

ONLINE JOB PORTAL

A PROJECT REPORT

*Submitted in Partial Fulfillment for the degree of
Bachelor of Computer Application*

Submitted by

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Under the guidance of Prof. Subharanjan Basu

July, 2021



Techno Main Salt Lake

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KOLKATA - 700091

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(Maulana Abul Kalam Azad University of technology (WBUT))

FACULTY OF BCA DEPARTMENT

Certificate of Recommendation

This is to certify that Subhodeep Sarkar, Swarnali Saha, Pritam Sarkar, Priyashree Roy, Shreyashi Bhattacharya, Trisha Gupta has completed his/ her project work titled “Major project on online job portal”, under the direct supervision and guidance of Prof. Subharanjan Basu. We are satisfied with his/her work which is being presented for the partial fulfillment of the degree of Bachelor of Computer Application (BCA), West Bengal University of Technology (WBUT), Kolkata– 700032.

Prof. Subharanjan Basu

Date: 10.07.2021

Dr. Monalisa Banerjee
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Date:10.07.2021

**Maulana Abul Kalam Azad University of Technology
(WBUT)**

FACULTY OF BCA DEPARTMENT

Certificate of Approval*

The foregoing Major project is hereby approved as a creditable study of Bachelor of Computer Application (BCA) and presented in a manner satisfactory to warrant its acceptance as a prerequisite to the degree for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or any statement made, opinion expressed or conclusion therein but approve this Major project only for the purpose for which it is submitted.

Signature of the examiners

Final Examination for
Evaluation of the Project

PROJECT RESPONSIBILITY FORM

ONLINE JOB PORTAL

GROUP NO.	SL.N O.	NAME OF MEMBER	RESPONSIBILITY
1	1	Subhodeep Sarkar	Project management, system design, database design, backend logic, CSS, HTML, Documentation, Presentation
	2	Swarnali Saha	Documentation, ERD, DFD
	3	Pritam Sarkar	Presentation
	4	Priyashree Roy	CSS
	5	Shreyashi Bhattacharjee	Testing
	6	Trisha Gupta	Testing

Each group member must participate in project development and developing the ideas for the required elements. Individual group members will be responsible for completing tasks which help to finalize the project and the performance. All group members must be assigned a task.

Date: 10.07.2021

Name of the Students:

Subhodeep Sarkar, Swarnali Saha, Pritam Sarkar, Priyashree Roy, Shreyashi Bhattacharjee, Trisha Gupta

DECLARATION

We hereby declare that the project work being presented in the project proposal entitled "**ONLINE JOB PORTAL**" in partial fulfilment of the requirements for the award of the degree of **BACHELOR OF COMPUTER APPLICATION**, is an authentic work carried out under the guidance of **Prof. Subharanjan Basu**. The matter embodied in this project work has not been submitted elsewhere for the award of any degree of our knowledge and belief.

Date: 10.07.2021

Name of the Students:

Subhodeep Sarkar, Swarnali Saha, Pritam Sarkar, Priyashree Roy, Shreyashi Bhattacharjee, Trisha Gupta

ACKNOWLEDGEMENT

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I am highly indebted to for his guidance and constant supervision as well as for providing necessary information regarding the project & also for his support in completing the project.

I would like to express my gratitude towards my parents & our University Teachers for their kind cooperation and encouragement which helped me in completion of this project.

My thanks and appreciations also go to my friends in developing the project and people who have willingly helped me out with their abilities.

Words are inadequate in offering my thanks to the other trainees and other members at Techno Main Salt Lake for their encouragement and cooperation in carrying out this project work. The guidance and support received from all the members and who are contributing to this project, was vital for the success of this project.

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ONLINE JOB PORTAL

Subhodeep Sarkar-Swarnali Saha-Pritam

Sarkar-Trisha Gupta-Shreyashi Bhattacharjee-Priyashree Roy

INTRODUCTION

This project is aimed at developing an online search Portal for job seekers. The system is an online application that can be accessed throughout the organization and outside as well with proper login provided. This system can be used as an Online Job Portal for job seekers. Job Seekers logging should be able to upload their information in the form of a CV. Visitors/Company representatives logging in may also access/search any information put up by Job aspirants.

Today there is no place for errors, so to make a system more effective and efficient we need such technology where error prone chances must be least. In the scenario of this project, we have developed a web-based application on Online Job Portal. In this time of recession where everyone, either experienced or fresher, is in search of a job. This job portal can prove to be very helpful since it allows users of a different profile to upload their CVs, search jobs on the basis of their qualification.

OBJECTIVE

- To create a job platform for both the job seekers and employers
- To fulfill the requirements of staffing for employers
- To provide job opportunities for people seeking jobs

SCOPE

- Usability to both parties (job seekers and employers).
- Implementing computer vision for login authentication.
- Implementing email automation with API calls
- Implementing automatic PDF generation

IDENTIFICATION OF NEED

Once the project is initiated it is important to understand the functioning and structure of the currently operating manually driven order processing system. In order to identify the problems that plagued the performance of trading firms the following things have to be briefly scanned.

1. The performance of the system.
2. The kind of information being processed.
3. The cost incurred in maintaining the operation of the Online Job Portal System,
4. Central Administrator in managing the operation in totality. Level of confidentiality of information in the present set up. Since a particular decision is made in the context of certain given objectives, identification of the problem is the real beginning of the decision-making process. A problem is a felt need for a question thrown forward for solution.

The category of information that this project required are noted as follows: -

- a) Information about the Jobseeker's as well as Employer's feedback in order to maintain the objectives and organization structure.
- b) Information about the staff that is to ascertain the skill of the people, who are working in the present system, their job functions and information requirement, the relationship of their jobs to the existing system and the interpersonal network that holds the user group together.

Analysis:

While the feedback of the problem gives the understanding of what should be done, analysis of the problem takes it a step further. The whole approach of analysis of problem should however be based around critical factors like the availability of information for making the decision, the time available for servicing complain

1. Planned approach towards working:

The working in the organization will be well planned and organized. The data will be stored properly in data stores, which will help in the retrieval of information as well as its storage

2. Accuracy:

The level of accuracy in the proposed system will be higher. All operations would be done correctly and it ensures that whatever information is coming from the center is accurate.

3. Reliability:

The reliability of the proposed system will be high due to the above-stated reasons. The reason for the increased reliability of the system is that now there would be proper storage of information.

4. No Redundancy:

In the proposed system utmost care would be that no information is repeated anywhere, in storage or otherwise. This would assure economic use of storage space and consistency in the data stored.

5. Immediate retrieval of information:

The main objective of the proposed system is to provide for quick and efficient retrieval of information. Any type of information would be available whenever the user requires it.

6. Immediate storage of information:

In a manual system, there are many problems with storing a large amount of information.

7. Easy to Operate:

The system should be easy to operate and should be such that it can be developed within a short period of time and fit in the limited budget of the user.

8. Economy:

In manual operation, the cost of manpower, the paperwork associated with each customer is quite high when compared to computer-based inventory management systems. Moreover, tracking and monitoring the cost of inputs can be determined efficiently and whether the inventory management is performing inconsistently with the objective of the Annual Maintenance Company.

9. Timeliness:

Timeliness relates more to the transmission of information than to the processing and storing of it. Most manual systems suffer from the problem of timeliness as information cannot be retrieved when it is needed.

10. Throughput:

Presently the manually operated recruiting systems are very slow in producing relevant output and hence there is a need for the development of an Automated Job portal System that can increase the rate of throughput manifold.

11. Control of information processing:

The manually driven Skilled people Hiring System prevalent until now has some redundant control mechanisms like duplication of the same task, unnecessary documentation for internal check, etc.

12. Security:

The manual Skilled people Hiring System takes precious little effort in maintaining the security of the information. Vital information can be leaked with ease and consequent fixing of accountability to the erring staff sometimes becomes difficult.

13. Integration of business areas:

Coordination of business activities through capture and distribution of information is of prime importance and the present setup finds it extremely difficult to operate with the growing complexities and therefore the need is to evolve a computerized system.

HARDWARE & SOFTWARE REQUIREMENTS

THEORETICAL BACKGROUND

- Programming language used: Python
- Miscellaneous Technologies used: HTML,CSS
- Framework used: Django
- Architecture: MVT (Model View Template)
- Database used: SQLite
- Modules used: cv2,django,re,mimetypes,os,email.message,reportlab,platypus, deepface

HARDWARE REQUIREMENTS

- Operating System: Any
- RAM: 4GB or above
- Processor: intel i3/AMD Ryzen 3000 or above
- HDD/SSD: Any

Database Design

Table: auth_user

cid	name	type	notnull	dflt_value	pk
1 0	id	integer	1	NULL	1
2 1	password	varchar(128)	1	NULL	0
3 2	last_login	datetime	0	NULL	0
4 3	is_superuser	bool	1	NULL	0
5 4	username	varchar(150)	1	NULL	0
6 5	last_name	varchar(150)	1	NULL	0
7 6	email	varchar(254)	1	NULL	0
8 7	is_staff	bool	1	NULL	0
9 8	is_active	bool	1	NULL	0
10 9	date_joined	datetime	1	NULL	0
11 10	first_name	varchar(150)	1	NULL	0

Table: accounts_jobseeker

cid	name	type	notnull	dflt_value	pk
1 0	id	integer	1	NULL	1
2 1	linkedin	varchar(200)	0	NULL	0
3 2	phone	varchar(10)	0	NULL	0
4 3	profilepic	varchar(100)	0	NULL	0
5 4	user_id	integer	1	NULL	0
6 5	resume	varchar(100)	0	NULL	0

Table: accounts_employer

cid	name	type	notnull	dflt_value	pk
1 0	id	integer	1	NULL	1
2 1	linkedin	varchar(200)	0	NULL	0
3 2	phone	varchar(10)	0	NULL	0
4 3	user_id	integer	1	NULL	0
5 4	organization	varchar(200)	1	NULL	0
6 5	designation	varchar(200)	1	NULL	0
7 6	profilepic	varchar(100)	0	NULL	0

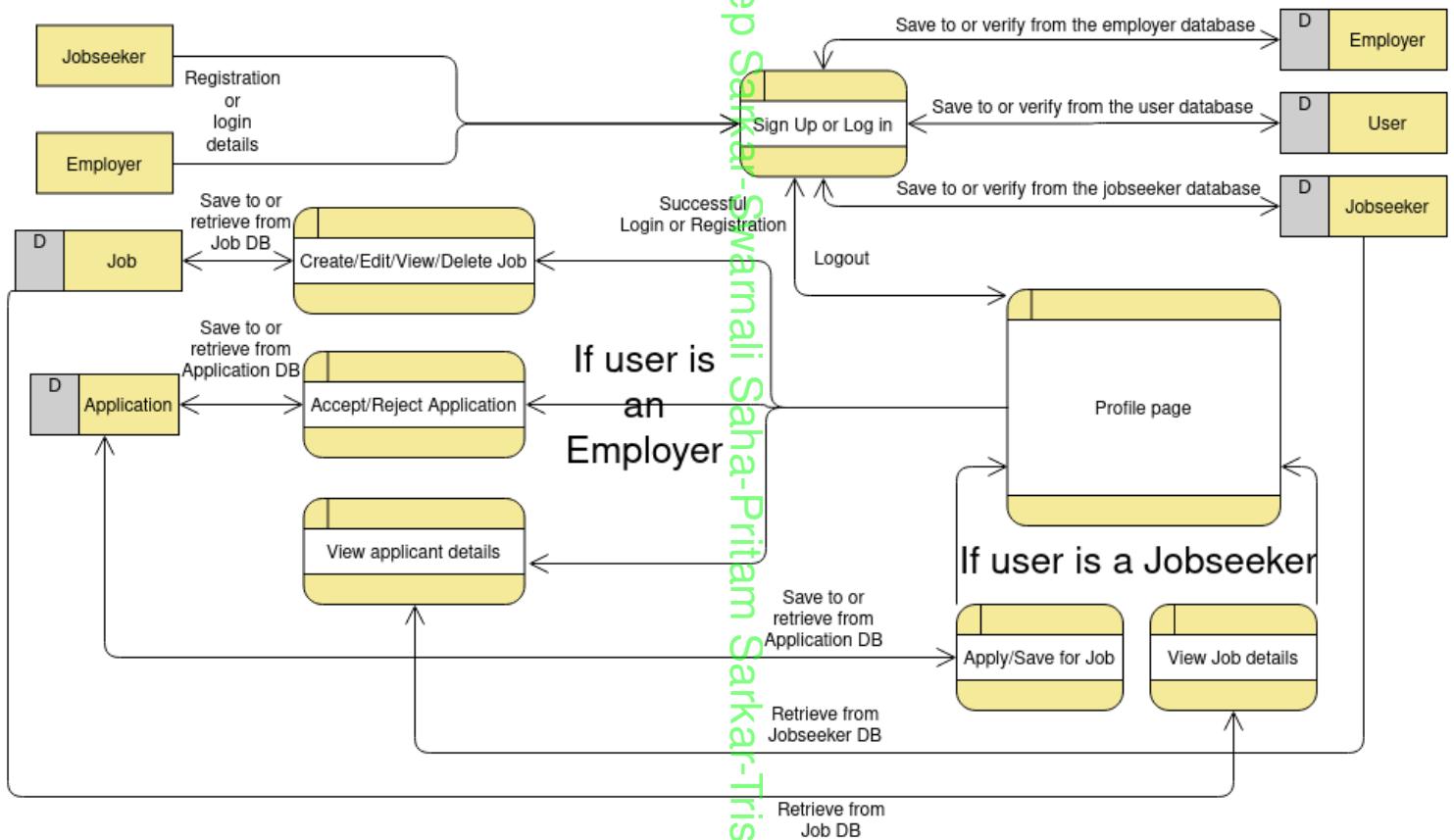
Table: accounts_job

cid	name	type	notnull	dflt_value	pk
1 0	id	integer	1	NULL	1
2 1	title	varchar(200)	1	NULL	0
3 2	location	varchar(100)	1	NULL	0
4 3	employer_id	bigint	1	NULL	0
5 4	duration_per_day	smallint unsigned	1	NULL	0
6 5	job_type	varchar(200)	1	NULL	0
7 6	operation_type	varchar(200)	1	NULL	0
8 7	salary_in_LPA	integer unsigned	1	NULL	0
9 8	eligibility	text	1	NULL	0
10 9	preferred	text	0	NULL	0
11 10	responsibilities	text	1	NULL	0
12 11	brochure	varchar(100)	0	NULL	0

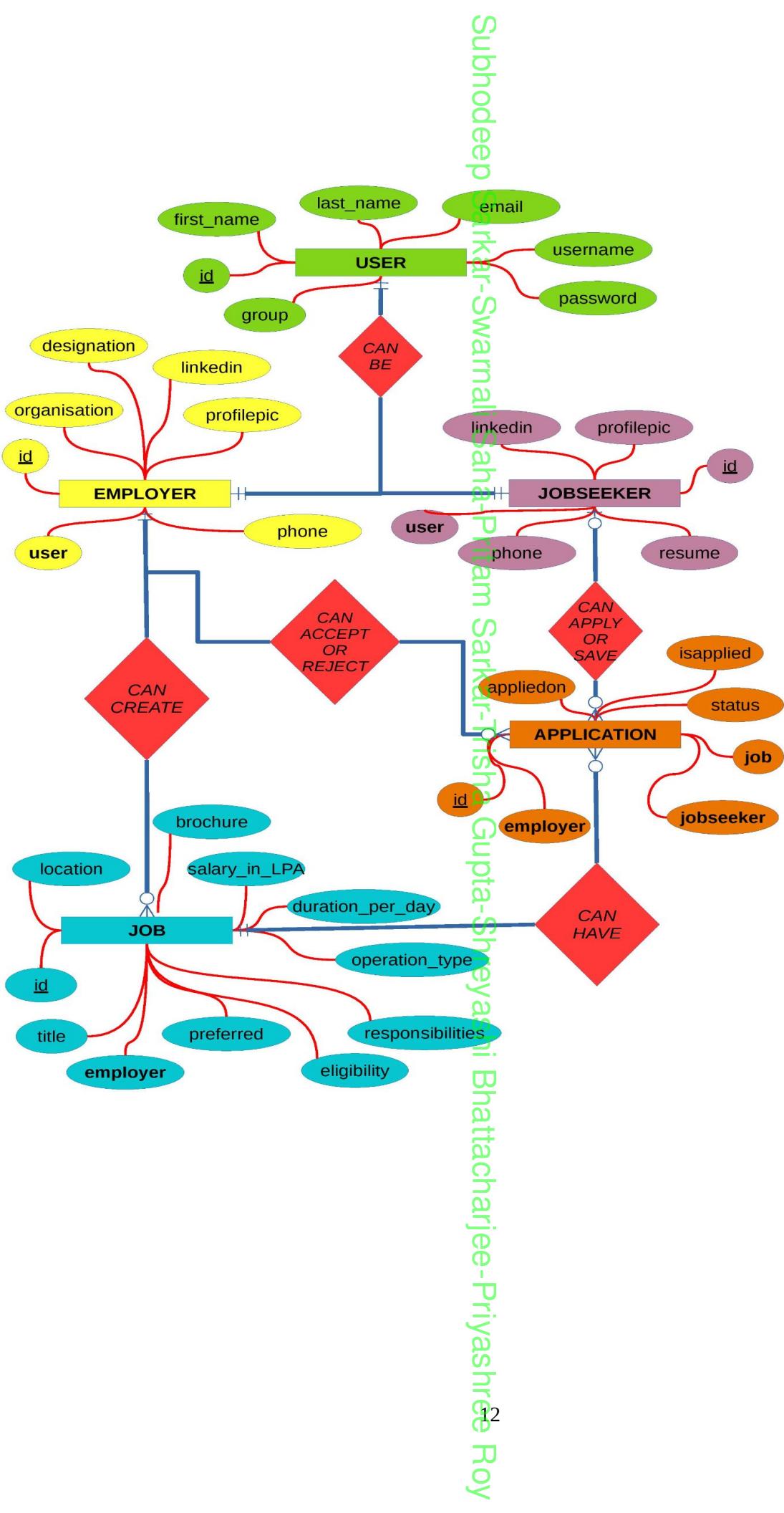
Table: accounts_application

cid	name	type	notnull	dflt_value	pk
1 0	id	integer	1	NULL	
2 1	appliedon	datetime	1	NULL	
3 2	status	varchar(200)	1	NULL	
4 3	employer_id	bigint	1	NULL	
5 4	job_id	bigint	1	NULL	
6 5	jobseeker_id	bigint	1	NULL	
7 6	isapplied	bool	1	NULL	

DATA FLOW DIAGRAM



Subhodeep Sarkar-Swarnali Saha-Pritam Sarkar-Trishna Gupta-Shreyashi Bhattacharjee-Priyashree Roy



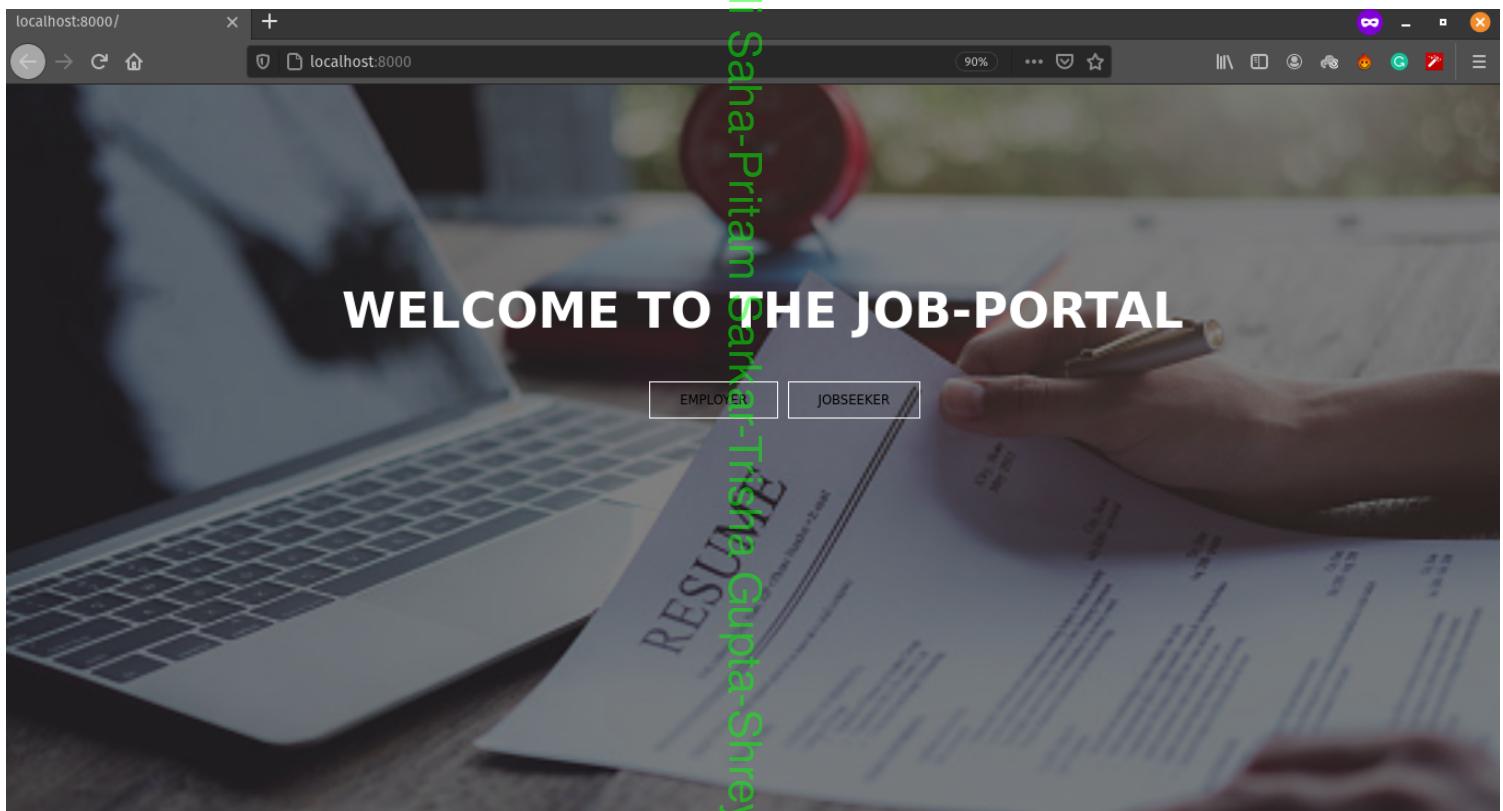
COCOMO

	Organic	Semi-detached	Embedded
Variable A	2.4	3	3.6
Variable B	1.05	1.12	1.2
Variable C	2.5	2.5	2.5
Variable D	0.38	0.35	0.32
KLOC	35	35	35
Effort (In Person / Month)	100.3419850319754 7	160.8708899568642	256.5571685846901 5
Duration (In months)	14.40467387544853 2	14.79813964211141 9	14.75295229032862
Staffing (Recommended)	6.965932439678439	10.87102121263068	17.39022559931124

USER INTERFACE DESIGN

SNAPSHOTS

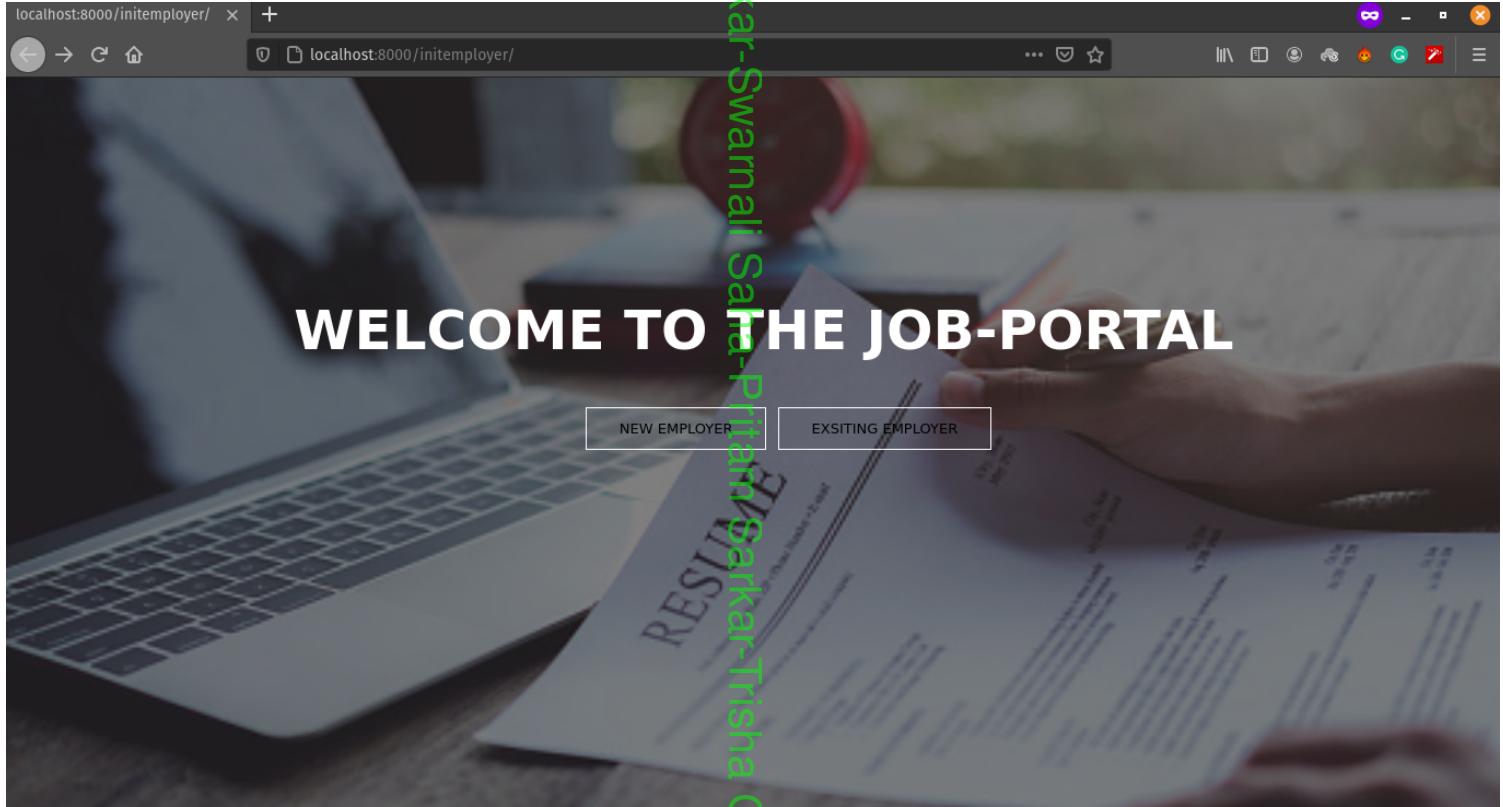
HOME



Welcome Screen, “ WELCOME TO THE JOB-PORTAL ”. Two Button Stating
bt.1: “EMPLOYER”, bt.2: “JOBSEEKER”.

1. EMPLOYER POINT OF VIEW

1. (a)



1_a_initemployer

After clicking the “employer” button on the previous page, this page appears and he/she has to choose whether he/she is an existing or new employer

1. (b)

localhost:8000/createemployer

localhost:8000/createemployer/

Employer Registration

First name:

Last name:

Email address:

Username:

Password:

Password confirmation:

Organization:

Designation:

LinkedIn url:

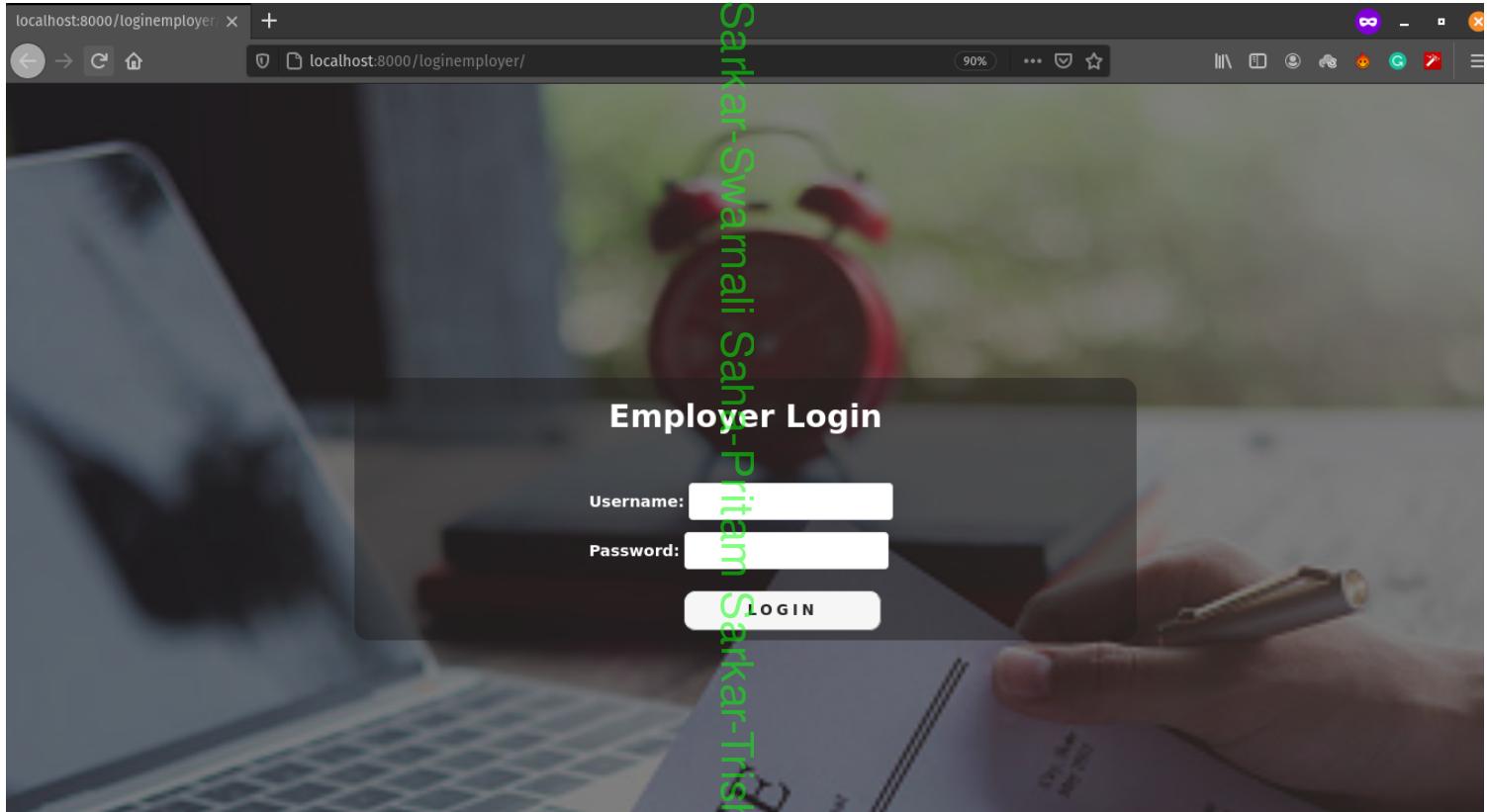
Phone Number:

Profile Picture: Browse... No file selected.

1_b_createemployer

If he/she clicks on the “new employer button” then he/she has to provide all the details to register himself/herself.

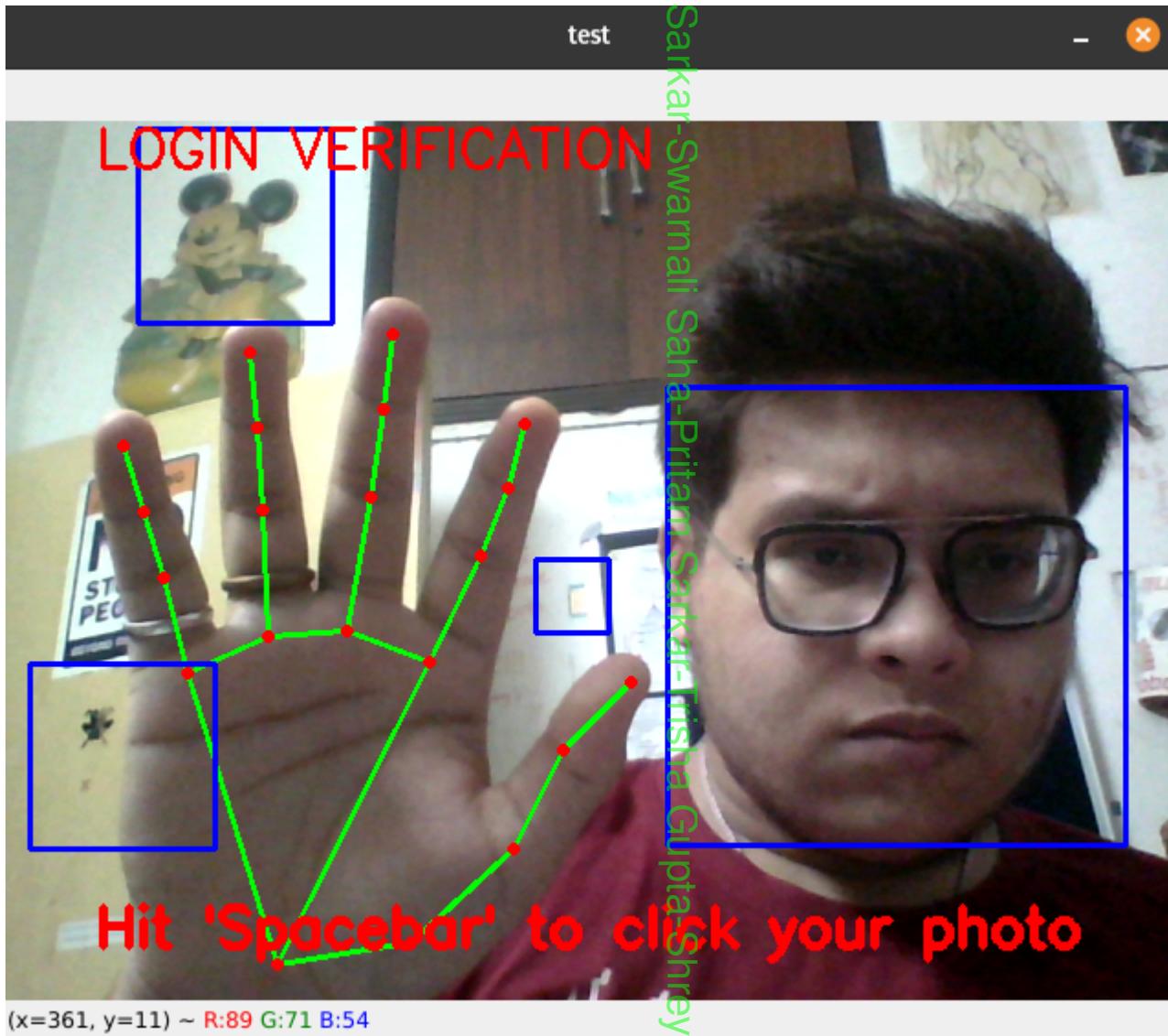
1. (c)



1_c_loginemployer

If he/she clicks the existing employer button then he/she has to provide his/her username and password

1. (c) a.

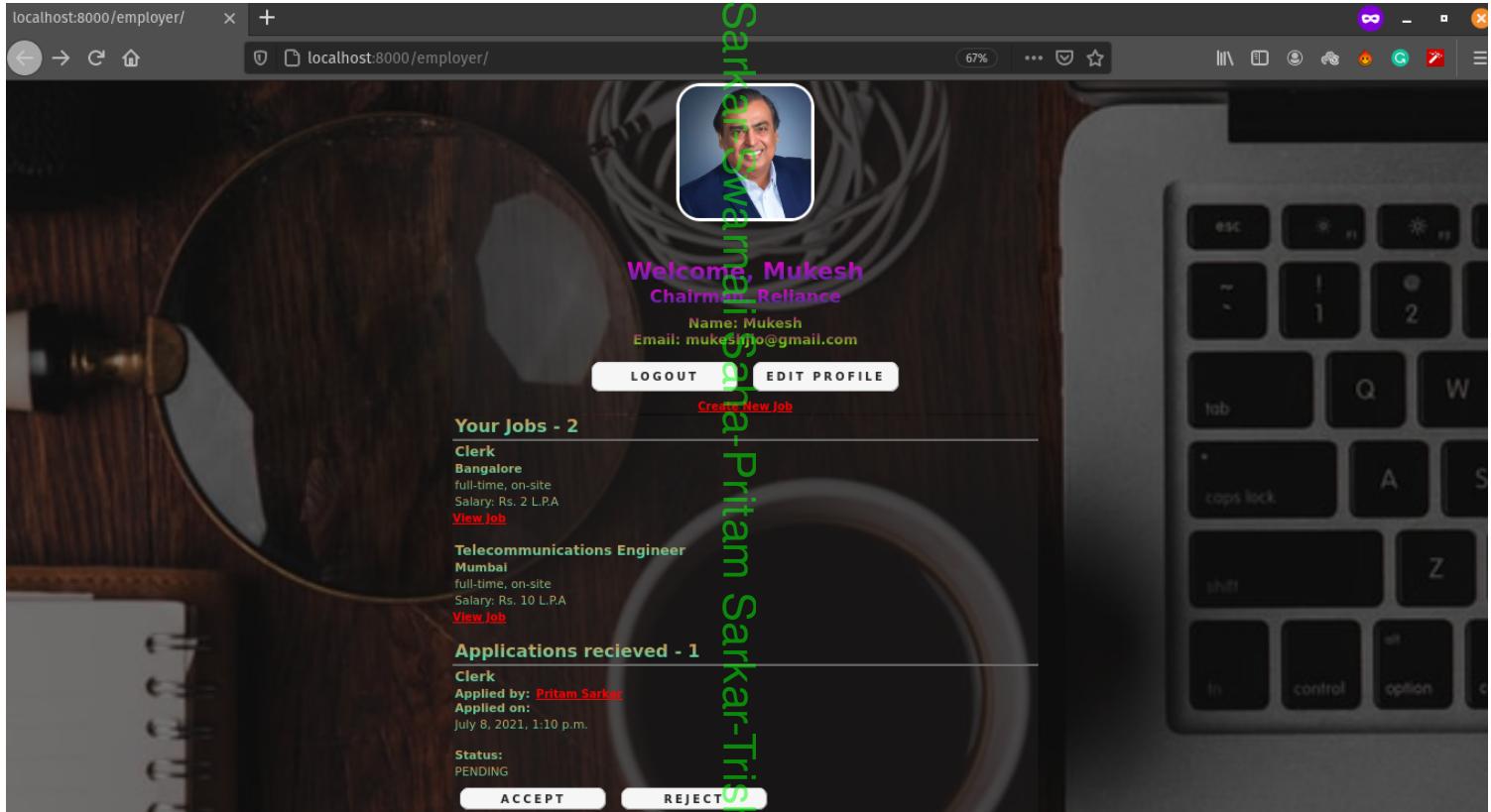


1_c_a_loginverification

If during the account creation or during profile updation, the employer had uploaded his/her profile picture then an additional verification will occur where the employer has to click his/her own photo and that photo will be verified against his/her profile picture, if and only if both of them are same, he/she will gain access. If not however, then the employer will be sent an email for notification.

This step will be skipped if the user does not have a profile picture uploaded.

1. (d)



1_c_b_impersonification

In case the photo verification fails, the employer will receive an email, which will contain the intruder's photo, the public IP address and the location of the intruder.

1. (d) a.

The image shows a screenshot of an email inbox. At the top, there are various icons for navigation and search. The main content area has a dark header with the text "APPLICATION ACCEPTED!" in white. Below this, the recipient's name "subhodeep.sofficial@gmail.com" and the subject "to me" are listed. To the right, the date and time "Wed, Jul 7, 1:31 PM (2 days ago)" are shown, along with standard email controls like star, reply, forward, and more. The body of the email starts with "Dear Pritam," followed by a congratulatory message: "Congratulations! Your application for Marketing Manager at Reliance has been accepted. The employer will contact you soon through email or phone." It ends with "Thanks & Regards, Team JobHunters." At the bottom of the email view, there are two buttons: "Reply" and "Forward".

1_d_employerprofile

Once the login/register is completed he/she will be logged in to his/her employer profile where they can view their jobs and the applications received for those.

1. (d) b.

The screenshot shows an email interface with the following details:

- Subject:** APPLICATION REJECTED!
- To:** subhodeep.sofficial@gmail.com (to me)
- Date:** 2:50 AM (0 minutes ago)
- Message Content:**

Dear Pritam,
Sorry! Your application for Clerk at Reliance has been rejected.
Thanks & Regards,
Team JobHunters.
- Buttons:** Reply, Forward

1_d_b_applicationreject

If the employer rejects the application the jobseeker will receive an email for that.

1.(d).a

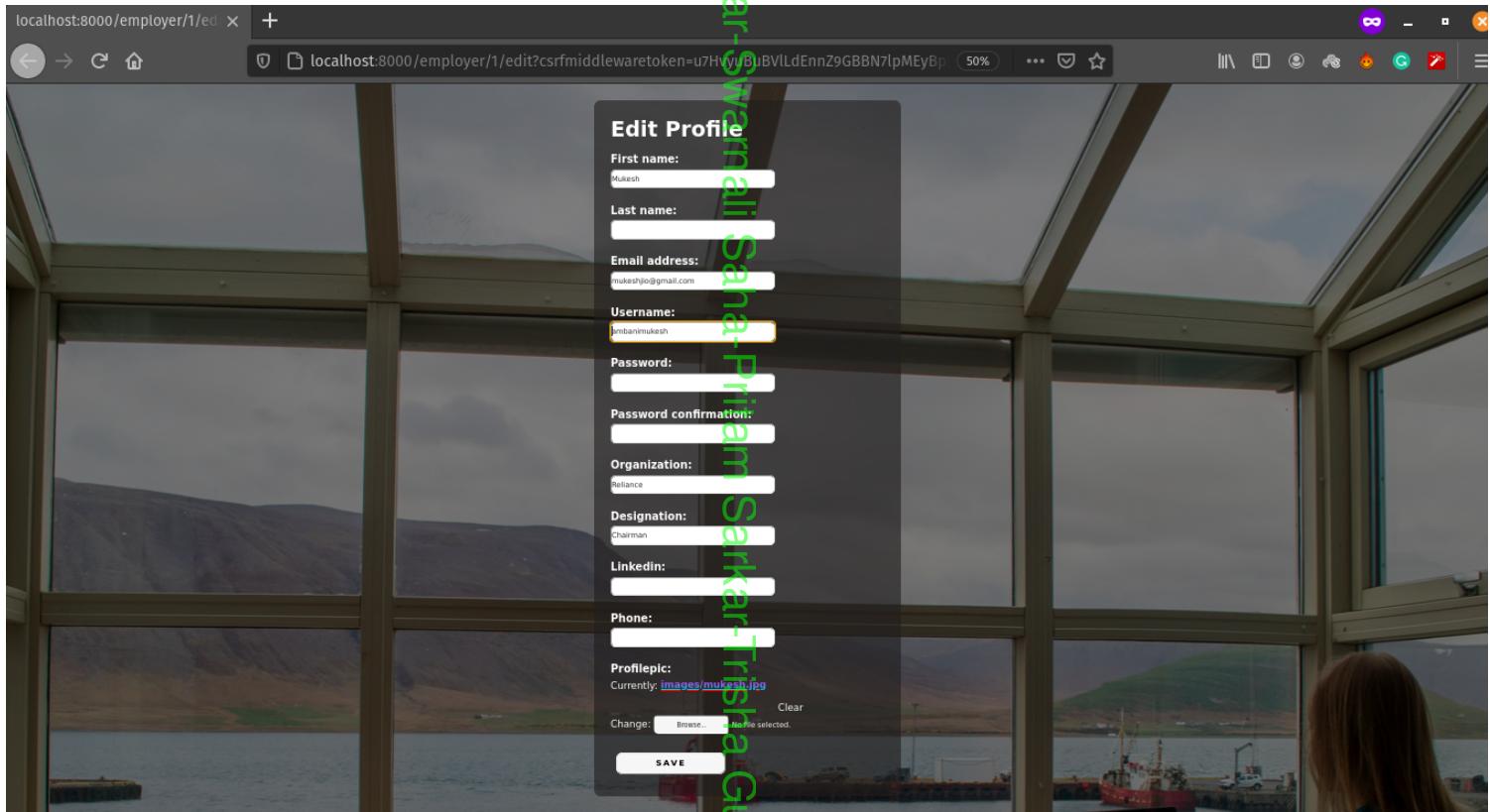
The image shows a screenshot of an email inbox. At the top, there are various icons for managing emails. Below that, the subject line "APPLICATION ACCEPTED!" is displayed in bold capital letters. To the right of the subject, there are buttons for "External" (highlighted in yellow), "Inbox", and a trash bin icon. On the far right, there are icons for printing and viewing attachments, along with a "3 of 220" indicator and navigation arrows.

The email body starts with "subhodeep.sofficial@gmail.com" and "to me". To the right, the date "Wed, Jul 7, 1:31 PM (2 days ago)" and other interaction icons are visible. The message content begins with "Dear Pritam," followed by a congratulatory note: "Congratulations! Your application for Marketing Manager at Reliance has been accepted. The employer will contact you soon through email or phone." Below this, there is a signature: "Thanks & Regards,
Team JobHunters." At the bottom of the email view, there are two buttons: "Reply" and "Forward".

1_d_a_applicationaccept

If the employer accepts the application the jobseeker will receive an email for that.

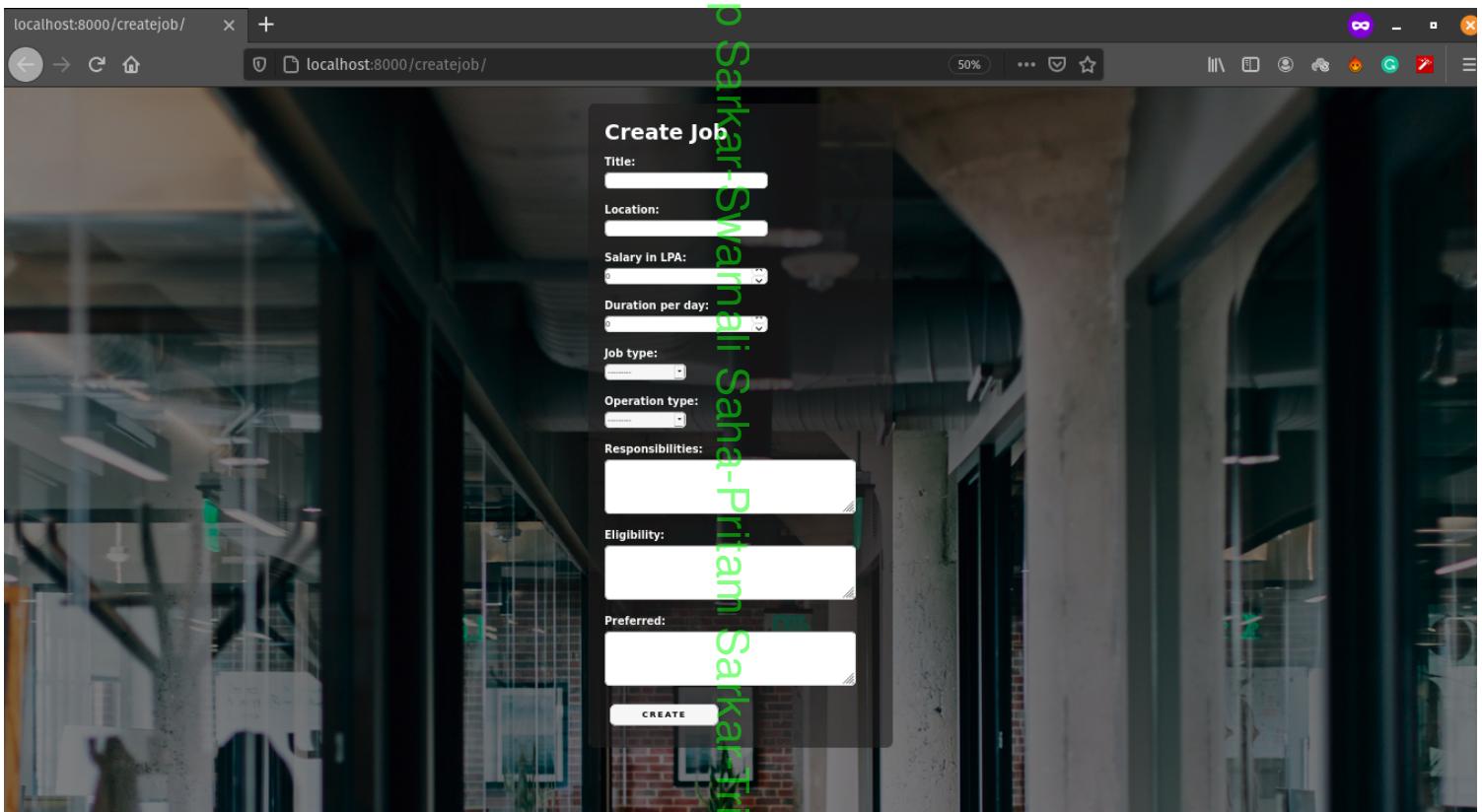
1. (e)



1_e_editemployer

An employer can also update his/her details in his profile, upon clicking the “Edit Profile” button on his/her profile page.

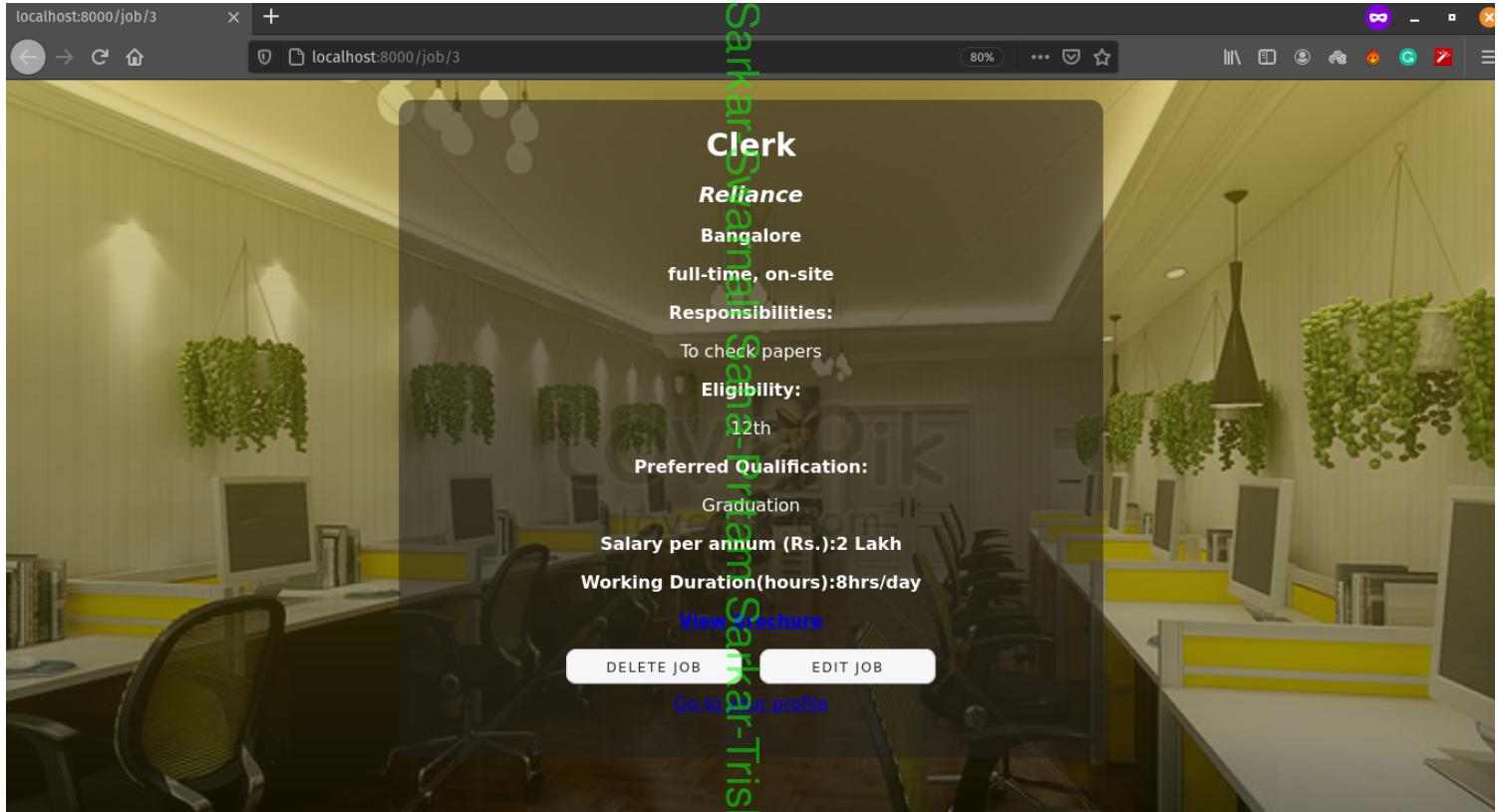
1. (f)



1_f_createjob

An employer can create jobs by clicking the 'Create job' button in his/her profile page. Upon creating the job, a brochure will automatically generate containing all the details.

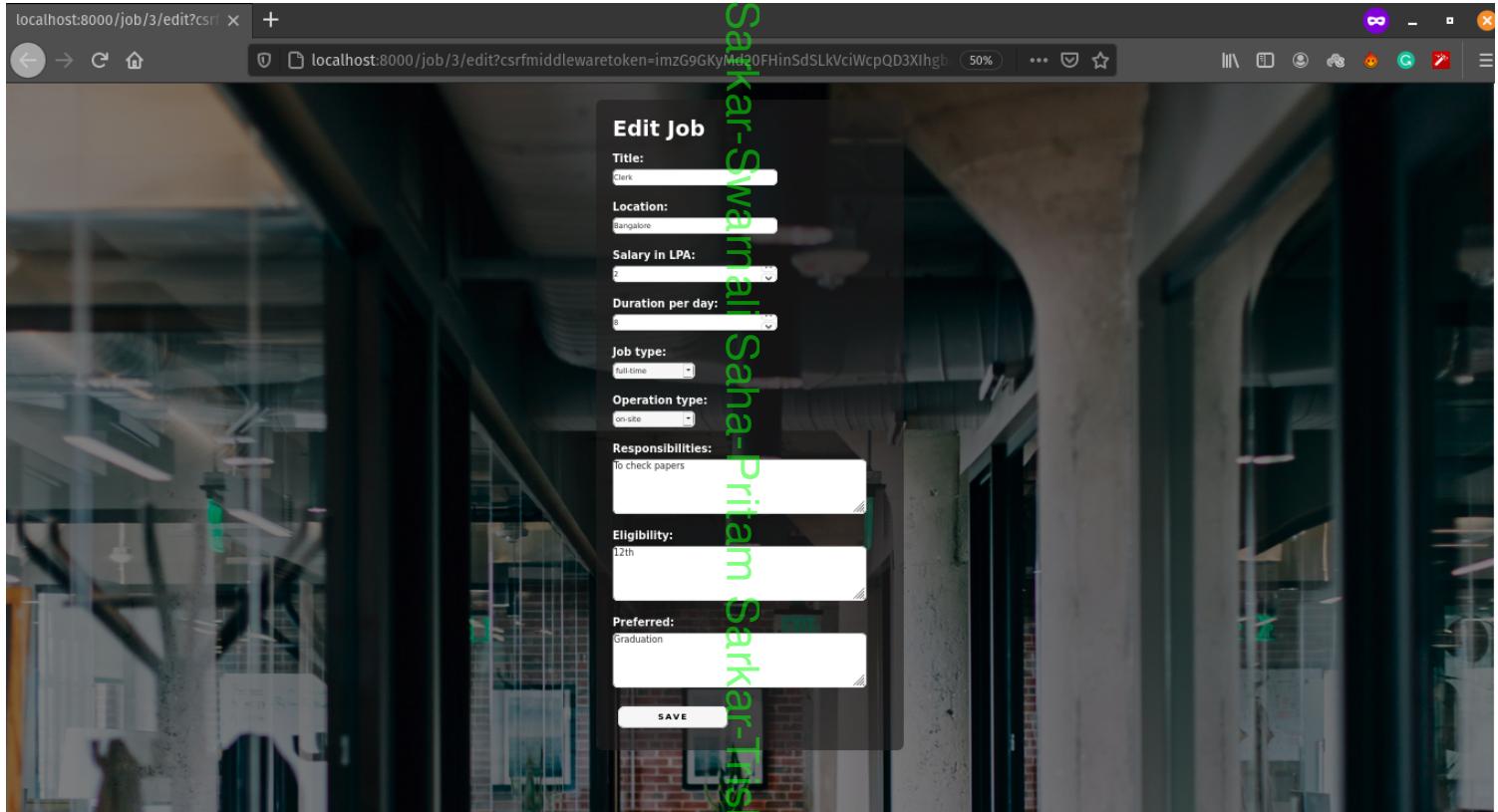
1. (g)



1_g_jobdetailEMP

An employer can view the details of the job if he/she clicks on “View job” link in his/her profile under the “Your jobs” section. From here he/she can either delete the job (which will automatically delete all the associated applications, whether saved or applied) or he can edit the job as well

1. (h)

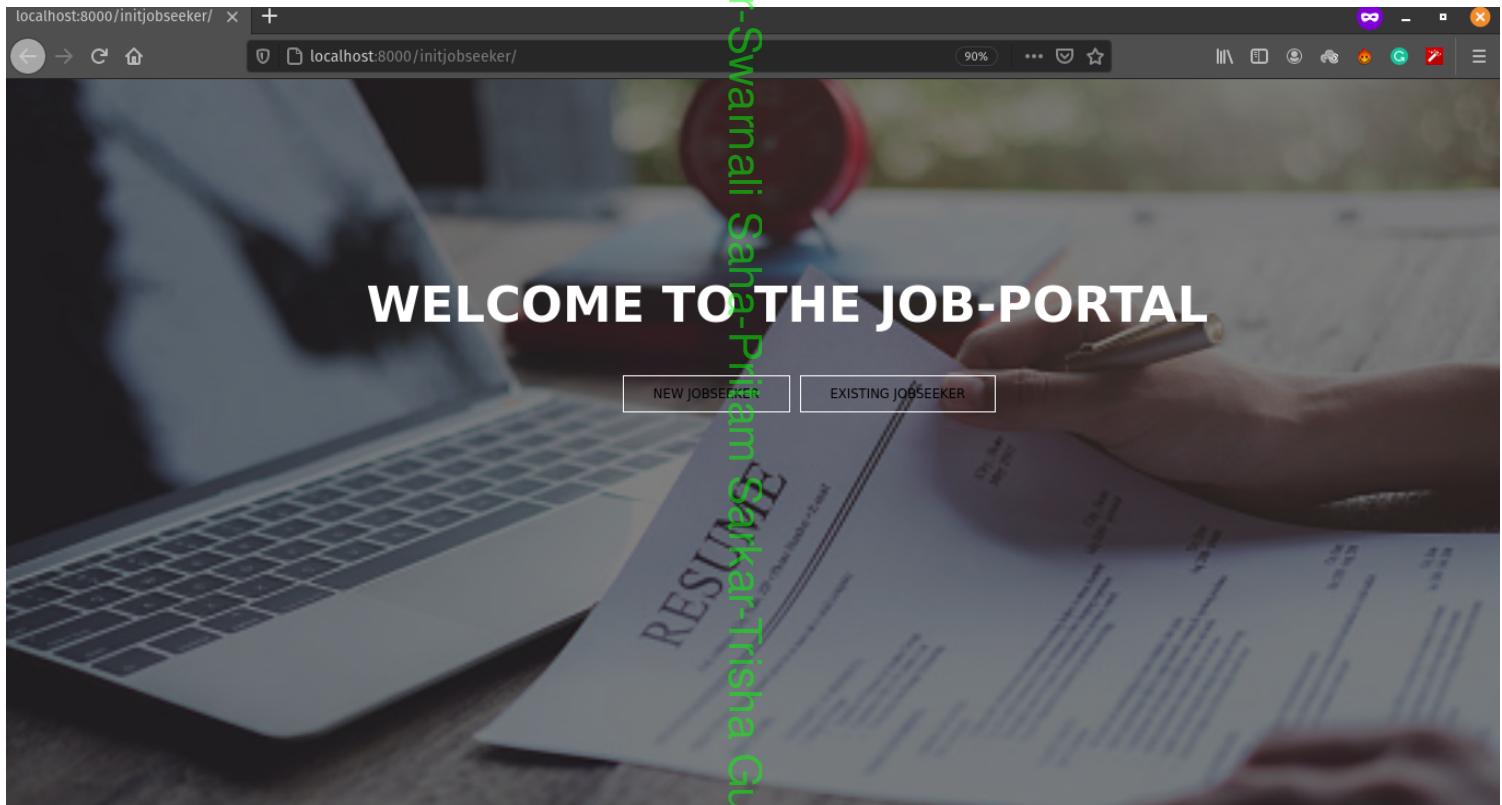


1_h_jobedit

An employer can also edit the job details, and the brochure will be automatically updated.

2. JOBSEEKER POINT OF VIEW

2. (a)

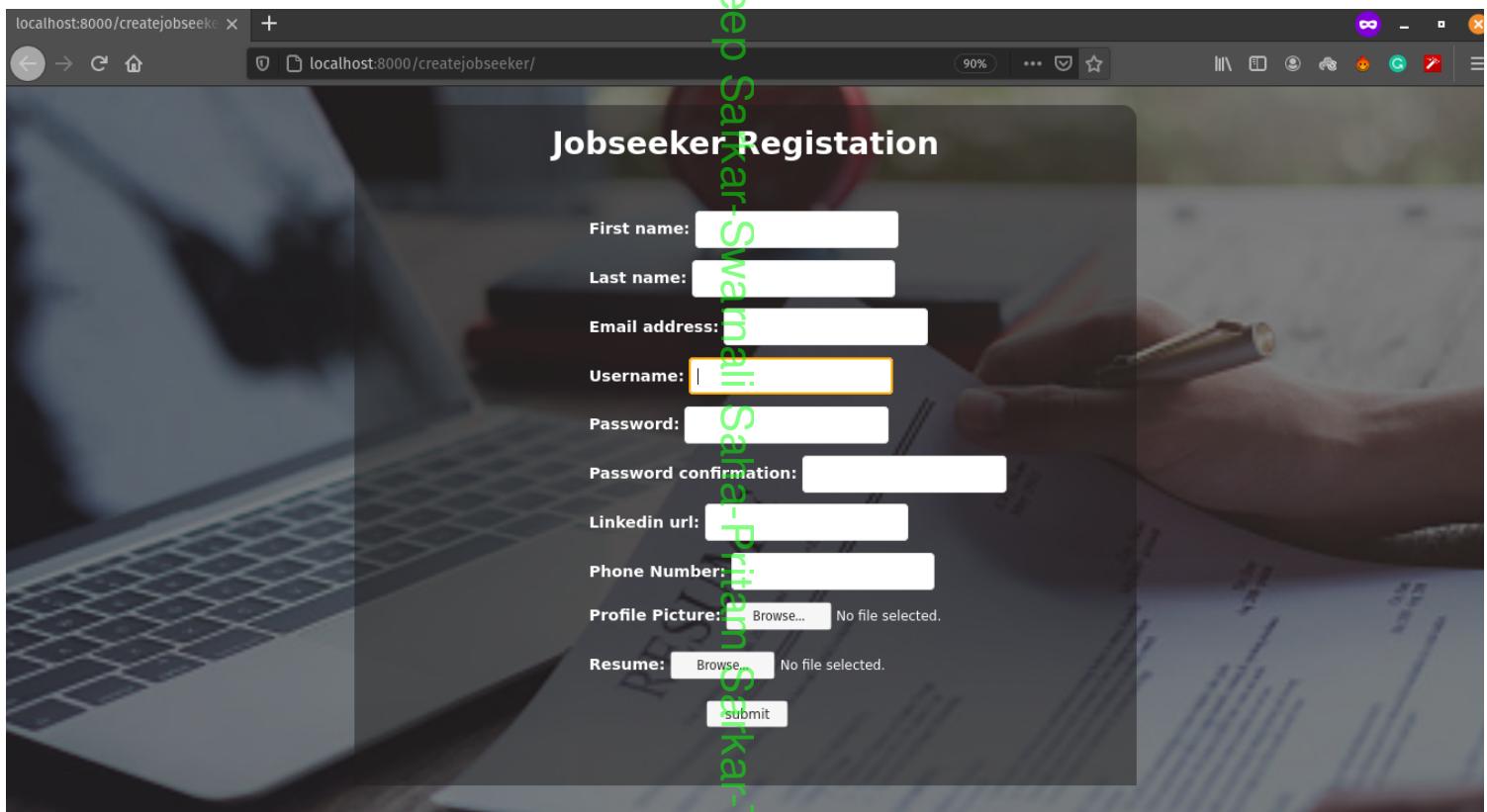


2_a_initjobseeker

After clicking the “jobseeker” button on the previous page, this page appears and he/she has to choose whether he/she is an existing or new jobseeker

2. (b)

Subhodeep Sarkar-Swarnali Saha-Pritam Sarker-Trisha Ghosh-Shreyashi Bhattacharjee-Priyashree Roy



The image shows a screenshot of a web browser displaying a "Jobseeker Registration" form. The form is titled "Jobseeker Registration" and contains the following fields:

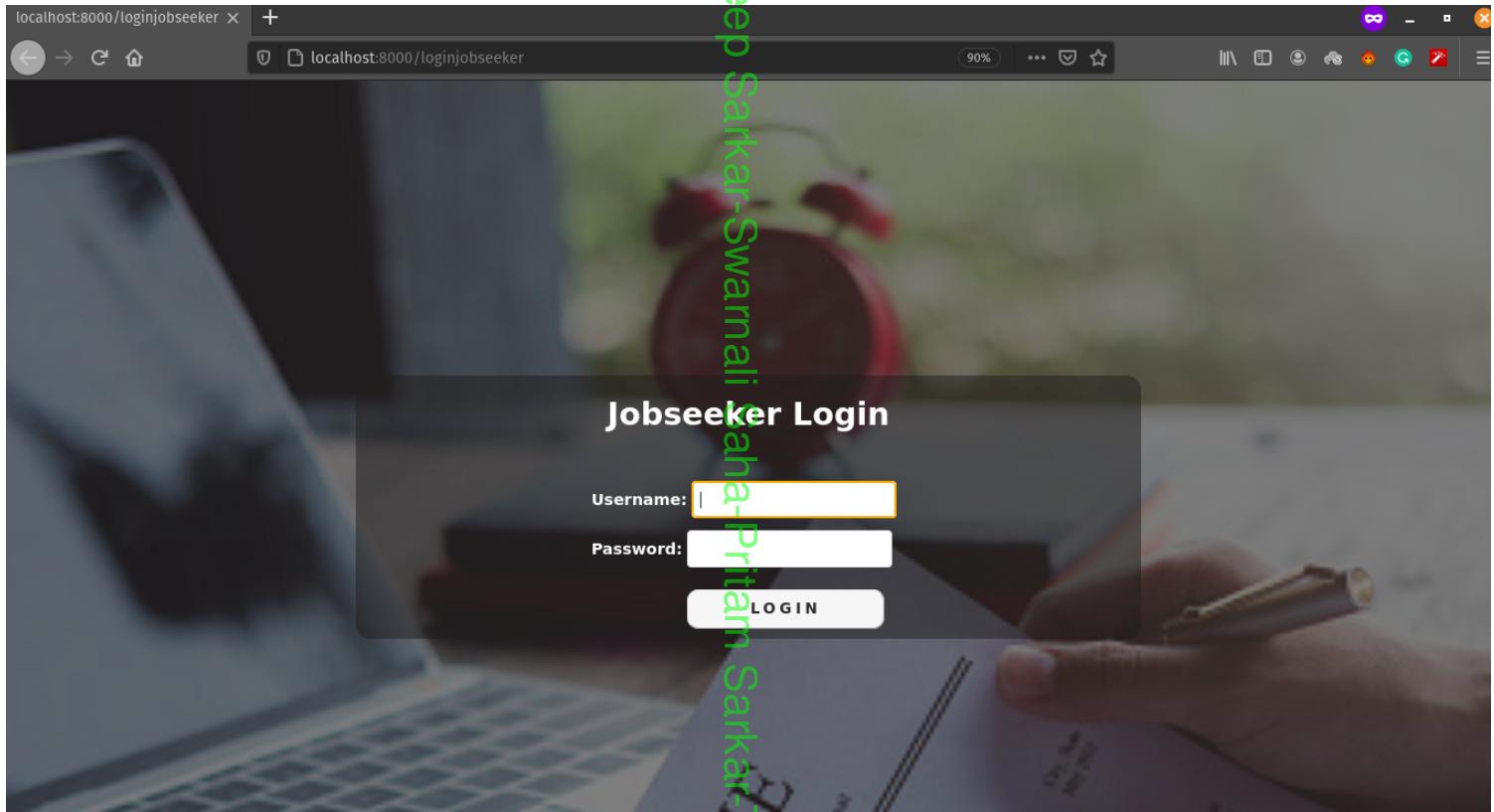
- First name: [Input field]
- Last name: [Input field]
- Email address: [Input field]
- Username: [Input field highlighted with orange border]
- Password: [Input field]
- Password confirmation: [Input field]
- Linkedin url: [Input field]
- Phone Number: [Input field]
- Profile Picture: [Input field] Browse... No file selected.
- Resume: [Input field] Browse... No file selected.

At the bottom right of the form is a "Submit" button.

2_b_createjobseeker

If he/she chooses the option “New Jobseeker”, the “Jobseeker Registration” will open and he/she has to fill up the complete details without any error. If he/she submits any false or wrong data, which comes under violation of primary data validation, the cell itself will reflect the error message.

2. (c)



2_c_loginjobseeker

If he/she choose the option “Existing Jobseeker”, the “Jobseeker Login” will open and he/she have to fill up the username and password. If the user enters the right login credentials, the profile would open successfully and the user can access the profile easily. If the user has uploaded profilepicture then he/she has to go through the photo verification. FIG 1_C_A

2. (c) a.

subhodeep.sofficial@gmail.com
to me ...

2:45 AM (0 minutes ago) ⭐ ⌂ ...

Dear Pritam,

We believe that someone else is trying to access your profile. We have send you the details.
IP Address: 103.17.86.43
Location: Garui, West Bengal, India, PINCODE - 700037

Thanks & Regards,
Team JobHunter.

Hit 'Sponsor' to click your photo.

Reply Forward

2_c_a_impersonification

If he/she chooses the option “Existing Jobseeker”, the “Jobseeker Login” will open and he/she has to fill up the username and password. If he/she tries to login with any wrong data, the security automation system of the Job Portal will capture a picture from the device’s camera and will send the picture along with the IP Address and Location to the original profile owner’s email.

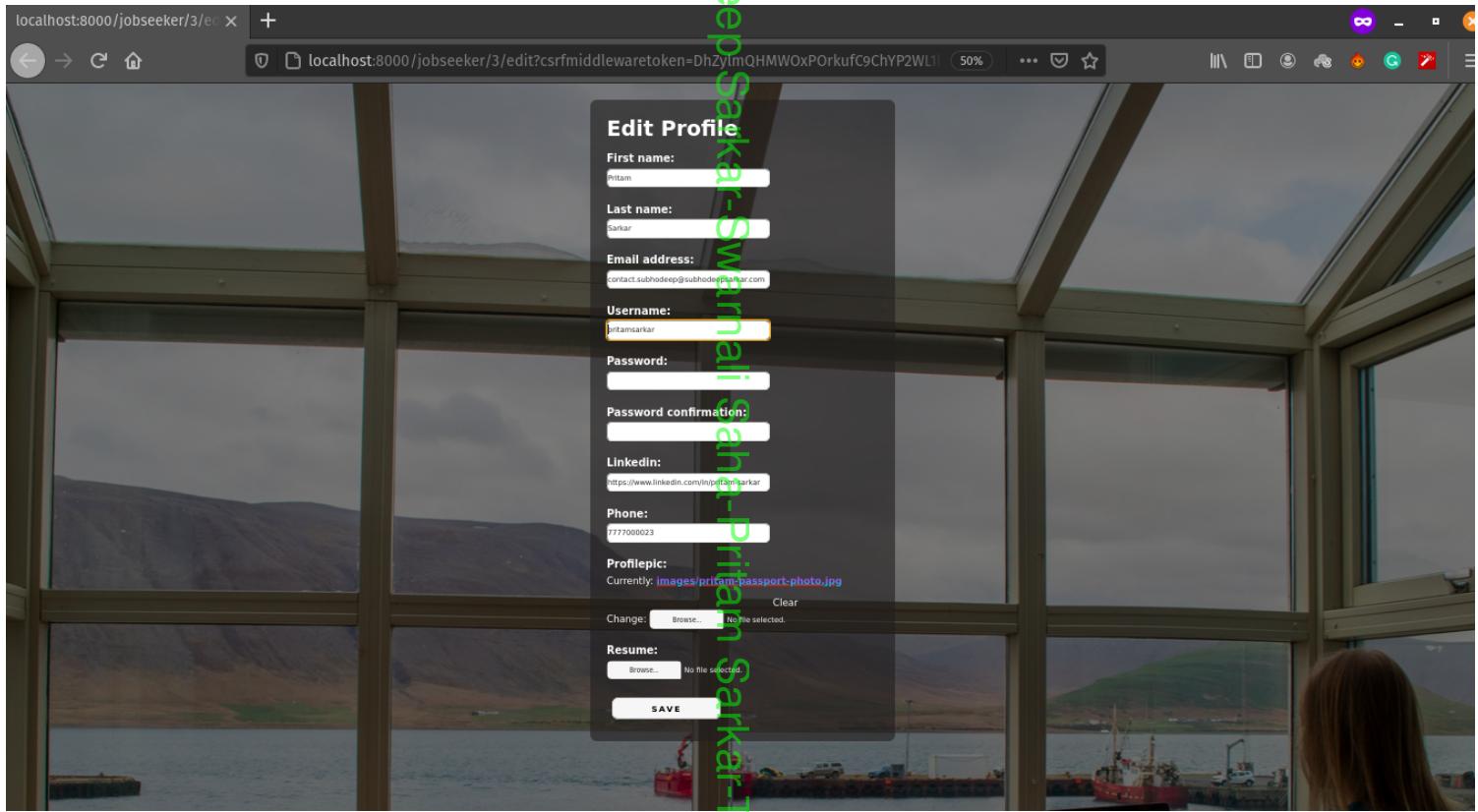
2. (d)



2_d_jobseekerprofile

After the successful login, the “Jobseeker Profile” would open, greeting him/her with their first name. He/she can access all the details about their last activities i.e. “Edit Profile”, “Applied Jobs”, “Explore Jobs”, “Saved Jobs” and “Logout”. They can also select between “Submit Application”, “Delete Application” and “Apply Now”.

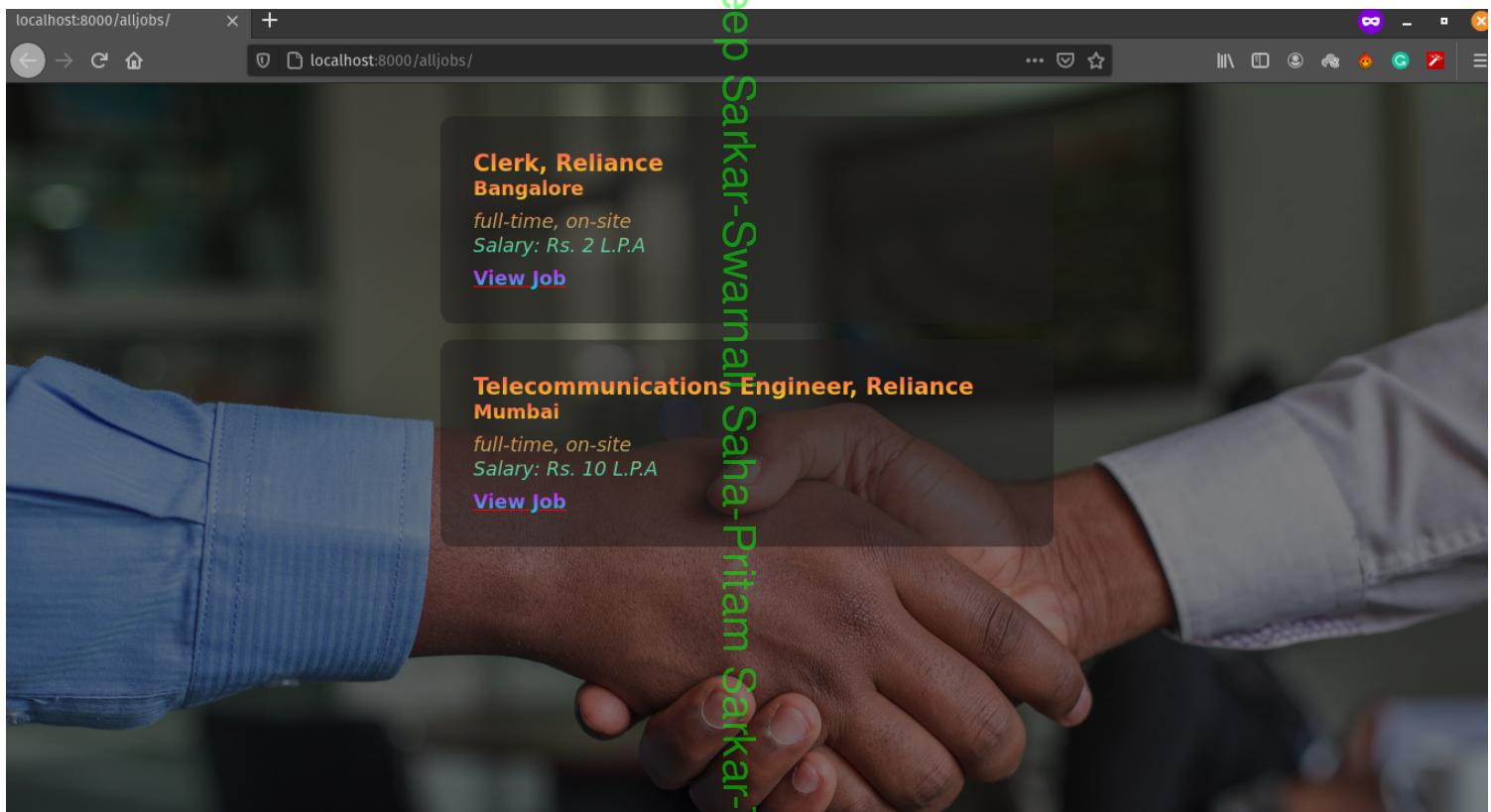
2. (e)



2_e_editjobseeker

If he/she chooses the option “Edit profile”, the “Edit Profile” will open and he/she can edit their profile details or add or remove any new or existing profile details.

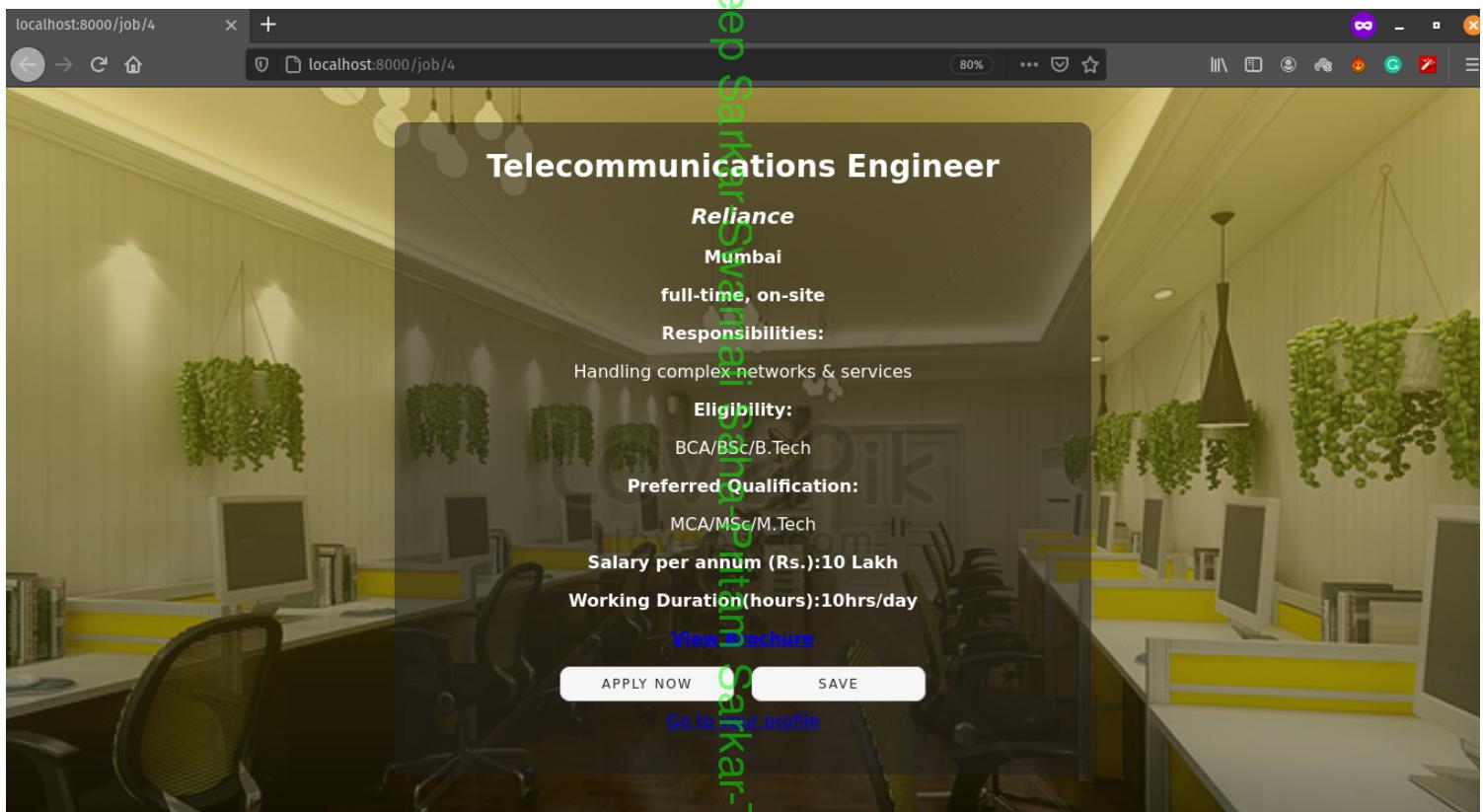
2. (f)



2_f_alljobs

If he/she opens the “Explore Jobs” option, they will find all the Jobs posted by the employer in a full windowed space, where they can explore all of the job postings of the Job Portal.

2. (g)



2_g_jobdetail

If he/she opens the “View job” option, they can see the full job description, location, eligibility and all other essential job details. They can also view the Job-Portal’s auto generated “Brochure”, “Apply Now”, “Save” and “Go to your profile”.

2. (h)

(anonymous) - Telecommunicati... + localhost:8000/media/documents/Telecommunications Engineer2021-07-07-14-01-49.pdf ... ☰ 🔍 ⌂

1 of 1 Automatic Zoom

Telecommunications Engineer, Reliance

Mumbai, full-time, on-site

Duration per day (in hours):
10

Responsibilities:
Handling complex networks

Salary (Lakhs per annum in Rs.):
10

Eligibility:
BCA

Preferred:
MCA

The screenshot shows a job brochure for a 'Telecommunications Engineer' position at Reliance. The brochure is displayed in a web browser window. At the top, it says '(anonymous) - Telecommunicati... + localhost:8000/media/documents/Telecommunications Engineer2021-07-07-14-01-49.pdf ... ☰ 🔍 ⌂'. Below this is the page header '1 of 1 Automatic Zoom'. The main content starts with the title 'Telecommunications Engineer, Reliance' in bold. It then lists the location 'Mumbai, full-time, on-site'. Under 'Duration per day (in hours)', it says '10'. The 'Responsibilities' section includes 'Handling complex networks'. The 'Salary (Lakhs per annum in Rs.)' is listed as '10'. The 'Eligibility' section lists 'BCA'. The 'Preferred' section lists 'MCA'. The background of the brochure is white, and the text is black.

2_h_jobbrochure

Demo of the Job-Portal's auto generated Job Brochure. He/She also can download it in the pdf format if needed.