



UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

(TEAM ID : PNT2022TMID36734)

A PROJECT REPORT

Submitted by

NAZEERDEEN A (210219104026)

DINESH S (210219104008)

KAMALESH S (210219104018)

DHANUSH M (210219104007)

SRI SIVASAKTHI S (210219104035)

HARISH S (210219104013)

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

APOLLO ENGINEERING COLLEGE

ANNA UNIVERSITY::CHENNAI 600 025

NOV 2022

ACKNOWLEDGEMENT

We would like to express my sincere thanks to **Dr. R. MANOHARAN, M.E, Ph.D.,** Principal of our college for their constant support and encouragement towards completion of this project.

We would like to express our heartfelt thanks to **Mrs. S. RUKMANI DEVI,** Head of the department, project evaluator and Assistant Professor project mentor **Mrs. B. JERINA.**

Further Thanks to IBM, Tamil Nadu state Govt, ICT academy & Anna university.

We would like to express my heartfelt thanks to the department staffs for their continuous support and encouragement.

ABSTRACT

At the time of admission all the work is done by manually by ink and paper, that is very slow and much time and effort consuming. Students admission is one of the most important activities in education industry. A poor and slower admission system can mean fewer students being admitted into abroad universities because they don't have proper source to do the process. This project aims for automated system, pre checking the inclusions of all required data and automatically listing each student based on their application. The data used by the system is stored by database that will be center of all information. This enables things to be simplified and considerably quick, making it easier. It supports the current process but centralized it and make it possible for abroad universities.

INDEX

S.No	Title	Page No
1.	INTRODUCTION	1
1.1	Project Overview	2
1.2	Purpose	2
2	LITERATURE SURVEY	2
2.1	Existing Problem	4
2.2	References	4
2.3	Problem Statement Definition	4
3	IDEATION & PROPOSED SOLUTION	5
3.1	Empathy Map Canvas	5
3.2	Ideation & Brainstorming	6
3.3	Proposed Solution	7
3.4	Problem Solution Fit	9
4	REQUIREMENT ANALYSIS	9
4.1	Functional Requirement	10
4.2	Non Functional Requirement	10
5	PROJECT DESIGN	11
5.1	Data Flow Diagram	11
5.2	Solution & Technical Architecture	12
5.3	User Stories	13
6	PROJECT PLANNING & SCHEDULING	14
6.1	Sprint Planning & Estimation	14
6.2	Sprint Delivery Schedule	15
6.3	Reports From Jira	15
7	CODING & SOLUTIONING	17
7.1	Code	17
7.2	Features	20
7.3	Algorithm	20

8	TESTING	21
8.1	Test Cases	21
8.2	User Acceptance Testing	21
9	RESULT	23
9.1	Performance Metrics	23
10	ADVANTAGES & DISADVANTAGES	28
11	CONCLUSION	29
12	FUTURE SCOPE	29
13	APPENDIX	29

CHAPTER 1

INTRODUCTION

A person's education plays a vital role in their life. While planning for education students often have several questions regarding the courses, universities, job opportunities, expenses involved, etc. Securing admission in their dream university is one of their main concerns. It is seen that often students prefer to pursue their education from universities which have global recognition. Every candidate has to take all the required examination and build a strong profile to secure admission in their dream universities. The students have to shortlist the universities which are best known for the courses they are looking for and also they should have an idea about their chances of securing admission in those universities based on their profile. This task of shortlisting the universities where the student has high chances of admission is difficult for mainly for the international students, so they end up with applying to many universities in hopes of getting admission in few of them thus investing an extra amount of money in the applications. There are several portals and websites which provide information and help to students in shortlisting the universities, but they are not reliable. Most of the students don't take the risk of evaluating the colleges by themselves, and they seek the help of the education consultancy firms to do it for them. Again for this students have to pay a huge amount of fee to the education consultant. The primary objective of this research is to develop a system to solve the problems the international students are facing while applying for universities. This system which will help the students to predict the chances of their application being selected for a particular university for which they wish to apply based on their scores. Multiple machine learning classification algorithms were evaluated to develop the system. Also, we will be creating a simple user interface which will help the users to input the data related to student profile and get the predicted result for the application based on the profile as output. This research will thus eventually help students saving the extra amount of time and money they have to spend at the education consultancy firms. And also it will help them to limit their number of application to a small number by providing them the suggestion of the universities where they have the best chance of securing admission.

1.1 Project Overview

University and college admission is a complex decision process that goes beyond simply matching test scores and admission requirements. For an aspiring graduate student, choosing which universities to apply to is really a difficult problem. Often, the students wonder if their profile is good enough for a certain university. In this project, this problem has been addressed by modeling a recommender system based on various classification algorithms. Based on the collected data set, various models were trained and one best and some other similar properties carrying universities are suggested for the students such that it maximizes the chances of a student getting an admit from that university list. Classification algorithms have also been used to predict the acceptance chance of any student on any individual university. To predict the best university for the particular student his/her TOEFL score, GRE score, their university ratings, the SOP score, LOR score and their CGPA, the score has been used as attributes for classification. Linear regression algorithm has been used to predict the eligibility chances for them to get admission

1.2 Purpose

Students are often worried about their chances of admission to University. The aim of the project is to help students in shortlisting universities with their profiles. The predicted output gives them a fair idea about their admission chances in a particular university. This analysis should also help students who are currently preparing or will be preparing to get a better idea.

CHAPTER 2

LITERATURE SURVEY

1. Prediction for university admission using machine learning,2020.

Authors: Chithra Apoorva D A, Malepati Chandu Nath, Peta Rohith, Bindu Shree.S.

This research paper refers to discuss the prediction of student admission to university based on numerous factors and using logistic regression. Many prospective students apply for Master's

programs. The admission decision depends on criteria within the particular college or degree program. The independent variables in this study will be measured statistically to predict graduate school admission. Exploration and data analysis, if successful, would allow predictive models to allow better prioritization of the applicants screening process to Master's degree program which in turn provides the admission to the right candidates.

2. University Admission Prediction using Machine Learning, 2021.

Authors: Kruthika CS, Apeksha B, Chinmaya GR, Madhumathi JB, Veena MR.

This research paper talk about is to make a Machine Learning model which could be utilized by understudies who need to seek after their education. Many AI algorithms were used for this examination. Linear Regression model contrasted with different models gives the best outcome. Understudies can utilize the model to survey their shots at getting induction into a specific University.

3. Graduate Admission Prediction Using Machine Learning,2020.

Authors: Sara Aljasmi , Ali Bou Nassif ,Ismail Shahin, Ashraf Elnagar.

This research paper talk about machine learning models were performed to predict the opportunity of a student to get admitted to a master's program. The machine learning models included are multiple linear regression, k-nearest neighbor, random forest, and Multilayer Perceptron. Experiments show that the Multilayer Perceptron model surpasses other models. As for the future work, more models can be conducted on more datasets to learn the model that gives the best performance.

4. Prediction of Admission Process for Gradational Studies using AI Algorithm,2021.

Authors: Saurabh Singhal, Ashish Sharma.

In the present time there are plenty of scholars seeking after their instruction away from their nations of origin. The fundamental nation focused through these worldwide scholars is The United States of America. The popular of the universal scholars in the United States of America are from India and China. With the expansion in the quantity of worldwide scholars concentrating in the USA, every candidate needs to confront extreme rivalry to get admission to their fantasy

college. This work is to build up a framework utilizing AI algorithms, named it as Graduate Admission Prediction (GAP).GAP will assist the scholars by predicting the chance to get seat in Fantasy College. This paper compares and recognizes which AI algorithm is going to give precise outcome. A straightforward UI will be created for clients to get to the framework.

2.1 Existing Problem

When the user wants to know whether he/she is eligible for getting admission in the universities. They need to visit the universities personally and get their previous cut off records. Then the user needs to analyze those records to know their chance of admit. It takes a lot of time and energy and the prediction will also be inaccurate. The proposed system will be able to overcome these shortcomings and gives the chance of admit for the user.

2.2 References

1. Chithra Apoorva D A, Malepati ChanduNath, Peta Rohith, Bindu Shree.S; Prediction for university admission using machine learning ,2020.
2. Kruthika CS, Apeksha B, Chinmaya GR, Madhumathi JB, Veena MR; University Admission Prediction using Machine Learning, 2021.
3. Sara Aljasmi , Ali Bou Nassif ,Ismail Shahin,Ashraf Elnagar; Graduate Admission Prediction Using Machine Learning,2020.
4. Saurabh Singhal, Ashish Sharma; Prediction of Admission Process for Gradational Studies using AI Algorithm,2021.
5. Sharan Kumar Paratala Rajagopal; Predicting Student University Admission Using Logistic Regression,2020.

2.3 Problem Statement Definition

Educational organizations have always played an important and vital role in society for development and growth of any individual. The problem statement, hence being tackled, is to design a university prediction system which helps students avoid spending time and money on counsellor and stressful research related to finding a suitable university. We aim to develop and provide a place which would give a probabilistic output as to how likely it is to get into a university given upon their details.

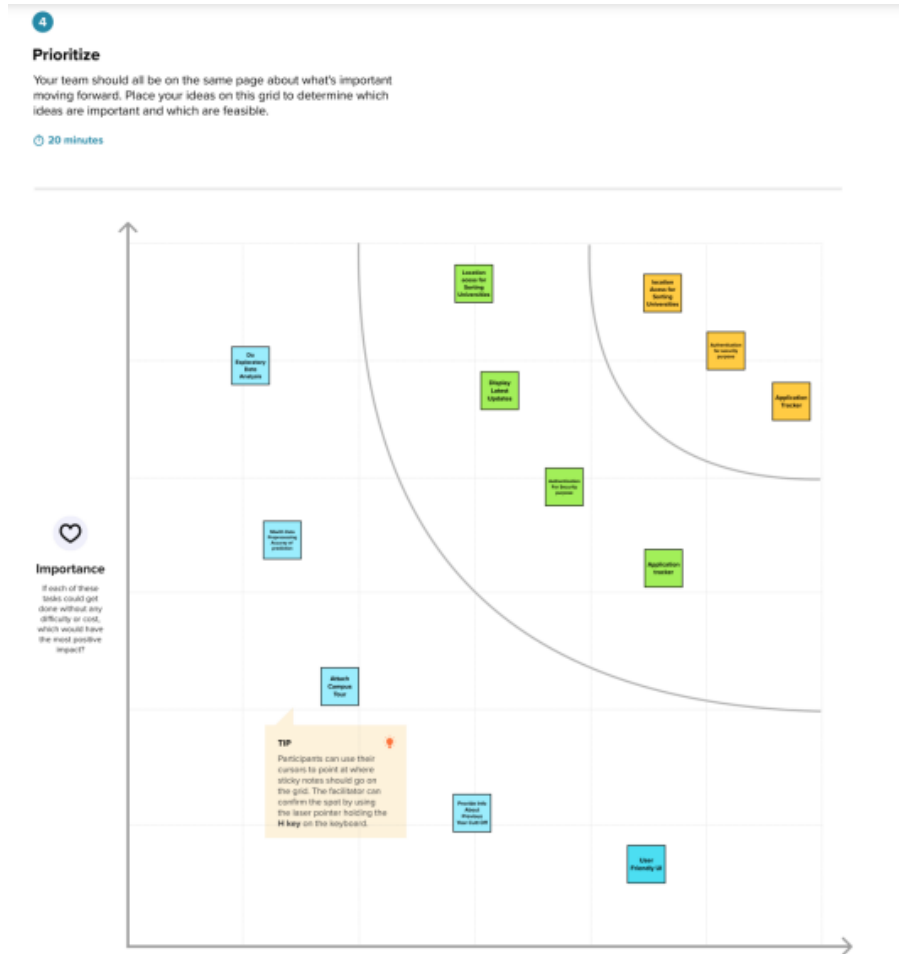
CHAPTER 3

IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers. Much like a user persona, an empathy map can represent a group of users, such as a customer segment. The empathy map has gained much popularity within the agile community.



3.3 Proposed Solution

S.No.	Parameter	Description
1	Problem Statement (Problem to be solved)	University and college admission is a complex decision process that goes beyond simply matching test scores and admission requirements. For an aspiring graduate student, choosing which universities to apply to is really a difficult problem. Often, the students wonder if their profile is good enough for a certain university. In this project, this problem has been addressed by modeling a recommender system based on various classification algorithms.

2	Idea / Solution description	<p>Students will login to the site and fill their details. There will be suggestions on courses offered by universities based on their marks. The user can choose the courses and universities as they wish.</p> <p>The predictor will compare the data.</p>
3	Novelty / Uniqueness	<p>The system provides suggestions on courses and Universities the students are eligible for instead of them choose again and again. The details about universities suggesting will be provided. So there will be no need for the student to check for any other websites.</p>
4	Social Impact / Customer Satisfaction	<p>The system connects students scattered geographically. And it reduces the time taken for processing the applications of students, admitting a student, verifying their marks. It acts as a centralized data handling. Reduces the cost involved in the admission process. It also improves the operational efficiency by improving the quality of the process.</p>
5	Business Model (Revenue Model)	<p>The platform suggests universities to the students by making tie-ups with universities. And the system is useful for any student who wishes to go for an undergraduate course.</p>
6	Scalability of the Solution	<p>The project will predict the chance of getting admission for undergraduates. In the future the project can be expanded for higher education where the students can check whether they are eligible for their choice of course in their choice of university for post-graduation courses.</p>

3.4 Problem Solution Fit

Project Title: University Admit Eligibility Predictor		Project Design Phase-I - Solution Fit Template		Team ID: PNT2022TMD36734	
Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 9-5 y.o. kids <div>Students who have completed 12th grade in HSC</div>	6. CUSTOMER CONSTRAINTS CC What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices. <div>Spending more money unwanted, Time and Energy in lack of Poor Knowledge</div>	5. AVAILABLE SOLUTIONS AS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking <div>Seat allotment, Eligibility Criteria due to Entrance Exam like NEET, JEE, etc,</div>	Explore AS, differentiate	
	2. JOBS-TO-BE-DONE / PROBLEMS J&F Which jobs to be done (or problems) do you address for your customers? There could be more than one, explore different sides. <div>Want to get admission in preferred University.</div>	9. PROBLEM ROOT CAUSE RC What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations. <div>Due to high Competition and not meeting the required criteria.</div>	7. BEHAVIOUR BE What does your customer do to address the problem and get the job done? i.e. Directly related: find the right solar panel installer, calculate usage and benefits, indirectly associated: customers spend too time on volunteering work (i.e. Greenpeace) <div>At the Last Moment Spend more Money and Time to get into the preferred University</div>		
Focus on J&F, tap into BE, understand RC	3. TRIGGERS TR What triggers customers to act? i.e. seeing their neighbor installing solar panels, reading about a more efficient solution in the news. <div>Watching Other Students trying to getting into one's favourite University.</div>	10. YOUR SOLUTION SL If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. <div>We would create an application that helps students to get the list of colleges by comparing the student's marks and college's cut off and predicting admission probability. It is fast, efficient and reliable. It helps you to understand as to how your profile can be further improved to secure an admit in your preferred university</div>	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 <div>They will search online about the preferred university and the criteria to join the University</div> 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. <div>Visiting College campus, Enquire students, Academic representatives and nearby people about the University.</div>	Identify strong TR & EM	
	4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, insecure < use it in your communication strategy & design. <div>Confused, Anxious over whether one getting Admission in the University.</div>				

CHAPTER 4

REQUIREMENT ANALYSIS

Requirements analysis is critical to the success or failure of a systems or software project. The requirements should be documented, actionable, measurable, testable, traceable, related to

identified business needs or opportunities, and defined to a level of detail sufficient for system design.

4.1 Functional Requirements:

Functional requirements explain what has to be done by identifying the necessary task, action or activity that must be accomplished. Functional requirements analysis will be used as the top level functions for functional analysis.

- **Prediction**

The system will predict whether the user is eligible for getting admission in the universities based on the scores.

- **Chance of Admit**

The system shows the chance percentage of getting admission in the universities to the user.

4.2 Non-Functional Requirements

Non-functional requirements are requirements that specify criteria that can be used to judge the operation of a system, rather than specific behaviors.

- **Reliability**

The system shall be completely operational all hours of the day unless system failure. Down time is not less than 24 hours.

- **Performance**

The system can support any number of users at a time.

- **Supportability**

The system will be able to incorporate more features without major reengineering.

- **Usability**

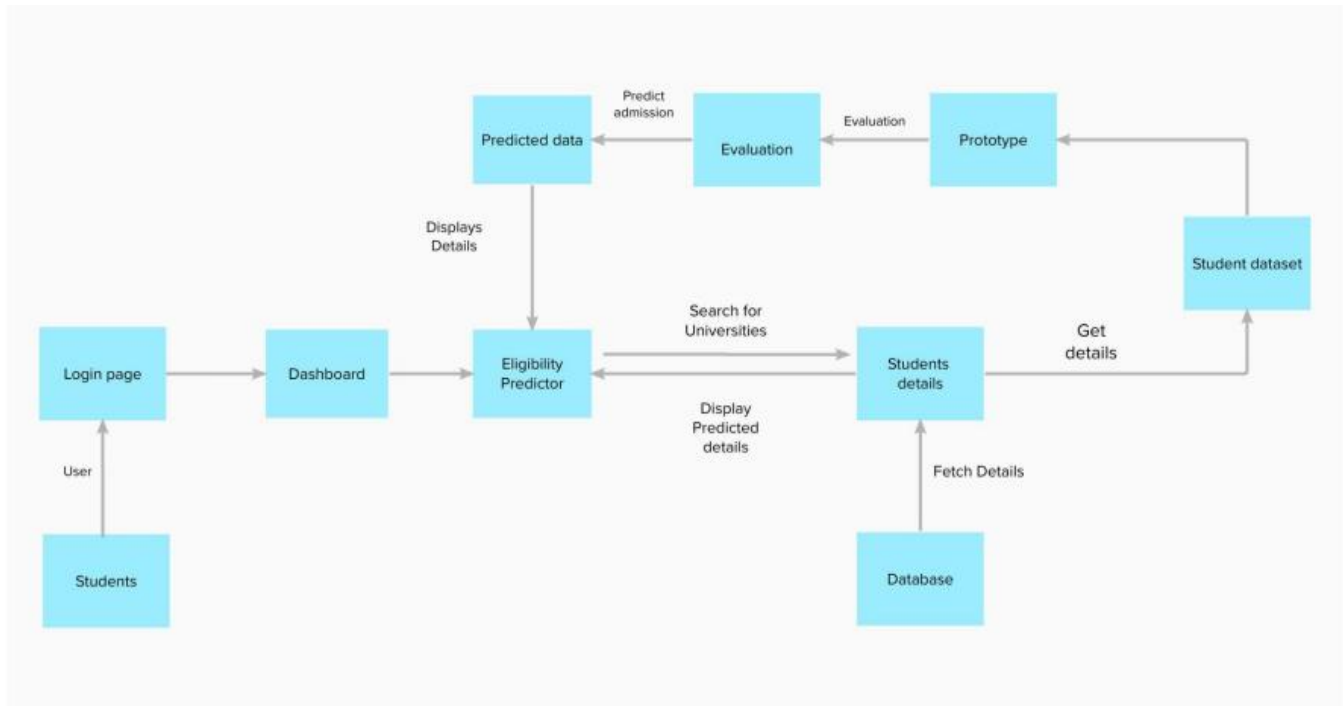
No training is required to use the website. The results from the predictor should not take more than 30 seconds.

CHAPTER 5

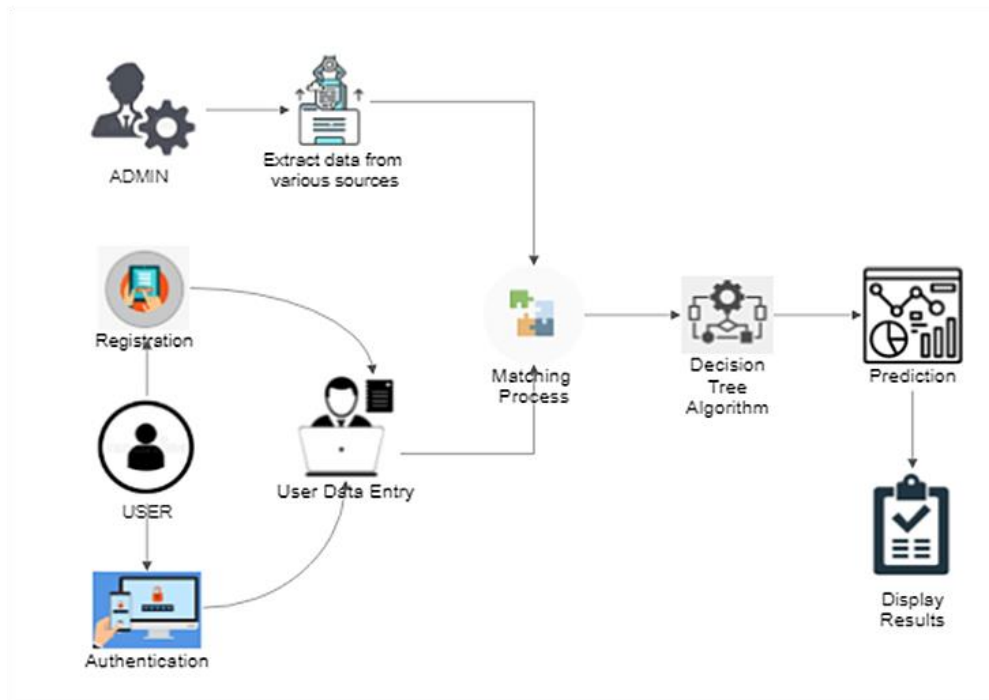
PROJECT DESIGN

5.1 Data Flow Diagram

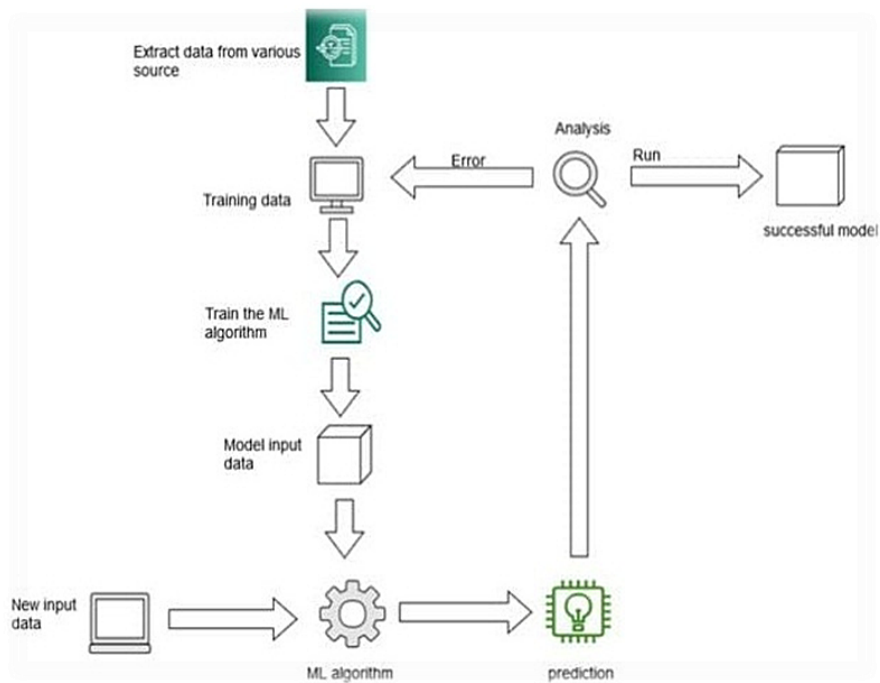
A Data Flow Diagram (DFD) is a visual representation of the information flows within a system. It can be manual, automated, or a combination of both.



5.2 Solution & Technical Architecture



Solution Architecture



Technical Architecture

5.3 User Stories

A user story is a note that captures what a user does or needs to do as part of his/her work. Each user story consists of a short description written from user's point of view, with natural language.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Web user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail	I can register and access the dashboard	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can access various pages	High	Sprint-1
	Dashboard	USN-6	As a user, I can search for various universities	I can access several pages	High	Sprint-1
	Search	USN-7	As a user, I can search for Universities with different field	I can receive information related to universities on various locations	High	Sprint-2
	View	USN-8	As a user, I can view the University details	I will get the information on seat availability, eligibility criteria.	High	Sprint-2
	Receive notification	USN-9	As a user, I will receive notifications about the Suggested universities based on student marks	I will get frequent updates of the preferred universities	Low	Sprint-2
	Chat with expert	USN-10	As a user, I can chat with the expert for clarifications	I can clear my doubts through chat with expert option	Medium	Sprint-2
Admin	Analysis	USN-11	As an admin, I will analyse the given dataset	I can analyse the dataset	High	Sprint-2
	Predict	USN-12	As an admin, I will predict the admission	I can predict eligibility for admission	High	Sprint-2

CHAPTER 6

PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	3	High	2
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	1
Sprint-1	Login	USN-3	As a user, I can log into the application by entering email & password	4	High	4
Sprint-2	Update Profile	USN-4	As a user, after logging in, I will have to update myprofile by providing all the required details.	3	High	3
Sprint-3	Choose University	USN-5	As a user, I will be able to view the list of universities that the students are eligible to apply.	5	High	6
Sprint-3	Choose Course	USN-6	As a user, I will be able to view the list of courses that the students are eligible to apply.	5	Medium	5
Sprint-4	Admission Process	USN-7	As a user, I will be able to view the details ofAdmission process like date and venue of certification verification.	2	Low	2
Sprint-1	Authentication	USN-8	As a admin, the login credential of the user is authenticated my me.	3	High	3
Sprint-2	Update Profile	USN-9	As a admin, I can verify the user entered details.	2	High	2

Sprint-3	Prediction	USN-10	As a admin, I can test the trained ML model by analyzing the user details by ML algorithms like Logistic Regression.	5	High	6
Sprint-4	Output	USN-11	As a admin, I can upload the confirmation of userfor the prediction into the Database.	3	High	3

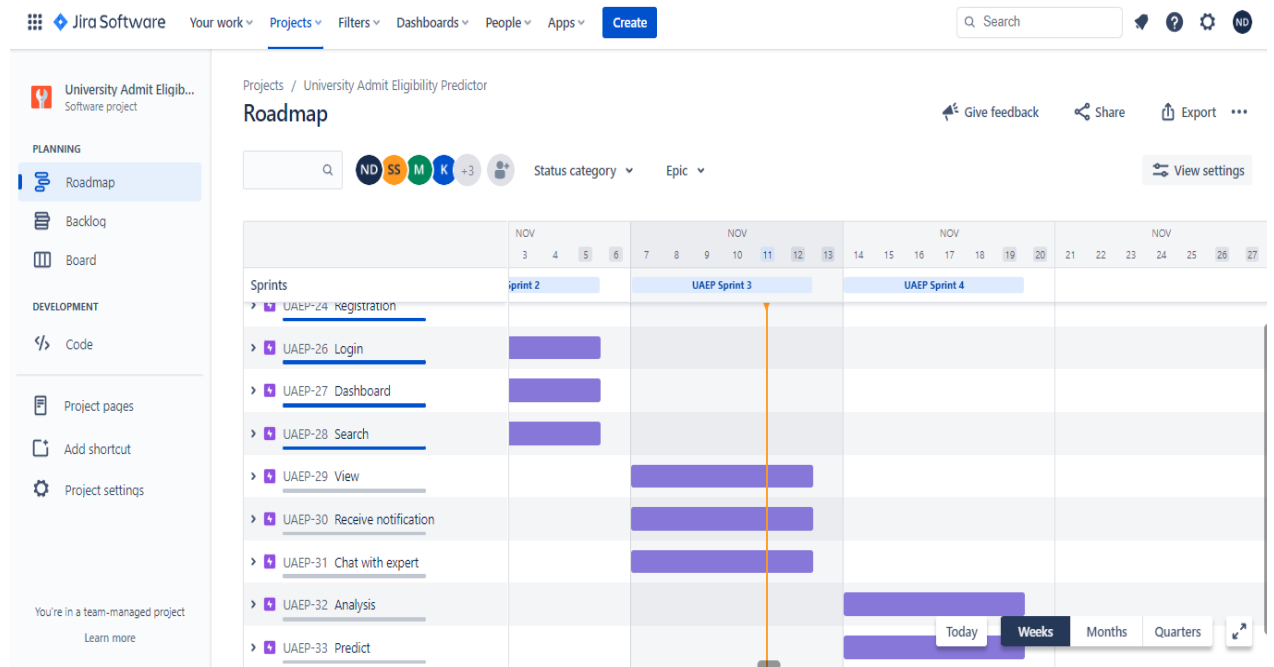
6.2 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date	Story Points Completed	Sprint Release Date
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

6.3 Reports from JIRA

The screenshot shows the Jira Software interface for the 'University Admit Eligibility Predictor' project. The 'All sprints' view is active, displaying a Kanban board with four columns: 'TO DO 5 ISSUES', 'IN PROGRESS', 'IN REVIEW 7 ISSUES', and 'DONE'. The 'TO DO' column contains three user stories: 'As a user, I can view the University details' (labeled 'VIEW'), 'As a user, I will receive notifications about the Suggested universities based on student marks' (labeled 'RECEIVE NOTIFICATION'), and 'As a user, I can chat with the expert for clarifications' (labeled 'CHAT WITH EXPERT'). The 'IN PROGRESS' column is currently empty. The 'IN REVIEW' column contains three user stories: 'As a user, I can register for the application through Gmail' (labeled 'REGISTRATION'), 'As a user, I can register for the application by entering my email, password, and confirming my password' (labeled 'REGISTRATION'), and 'As a user, I can register for the application through Facebook' (labeled 'REGISTRATION'). The 'DONE' column is also empty. The interface includes a sidebar with navigation options like Roadmap, Backlog, Board, Code, Project pages, Add shortcut, and Project settings. The top navigation bar shows 'Jira Software' and various filters and dashboards.

Burndown Chart:



A burndown chart is a project management chart that shows how quickly a team is working through a customer's user stories. This agile tool captures the description of a feature from an end-user perspective and shows the total effort against the amount of work for each iteration or agile sprint.

CHAPTER 7

CODING & SOLUTIONING

Code:

```
from flask import Flask, render_template, redirect, url_for, request
import requests

app = Flask(__name__)

@app.route("/", methods = ['POST', 'GET'])
def index():
    if request.method == 'POST':
        arr = []
        for i in request.form:
            val = request.form[i]
            if val == '':
                return redirect(url_for("demo2"))
            arr.append(float(val))

        # deepcode ignore HardcodedNonCryptoSecret: <please specify a reason of
        ignoring this>
        API_KEY = "LCI3WnVbNVVVk0zSyCGIBhWp0voyjeb5VzA1GuzPSEyl"
        token_response = requests.post('https://iam.cloud.ibm.com/identity/token',
data={
    "apikey": API_KEY,
    "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'
})
        mltoken = token_response.json()["access_token"]
        header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' +
mltoken}
        payload_scoring = {
            "input_data": [{"fields": [ 'GRE Score',
                                        'TOEFL Score',
                                        'University Rating',
                                        'SOP',
                                        'LOR ',
                                        'CGPA',
                                        'Research'],
                            "values": [arr]
                        }
        ]

        response_scoring = requests.post(
            'https://us-south.ml.cloud.ibm.com/ml/v4/deployments/fd146f26-1deb-
49a9-a688-731daa863097/predictions?version=2022-11-16',
            json=payload_scoring,
            headers=header
        ).json()
```

```

        result = response_scoring['predictions'][0]['values']

        if result[0][0] > 0.5:
            return redirect(url_for('chance', percent=result[0][0]*100))
        else:
            return redirect(url_for('no_chance', percent=result[0][0]*100))
    else:
        return redirect(url_for("demo2"))

@app.route("/home")
def demo2():
    return render_template("demo2.html")

@app.route("/chance/<percent>")
def chance(percent):
    return render_template("chance.html", content=[percent])

@app.route("/nochance/<percent>")
def no_chance(percent):
    return render_template("noChance.html", content=[percent])

@app.route('/<path:path>')
def catch_all():
    return redirect(url_for("demo2"))

if __name__ == "__main__":
    app.run()

```

7.1 Features

Login Page

The login page allows a user to gain access to an application by entering the username and password. If the authentication is successful, the user is directed to the next page.

Enter Details

In this page, the user can enter their exam scores such as GRE score, TOEFL score, SOP score, LOR score, university ranking, CGPA and by clicking the predict button they will be redirected to the result page.

Result Page

This page displays the percentage of user's chance of getting admission in a university.

7.2 Algorithm

There are many algorithms for predictive modeling machine learning such as Linear regression, Support vector regression, Decision tree regression, Random Forest, XG Boost. Among these algorithms, Linear regression, Random Forest, XG Boost are evaluated. The evaluated results showed that the Linear regression is the most suitable machine learning for university admit eligibility prediction.

Linear Regression: It is the most important algorithm in the field of Machine Learning, especially supervised learning. It is a way to model a relationship between a dependent variable and one or more independent variables. It consists of finding a regression line straight line through the points.

CHAPTER 8 TESTING

8.1 Test Cases

Test case ID	Feature Type	Component	Test Scenario	Steps To Execute	Test Data	Expected Result	Actual Result	Status
LoginPage_TC_001	Functional	Home Page	Verify user is able to see the Login/Signup popup when user clicked on My account button	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Signup popup displayed or not	http://127.0.0.1:5000	Login/Signup popup should display	Working as expected	Pass
LoginPage_TC_002	UI	Home Page	Verify the UI elements in Login/Signup popup	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Signup popup with below UI elements: a.email text box b.password text box c.Login button d.New customer? Create account link e.Last password? Recovery password link	http://127.0.0.1:5000	Application should show below UI elements: a.email text box b.password text box c.Login button with orange colour d.New customer? Create account link e.Last password? Recovery password link	Working as expected	Fail
LoginPage_TC_003	Functional	Home page	Verify user is able to log into application with Valid credentials	1.Enter URL and click go 2.Click on My Account dropdown button 3.Enter Valid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username: user1 password: 1234	User should navigate to user account homepage	Working as expected	Pass
LoginPage_TC_004	Functional	Login page	Verify user is able to log into application with Invalid credentials	1.Enter URL and click go 2.Click on My Account dropdown button 3.Enter Valid username/email in Email text box 4.Enter Invalid password in password text box 5.Click on login button	Username: user1 password: 123	Application should show 'Incorrect email or password' validation message.	Working as expected	Pass
LoginPage_TC_005	Functional	Login page	Verify user is able to log into application with Invalid credentials	1.Enter URL and click go 2.Click on My Account dropdown button 3.Enter Invalid username/email in Email text box 4.Enter Invalid password in password text box 5.Click on login button	Username: user1, Password: abc	Application should show 'Incorrect email or password' validation message.	Working as expected	Pass
ResultPage_TC_006	Functional	Result Page	Verify user is able to get the chance of admit	Enter the scores and Click on the predict button.	GRE: 345, TOEFL: 100, University Ranking: 5, SOP: 4, LOR 4, CGPA: 9.0	Application should show 'The chance of admit is 84 percent'.	Working as expected	Pass
ResultPage_TC_007	Functional	Result Page	Verify user is able to get the chance of admit	Enter the scores and Click on the predict button.	GRE: 250, TOEFL: 90, University Ranking: 5, SOP: 4, LOR 4, CGPA: 7.0	Application should show 'The chance of admit is 84 percent'.	Working as expected	Pass

8.2 User Acceptance Testing

i) Purpose of Document

The purpose of this document is to briefly explain the test coverage and open issues of the University Admit Eligibility Predictor project at the time of the release to User Acceptance Testing (UAT).

ii) Defect Analysis

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved.

Resolution	Severity1	Severity2	Severity3	Severity4	Subtotal
By Design	10	4	2	3	20
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	14	13	26	77

iii) Test Case Analysis

This report shows the number of test cases that have passed, failed, and untested.

Section	TotalCases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	51	0	0	51
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	9	0	0	9
Final Report Output	4	0	0	4
Version Control	2	0	0	2

CHAPTER 9

RESULTS


9.1 Performance Metrics

S. No	Parameter	Values	Screenshot															
1.	Metrics	<p>Regression Model: MAE -0.043051, MSE -0.003313, RMSE - 0.057560, R2 score - 0.807216</p> <p>Classification Model: Confusion Matrix , Accuracy Score- 0.872& Classification Report.</p>	<pre>In [47]: mae = metrics.mean_absolute_error(y_test, predlinear) mse = metrics.mean_squared_error(y_test, predlinear) rmse = np.sqrt(mse) # or mse**(0.5) r2 = metrics.r2_score(y_test, predlinear)</pre> <pre>In [48]: chart = { 'Metric':["MAE", "MSE", "RMSE", "R2-SCORE"], 'LINEAR_REGRESSION':[mae,mse,rmse,r2], } chart = pd.DataFrame(chart)</pre> <pre>In [49]: display(chart)</pre> <table><thead><tr><th></th><th>Metric</th><th>LINEAR_REGRESSION</th></tr></thead><tbody><tr><td>0</td><td>MAE</td><td>0.043051</td></tr><tr><td>1</td><td>MSE</td><td>0.003313</td></tr><tr><td>2</td><td>RMSE</td><td>0.057560</td></tr><tr><td>3</td><td>R2-SCORE</td><td>0.807216</td></tr></tbody></table>		Metric	LINEAR_REGRESSION	0	MAE	0.043051	1	MSE	0.003313	2	RMSE	0.057560	3	R2-SCORE	0.807216
	Metric	LINEAR_REGRESSION																
0	MAE	0.043051																
1	MSE	0.003313																
2	RMSE	0.057560																
3	R2-SCORE	0.807216																

2.	Tune the Model	Hyperparameter Tuning	<pre>In [64]: scores = cross_val_score(model, X_train, y_train, scoring='r2', cv=5) scores</pre> <pre>Out[64]: array([0.81813967, 0.77169539, 0.83989563, 0.74719974, 0.78589678])</pre>
		Validation Method	<pre>In [65]: avg_score=scores.mean()</pre> <pre>In [67]: print ("Cross Validation Scores : ",scores) print ("Average CV Score : ",avg_score) print ("Number of CV Scores used in Average : ",len(scores))</pre> <pre>Cross Validation Scores : [0.81813967 0.77169539 0.83989563 0.74719974 0.78589678] Average CV Score : 0.7925654408790849 Number of CV Scores used in Average : 5</pre>


SCREENSHOTS

HOME PAGE


University Admission Eligibility Prediction System

Enter your details and get probability of your admission

Students are often worried about their chances of admission to University. The aim of this project is to help students in shortlisting universities with their profiles. The predicted output gives them a fair idea about their admission chances in a particular university. This analysis should also help students who are currently preparing or will be preparing to get a better idea.



Enter the details

GRE Score:

TOFEL Score:

University Rating:

SOP:

LOR:

CGPA:

Research: ☐ Yes ☒ No

Predict

ENTER DETAILS

Enter the details

GRE Score:

TOFEL Score:

University Rating:

SOP:

LOR:

CGPA:

Research: ☐ Yes ☒ No

Enter the details

GRE Score:

TOFEL Score:

University Rating:

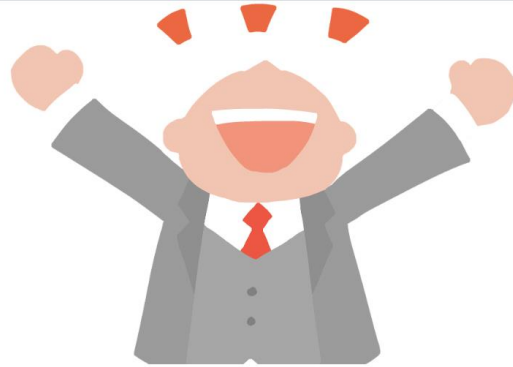
SOP:

LOR:

CGPA:

Research: ☒ Yes ☐ No

RESULT



You Have Chance

The model has predicted that you have

71.06887594445459% chance

[Go Back](#)



You have a LOW / NO chance

The model has predicted that you only have

43.972417457648724% chance

[Go Back](#)

CHAPTER 10

ADVANTAGES & DISADVANTAGES

10.1 Advantages

- It helps student for making decision for choosing a University.
- Here the chance of occurrence of error is less when compared with the existing system.
- It is fast, efficient and reliable. And very user-friendly.
- Number of personnel required is considerably less.

10.2 Disadvantages

- Required active internet connection.
- System will provide inaccurate results if data entered incorrect.

CONCLUSION

The web application helps the user make wise choice of colleges for his/her option-entry. Also, the user gets an outline/rough idea of the entries they can make in the option-entry process provided by examination authority. The same application can be used for Common Entrance Tests of other states and for other national level entrance exams by only changing the cut-off database of that exam. Proposed application benefits for the student admission community that accommodates the need of students to choose the best college and helps colleges too to recognize their stand in attracting students and finer prediction implies better results for the students.

FUTURE SCOPE

The future scope of this project is very broad. Few of them are:

- This can be implemented in less time for proper admit eligibility predictor process.
- This can be accessed anytime anywhere, since it is a web application provided only an internet connection.
- The user had not need to travel a long distance for the admission and his/her time is also saved as a result of this automated system.

APPENDIX

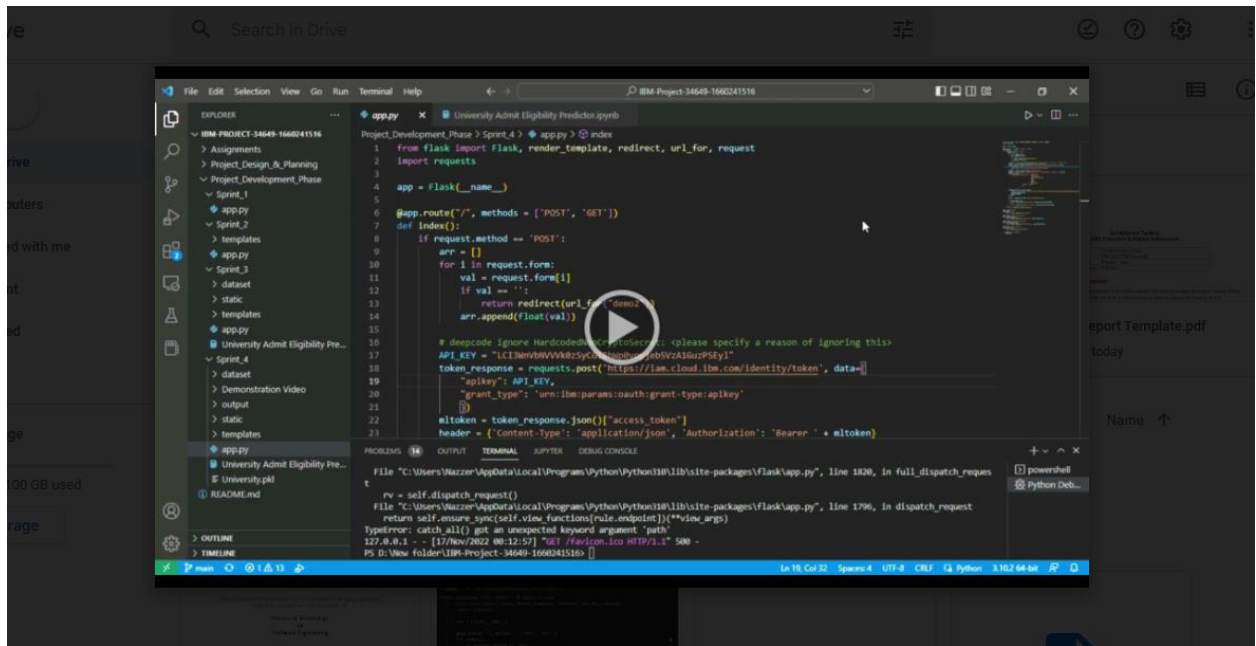
Github Link:

<https://github.com/IBM-EPBL/IBM-Project-34649-1660241516>

Source Code Link:

https://drive.google.com/drive/folders/1838d4tMGLIn4Hh_Cf6jZYYbGM87xd8ib?usp=share_link

Demo Link:



Google drive link:

https://drive.google.com/file/d/12uLMlOS9mfCXa59fMcKBH1bQA6MNC4io/view?usp=share_link