One point student verification

A Project Report Submitted to

Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal
Towards Partial Fulfillment for the Award of

Bachelor of Technology
(Computer Science and Engineering)

Under the Supervision of
Prof. Ronak Jain

Submitted By
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Acropolis Institute of Technology & Research, Indore July-Dec 2022

EXAMINER APPROVAL

The Project entitled "**One Point Student Verification**" submitted by Aman Patel (0827CS213D03), Aastha Sharma (0827CS213D01), Bhomik Gahlot (0827CS213D08) and Chandransh Singh Chouhan (0827CS201062) has been examined and is hereby approved towards partial fulfillment for the award of Bachelor of Engineering degree in Computer Science & Engineering discipline, for which it has been submitted. It understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein, but approve the project only for the purpose for which it has been submitted.

(Internal Examiner) **(External Examiner)**
Date: **Date:**

GUIDE RECOMMENDATION

This is to certify that the work embodied in this project entitled "**One Point Student Verification**" submitted by Aman Patel (0827CS213D03), Aastha Sharma (0827CS213D01), Bhomik Gahlot (0827CS213D08) and Chandransh Singh Chouhan (0827CS201062)is a satisfactory account of the bonafide work done under the supervision of Prof. Ronak Jain recommended towards partial fulfillment for the award of the Bachelor of Engineering (Computer Science & Engineering) degree by Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal.

(Project Guide) **(Project Coordinator)**

STUDENTS UNDERTAKING

This is to certify that a project entitled “Smart Accessibility Map” has developed by us under the supervision of Prof. Ronak Jain. The whole responsibility of work done in this project is ours. The sole intention of this work is only for practical learning and research. We further declare that to the best of our knowledge this report does not contain any part of any work which has been submitted for the award of any degree either in this University or in any other University / Deemed University without proper citation and if the same work is found then we are liable for explanation to this.

Aman Patel (0827CS213D03) Aastha Sharma (0827CS213D01) Bhomik Gahlot (0827CS213D08) Chandransh Singh Chouhan (0827CS201062)

Acknowledgement

We thank the almighty Lord for giving me the strength and courage to sail out through the tough and reach on shore safely. There are a number of people without whom this project's work would not have been feasible. Their high academic standards and personal integrity provided me with continuous guidance and support. We owe a debt of sincere gratitude, deep sense of reverence and respect to our guide and mentors **Prof. Ronak Jain** Associate Professor, AITR, for their motivation, sagacious guidance, constant encouragement, vigilant supervision and valuable critical appreciation throughout this project work, which helped us to successfully complete the project on time. We express profound gratitude and heartfelt thanks to Dr Kamal Kumar Sethi, HOD CSE, AITR Indore for his support, suggestion and inspiration for carrying out this project. I am very much thankful to other faculty and staff members of CSE Dept, AITR Indore for providing me all support, help and advice during the project. We would be failing in our duty if we do not acknowledge the support and guidance received from Dr S C Sharma, Director, AITR, Indore whenever needed. We take the opportunity to convey my regards to the management of Acropolis Institute, Indore for extending academic and administrative support and providing me with all necessary facilities for the project to achieve our objectives. We are grateful to our parents and family members who have always loved and supported us unconditionally. To all of them, we want to say, “Thank you”, for being the best family that one could ever have and without whom none of this would have been possible.

Aman Patel (0827CS213D03) Aastha Sharma (0827CS213D01) Bhomik Gahlot (0827CS213D08) Chandransh Singh Chouhan (0827CS201062)

Executive Summary

This project is submitted to Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal(MP), India for partial fulfillment of Bachelor of Engineering in Computer Science & Engineering branch under the sagacious guidance and vigilant supervision of Prof. Priyanka Jangde and Prof. Narendra Pal Singh Rathore. The project is a website. In the project, Bing Maps API is used , which is a dynamic map. This project is only for disables. Disables can find the accessible features of property where he/she wants to visit. Also, they can find the route to visit the place and property owners can register themselves and show their accessibility features.

Table of contents

List of figures

Chapter 1. Introduction

Introduction

Our world has been radically transformed by digital technology-smart phones, tablets, and web enabled devices have transformed our daily lives and the way we communicate. Students are the most important groups who contribute to the nation. Greater and more detailed information of a student within a digital information system encompasses transformation to a digital world. Gathering the student information digitally is very useful for analyzing the student's educational details and their personal details. The educational details of the students are collected from each student and recorded in the Institute. When Admin gets a large number of students data they had the advantage to verify the students information.

1.1 Overview

Verification is a common activity performed by all organisation. As student get admission in college commonly rely on online web services to find student verify or not. For these systems and services, the platform produced by them, to address every student verify by college authority with special needs, they need to contain accessibility data/information. However, containing only accessibility data/information. For systems and services to be of value to special needs communities, they must: (a) contain useful accessibility data/information; (b) utilize accessibility data/information in meaningful ways.

1.2 Background and Motivation

Student are unable to browse and identify organisation where he/she complete their education work. Offices, which are having accessibility provisions cannot be filtered and shown by any means today, which would be very helpful to student they tell us we are verifying for this website. so there is no platform where student are verified. can register and declare that their properties are now accessible.

1.3 Problem Statement and Objectives

The main objective of this project one point student verification which help the organization to identify the
student details. Verified information of the student will help the college and requiteing organization to verify
that the given information by the student is correct or not. And student are verified or not to the institute.

1.4 Scope of the Project

The scope of this project is very clear because nowadays the quantity of student is very high and to identify or you can say verification is a big task now. So after verifying the information of student the quantity is not a big problem now. So for verifying the student details we are taking the help of their institute which contains all the information of the students in their database. This project is applicable for schools, collages, recruiters and related organization where database handling and fast verification like industry, hospital etc.

1.5 Group Organization

Aman Patel

Along with preliminary investigation and understanding the drawback of the current system, I studied about the topic and its scope. I surveyed various research papers related to object detection and the technology to be used. I also worked with Bootstrap5 to build the front-end along with DDL queries for the database by making tables in it and connecting it to the project. I integrated it with the Bing Maps SDK.

I **Aashtha Sharma** investigated, found the right technology and studied it in depth. I decided which framework should be suitable for this project. I worked on database integration using DML and TCL queries and the Bing Maps SDK. I also organized and debugged the code of the project. Implementational logic of the project objective and coding of internal functionalities was done by me for the project.

II **Bhomik Gahlot** worked on the front-end, making the HTML templates using the Jinja2 technology. I also worked with CSS. I implemented the favicon of this project. I helped with DDL queries on the backend of the project. Documentation is also a part of the work I did in
this project

III **Chandransh singh chouhan** made some of the HTML-Flask-Jinja2 templates and implemented CSS in it. I wrote the Javascript code for the search bar via Bing Maps and speech recognition via gTTS API for the project. I helped with the backend by implementing certain routes for the templates. Also I engaged in debugging the code and made the login and register pages with validation.

1.6 Report Structure

The project 'Smart Accessibility Map' is primarily concerned with the viewing routes to businesses and properties on a dynamic map and their accessibility features. The entire project report is categorized into five chapters.

Chapter 1: Introduction- introduces the background of the problem followed by rationale for the project undertaken. The chapter describes the objectives, scope and applications of the project. Further, the chapter gives the details of team members and their contribution in development of the project which is then subsequently ended with a report outline.

Chapter 2: Review of Literature- explores the work done in the area of Project undertaken and discusses the limitations of the existing system and highlights the issues and challenges of the project area. The chapter finally ends up with the requirement identification for present project work based on findings drawn from reviewed literature and end user interactions.

Chapter 3: Proposed System - starts with the project proposal based on requirement identified, followed by benefits of the project. The chapter also illustrates the software engineering paradigm

used along with different design representations. The chapter also includes a block diagram and details of major modules of the project. Chapter also gives insights of different type of feasibility study carried out for the project undertaken. Later it gives details of the different deployment requirements for the developed project.

Chapter 4: Implementation - includes the details of different Technology/ Techniques/ Tools/ Programming Languages used in developing the Project. The chapter also includes the different user interfaces designed in the project along with their functionality. Further it discusses the experiment results along with testing of the project. The chapter ends with evaluation of the project on different parameters like accuracy and efficiency.

Chapter 5: Conclusion - Concludes with objective wise analysis of results and limitation of present work which is then followed by suggestions and recommendations for further improvement.

Chapter 2 . Review of Literature

Review of Literature

2.1 Preliminary Investigation

Student Verification System:-

The existing student verification system does not provide information of the students across nation. It is preserved with in the educational institution where each student studies. This is not disclosed to other industries. And also the biometric details of the student are not taken into account. The entire education details of the students are not accounted. If a student has acquired multiple degrees during his life time at various educational institutes, it is also not accounted. So,

this one point student verification records all the details of the student irrespective of their educational institute where they had proceeded with their studies.

Existing System :-

• Problems :- The existing student verification system does not provide information of the students across nation.

• Advantages:- Student information is very confidential and stored in database safe and secured.

2.1.1 Current System and its Limitations

The existing student verification system does not provide information of the students across nation. It is preserved with in the educational institution where each student studies. This is not disclosed to other industries. And also the biometric details of the student are not taken into account. The entire education details of the students are not accounted. If a student has acquired multiple degrees during his life time at various educational institutes, it is also not accounted. So,this one point student verification records all the details of the student irrespective of their educational institute where they had proceeded with their studies.

Existing System :-

• Problems :- The existing student verification system does not provide information of the students

across nation.

• Advantages:- Student information is very confidential and stored in database safe and secured.

•The large amount available jobs can be easily identified by the student and applied. The patient monitoring system provides a facility to view all the current medical histories of a patient at any case despite of the location

2.2COMPARATIVE STUDY OF EXISTING SYSTEMS

Name	Map Type	Features	Limitations	Environment	URL
college	Self verify by college	student data collection & -real time -datbase management system	-slow loading - inappropriate content	Indoor features	https://acropolis.in

2.3 Requirement Identification

● Educational institutions that still rely on manual & paper-based methods of student verification take 5-10 days to verify a single student's ID documents, with administrators sometimes spending half their time simply searching for the right document.

● Manual ID verification is, additionally, not scalable. As institutions increase the size of their student bodies, paper-based document verification simply can't keep up with the sheer number of IDs to be verified.

● Securing the sensitive data obtained by administrators through student IDs is also an important concern. Paper-based ID verification and storage leave student data vulnerable to data loss and even theft. Educational institutions topped the list for

organizations with the most recorded ransomware attacks in 2021, with 44% of institutions experiencing ransomware attacks, according to research by Sophos.

2.4 Conclusion

Thus the entire educational details of the student is verified by one point student verification .After the information is verified now admin is free from the concerned of verification of the student.In this way it is beneficial for admin and student both.

Chapter 3 . Proposed System

Proposed System

3.1 Proposal

Working model is in 2 categories:

Gathering Student Details,
Verifying the student details

Gathering Student Details:-
The most significant advantage of gathering student details is to provide a common base which is the Institute in this case. Students entire details are present there. This includes both the personal and professional details of the student in Institute. This greatly helps in analyzing the profile of the student and to track their academic records for future references. The personal details of the student are tracked by Institution of each individual. The Institute have the information about individual's personal details such as Name, Origin, Place Of Domicile, Father Name, Mobile Number academic records. With the help of these information each student's individual records are traced by the external entity.

Verifying the student details:-
After gathering all the information about each student, the next stage is to verify the students details. By analyzing all the information provided by the student admin will verify all the details from the Institute they have listed in their information. To verify that the information provided by the students did match or not the institute records. After record gets verified by the Institute The student get verified. This way it will be beneficial for the company. Because it is not possible for the admin to check student data one by one. It sounds impossible because the students quantity is very high.This will help the admin in many ways.

3.2 Benefits of Proposed System

The current project had a lot of challenges that are overcome by this system :

- **Easy to Use :** The user interface is so basic that it is very easy to understand and operate.
- **Verification :** Users, especially student can use and college authority can verify each and every student.

Diagram:

USE CASE DIAGRAM –

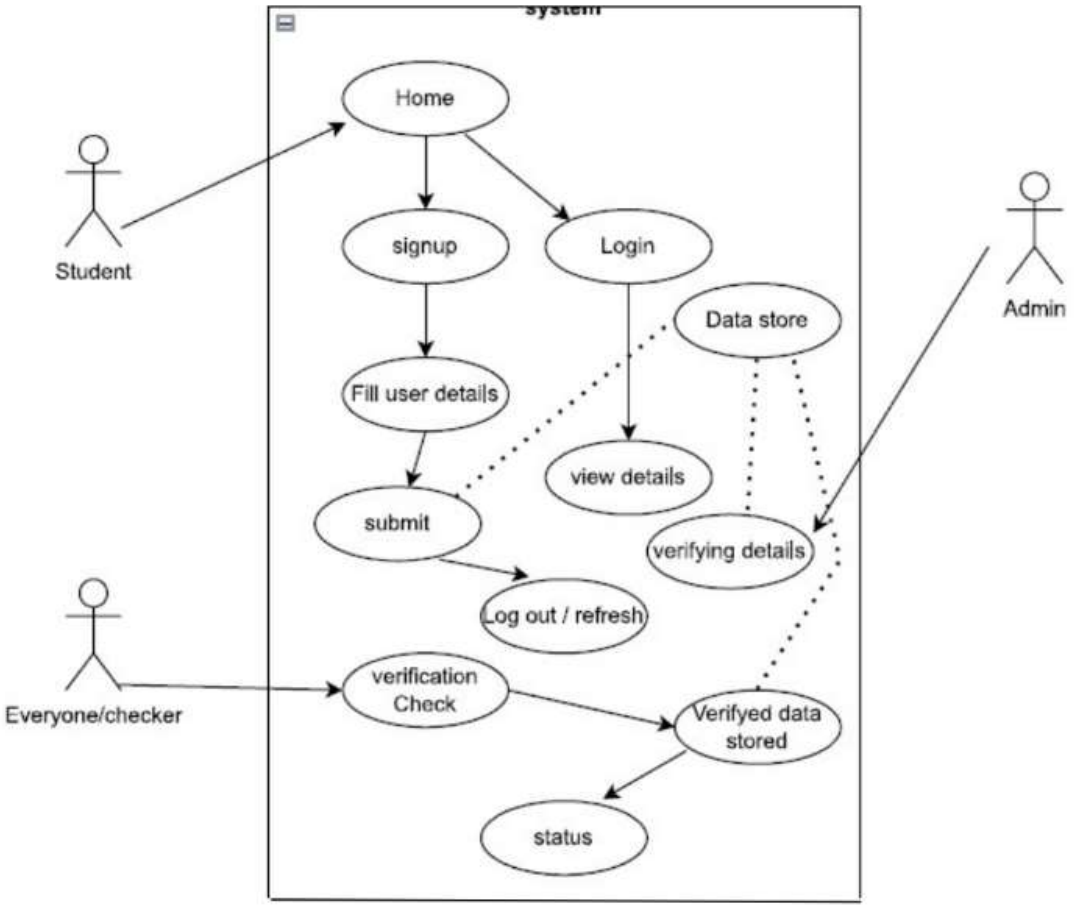
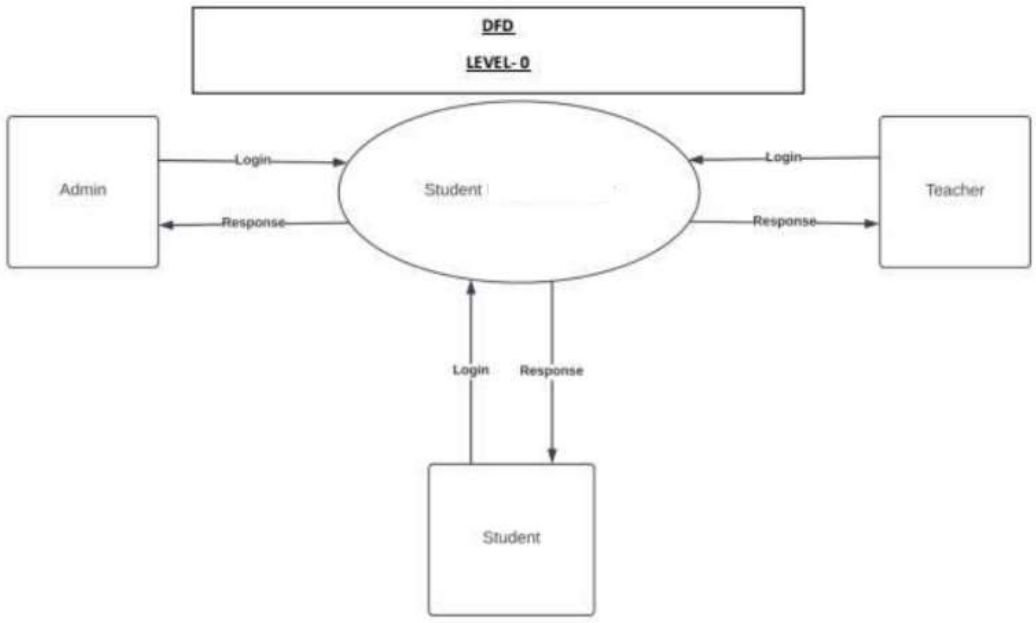


Figure 7: use case diagram

A use case is a methodology used in system analysis to identify, clarify and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. The method creates a document that describes all the steps taken by a user to complete an activity. According to the use case diagram proprietors will register themselves by giving the required details and their info will be stored in the database, after registration they can login their account and can update their details ,upload pictures etc. Users can directly search for the place where they want

to visit and information of the place will display along with the accessibility status, pictures etc. User can find the direction for the place from bing maps.

DFD



A data flow diagram (DFD) maps out the flow of information for any process or system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination According to the DFD level 0 diagram, the user will input the destination in our map system (bing map) from the database user will get the accessibility information of the destination and he/she will get the route for the destination. DFD level 0 diagram shows the interaction between the database, administrator and the user.

Lavel 3

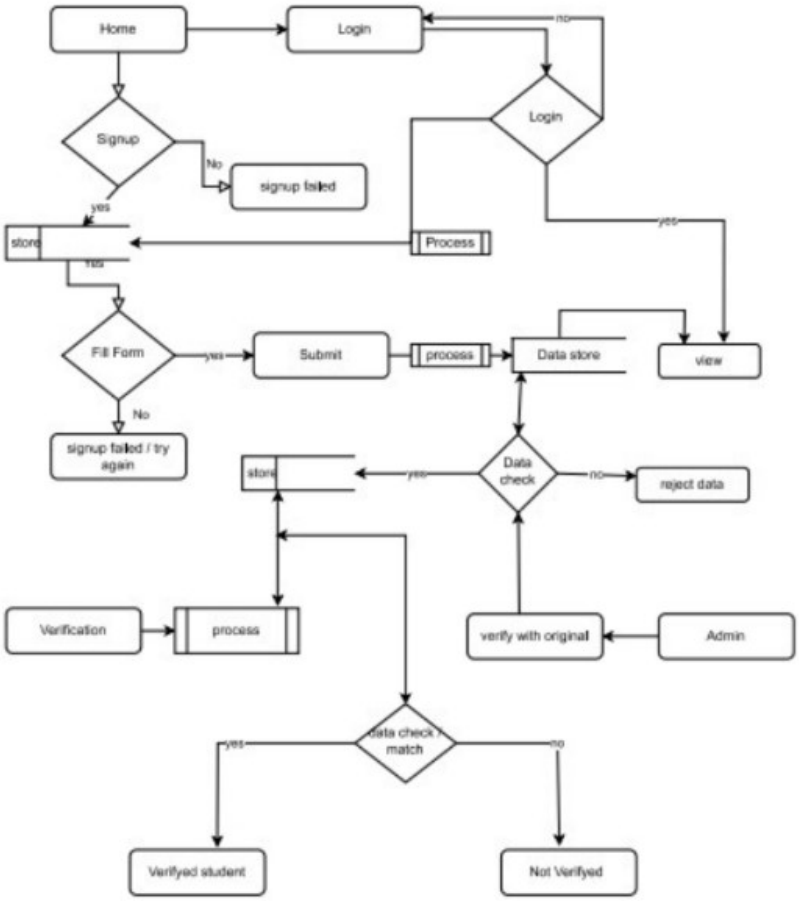


Figure 8 :Data Flow diagrams

Level 2 of the data flow diagram shows the app layout as the front end of our project user(proprietors) will register themselves and their information will store in the database. When the proprietors try to login to update their info authentication will be done by database and if the login info is match with the info which was previously stored in the database then only the app user logins the system. Now when the user(disable) will search for the place to visit app layout will show the map view and map view will search the information of the proprietors and will display the accessibility status of the place when user will select the get direction button he/she will get the route for the place.

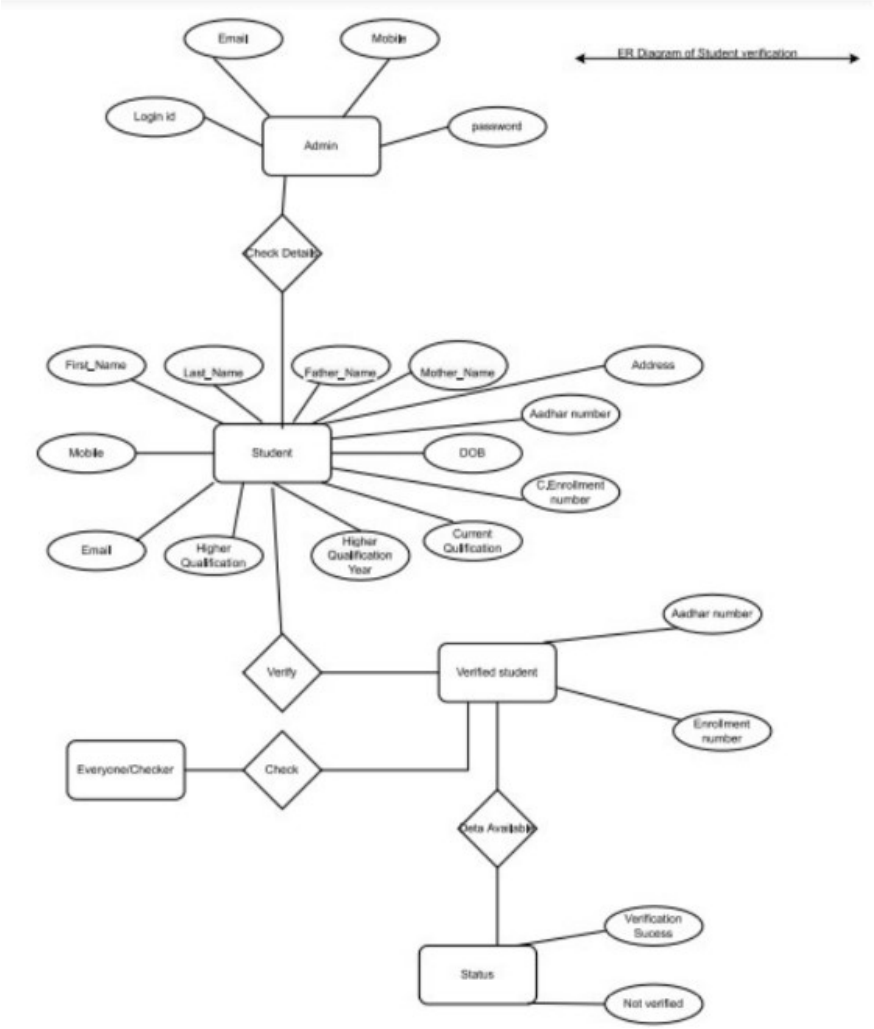


Figure 9 : ER Diagram

ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships. ER Diagrams contain different symbols that use rectangles to represent entities, ovals to define attributes and diamond shapes to represent relationships.

This ER diagram has 5 entities Customer,user,properties,Location,account and enquiry. Customer is a user which has a username password and the email user is a disable and a property owner having property name,pictures, PWD friendly equipment and accessibility information. Customer

enters the location which has route,amenities and accessibility information. Customer gets the direction for the place.

Chapter 4 . Implementation

Implementation

The Smart Accessibility Map website is designed in such a way that disable has to visit site and search for the place where he/she will find the accessibility features along with the route to go to that place. Also, the property owners can register themselves and can show their accessibility features with pictures.

4.1 Technology Used

4.1.1 Bootstrap (For Front End)

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains HTML, CSS and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. Bootstrap is an HTML, CSS & JS Library that focuses on simplifying the development of informative web pages (as opposed to web apps). The primary purpose of adding it to a web project is to apply Bootstrap's

choices of color, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers. In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-colored tables, page headings, more prominent pull quotes, and text with a highlight.

- **HTML**

HTML stands for Hyper Text Markup Language. It is the standard markup language for creating web pages. It describes the structure of a web page. HTML consists of a series of elements.
HTML elements tell the browser how to display the content.

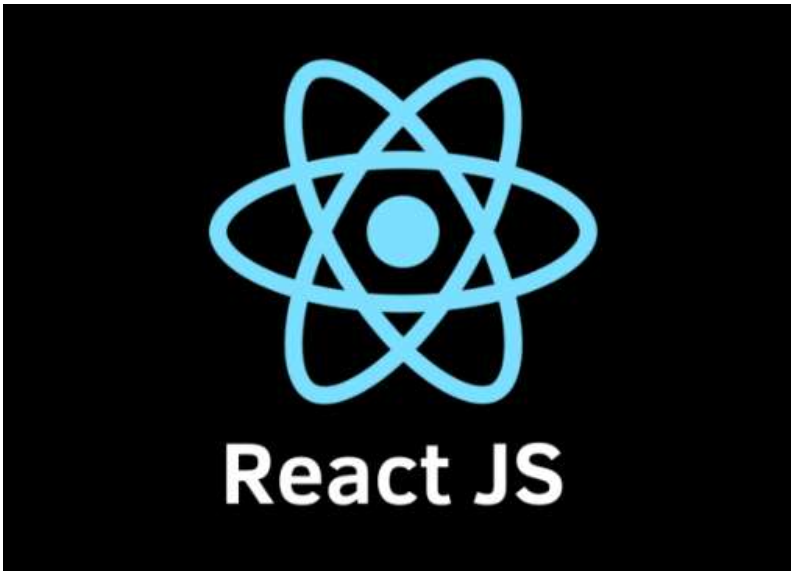
- **CSS**

CSS stands for Cascading Style Sheets. It describes how HTML elements are to be displayed on screen, paper, or in other media. It can control the layout of multiple web pages all at once, and saves a lot of work. External stylesheets are stored as CSS files.

- **Javascript**

JS or Javascript is used to program the behavior of web pages. JS libraries and frameworks make website and application development easier with wide-ranging features and functionalities. In this project, JS will be mainly used in the front-end for client-side validation.

React.js



React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies.[4][5][6] React can be used as a base in the development of single-page, mobile, or server-rendered applications with frameworks like Next.js. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality.

4.2 Testing

Testing is the process of evaluation of a system to detect differences between given input and expected output and also to assess the features of the system. Testing assesses the quality of the product. It is a process that is done during the development process. Tests can be conducted based on two approaches –

- Functionality testing
- Implementation testing

The testing method used here is Black Box Testing. It is carried out to test functionality of the program. It is also called 'Behavioral' testing. The tester in this case, has a set of input values

and respective desired results. On providing input, if the output matches with the desired results, the program is tested ‘ok’, and problematic otherwise.

Everything in this project is tested, testing was also done while making this project simultaneously and after making the project.

4.2.1 Test cases

A test case is a specification of the inputs, execution conditions, testing procedure, and expected results that define a single test to be executed to achieve a particular software testing objective, such as to exercise a particular program path or to verify compliance with a specific requirement.

Test cases for this project:

- **Test cases for Registration form**

1. Verify that the Registration form contains Username, First Name, Last Name, Password, Confirm Password, Email Id, Phone number, Enterprise name, Location, Verify that tab functionality is working properly or not
2. Verify that Enter/Tab key works as a substitute for the Submit button
3. Verify that all the fields such as Username, First Name, Last Name, Password and other fields have a valid placeholder.
4. Verify that the labels float upward when the text field is in focus or filled (In case of floating label)
5. Verify that all the required/mandatory fields are marked with * against the field
6. Verify that clicking on submit button after entering all the mandatory fields, submits the data to the server
7. Verify that the system generates a validation message when clicking on submit button without filling all the mandatory fields.
8. Verify that entering blank spaces on mandatory fields lead to validation error
9. Verify that clicking on submit button by leaving optional fields, submits the data to the server without any validation error
10. Verify that system generates a validation message when entering existing username
11. Verify that the validation of all the fields are as per business requirement.

12. Verify that the validation of email field by entering incorrect email id
13. Verify that the password is in encrypted form when entered
14. Verify whether the password and confirm password are same or not.

- **Test Cases for Login form**

1. Verify if a user will be able to login with a valid username and valid password.
2. Verify if a user cannot login with a valid username and an invalid password.
3. Verify the login page for both, when the field is blank and Submit button is clicked.
4. Verify the messages for invalid login.
5. Verify if the data in password field is either visible as an asterisk or bullet signs.
6. Verify if the 'Enter' key of the keyboard is working correctly on the login page.
7. Verify the time taken to log in with a valid username and password.
8. Verify the login page and all its controls in different browsers.

- **Test Cases For Upload features form**

1. Verify if a user will be able to upload pictures.
2. Verify if all fields are working properly.

- **Test Cases for Layout page GUI**

1. Testing the size, position, width, height of the elements.
2. Testing of the error messages that are getting displayed.
3. Testing the different sections of the screen.
4. Testing of the font whether it is readable or not.
5. Testing of the screen in different resolutions with the help of zooming in and zooming out like 640 x 480, 600×800, etc.
6. Testing the alignment of the texts and other elements like icons, buttons, etc. are in the proper place or not.
7. Testing the colors of the fonts.
8. Testing the colors of the error messages, warning messages.
9. Testing whether the image has good clarity or not.
10. Testing the alignment of the images.
11. Testing of the spelling.

12. The user must not get frustrated while using the system interface.
13. Testing whether the interface is attractive or not.
14. Testing of the scrollbars according to the size of the page if any.
15. Testing of the disabled fields if any.
16. Testing of the size of the images.
17. Testing of the headings whether it is properly aligned or not.
18. Testing of the color of the hyperlink.

● **Test Cases for Map**

1. Verify map is displayed on clicking the get direction and search locations.
2. Verify on entering the location of place, place is displayed in maps. 3. check for any location/business address in the selected area.
4. Check whether Zoom in works for a clear view.
5. check directions click on 'Get Directions' and type locations A and B and click on 'Get Directions'; should display directions to reach B from A. 6. Check for street view

click on 'Street View' button and view should be displayed.

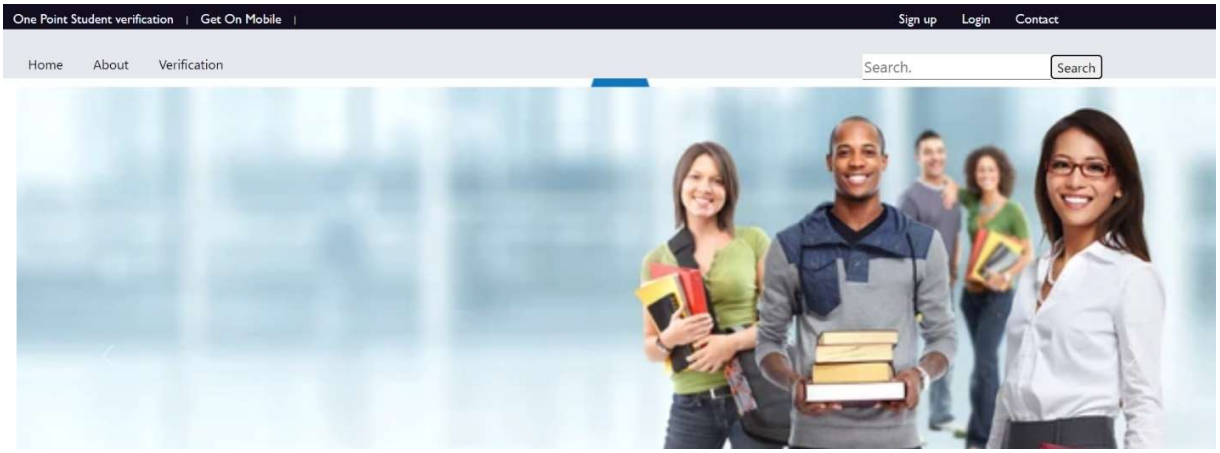
7. Verify accessibility status and features are showing .

4.2.2 Test Results

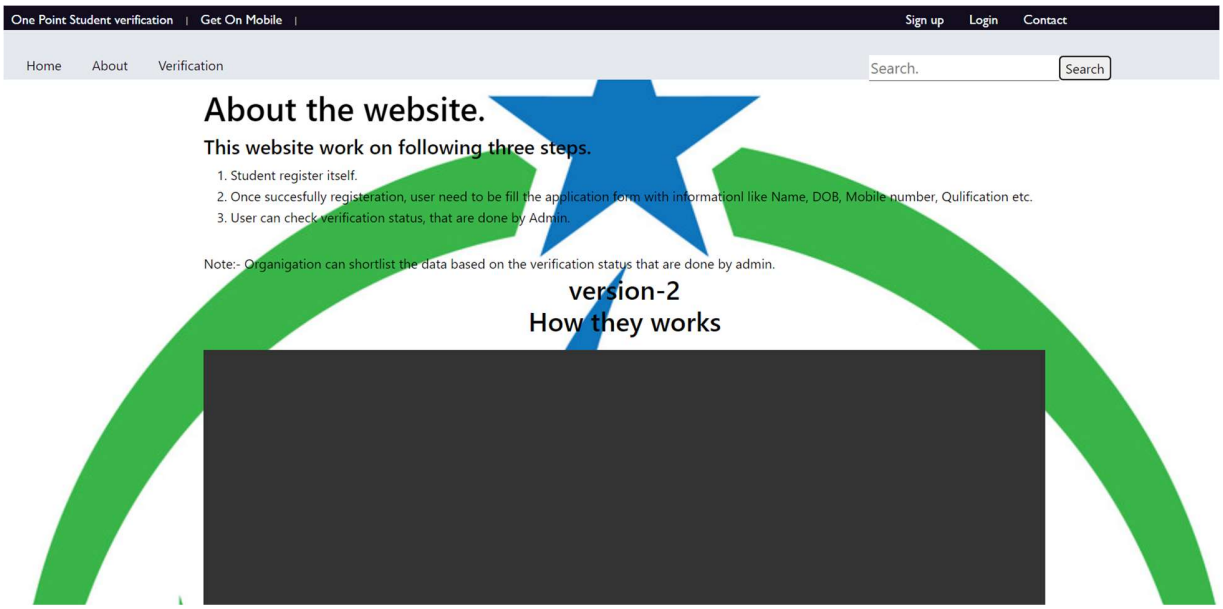
Test Cases	Executed	Passed	Pending	Performance (positive/negative)
Registration form	100%	100%	0	Positive
Login form	100%	100%	0	Positive
Features	100%	100%	0	Positive
Home page	100%	99%	0	Positive
Verification	100%	100%	0	Positive

Figure10. Showing all pages with code

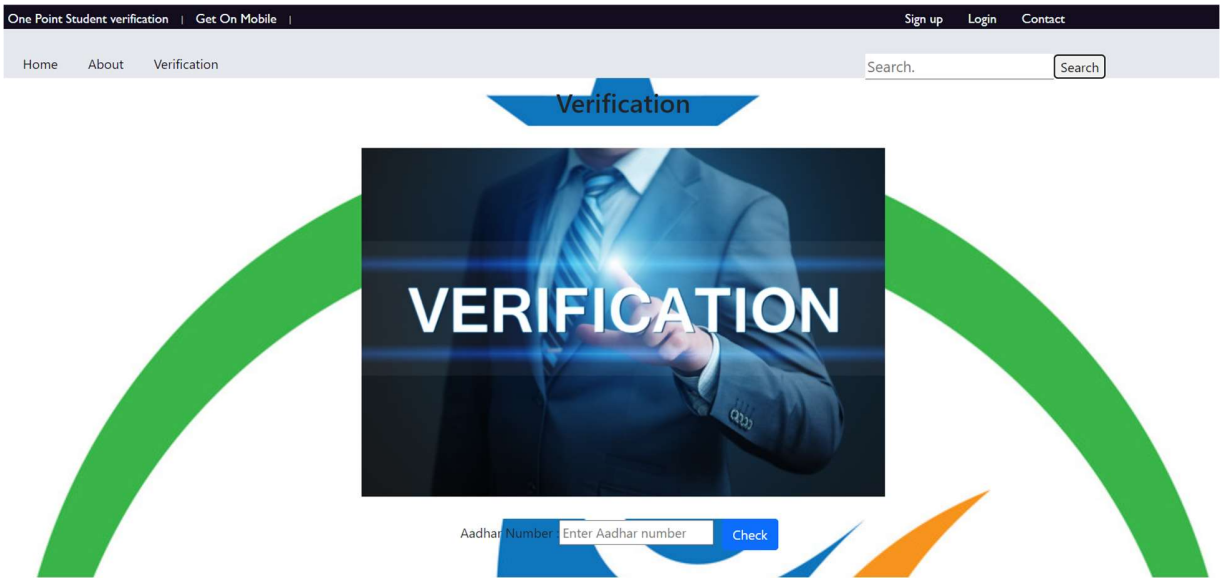
Home page



About page

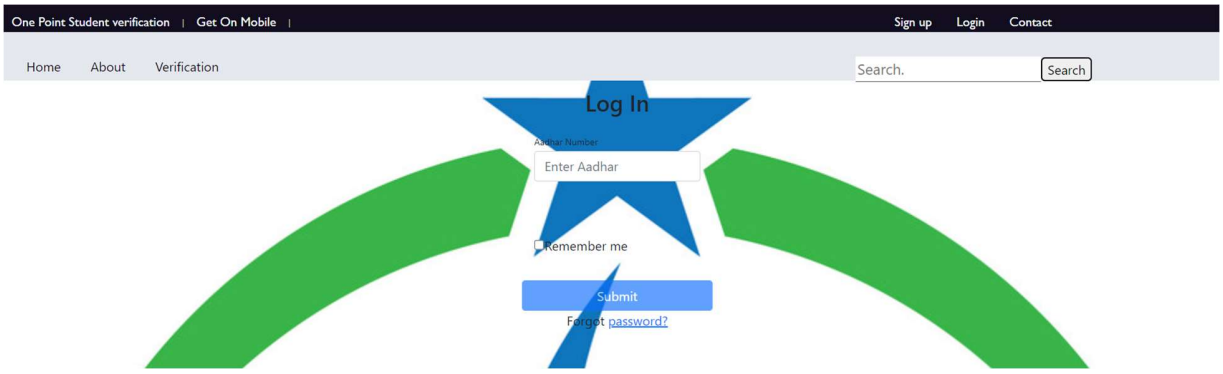


Verification page



Sign up page

Login page



Contact page

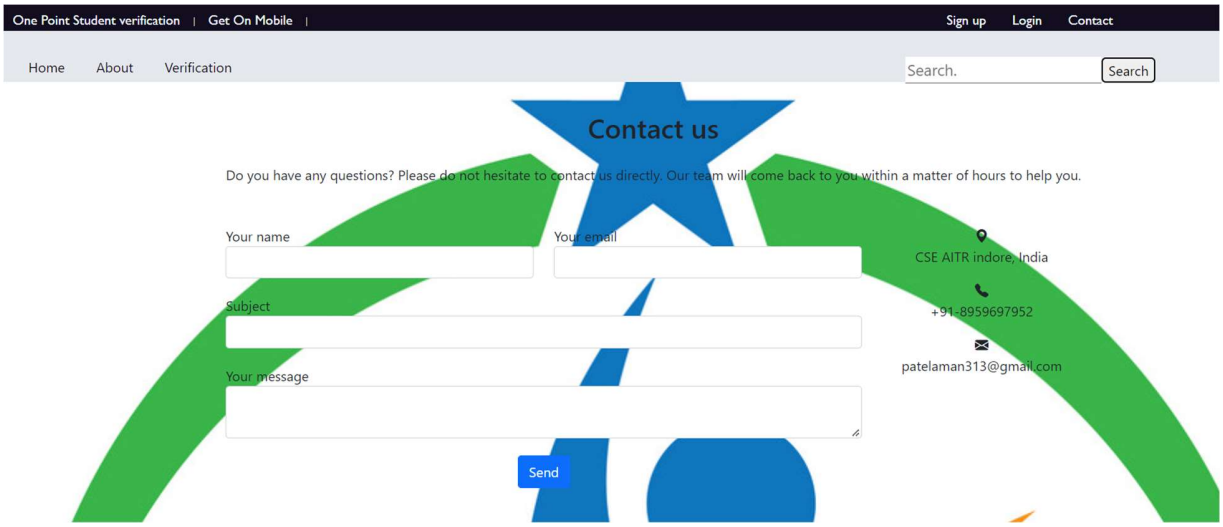
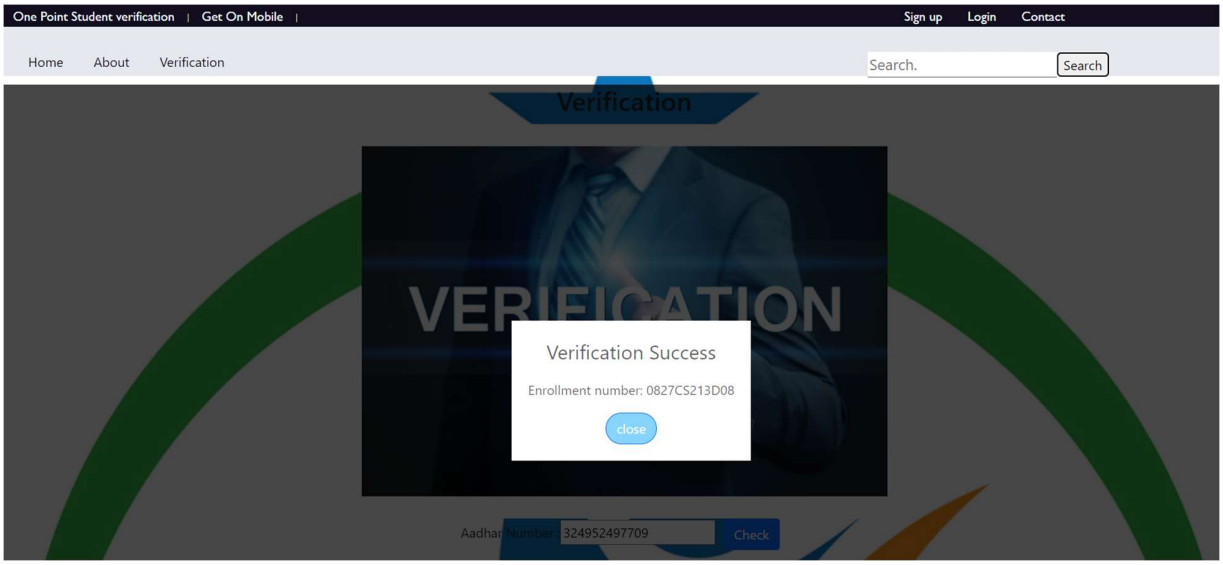


Figure11. Validation field for admin page


One Point Student verification | Get On Mobile |
Sign up
Login
Contact
Home
About
Verification
Search.
Search
List Of Users
Aadhar number Email Verification Status
1 825155221935 123456 Rejected
1 825155221934 regerte Verified
1 859999975767 0827ci201111 Verified
1 964482261161 0827cs201063 Verified
1 324952497709 0827CS213D08 Verified
1 825144610000 0827CS201056 Verified
1 710142167743 79b61a05f3 Check
1 987654321012 95072152022 Check
1 987654321123 95072152022 Check
1 987654321112 95072152021 Check
1 687015543226 Check

Result page


One Point Student verification | Get On Mobile |
Sign up
Login
Contact
Home
About
Verification
Search.
Search
Verification
VERIFICATION
Verification Success
Enrollment number: 0827CS213D08
close
Aadhar Number 324952497709
Check

Chapter 5.Conclusion

Conclusion

The entire educational details of the student are collected from a single platform. At the time of any type of verification which is justify that this student are actually studying or pass out of showing enrollment number and student are verify by collage authority.

5.1 Limitations

- **Speed**

Speed, or the lack of it, can be a major issue. Since it is an interpreted language, Python can be slower than other compiled languages.

- **Lack of mobile computing and browsers**

It is strong in desktop and server platforms but weak in mobile platforms. There have only been a handful of smartphone apps developed using Python, and the language is rarely seen in the client-side of web development applications.The language is also not present in web development browsers. The major reason for this is that it is difficult to secure.

- **Design restrictions**

Python has some major design restrictions in the language because it is dynamically typed. This requires more testing and errors to turn up only during runtime. The language's global interpreter lock means that just one thread can access Python internals at any time.

5.2 Suggestion and Recommendations for Future Work

- The website interface would be more vibrant.

- gTTS features should be improved.
- Should be more informative.
- Interface should be enhanced accessibility.

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