

# **VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

“JnanaSangama”, Belgaum -590014, Karnataka.



## **WEB APPLICATION DEVELOPMENT PROJECT REPORT 1**

## **CAREER EXPO FOR EMPOWERING WOMEN**

*Submitted by:*

**ADVAITH V (1BM20AI003)**  
**ALAKA BALAJI VEMBAR (1BM20AI008)**  
**ANUSHKA SHIVKUMAR (1BM20AI011)**  
**MANCHIKANTI VARUNSAI (1BM20AI036)**

*Under the Guidance of*

**Dr. Seemanthini K**  
**Assistant Professor,**  
**Department of Machine Learning, BMSCE**

*In Partial Fulfillment For The Award Of The Degree Of*  
**BACHELOR OF ENGINEERING**

*in*

**ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**



**B.M.S. COLLEGE OF ENGINEERING**

(Autonomous Institution under VTU)

**BENGALURU-560019**

**Oct-2021 to Apr-2022**

**B. M. S. College of Engineering,**  
**Bull Temple Road, Bangalore 560019**  
(Affiliated To Visvesvaraya Technological University, Belgaum)  
**Department of Machine Learning**



## CERTIFICATE

This is to certify that the project work entitled “**CAREER EXPO FOR EMPOWERING WOMEN**” has been carried out by **ADVAITH V (1BM20AI003)**, **ALAKA BALAJI VEMBAR (1BM20AI008)**, **ANUSHKA SHIVKUMAR (1BM20AI011)**, and **MANCHIKANTI VARUNSAI (1BM20AI036)** who are bonafide students of **B. M. S. College of Engineering**. It is in partial fulfillment for the award of **Bachelor of Engineering in Artificial Intelligence and Machine Learning** of the Visvesvaraya Technological University, Belgaum during the year 2021-2022. The project report has been approved as it satisfies the academic requirements in respect of **Web Application Development Project Work (20AM3PWWAD)** prescribed for the said degree.

**Signature of the Guide**

Dr. Seemanthini K  
Assistant Professor  
Dept. of Machine Learning  
BMSCE, Bengaluru

**Signature of the HOD**

Dr. Gowrishankar  
Professor & Head  
Dept. of Machine Learning  
BMSCE, Bengaluru

**External Viva**

**Name of the Examiners**

1. \_\_\_\_\_
2. \_\_\_\_\_

**Signature with date**

\_\_\_\_\_  
\_\_\_\_\_

**B.M.S. COLLEGE OF ENGINEERING**  
**DEPARTMENT OF MACHINE LEARNING**



**DECLARATION**

We, **ADVAITH V (1BM20AI003)**, **ALAKA BALAJI VEMBAR (1BM20AI008)**, **ANUSHKA SHIVKUMAR (1BM20AI011)**, and **MANCHIKANTI VARUNSAI (1BM20AI036)**, students of 3<sup>rd</sup> Semester, Department of Machine Learning, B. M. S. College of Engineering, Bangalore, hereby declare that this Web Application Development Project entitled "CAREER EXPO FOR EMPOWERING WOMEN" has been carried out by us under the guidance of Dr. Seemanthini K, Assistant Professor, Department of Machine Learning, B. M. S. College of Engineering, Bangalore during the academic semester Oct-2021-Apr-2022.

We also declare that to the best of our knowledge and belief, the development reported here is not from part of any other report by any other students.

**Name of the students**

**Signature**

**ADVAITH V (1BM20AI003)**  
**ALAKA BALAJI VEMBAR (1BM20AI008)**  
**ANUSHKA SHIVKUMAR (1BM20AI011)**  
**MANCHIKANTI VARUNSAI (1BM20AI036)**

# PROJECT COLLABORATION LETTER FROM AVALA HEJJE

“Avala Hejje”



October 20, 2021

To,  
Members of the Project Committee  
Department of Machine Learning  
B.M.S College of Engineering

On behalf of Avala Hejje, I am writing to note that the following students of 3rd semester from the Department of Machine Learning, B.M.S College of Engineering have been granted permission to create a suitable Web Application Development Project for an event - a Job Fair for Women.

- |                         |              |
|-------------------------|--------------|
| 1. Advait V             | - 1BM20AI003 |
| 2. Alaka Balaji Vembar  | - 1BM20AI008 |
| 3. Anushka Shivkumar    | - 1BM20AI011 |
| 4. Manchikanti Varunsai | - 1BM20AI036 |

Our organization is planning to conduct the job fair for women during April 2022. The job fair is intended to empower women job seekers by connecting them to women-friendly employers.

We are happy to be associated with the project and will continue to give the necessary guidance.

Yours sincerely,

**SHANTHALA DAMLE**  
Founder, Avalahejje  
8867747236

# ACKNOWLEDGEMENT

I/We express my/our profound gratitude to **Dr. S Muralidhara, Principal, BMSCE, Bangalore**, for providing the necessary facilities and an ambient environment to work.

I/We am/are grateful to **Dr.Gowrishankar , Professor and Head of the Department, Department of Machine Learning, Bangalore**, for his valuable suggestions and advice throughout my/our work period.

I would like to express my gratitude and sincere thanks to our guide **Dr.Seemanthini K, Assistant Professor, Department of Machine Learning, Bangalore**, for her keen interest and encouragement in the project whose guidance made the project into reality.

I/We would like to thank all the staff members of **Department of Machine Learning** for their support and encouragement during the course of this project.

Definitely most, I/We would like to thank my/our parents, all my family members and friends, without whose help and encouragement this project would have been impossible.

# ABSTRACT

This project ‘Career Expo for Empowering Women’ deals with web application development for a career expo which “Avala Hejje” is planning to conduct in the month of April 2022. The career expo is intended to empower women job seekers by connecting them to women-friendly employers. Using this website, the women job seekers can get information about the event and can register for the career expo, if interested.

The page opens with a pop-up of poster specifying the details of the Career Expo. Upon pressing the close button, the user is presented with a slide show of pictures of the past events conducted by the organization. The page has a frozen navigation bar for easy access to other sections of the web page. The home page also has a section which answers Frequently Asked Questions, with the answers shown in a drop-down manner. The Vision and Mission section displays a click-to-play video. The frozen bar navigates to the ‘Contact Us’ section which provides the location of the office along with the e-mail and phone number. The website has links to their social media pages and also has a back-to-top button for the ease of use of the website. The most important part of the project is the registration form for the interested candidates to enter their details in order to attend the job fair. All the fields of the registration form like the email address, phone number, pin code, file type and size etc. are validated.

The entire website is built to be attractive and responsive so that the interested candidates find the navigation within the website easy and hassle-free. The website acts as an intermediate platform for the women-friendly employers and women job-seekers to get in touch. The aim of building the website is to provide a free and useful service in order to give back to society and contribute to making the world a better place to be in.

# Table of Contents

Chapter No.	Title	Page No.
	Acknowledgement	i
	Abstract	ii
	Table of Contents	iii
1	Introduction	1
2	Tools used	2
3	Website Layout	3
4	Functionalities	4
5	Database	18
6	Conclusion	20
7	Source Code Link	21
8	References	22

# **1. Introduction**

## **1.1. Problem Definition**

Around the world, finding a job is much tougher for women than it is for men. Feminist movements around the world, have encouraged corporations to involve women in their workspace. Some women have managed to pioneer in their chosen segment, while there are others who are still struggling to make it.

A Career Expo for women is a very good solution to this issue as it acts as a platform for women-friendly companies to exhibit their job postings and offerings. Some women fail to utilize this opportunity due to a lack of proper information about such events. This can be enhanced by reaching out to more people via the internet.

## **1.2. Objectives**

The purpose of executing this project is to help women get connected to women-friendly organizations and find a job which is most suitable to them. We aim to empower, and promote the empowerment of women to make the country and the world progress.

The ability to work, earn money and practice a profession is not confined to any particular gender. Our website intends to indirectly hone the skills of the employed women to ensure better job security and income in the future.

We seek to link women to women-friendly employers based on their preference of the distance between the office and their home so that the employees need not waste time or money in commutation.

The website presents a user-friendly, professional and responsive website that also aims to provide information about the Career Expo.



## **2. Tools Used**

### **2.1. Web development tools utilized**

HyperText Markup Language [HTML]

Cascading Style Sheets [CSS]

JavaScript

Asynchronous Javascript and XML [AJAX]

Bootstrap

jQuery

Node.js

Express

MongoDB

Mongoose

Multer

Pug

### **2.2. Application Programming Interfaces (API's) used**

Google Fonts API

Google Maps Geolocation API

jQuery API

Close Button API

Social media Favicon

Rest API

## 3. Website Layout

### 3.1. System Architecture

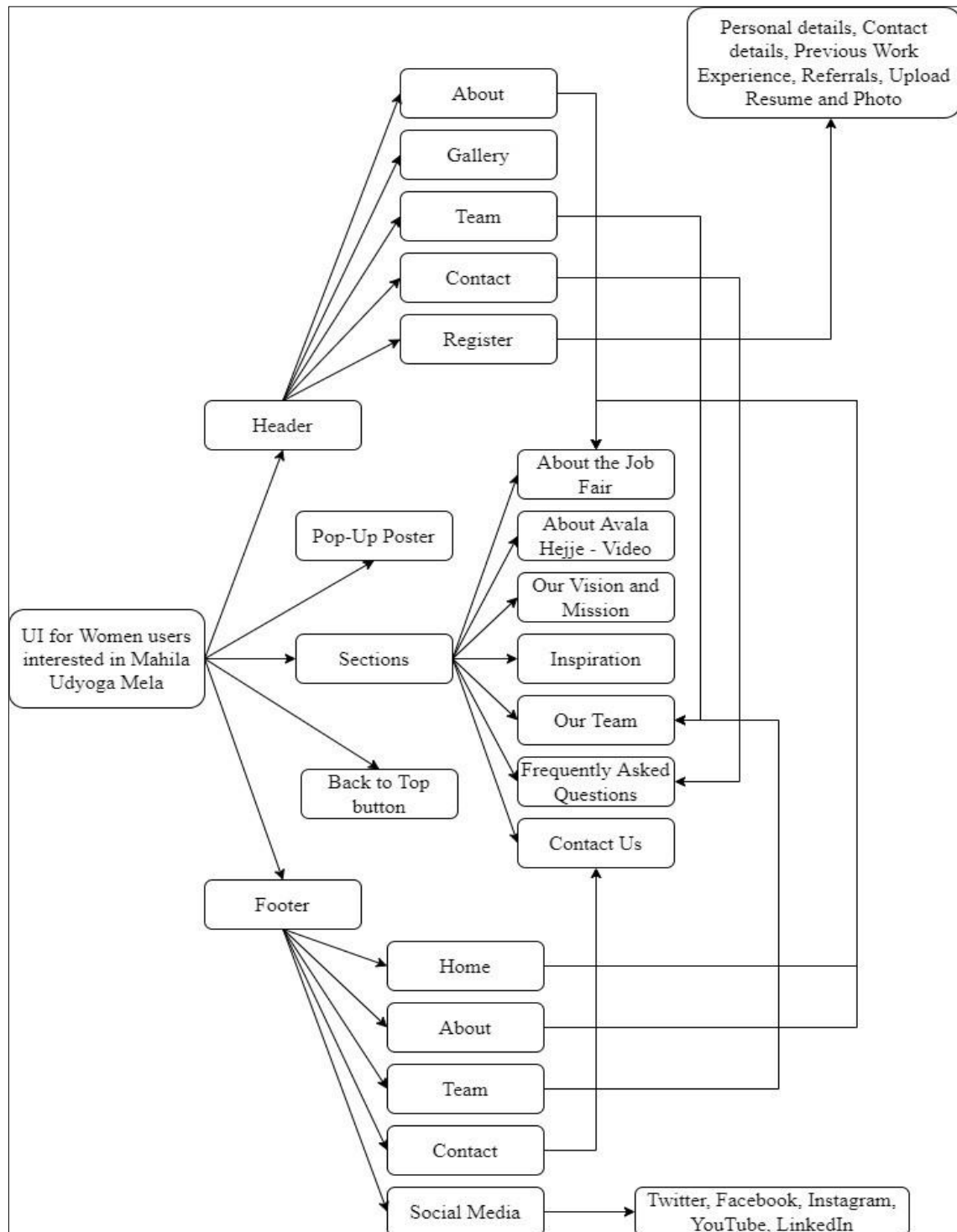


Figure 1: Layout of the Website for Avala Hejje

## 4. Functionalities

### 4.1. Features and Functionalities of the website

#### 4.1.1. Poster pop-up

The website first opens with a pop-up poster of the Career Expo. This poster gives a gist of all the information about the event. With so many different messages on the website, this pop-up gives the user space to focus on one call to action. The poster demands attention and makes it easy for the user to focus on one message which can give them valuable information. There is one poster each in English and Kannada.



Figure 2: Poster pop-up of Mahila Udyoga Mela

After a few seconds, the website changes from the white background to the actual content of the website. The users can click on the 'Close' button to close the popup poster and move to view the other information on the site.



Figure 3: Homepage and Close Button of pop-up

#### 4.1.2. Homepage

The background colors chosen for the website are synonymous with the logo of Avala Hejje. Avala Hejje is the Kannada phrase that translates to 'Her Steps' and this can be seen evidently in the logo. Also, the background remains consistent throughout the site. A slight hint of the colour purple at various places across the website symbolizes Women Empowerment.

At the top of the site, a header has been provided which acts as a navigator to the whole site. It contains the logo of the organization on the left. The name of the event - Mahila Udyoga Mela written in both English and Kannada has been placed at the center of the header. Towards the right, all the sections available on the website - About, Gallery, Team, Contact, and Register have been mentioned. With one-click, the user can navigate to the desired section. The header is a fixed entity and doesn't move even while the user scrolls down.

Below the header, the website provides a slideshow of the images of the latest events being conducted by the organization. Animation has been added to the images and every image moves to the left after five seconds displaying the next image. After all the images have been displayed, it returns to the first one and starts over.



Figure 4: Homepage of the website with image slideshow

### 4.1.3. About Section

When the user clicks on the About section on the header or manually scrolls down, the next part of the site - '**About the Job Fair**' is visible. This section provides information about the career expo and how a women candidate will be benefitted if she registers for the event. We have added some animation to the box, such that it zooms in when the user hovers the cursor over the box. This was done to make the site more lively and to seek more attention.

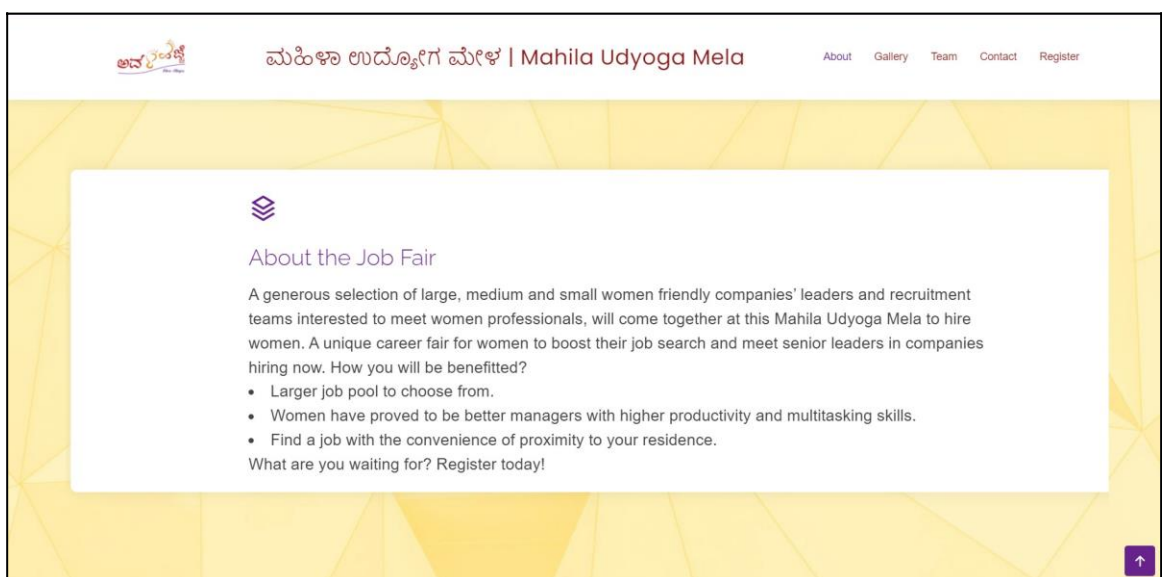


Figure 5: Information about the job fair

#### 4.1.4. Our Vision and Mission Section

When scrolled down, the next visible section is - ‘**Our Vision and Mission**’. This section briefs about the organization’s Vision and Mission. A video about Avala Hejje’s previous work and motto has also been added towards the left. When the user clicks on the play button of the embedded video, it redirects to a new tab to play the video in full screen. In this video, the Founder-CEO can also be seen speaking about social enterprise’s motto that when women step forward, society takes a leap.



Figure 6: Press to play video feature

#### 4.1.5. Inspiration Section

The next part aims to give women job seekers some **Inspiration**. A few quotes from famous women achievers like Saina Nehwal, Indra Nooyi, and many more have been added here to give women a new perspective about jobs and to emphasize the fact that they too can find a suitable career by registering for the expo.



Figure 7: Interactive slideshow quoting inspirational women (i)

We have added a slideshow such that the quotations keep changing after a certain time-frame. The user can also click on the dots manually to slide horizontally to view more quotes by notable women achievers.



Figure 8: Interactive slideshow quoting inspirational women (ii)

#### 4.1.6. Our Team Section

When clicked on the Team section in the header, the site scrolls down to the **Our Team** section. This section provides information about the team behind Avala Hejje. Photos and designation of all the team members have been added.



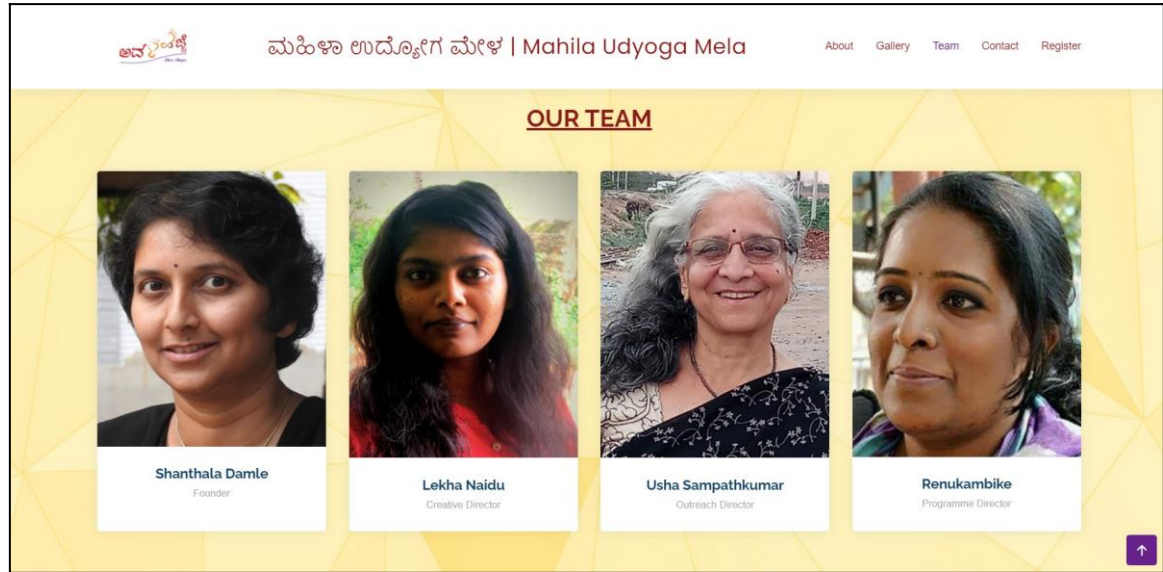


Figure 9: Profiles of the team of women of Avala Hejje

#### 4.1.7. Frequently Asked Questions Section

The next section answers all the Frequently Asked Questions (FAQ). We have added a few frequently asked questions by job seekers. The users can click on the desired question and the answer appears in a drop-down fashion below the question.

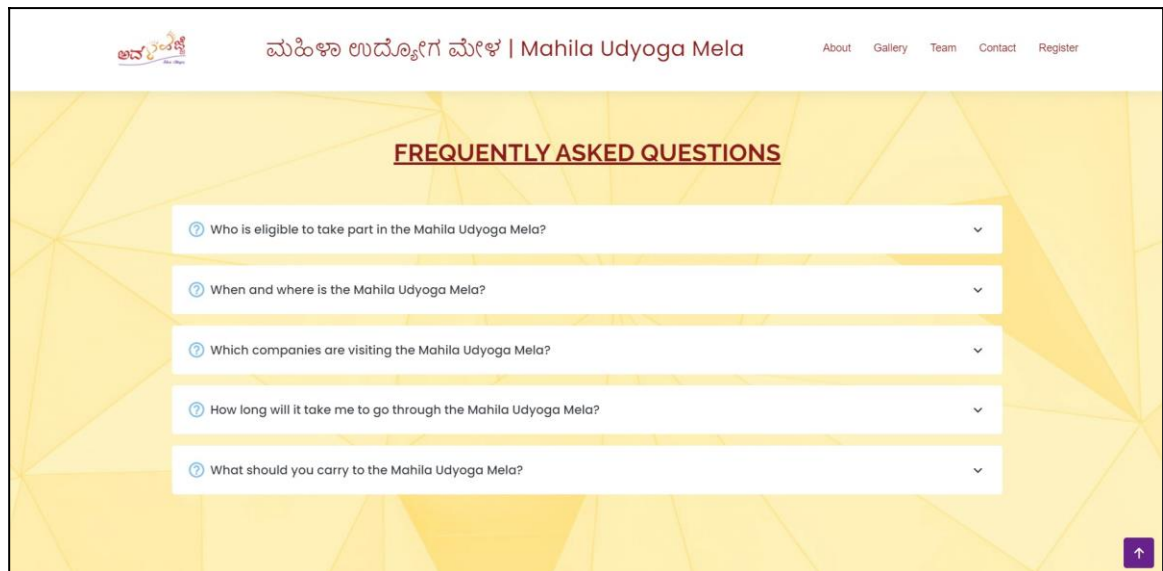


Figure 10: Frequently asked questions



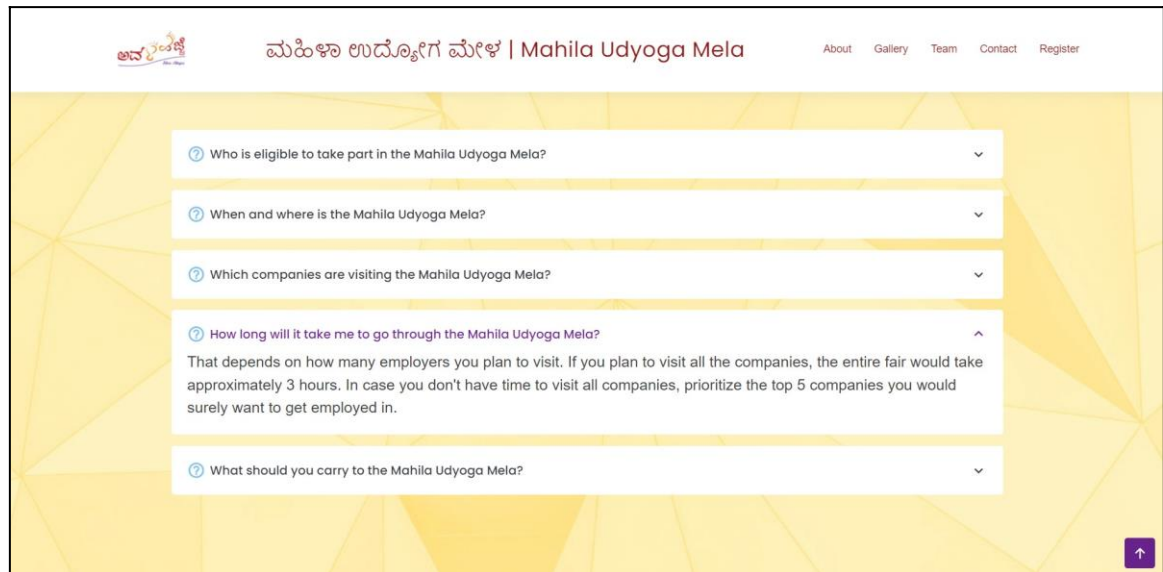


Figure 11: Frequently asked questions with dropdown view of answers

#### 4.1.8. Contact us section

The **Contact** section provides the user ways to reach out to the organization. They can reach out to the organization's office physically by making use of the integrated Google Maps application programming interface to navigate. When clicked on the map, they can get directions and also estimate the required time to reach there. Users can also contact Avala Hejje via email or phone.

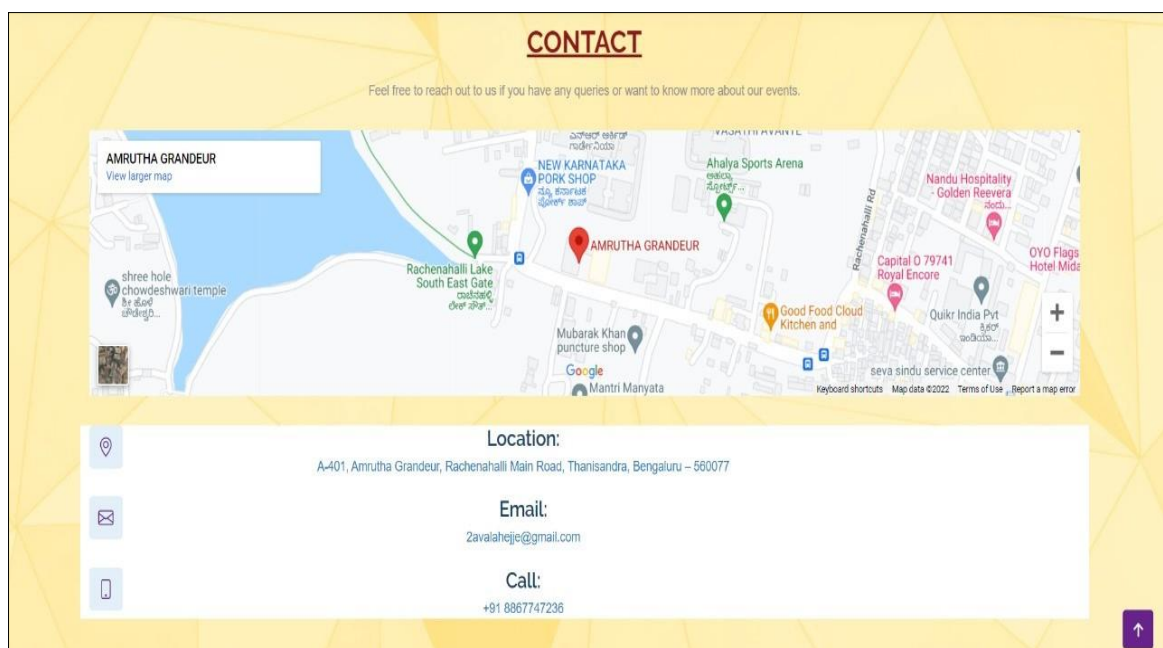


Figure 12: Google maps geolocation API and Contact Details

#### 4.1.9. Gallery Section

When clicked on **Gallery** in the header section, the user is redirected to a new tab where the gallery opens up. Here, the user can access images of previously conducted events and workshops by Avala Hejje.

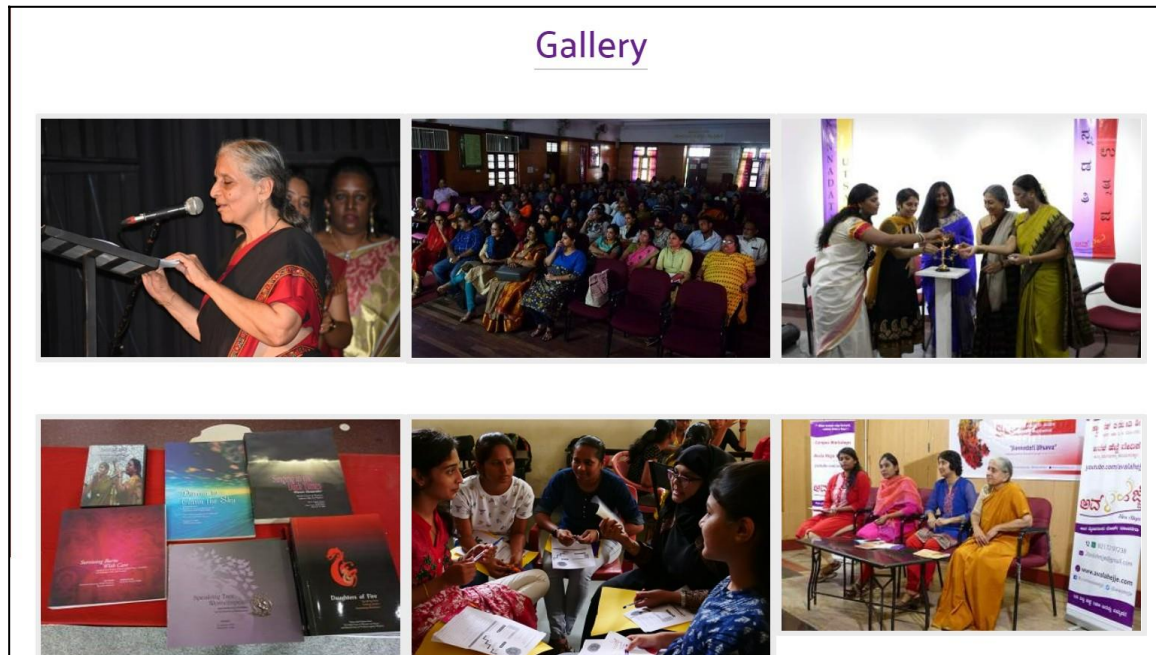


Figure 13: Gallery Webpage

#### 4.1.10. Navigation Links

We have also provided navigation links to various sections at the bottom of the page so that the user does not get lost and can easily locate all the parts of the website.

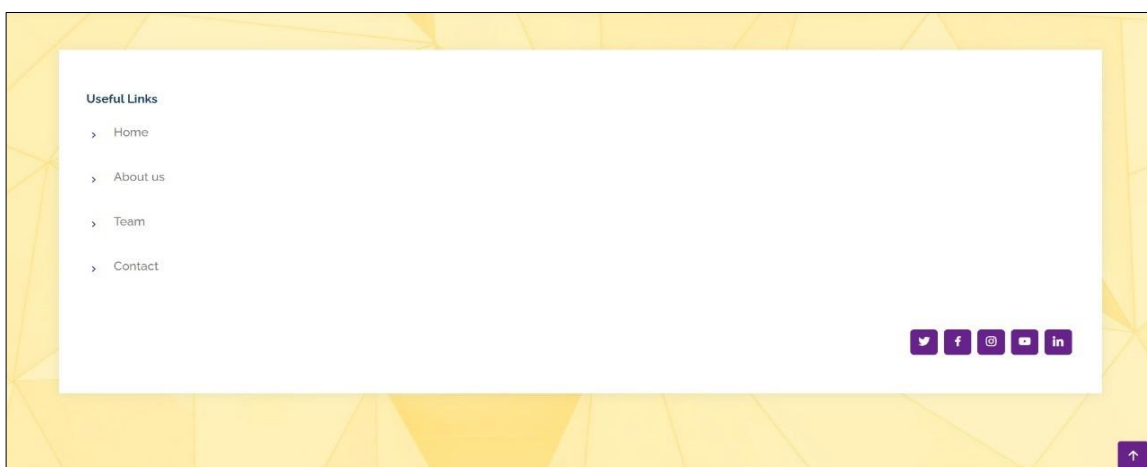


Figure 14: Re-navigation links, Social Media Handles

At the bottom of this section, we have added links to all the social media handles of Avala Hejje. This includes Twitter, Facebook, Instagram, Youtube, and LinkedIn. Users can click on the specific icon and they will be redirected to a new tab where they can access the feeds of Avala Hejje on that platform.

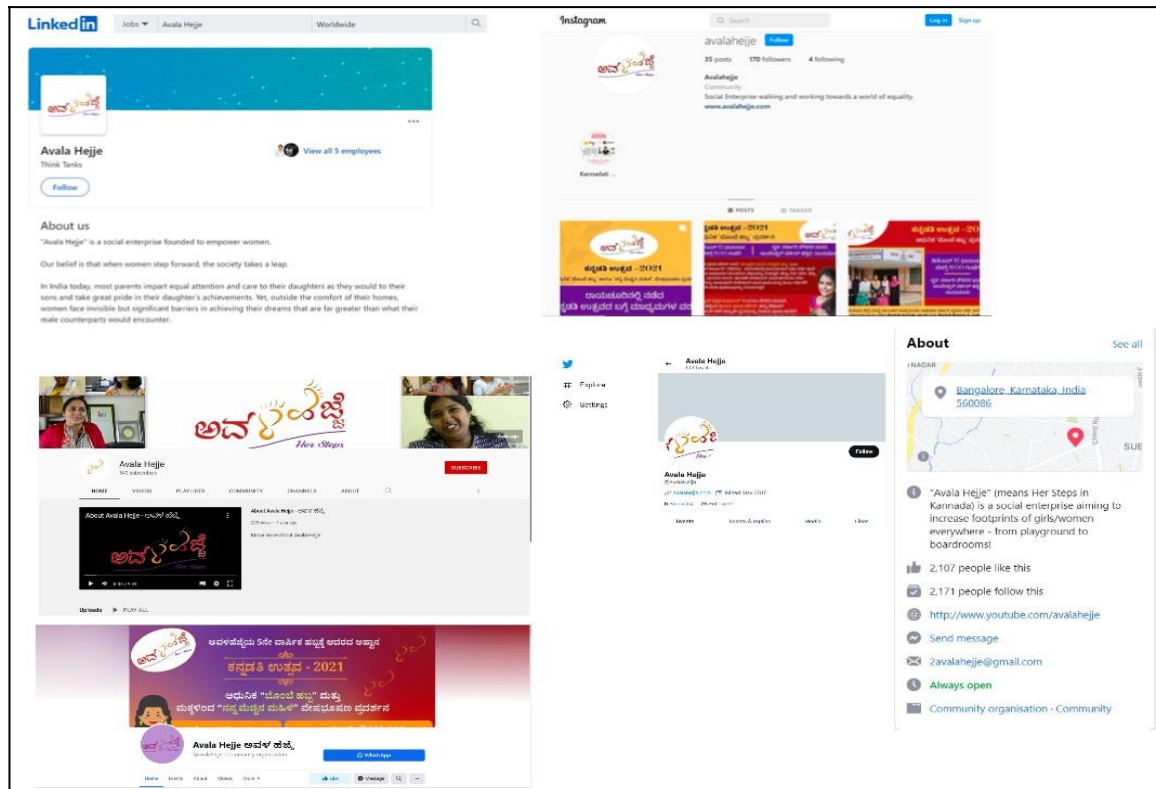


Figure 15: Website links to social media handles

At the bottom right corner of the website, the user can find a purple box with an arrow pointing upwards. This icon can be used as a navigating tool to move back to the top of the page.

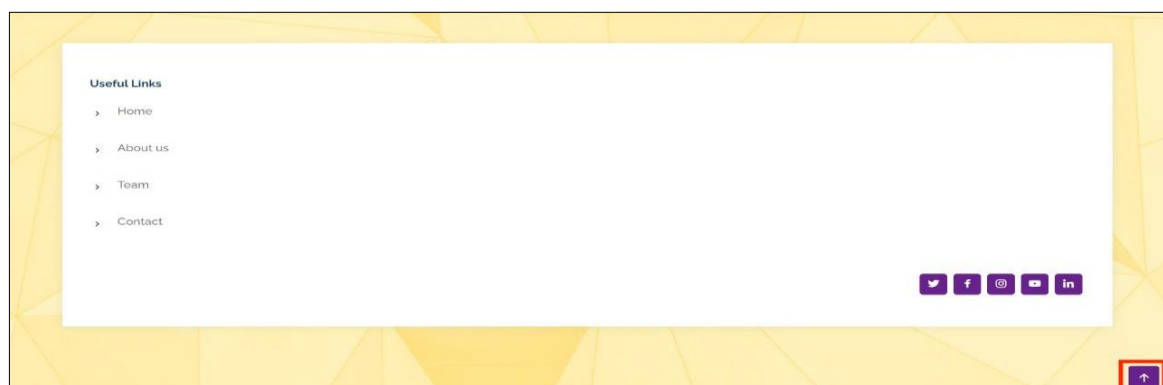


Figure 16: Back to top button

#### 4.1.11. Responsiveness

The web page is responsive on various devices - mobile phone, tablet, and computer to the user's behaviour and environment based on screen size, platform and orientation. When screen size is less than 1200px, a menu button will appear at the right top corner which can be used to easily access the content of the page.



Figure 17: Mobile Phone view of Homepage

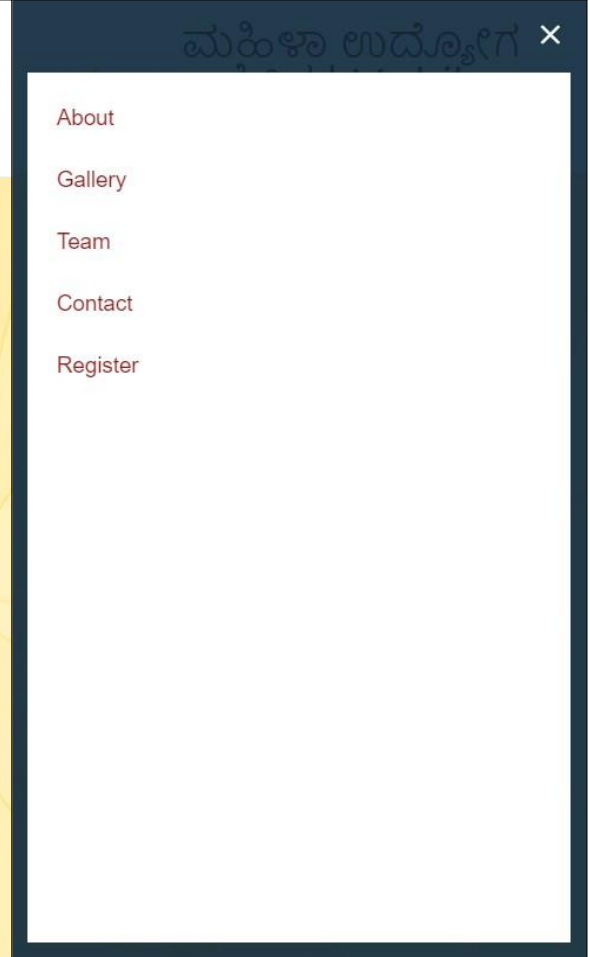


Figure 18: Mobile Phone View of Menu section (when screen size is less than 1200px)

#### **4.1.12. Registration Form with form field validations**

When the user clicks on Register in the header section, the website navigates to a new tab where the registration form for the Mahila Udyoga Mela opens up. Interested women candidates who are looking for a job need to fill out the form to attend the Career Expo. This registration form asks the user for their details which includes personal details, previous work experience, referrals if any, and their expected salary. At the end, the user is also asked to upload a professional photo and their resume.

All the fields of the registration form are validated. The email entry-field is validated in such way that no two candidates can apply with the same e-mail id. The e-mail entered must also be of the required format.

The phone numbers inputted must be ten digits in length, and residential pin-code of six digits. The 'file upload' entry can only accept .png,.jpeg, .jpg and .pdf formats. Any other format is considered erroneous.

Drop down menu has been utilized at various positions in the form so that it becomes easy for the user to select one option from the expected answers. The user is also given an option to choose their preferred shift timings, their work location - home/office and many other input fields.

The interested women job seekers can also upload their resume or CV in Portable Document Format and a recent picture of themselves in .jpeg, .jpg, or .png formats. The size of the possible file uploads has been restricted to 200 kilo bytes.

Upon successful data storage of the candidate's details entered in the registration form, a confirmation message prints on top.

We have added screenshots of an empty form, form validation (both with an error and without any errors), and MongoDB database where the responses of the candidates have been saved in an orderly format. Upon successful data storage of the candidate's details entered in the registration form, a confirmation message prints on top.

## Registration Form for Mahila Udyoga Mela

**Full Name**

**Residential Address**

**Email**

**Date of Birth**

**City Pin Code**

**Personal Phone Number**

**Shift Timings preferred**  
☐ 9 am-5 pm  
☐ 3 pm-11 pm  
☐ 9 pm-5 am  
☐ 12 pm-8 pm  
☐ Anytime

**Employer's Name**

**Employer's Contact Number**

**Office Address**

**Reason for Leaving**

**Designation**

**Salary recieved per month**

**May we contact the employer?**  
☐ Yes ☐ No

**Number of years you worked there**

**Referral's Name**

Figure 19: Registration Form Layout (i)



Referral's Position

Email Address

Enter the official email address

Phone Number

Phone Number must be 10 digits long

List skills you want to mention:

Highest Qualification

Please Select

Work Options

Please Select

Preferred distance of workplace in kilometers

Please Select

Preferred Mode of travel

Please Select

Expected Salary Range per month

40K - 44K - 48K - 52K - 56K - 60K - 64K - 68K - 72K - 76K - 80K - 84K - 88K - 92K - 96K - 100K

Preferred distance of workplace in kilometers

Please Select

Preferred Mode of travel

Please Select

Expected Salary Range per month

Enter the salary in INR only

Position Applying For

Browse Resume
 
 No file chosen

Upload Resume
 >

Browse Photo
 
 No file chosen

Upload Photo
 >

Final Submit

Figure 20: Registration Form Layout (ii)

## Registration Form for Mahila Udyoga Mela

- This email already exists. Please enter another email.
- Pin code must be of 6 digits in length
- Do not include +91 as the phone number must have a maximum 10 characters

### Full Name

Namop

### Residential Address

qwas

### Email

mail@mail.com

### Date of Birth

08/03/2022



### City Pin Code

123

### Personal Phone Number

9101234567000

Figure 21: This illustrates some of the errors generated if the data is not filled according to format due to form field validation

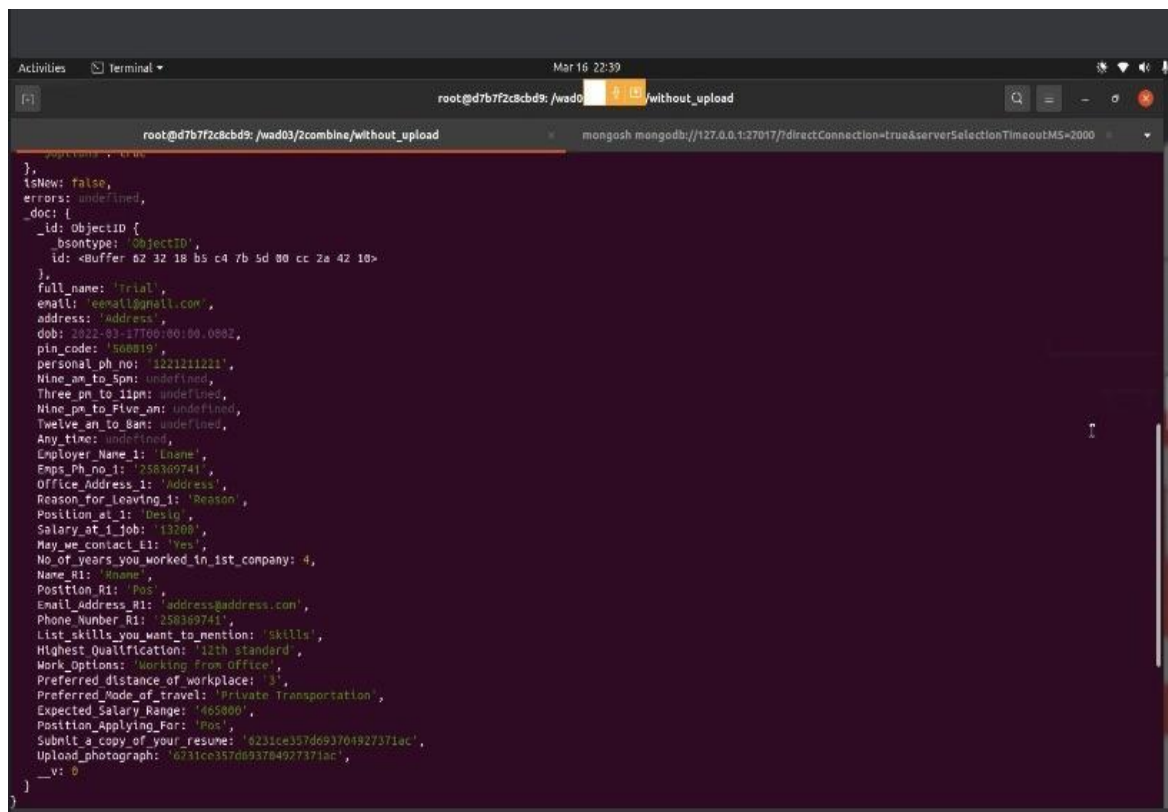


## 5. Database

### 5.1. Database Storage data stored in JSON format

The Mongoose library is used to connect MongoDB and Express.js application. MongoDB is a no-SQL database program which is used to store the data entered in the registration form. In order to set up the client-server connection, the command “SET DEBUG=nodejs-user-registration-mongodb:\* & npm start” is used. The application using MongoDB is internally mapped to the port 3000. The user can view the built application by typing “localhost:3000” in the address bar of any web browser. By typing the ‘mongosh’ command in the terminal, the user enters the mongo shell which is used as an interface to retrieve the field information entered by the job-seeker.

The project uses two collections under the same database user 'dbusers'. The first collection, 'users' is used for storing the registration details of the job-seeker. The second collection is named 'photos'. This stores the resume and photo of the respective candidate along with a caption field to specify whether the uploaded file is a document or an image.



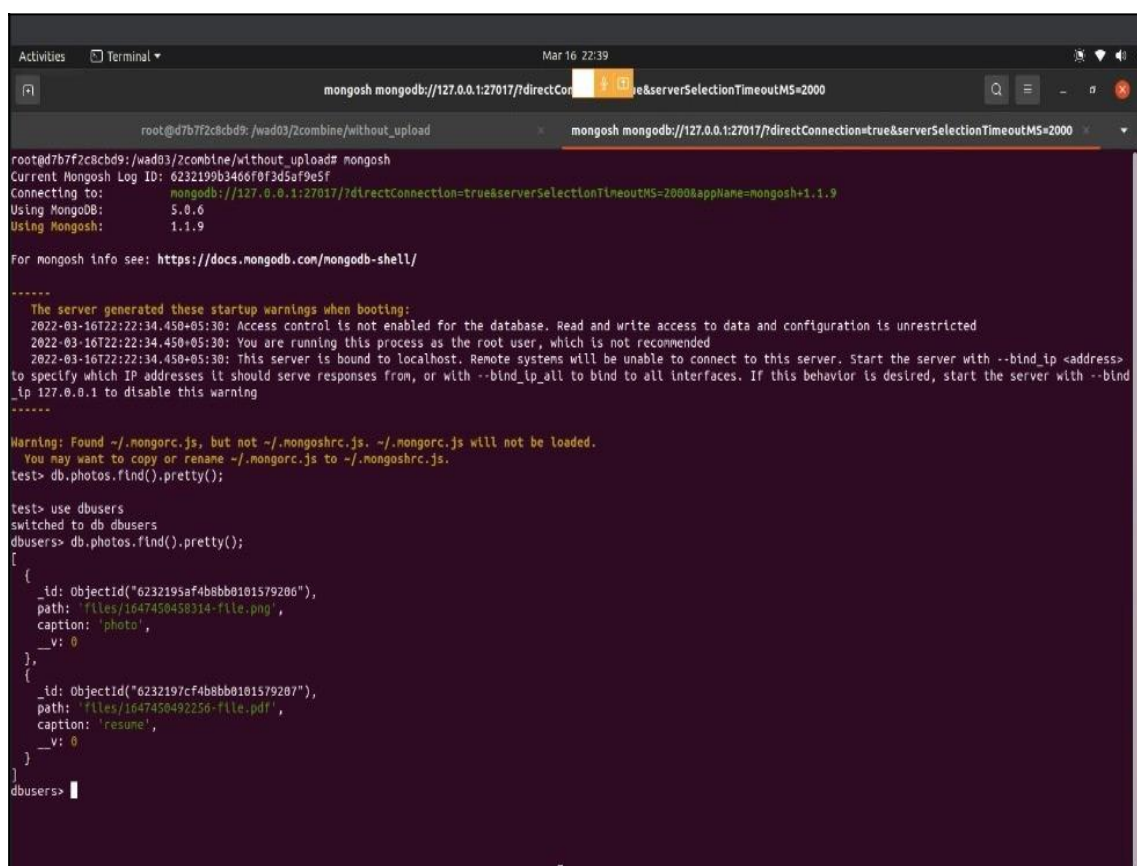
```
root@d7b7f2c8cbd9: /wad03/2combine/without_upload
mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000
> use dbusers
switched to db dbusers
> use users
switched to db dbusers.users
> find()
{
  "_id": ObjectId("6231ce357d693704927371ac"),
  "isNew": false,
  "errors": undefined,
  "doc": {
    "_id": ObjectId("6231ce357d693704927371ac"),
    "full_name": "trial",
    "email": "eeemal@gmail.com",
    "address": "address",
    "dob": "2022-03-17T00:00:00.098Z",
    "pin_code": "560019",
    "personal ph.no": "1221211221",
    "Nine_am_to_5pm": undefined,
    "Three_pm_to_11pm": undefined,
    "Nine_pm_to_Five_am": undefined,
    "Twelve_am_to_8am": undefined,
    "Any_time": undefined,
    "Employer_Name_1": "Name",
    "Emps_Ph_No_1": "258369741",
    "office address_1": "Address",
    "Reason_for_leaving_1": "Reason",
    "Position_at_1": "Design",
    "Salary_at_1_job": "13200",
    "May_we_contact_1": "Yes",
    "No_of_years_you_worked_in_1st_company": 4,
    "Name_R1": "Name",
    "Position_R1": "Pos",
    "Email_address_R1": "address@address.com",
    "Phone_Number_R1": "258369741",
    "List_skills_you_want_to_mention": "skills",
    "Highest_Qualification": "12th standard",
    "Work_Options": "Working From office",
    "Preferred distance of workplace": 3,
    "Preferred_Mode_of_travel": "Private Transportation",
    "Expected Salary Range": "465000",
    "Position Applying For": "Pos",
    "Submit a copy of your resume": "6231ce357d693704927371ac",
    "Upload photograph": "6231ce357d693704927371ac",
    "_v": 0
  }
}
```

Figure 22: Details entered by users stored in JSON format

The registration form has in-built validators to prevent the interested job-seekers from entering any incorrect or irrelevant information. Ajax is used to send the data part-by-part to the server. Upon successful entry of details complying with the validation formats, a message indication of successful data storage pops above the form. Else, the required changes to be made is displayed.

The registration process requires the candidate to upload files of their recent picture and their resume. The form uses a node.js middleware called Multer to do so. Multer connects the operating system and the application to allow the files uploaded to be stored in the admin's local machine.

The parameters shown in the mongoshell displays a unique object ID to differentiate one entry from another. The 'path' parameter shows the name of the uploaded file's name which can also be found in the local memory. The 'caption' reads whether the uploaded file is a resume or image depending on the file extension.



```
Activities Terminal Mar 16 22:39
mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000

root@d7b7f2c8cbd9: /wad03/2combine/without_upload mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000

root@d7b7f2c8cbd9: /wad03/2combine/without_upload# mongosh
Current Mongosh Log ID: 6232199b3466f8f3d5af9e5f
Connecting to:
  mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000appName=mongosh+1.1.9
Using MongoDB:
  5.0.6
Using Mongosh:
  1.1.9

For mongosh info see: https://docs.mongodb.com/mongosh-shell/

-----
The server generated these startup warnings when booting:
2022-03-16T22:22:34.450+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
2022-03-16T22:22:34.450+05:30: You are running this process as the root user, which is not recommended
2022-03-16T22:22:34.450+05:30: This server is bound to localhost. Remote systems will be unable to connect to this server. Start the server with --bind_ip <address>
to specify which IP addresses it should serve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, start the server with --bind_ip 127.0.0.1 to disable this warning
-----

Warning: Found ~/.mongorc.js, but not ~/.mongoshrc.js. ~/.mongorc.js will not be loaded.
You may want to copy or rename ~/.mongorc.js to ~/.mongoshrc.js.
test> db.photos.find().pretty();

test> use dbusers
switched to db dbusers
dbusers> db.photos.find().pretty();
[
  {
    _id: ObjectId("6232195af4babb0101579206"),
    path: 'files/1647450458314-file.png',
    caption: 'photo',
    __v: 0
  },
  {
    _id: ObjectId("6232197cf4babb0101579207"),
    path: 'files/1647450492256-file.pdf',
    caption: 'resume',
    __v: 0
  }
]
dbusers>
```

Figure 23: Resume/CV and Image Directory of users stored in JSON format

## **6. Conclusion**

Our project focuses on women empowerment by providing a platform for women job seekers to connect with women-friendly employers. A good website is essential for meeting such needs and we have tried to achieve this through our project. Our main goal is to help women in pursuing their passion and providing for themselves and their families. We have provided as much information as possible and made our website user-friendly using the latest APIs and modern tools. We learned a lot by doing this project, both technically and ethically. We got to explore and learn many elements of web development. We chose a noble cause and it gave us an idea about how we as engineering students could contribute to society through our project.

## 7. Source Code Link

The following link directs you to a Google Drive which contain the source code to all of the above-mentioned webpages.

[https://drive.google.com/drive/folders/1ydc\\_60aa7wJZEMxTyrC2zGRZct58fIR\\_?usp=sharing](https://drive.google.com/drive/folders/1ydc_60aa7wJZEMxTyrC2zGRZct58fIR_?usp=sharing)

## 8. References

1. <https://www.w3schools.com/graphics/default.asp>
2. <https://www.w3schools.com/css/default.asp>
3. <https://fonts.google.com/>
4. <https://ionicons.com/>