

Last name

Email

@gmail.com

male 🟩 female ✓

Password

Repeat password

Employer 🟩

Employee 🟩 ✓

7.Requirements matrix.

Project name.	**Major component.**	**Functional requirements.**	**Non-functional requirements.**
Microjob website	**1) database management 2)interface 3)controler 4)implementation**	**1.admin requirements 2.users requirement 3.employee requirement 4.database requirements**	**1.performance 2.safety 3.security 4.Software quality attributes *security *maintainability *portability 5.reliability.**

end