A PROJECT REPORT ON

ICODE: CRAFTING DIGITAL PORTFOLIOS FOR CODING ENTHUSIASTS

SUBMITTED TO THE SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE
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FOR THE AWARD OF THE DEGREE
OF

BACHELOR OF ENGINEERING

IN

COMPUTER ENGINEERING

SUBMITTED BY

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UNDER THE GUIDANCE OF

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CERTIFICATE

This is to certify that the project report entitled.

"ICODE: CRAFTING DIGITAL PORTFOLIOS FOR CODING ENTHUSIASTS "

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are bonafide students of this institute and the work has been carried out by them under the supervision of **Dr. G. V. Kale** and it is approved for the partial fulfillment of the requirement of Savitribai Phule Pune University, for the award of the degree of **Bachelorof Engineering** (Computer Engineering).

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ABSTRACT

As technology continues to change at an alarming rate, professional qualifications have shifted from the conventional paper resumes to contemporary dynamic ones. The reason for this project is to overcome the limitations of conventional resumes that cannot cope with the rapid needs for coding experts and computer science enthusiasts in a dynamic recruitment sector.

The issue covers the inadequacy of paper resumes to portray live skills, insert multimedia content, and trace involvement. Finally, the environmental concerns and inconvenience have also called for a more friendly solution.

An ideal solution for such persons from computer science and engineering is the “ICode” digital resume platform. ICode revolutionizes professional narratives as it integrates real-time data from top coding profile sites, including LeetCode, Codechef, and Codeforces. It merges data from established platforms like GitHub and LinkedIn so as to enhance the professional story with coding profiles, project showcases, live progress updates, endorsements, and recommendations.

Hence, “ICode” is a gap-filler between the requirements of current employment and the conventional paper CVs. Professionals will now get a dynamic and comprehensive platform to showcase their coding skills, capture the intricacies of coding, while navigating a dynamic tech world. “ICode” is a major shift of professional presentation which means profiles that are as dynamic as the code industry. This project report is intended to give an expansive account of “ICode”, its characteristics, implementation and a possibility to redefine the current professional environment of the computer science and engineering professionals..

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In today's world that is technologically advanced marked with non-ending wave of innovations and latest developments, traditional paper resume seems to navigate in unknown waters. This is most prevalent in the ever-evolving space of coding enthusiasts. The needs of this vibrant community are intricately tied to the fast-changing technology that makes it more apparent that the traditional paper resume cannot satisfy the demands of the current job market.

It goes without saying that coding enthusiasts have to demonstrate not only their competence but also professional representation that is as dynamic and responsive as their activity. It should include coding profiles, project presentations, and live reports on their project development process. Such multidimensional characteristics go beyond the scope of paper resumes that can only provide a static view of the applicant unable to adapt to the contemporary, rapidly changing landscape of the industry.

Into the innovative "ICode" digital resume platform, an exclusively developed tool for computer science and engineers. ICode is more than a mere electronic version of a traditional CV; it is an idea that goes beyond the scope of a resume. This is an innovative web-based platform that changes the way coders present themselves as professionals. It combines real-time data from popular coding profile sites like Leetcode, Codechef, and Codeforces into one dynamic story. Moreover, "ICode" is compatible with popular web-platforms like GitHub and LinkedIn, adding coding portfolios, completed projects, and an interactive portfolio to the professional story.

"ICode" epitomizes a revolutionary transformation of the professional presentation space. It portrays the diversity of skills possessed by programmers and the dynamics of programming. The next parts of this report will focus on the ICode digital resume platform. We are here to show what "ICode" does in terms of overcoming weaknesses of ordinary resumes and emerging contemporary profiles in step with the dynamism of the coding industry. We strive to help professionals conquer the challenges of the contemporary technical atmosphere, using a presentation that is just as agile as the industry they represent.

1.2 Motivation

The “ICode” digital resume platform is driven by a straightforward desire to solve major problems in the world of coding and computer science. First of all, there is an urgent necessity for a particular platform where to put in code enthusiasts’ real-time coding profiles dynamically. However, paper resumes do not portray the changing aspects of coding skills and achievements.

Secondly, it is no longer fitting in the rapidly shifting job market that one depends on paper resumes during interviews. This motivation is based on the transitioning from the obsolete practices and giving a responsive way for professionals to display their skills in real time. “ICode” tries to help coding professionals, students, and educational institutions to embrace digitization, to say goodbye the paper resumes, to track students’ competitive and development profiles, and to create meaningful connections among recruiters, students, and colleges. “ICode” aims at creating a dynamic and synchronised solution in response to the demands of the modern job market.

1.3 Problem Definition

To develop a digital resume platform for coding enthusiasts for enhancing the recruitment process by showcasing the coding profiles, projects and other relevant information in real time.

CHAPTER 2

LITERATURE SURVEY

2.1 Digital Resumes vs. Paper-Based Resumes

Digital resumes offer several advantages over paper-based resumes, including:

- **Interactivity**: Digital resumes can be interactive, allowing candidates to showcase their skills and experience in a more dynamic and engaging way. For example, candidates can include links to their GitHub profiles, CodePen challenges, and other online portfolios.

- **Real-time updates**: Digital resumes can be updated in real time, ensuring that they are always up to date with the candidate's latest skills and experience. This is particularly important for coding enthusiasts, whose skills are constantly evolving.

- **Real-time updates**: Digital resumes can be updated in real time, ensuring that they are always up to date with the candidate's latest skills and experience. This is particularly important for coding enthusiasts, whose skills are constantly evolving.

2.2 Digital resume for coding enthusiasts

Digital resumes are an advanced, technology-driven avenue for people passionate about software development and coding to showcase their accomplishments, efforts, and experiences towards prospective employers, partners, or the community. Due to the fact of transmitting much information in a playful and visually appealing manner, these digital versions of a person’s resume are becoming quite common in the Tech world. This is an extensive overview of the components of digital resumes for programmers:

- **Engaging Web-Based Style**: Digital resumes are mainly web-based documents and most times they appear as online portfolios or personal websites. In this format, users can interact with multimedia features such as videos or codes demos, click on links, and also view coding projects.

- **Displaying Technical Proficiency**: For coding enthusiasts, digital resumes are a great way to showcase their technical skills. It covers the technologies, tools, frameworks, and programming languages in which they are proficient. These skills can be organized in a more orderly and attractive manner.

- **Highlighting Coding Projects**: One of the most significant benefits of digital resumes is their ability to emphasize coding contributions and projects. Coders can choose to include links to their GitHub repositories, personal websites, apps etc. for more audience to see their work.

- **Competitive Coding Profiles**: Digital resumes may also include links to profiles on competitive coding platforms such as CodeChef, Codeforces, LeetCode, TopCoder, and others. This shows your proficiency in coding and allows viewers to judge your problem solving abilities and ranking.

- **Global Accessibility**: Digital resumes are accessible everywhere. This increases the visibility of coding enthusiasts to potential employers or collaborators worldwide, as they are no longer restricted by geographic boundaries.

- **Easy Updates**: Technology industry is dynamic and professionals must always be updating their projects and skill sets. Digital resumes are easy to update and always provide the viewer with up-to-date information.

- **Personal Branding**: Code enthusiasts' style and personality can be expressed through the layout and content of their digital resumes. This will be an important aspect of their personal branding, particularly in the context of a very competitive job market.

2.3 Data collection using web scraping.

Web scraping is the way to visit websites automatically, collect their HTML content, and parse it to derive particular information. It is commonly employed for purposes such as data analysis, research, price gathering, and comparison. Scraping a website generally entails making HTTP requests to the Web server, waiting for HTML response and using HTML parsing tools to discover and extract the required data elements. This includes text, images, hyperlinks, tables and more. Managing dynamic content and pagination forms part of advanced scraping. It is also important to look into ethical and legal issues to ensure that the scraping practices are ethical and legal. If performed correctly, web scraping can give a lot of data and save lots of handmade works that would have been too difficult.

2.3.1 Web scraping techniques.

There are different types of web scraping depending on a number of factors and the specific use cases they cater to. The following are some common ways to scrape the web:

- **HTML Parsing:** The simplest sort of web scraping is HTML parsing, another term for static web scraping. It involves getting information from a web page by breaking its HTML code. This is suitable for sites where content loading is not heavily dependent on JavaScript.

- **Dynamic web scraping**: There are certain websites that use JavaScript to dynamically load data. In dynamic web scraping, headless browsers or browser automation libraries like Selenium are used to simulate user interaction, render page, and take out data from dynamically loaded content.

- **API Scraping**: Some websites have APIs that allow developers to retrieve structured data. This is referred to as API scraping, which is the HTTP requests to these APIs for structured data such as JSON or XML.

- **Text Scraping**: This method is often used to retrieve textbased content from websites, like product descriptions, blog posts, or articles. Textual data are extracted and processed based on natural language processing (NLP) techniques.

- **Image Scraping:** The process of gathering images from websites is known as image scraping. It is commonly used in the compilation of image galleries, the gathering of multimedia, and aggregating e-commerce products.

- **Social media scraping**: This form of scraping seeks to retrieve information from social media websites such as Facebook, Instagram, and Twitter. It includes the collection of user profiles, posts, comments, and other social media engagements.

2.3.2 Web scraping tools.

There are various web scraping tools and they vary in usage and complexities . Here are some web scraping tools and its pros and cons:

Tools	Pros	Cons
Beautiful Soup	Easy to use, flexible, and supports a variety of data formats.	Can be slow for large datasets.
Scrapy	Powerful and scalable, with support for distributed crawling.	Can be complex to learn and use.
Selenium	Can scrape JavaScript-heavy websites but can be slow and resource-intensive.	Can be flaky and difficult to debug.
Requests	A lightweight HTTP library that can be used to make HTTP requests to websites.	Does not provide any built-in support for parsing HTML or extracting data.
Lxml	A Python library for parsing XML and HTML documents.	Not as easy to use as Beautiful Soup.

Table 2.1: Web scraping tools.

2.4 Background and related literature.

Technology improvements have led to a wide range of skills among students, particularly among coding enthusiasts. Because of this, showcasing these skills has become more difficult in the dispersed setting. The interview process still includes traditional paper-based resumes, which is deficient in many ways. One recent development in this industry to streamline the interview process is the digital portfolio or resume.

According to research, recruiters encounter a number of difficulties when seeking for candidates, which is causing a gap. It has been determined that an online resume format is necessary for a smooth hiring process. Research with recruiters has taken into account a number of processes, and a number of studies have been conducted with the aim of identifying the data required for an improved recruitment process with the use of multiple screening techniques like resumes, background checks, interviews, personality tests, and more, the employee selection process has developed into a sophisticated process.

Among these techniques, the expert resume sticks out as being essential for figuring out which candidates move forward in the hiring process. When making decisions about a candidate's qualifications, including their skills, motivation, personality, and suitability for the position, recruiters frequently base their decisions on their resumes. Recruiters essentially use resume data to determine a candidate's employability and make preliminary screening selections.

Although India's higher education system has grown significantly, there are still a number of issues with accessibility, employability, and quality. The country's demographic dividend is at risk due to the millions of students pursuing postsecondary education, so growing higher education institutions (HEIs) and addressing the employability gap are essential. This is especially troubling for the engineering industry, where the employability of graduates is comparatively low. According to reports, there is a sizable skill gap in the IT sector, highlighting the necessity for graduates to have knowledge, abilities, skills, and soft skills (KAASOC) in order to succeed in a labor market that is changing quickly due to factors like Industry 4.0. Innovative programs like competitive programming and experiential learning programs are becoming more and more important to improve employability.

All the information needed to create a paper-based resume must also be available for digital resume creation. However, there is a wealth of information available to coding enthusiasts that goes far beyond text. Therefore, a standard technique for information retrieval or collection is required. Web scraping becomes effective because of the accessibility of information on the internet.

One QR-scanning-based digital resume system exists, but it is ineffective for coding enthusiasts because it doesn't cover a lot of information or real-time data. Different information is available on different websites, and its complexity and accessibility vary. Several techniques are available to retrieve the data in order to obtain these information. With regard to specific applications, each technique performs differently.

According to a study, user information is crucial, and social and coding-related data are required. It's necessary to gather and scrape the website data. These websites have specific policies regarding access to information, and there are some legal considerations regarding data access. To aid in the recruitment process and provide a better visual representation, all of this data must be presented on a platform.

CHAPTER 3

SOFTWARE REQUIREMENTS SPECIFICATION

3.1 Introduction

The ICode project is a web-based platform that allows coding enthusiasts to create dynamic and interactive digital resumes. ICode integrates with popular coding platforms such as GitHub, Codechef, Codeforces, and Leetcode, making it easy for candidates to showcase their skills and experience. ICode will be built using the MERN Stack and Flask with Beautiful Soup and will be hosted on Render.

3.1.1 Project Scope

The scope of the ICode project is to develop a web-based platform that allows coding enthusiasts to create dynamic and interactive digital resumes. The platform will integrate with popular coding platforms such as GitHub, Codechef, Codeforces, and Leetcode, making it easy for candidates to showcase their skills and experience. ICode will be built using the MERN Stack and Flask with Beautiful Soup and will be hosted on Render.

The following are the specific features that will be included in ICode platform:

- Ability to create dynamic and interactive digital resumes.
- Ability to integrate digital resumes with popular coding platforms.
- Ability to export digital resumes to PDF or HTML format.
- Ability to scrape data from coding platforms and websites using Beautiful Soup
- Ability to store and retrieve scraped data using a database.
- Ability to generate digital resumes from scraped data.

3.1.2 User Classes

The user classes for the ICode project are as follows:

1) **Coding enthusiasts**:
   Coding enthusiasts are the primary users of the ICode platform. They are individuals who are passionate about coding and are looking for a way to create dynamic and interactive digital resumes that showcase their skills and experience.

2) **Tech recruiters**:

   Tech recruiters are secondary users of the ICode platform. They are individuals who are looking for qualified coding candidates to fill open positions.

3.1.3 User Characteristics

The user classes for the ICode project are as follows:

1) **Coding enthusiasts**:
   - Age: 18-35
   - Education: College degree or equivalent experience
   - Skills: Programming languages, software development tools, and technologies
2) **Tech recruiters**:
   - Age: 25-45
   - Education: College degree or equivalent experience
   - Skills: Recruiting, talent acquisition, and human resources

3.2 Functional requirements

- The ICode platform must allow users to create digital resumes that are dynamic and interactive.
- The ICode platform must allow users to integrate their digital resumes with popular coding platforms such as GitHub, CodeChef, Codeforces, and LeetCode.
- The ICode platform must allow users to export their digital resumes to PDF or HTML format.
- The ICode platform must be able to scrape data from coding platforms and websites using Beautiful Soup.
- The ICode platform must be able to store and retrieve scraped data using a database.
- The ICode platform must be able to generate digital resumes from scraped data.

3.3 Non-Functional requirements

- The ICode platform must be secure and reliable.
- The ICode platform must be easy to use and accessible to coding enthusiasts of all skill levels.
- The ICode platform must be able to scale to support a large number of users.
- The ICode platform must be hosted on a cloud platform such as Render.

3.4 System Requirements

3.4.1 Software Requirements

1) Operating system: Windows 10 or later, macOS 10.15 or later, or Ubuntu 20.04 or later
2) Web browser: Chrome, Firefox, or Edge
3) Node.js: v16 or later
4) MongoDB: v5.0 or later
5) Redis: v6 or later

3.4.2 Hardware Requirements

6) Processor: 2.0 GHz or faster
7) Memory: 4 GB RAM or more
8) Disk space: 5 GB or more
9) Internet connection: Broadband internet connection required.

3.5 Analysis Model

Agile Software Development Life Cycle (SDLC) Model is used for the development of the system.

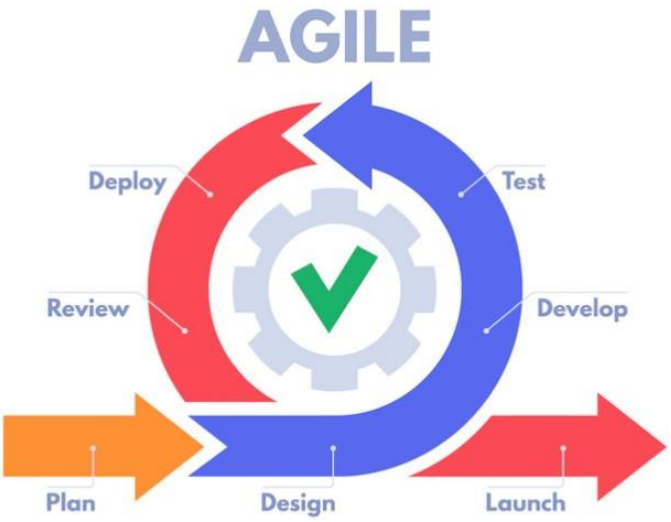


Figure 3.1: Agile Model for SDLC

3.6 System Implementation Plan

SR NO.	TASK	LABOUR HOUR/DAYS
1.	Topic Selection	2 Weeks
2.	Feasibility Study	1 Week
3.	Project Design	2 Weeks
4.	Develop Functional Specifications	10 Days
5.	Develop System Architecture	2 Weeks
6.	Develop Detailed Design Specifications	2 Weeks
7.	Data Collection and Environment Setup	2.5 Weeks
8.	Project Development	10 Weeks
9.	Perform Module Integration	3 Weeks
10.	Perform Testing	3 Weeks
11.	Post Project Review	1 Week

Table 3.1: Project Estimate

CHAPTER 4

SYSTEM DESIGN

4.1 Architecture Diagram

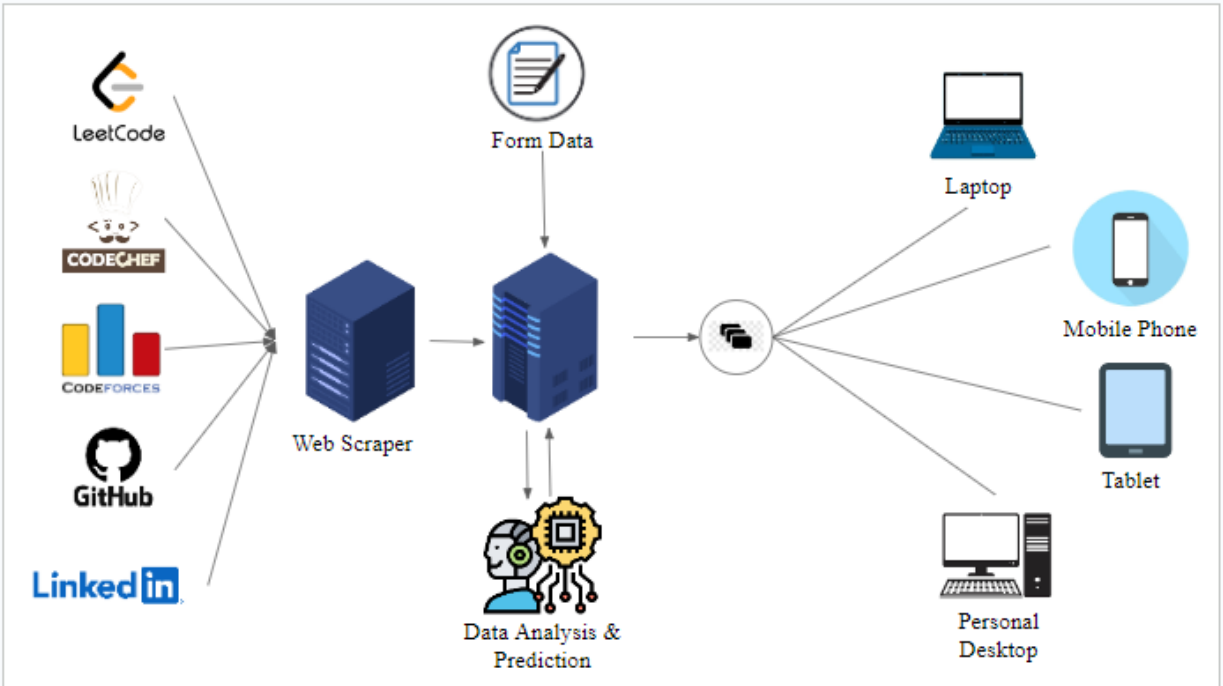


Figure 4.1: High Level System Architecture Diagram

4.2 Architecture Diagram of Web Scraper

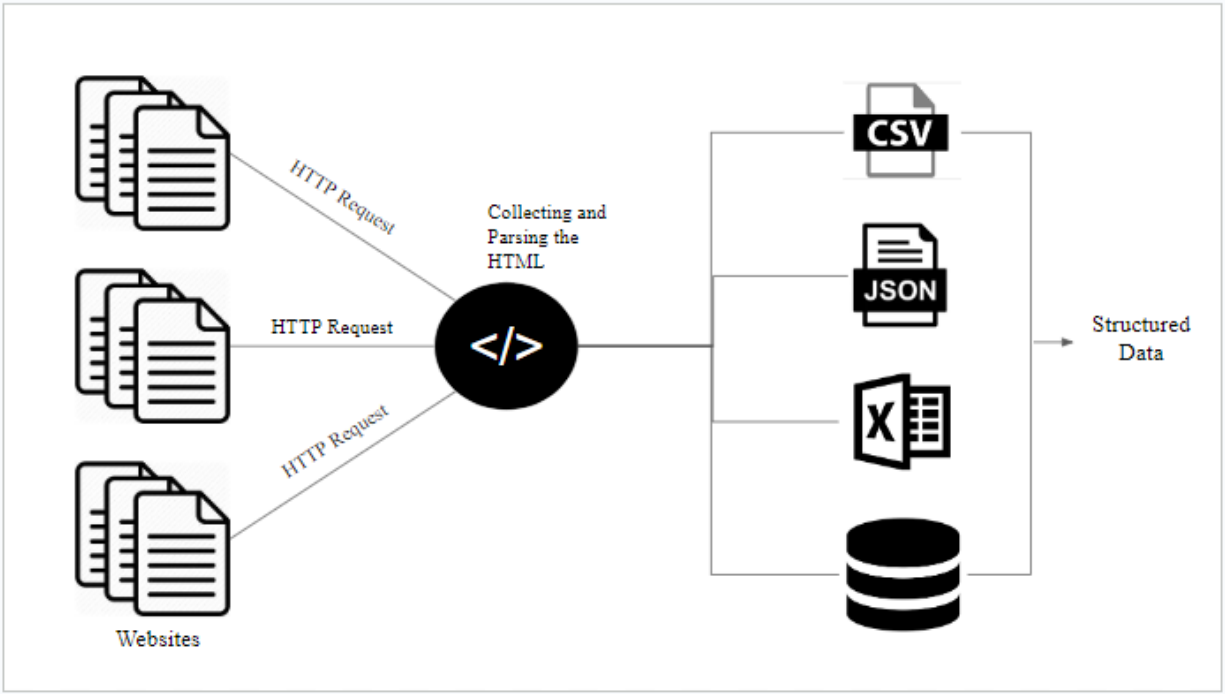


Figure 4.2: Architecture of Web Scraper

4.3 Use Case Diagram

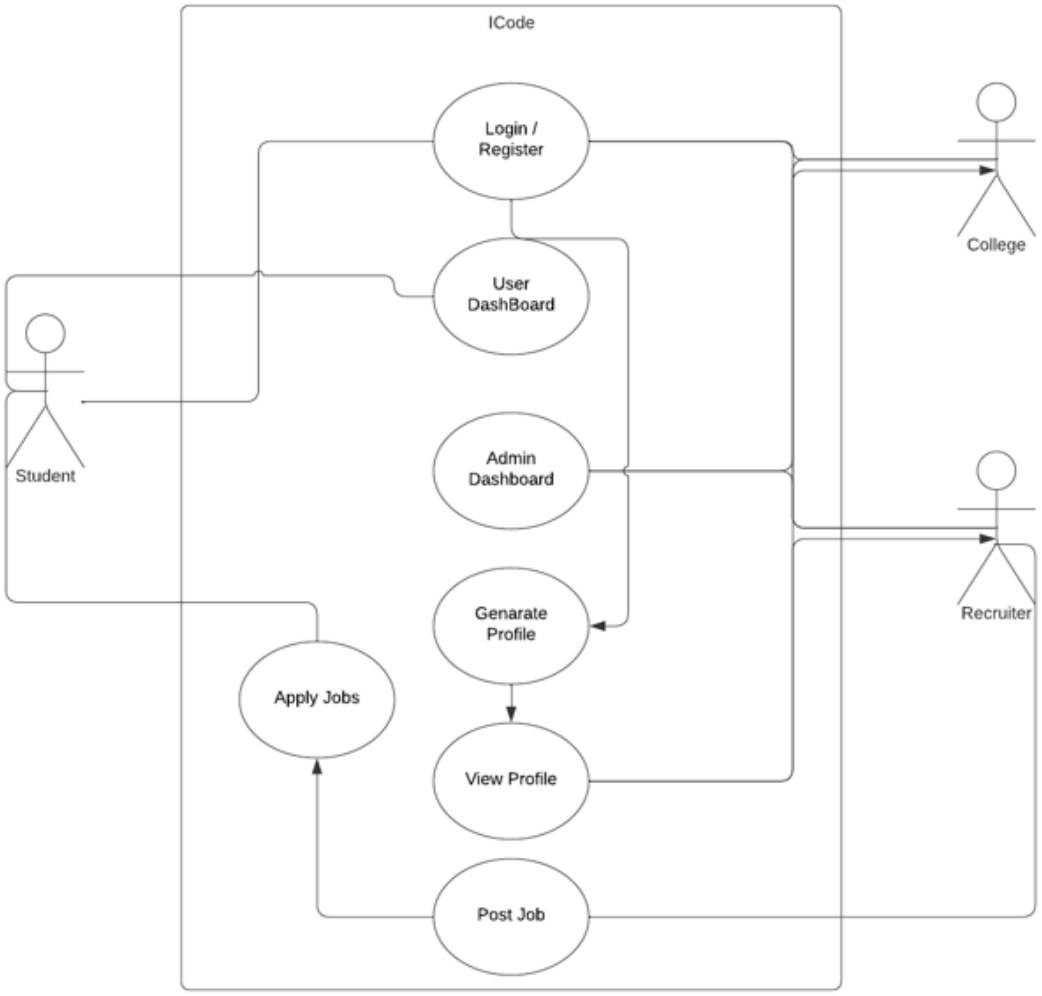


Figure 4.3: Use case Diagram

4.4 Module Diagram

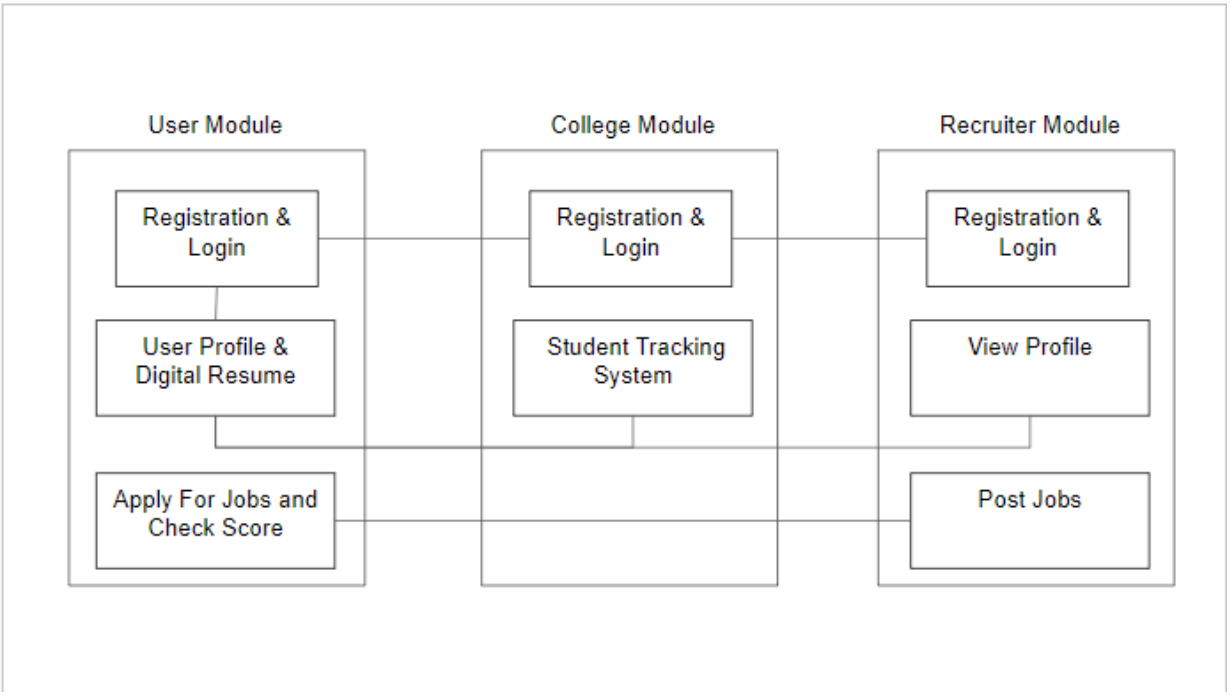


Figure 4.4: Module Diagram

4.5 Data Flow Diagrams

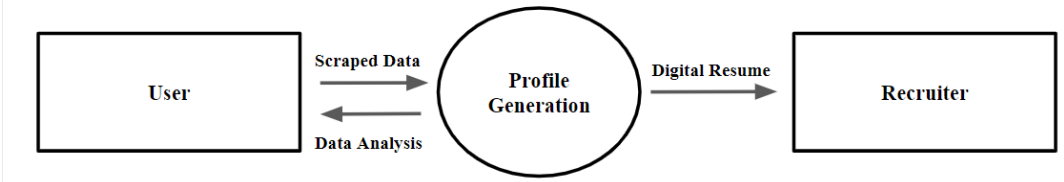


Figure 4.5: Data Flow Diagram - Level 0

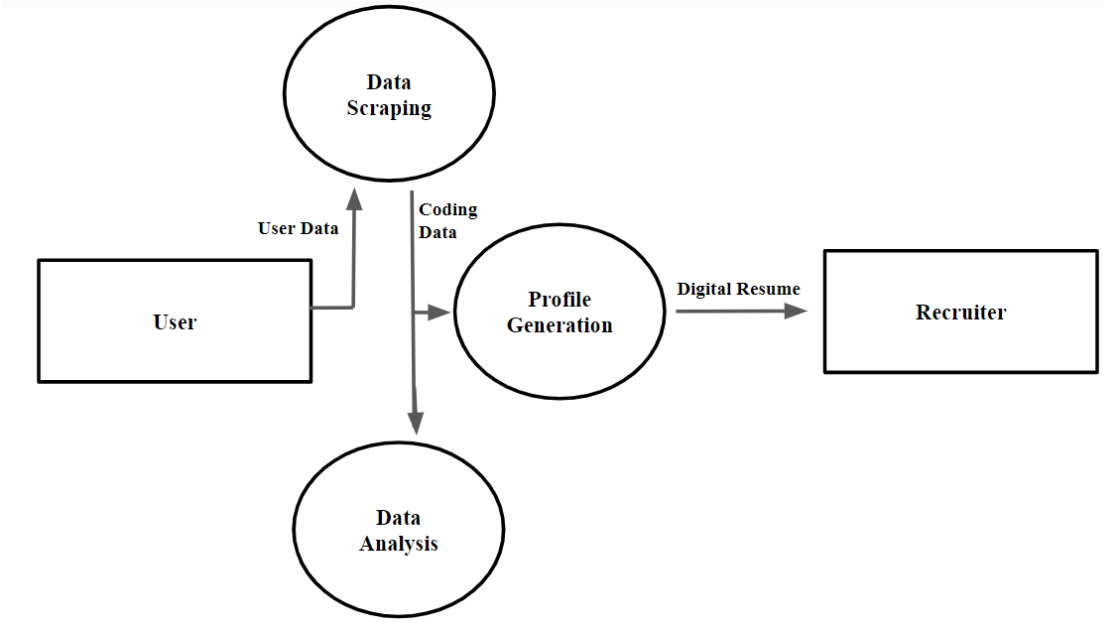


Figure 4.6: Data Flow Diagram - Level 1

4.6 ER Diagram

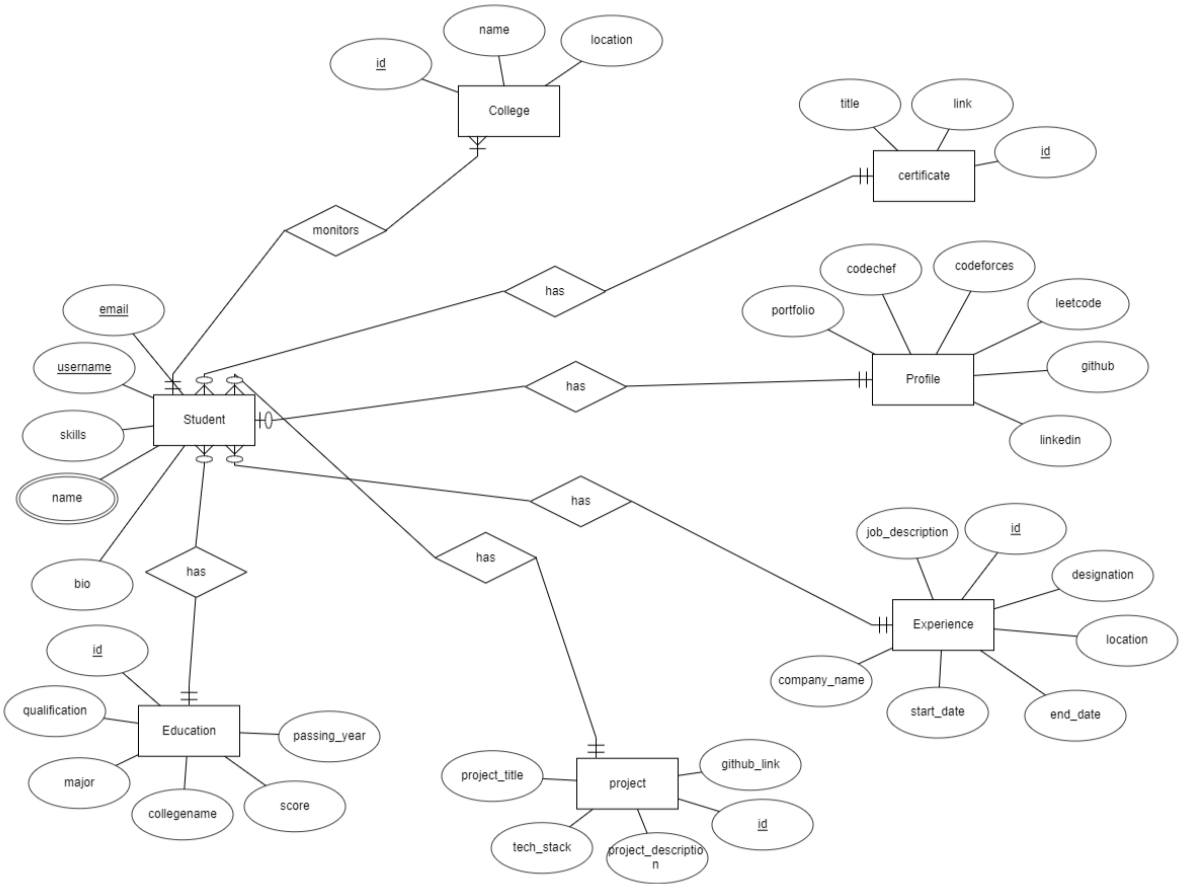


Figure 4.7: ER Diagram

CHAPTER 5
PROJECT PLAN

5.1 Project Estimate

5.1.1 Project Resource

1) **Personnel:**
    - Full Stack Developer (2)
2) **Equipment:**
    - High performance computer systems / laptops
    - Testing devices (smartphones, tablets, laptops)
    - Servers for hosting and testing
3) **Materials:**
    - Software licenses for development tools (e.g., IDEs, version control)
    - Design assets (icons, graphics)
    - Documentation materials (API documentation, user guides)
4) **Budgetary Considerations:**
    - Equipment purchases or leasing costs
    - Cloud service fees (for hosting and storage)

5.2 Risk Management

5.2.1 Risk Identification

- Technical Risks: Potential issues with integrating different technologies within the MERN stack. Change in the website structure of the website we are targeting.
- Schedule Risks: Delays due to unforeseen complexities in development or changes in requirements.
- Resource Risks: Shortage of skilled developers or insufficient hardware resources.
- Security Risks: Blocking of web scraping
- Market Risks: Changes in market demand or competitive landscape affecting the project's viability**.**

5.2.2 Risk Analysis

Risk	Likelihood	Severity	Action
Change in the structure of the website	0.2	4	Change in the backend API structure.
Overloading and over rendering of profile pages	0.2	1	Adding the cache to the system for load reduction
Wrong prediction by model	0.1	5	Retrain the model with better data and increase accuracy

Table 5.1: Risk Analysis

5.2.3 Overview of Risk Mitigation, Monitoring, Management

- Mitigation: Implement best practices for security, conduct regular code reviews, and ensure adequate testing to mitigate technical and security risks.
- Monitoring: Regularly monitor progress against the project schedule, budget, and quality metrics to identify deviations and potential risks.
- Management: Establish a risk management plan outlining responsibilities, escalation procedures, and risk response strategies. Continuously update and refine the plan as the project progresses.

5.3 Project Schedule

5.3.1 Project Task Set

- Home Page
- Login and Authentication
- User and role management
- User module
- User Profile Generation
- College Model
- Recruiter Model

5.3.2 Timeline Chart

ID	Title	Start Time	End Time
1	Creation of Github Repository	12/11/2023	12/15/2023
2	Adding Frontend Structure	12/20/2023	12/25/2023
3	Adding Backend Strcture	12/23/2023	12/27/2023
4	Frontend Home Page	12/28/2023	12/31/2023
5	Login & User Auth - Backend	12/30/2023	01/01/2024
6	Login & Auth - Frontend	01/03/2024	01/08/2024
7	User Module - Backend	01/12/2024	01/25/2024
8	User Dashboard -Frontend	01/25/2024	02/06/2024
9	College Module -Backend	02/12/2024	02/23/2024
10	College Module - Frontend	02/19/2024	02/29/2024
11	Recruiter Module -Backend	03/01/2024	03/15/2024
12	Recruiter Module - Frontend	03/14/2024	03/26/2024
13	Integration & Testing	03/28/2024	04/05/2024

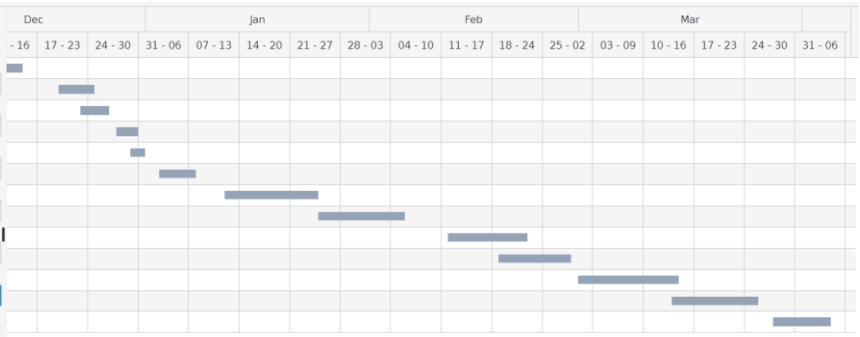


Figure 5.1 : Gantt chart

5.4 Team Organization

5.4.1 Team Structure

- Team Lead & Backend Head: Saurav Muke
- Frontend Head: Samruddhi Ahire

5.4.2 Management Reporting and Communication

Management reporting and communication plan:

- **Weekly Sync-up**: The frontend and backend leads hold a weekly sync-up meeting every Monday morning to discuss project progress, task allocation, and any blockers or challenges they may be facing.

- **Bi-weekly Progress Updates**: The frontend and backend leads provide bi-weekly progress updates to the project stakeholders, highlighting achievements, upcoming tasks, and any risks or issues that need attention.

- **Daily Stand-ups**: The frontend and backend leads participate in daily stand-up meetings with their respective teams (frontend and backend developers) to review daily progress, share updates, and identify any impediments.

- **Shared Task Board**: The frontend and backend leads use a shared task board (e.g., Trello or Jira) to track tasks, assign priorities, and ensure alignment between frontend and backend development efforts.

- **Ad-hoc Communication**: The frontend and backend leads maintain open communication channels throughout the week via email, instant messaging, or video calls to address any urgent matters or collaborate on specific tasks.

CHAPTER 6
PROJECT IMPLEMENTATION

6.1 Overview of Project Modules

The project contains the major modules as mentioned below:

1. User Module: User profile and user dashboard
2. College Module: College dashboard for student monitoring
3. Recruiter Module: Post jobs and filter students

6.2 Tools and Technologies Used

Tools used:

- Editor: VS Code
- Server: Render
- Browser: Chrome

Technologies Used:

- MongoDB
- ReactJS
- NodeJS
- ExpressJS
- Flask
- Bootstrap

6.3 Algorithm Details

6.3.1 Web Scraping Algorithm

Algorithm: Web Scraping with Beautiful Soup

Input:

- Website URL

Output:

- Extracted data from the website

1. Import the necessary libraries: requests, BeautifulSoup
2. Send a GET request to the website URL
3. Parse the HTML content of the website using BeautifulSoup
4. Find specific elements on the webpage using BeautifulSoup methods
5. Extract desired data from the found elements
6. Process the extracted data as needed (optional)
7. Repeat the process for multiple pages or sections of the website (optional)
8. Close any open connections or resources to avoid memory leaks (optional)

CHAPTER 7
SOFTWARE TESTING

7.1 Type of Testing:

A platform has been tested on various levels of development by different tests. List of testing that are performed are below:

- Unit Testing: Testing individual components or modules of the software in isolation to ensure they function correctly.
- Integration Testing: Testing the interaction between different components or modules to ensure they work together as expected.
- System Testing: Testing the entire system as a whole to verify that it meets the specified requirements and functions properly in the intended environment.
- Acceptance Testing: Testing the software from the end user's perspective to determine whether it meets their requirements and expectations.
- Usability Testing: Testing to evaluate the user-friendliness and intuitiveness of the software's interface and features.

7.2 Test Cases & Test Results

Test Case	Expected Result	Actual Result	Decision
Wrong email and password	Should not login	Not login	**Pass**
Password Length <8	Should give error	Gave error	**Pass**
Invalid Url entering	Give error	Not given error	**Fail**
Profile Genration	Should give proper profile	Gave proper profile	**Pass**
Navigatio-n	Should navigate to proper pages	Navigation properly	**Pass**
User / Admin Dashboard Access	Only allowed should be able to access	Only allowed is able to access	**Pass**

Table 7.1: Test Cases.

CHAPTER 8
RESULTS

8.1 Outcomes

Due to ICode , now the showcasing of the skills has become a lot more easier and efficient along with that many colleges can now track their students and plan a method to increase their placement scenarios. Also this platform server as a base for recruiters to recruit a student via college allowing them to have a clear communication between college, students and recruiters.

8.2 Screenshots

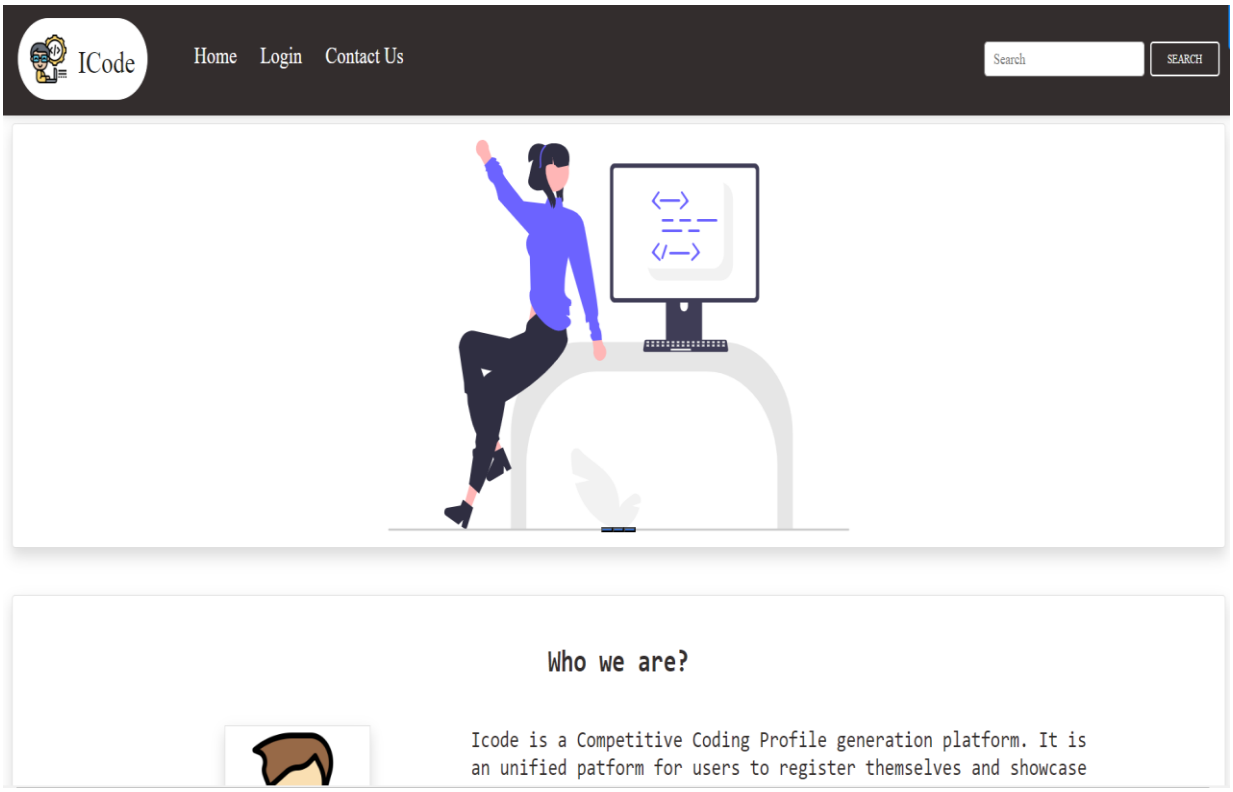


Figure 8.1: Landing Page

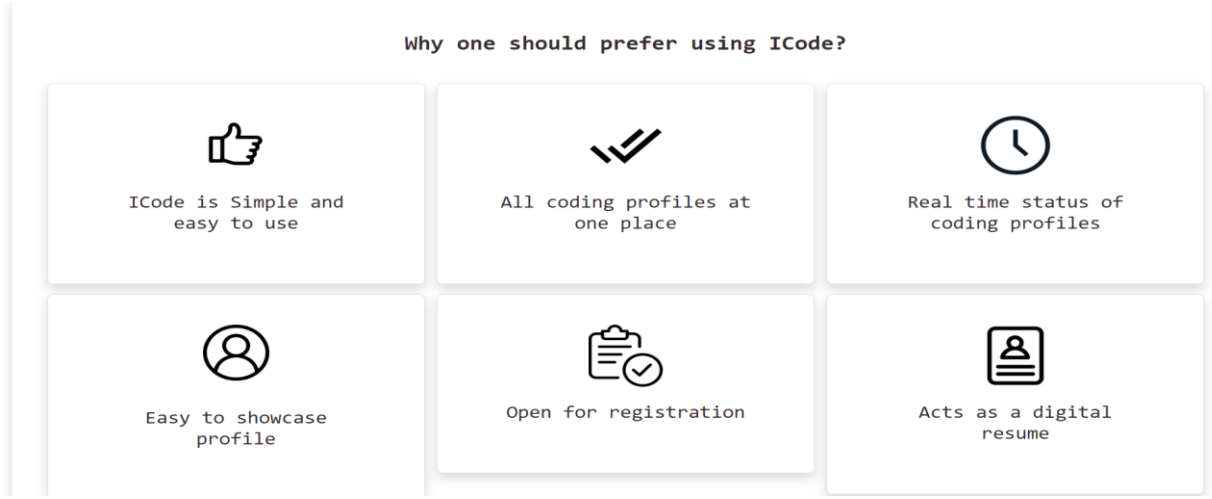


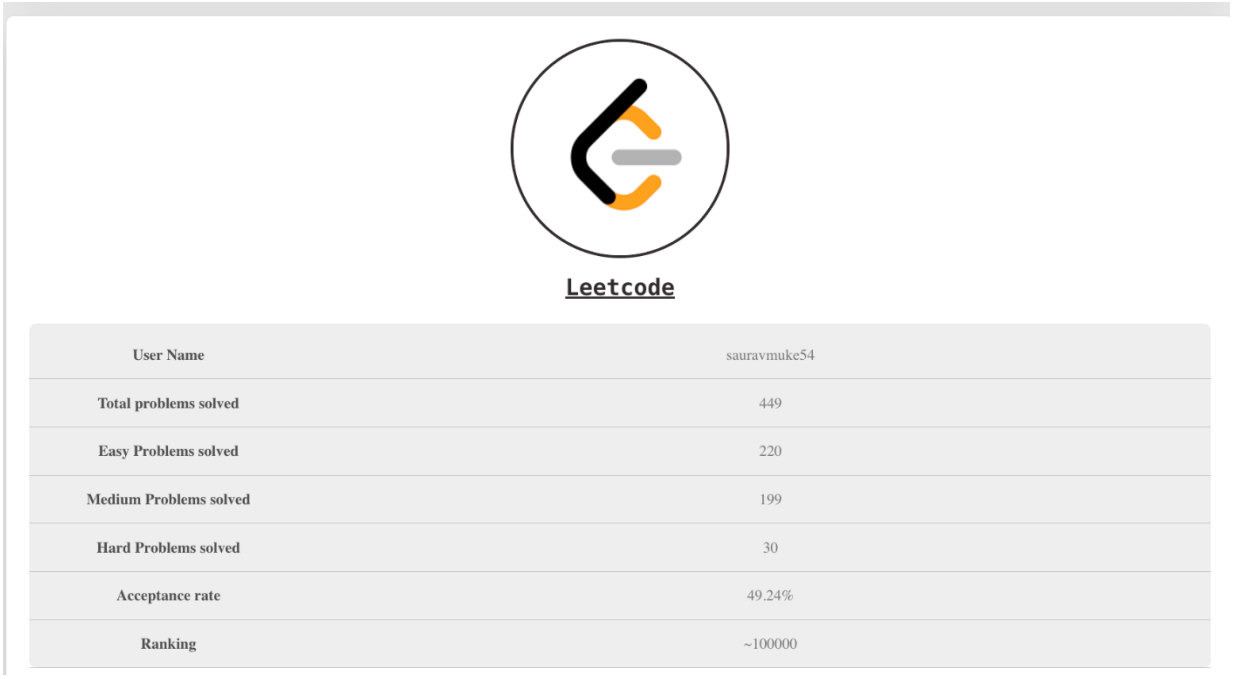
Figure 8.2: Why one should prefer ICode

Figure 8.3: Codechef Profile

Codeforces

User Name	sauravmuke54
Rank	newbie
Max Rank	newbie
Rating	801
Max Rating	948
Contest Solved	13

Figure 8.3: Codeforces Profile



Leetcode

User Name	sauravmuke54
Total problems solved	449
Easy Problems solved	220
Medium Problems solved	199
Hard Problems solved	30
Acceptance rate	49.24%
Ranking	~100000

Figure 8.4: Leetcode Profile

Github

Name	Saurav Muke
User Name	SauravMuke54
Public Repositories	33
Starred Repositories	1
Total Contributions	174
Pinned Repositories	hotel-booking One-Platform weather-app Workout-Buddy PriorityLuckyDraw

Figure 8.6: GitHub Profile

CHAPTER 9
CONCLUSION AND FUTURE WORK

9.1 Conclusion and Future Work

ICode is a powerful tool that can be used by coding enthusiasts and tech recruiters alike. It allows users to create dynamic and interactive digital resumes, integrate their digital resumes with popular coding platforms, and scrape data from coding platforms and websites.

ICode is still under development, but it has the potential to revolutionize the way that coding enthusiasts and tech recruiters connect with each other.

There are a number of ways that ICode can be improved in the future. Some of the things that the ICode team is working on include:

- Adding support for more coding platforms and websites
- Developing new features for user profile generation, digital resumes, recruitment, and student monitoring systems
- Improving the performance and scalability of the ICode platform
- Making the ICode platform more accessible to users in developing countries

Appendix A

Satisfiability Analysis

The problem statement is satisfiable because it is possible to develop a web-based platform that meets all of the requirements. The following are some of the key components that would need to be developed:

- A user interface that allows users to create and manage their digital resumes.
- An integration with popular coding platforms to allow users to import their data into their digital resumes.
- A data scraping module to extract data from coding platforms and websites.
- A backend server to store and manage user data and to generate dynamic and interactive digital resumes.

NP Hard, NP-Complete or P type:

The problem statement is NP-hard because it is not known whether there is a polynomial-time algorithm for solving it. The following are some of the reasons why the problem is NP-hard:

- The problem involves finding the optimal way to generate a dynamic and interactive digital resume from a set of data. This is a combinatorial optimization problem, which is known to be NP-hard.
- The problem also involves scraping data from coding platforms and websites. This is a computationally expensive task, and it is not known whether there is a polynomial-time algorithm for solving it.

Appendix B

Survey Paper

Name of Conference : 6th IEEE International Conference on Emerging Smart Computing and Informatics held at AISSMS, Pune.

Status: Accepted

Certificate :

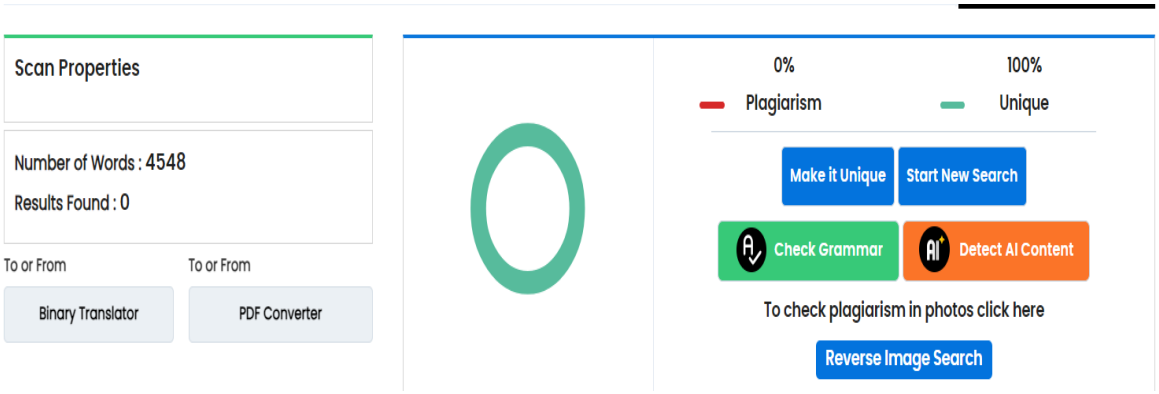
https://drive.google.com/drive/folders/15oEGbyUVYhM-N34cmAczswXpglPySxkB?usp=drive_link

Paper Link:

https://drive.google.com/file/d/1ksRrngoROicS2CB6PucyYM_BPWb8CZHS/view?usp=sharing

Appendix C

Plagiarism Report



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