

# UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

TEAM ID: PNT2022TMID04094

TEAM MEMBERS: Sashaank S, Santosh K K, Sudharsan S, Sakthivel R

## I. INTRODUCTION:

### 1.1. Project Overview

This project overlooks on the prediction or scope of a student who is aspiring to pursue a master's degree in the course he / she desires to get into. A Machine Learning model is deployed to predict the chances of eligibility.

### 1.2 Purpose

The simplest way to determine which universities or colleges a person will be admitted to is through university prediction. This method is also completely unbiased and open-book. Individuals would no longer be need to rely on consultancies that may have contracts with a list of schools or universities but may be slightly biased in that direction. Additionally, limiting applications to only those colleges or universities where a student has a real chance would speed up the application process.

## II. LITERATURE SURVEY:

### 2.1 Existing Problem

The main drawback of the previous research done on this is they didn't consider all the factors which will contribute in the student admission process like TOEFL, SOP, LOR and under graduate score. This in turn creates a sense of fear amongst students who use prediction websites & get falsified results.

### 2.2 References

- *College Admission Predictor:*  
<https://www.jncet.org/Manuscripts/Volume-8/Issue-4/Vol-8-issue-4-M-32.pdf>
- *GRADUATE ADMISSION PREDICTION USING MACHINE LEARNING*  
[https://www.researchgate.net/publication/348433004\\_Graduate\\_Admission\\_Prediction\\_Using\\_Machine\\_Learning](https://www.researchgate.net/publication/348433004_Graduate_Admission_Prediction_Using_Machine_Learning)
- *GRADUATE ADMISSION CHANCE PREDICTION USING DEEP NEURAL NETWORK:*  
<https://ieeexplore.ieee.org/abstract/document/9397988>
- *Graduate University Admission Predictor using Machine Learning:*  
<https://www.ijmtst.com/volume6/issue12/92.IJMTST0612246.pdf>
- *A Statistical Approach to Graduate Admissions' Chance Prediction:*  
[https://www.researchgate.net/publication/339653123\\_A\\_Statistical\\_Approach\\_to\\_Graduate\\_Admissions'\\_Chance\\_Prediction](https://www.researchgate.net/publication/339653123_A_Statistical_Approach_to_Graduate_Admissions'_Chance_Prediction)

## 2.3 Problem Statement Definition

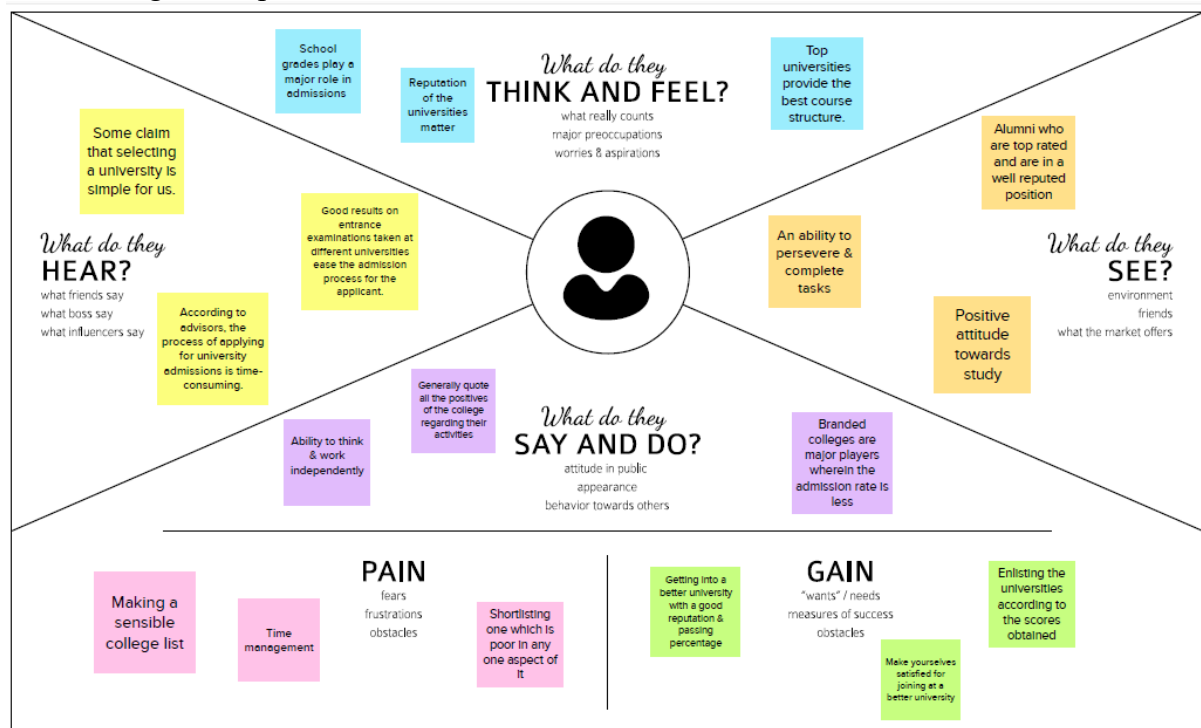
Concerns about getting into college are common among students. This project's goal is to assist students in narrowing down institutions based on their profiles. The anticipated results offer students a good indication of their prospects of admission to a certain university. This study ought to provide greater insight for students who are or will be preparing for exams.

## III. IDEATION & PROPOSED SOLUTION:

### 3.1 Empathy map canvas

An empathy map is a straightforward, simple-to-understand picture that summarises information about a user's actions and views.

It is a helpful tool that enables teams to comprehend their users more fully. It's important to comprehend both the actual issue and the individual who is experiencing it in order to develop a workable solution. Participants learn to think about issues from the user's perspective, as well as his or her objectives and obstacles, via the process of constructing the map.



## 3.2 Ideation & Brainstorming

During a brainstorming session, everyone in a team is encouraged to engage in the process of original thought that results in issue solutions. Volume over quality is prioritised, unconventional ideas are welcomed and developed upon, and everyone is urged to participate in order to produce a wealth of original solutions.

**1 Define your problem statement**  
What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

🕒 5 minutes

**2 Brainstorm**  
Write down any ideas that come to mind that address your problem statement.

🕒 10 minutes

**3 Create a comprehensive prediction system to assess a student's eligibility for admission to a university using a variety of factors comprising the CGPA, GRE, English proficiency test, and statement of purpose.**

**4 Prioritize**  
Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

**Sashaank S**

- SOP Standards scrutinized
- Get inputs of scores
- Creation of user-friendly website
- Provide stringent details of the listed university
- Link several testimonials from peers & blogspot creation

**Santosh K K**

- Why to choose this college?
- Listing out possible courses for which the user is eligible

**Sudharsan S**

- Cost Calculator
- Details about life at the university by peers & experts

**Sakthivel R**

- Documentations & Testimonials
- College Facilities

**5 Group**  
Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

🕒 20 minutes

**Admission Process**

- Score limit & details about the predictor provided
- Necessary Documentation details

**Course & University Shortlisting**

- Ambitious, Moderate, Safe mode of listing universities
- Fee structure of the course

**Evaluation Metrics**

- Categorize universities according to CGPA & GRE scores
- Prioritize with English proficiency test scores first

**University Details & Features**

- Study Culture

**6 Prioritize**  
Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

## 3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Education institutions use online applications for admissions and eligibility criteria based on marks, but there are no set procedures followed for predicting a student's admission to the university. Instead, they investigate and take measures to predict their eligibility for enrolling in the course.

2.	Idea / Solution description	We intend to put into practise an effective system for assessing a candidate's suitability for admission to a university.
3.	Novelty / Uniqueness	We look forward to mentioning a wide range of information about the university that the student is qualified to attend, including geographic data, cultural information, details about alumni, information about the university's top courses, admit percentage, job prospects after graduation, and peer reviews, which are additional features.
4.	Social Impact / Customer Satisfaction	By offering information directly from students who recently graduated from the university and guiding us toward courses that are relevant to our profiles, it makes it easier to use the website to enrol in the university.
5.	Business Model (Revenue Model)	It is offered for free.
6.	Scalability of the Solution	The more users there are, the easier it will be to collect input and work on system improvements. In turn, the model may be trained to make predictions more accurately based on the feedback.

### 3.4 Problem Solution Fit

Define CS, fit into CC	<b>1. CUSTOMER SEGMENT(S)</b> Students who just finished high school or college and want to get accepted into prestigious institutions.	<b>6. CUSTOMER CONSTRAINTS</b> Customers could be hesitant to use the predictor because they doubt its accuracy or dependability.  Additionally, consumers would need to input private data to the model, therefore some buyers could decide not to purchase the predictor out of concern over data abuse.	<b>5. AVAILABLE SOLUTIONS</b>  In addition to indicators like grades and GPA, we will also <u>take into account</u> IELTS/TOFEL, and GRE, which are important in the admissions process of several colleges, further increasing the predictor's dependability.  Second, in order to improve the predictor's accuracy, we will subject the model to extensive testing.	Explore AS, differentiate
	<b>2. JOBS-TO-BE-DONE / PROBLEMS</b> Since gathering data is likely the most crucial stage in creating the predictor, it is imperative that it be done correctly.  Customers' faith in our model must be maintained by providing them with the highest level of data security.	<b>9. PROBLEM ROOT CAUSE</b> The reliability of the predictor might be affected if the collected data is found to be inaccurate or not enough factors are considered to judge the eligibility. Secondly, customers might refrain from using our product if they find it to be prone to <u>cyber attacks</u> .	<b>7. BEHAVIOUR</b> Since they would proceed with their admissions based on the predictor's predictions, the accuracy of the tool is crucial from the perspective of the consumer.	Focus on J&P, tap into BE, understand RC
Identify strong TR & EM	<b>3. TRIGGERS</b> Comparisons between the user's actual scores and the required scores can be given.	<b>10. YOUR SOLUTION</b> Utilizing the data gathered, create a predictor and validate its accuracy and dependability. Ensure the security and safety of the user data that is being gathered.	<b>8. CHANNELS of BEHAVIOUR</b> 8.1 Customers may look for trustworthy eligibility predictors online and grade them according to how they like them.  8.2 Such predictors would be discussed by students in their peer groups, and if they discovered one that was sufficiently trustworthy, they would let others know.	
	<b>4. EMOTIONS: BEFORE / AFTER</b> Users would feel completely in control of the admissions process since they can have total faith in the predictor.			

## IV. REQUIREMENT ANALYSIS:

### 4.1 Functional Requirements

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Details	Submit the paperwork <ul style="list-style-type: none"><li>• Score report for the GRE or TOEFL</li><li>• Curriculum Vitae (CV)</li><li>• Recommendation letter</li><li>• Statement of Purpose (SoP)</li></ul>
FR-4	User Requirements	<ul style="list-style-type: none"><li>• Upload all necessary files to the proper area of the website.</li><li>• Based on the uploads, the system would extract the necessary data.</li><li>• A list of every probable university for the candidate would be shown based on the information that was scraped.</li></ul>

### 4.2 Non- Functional Requirements

Following are the non-functional requirements of the proposed solution.

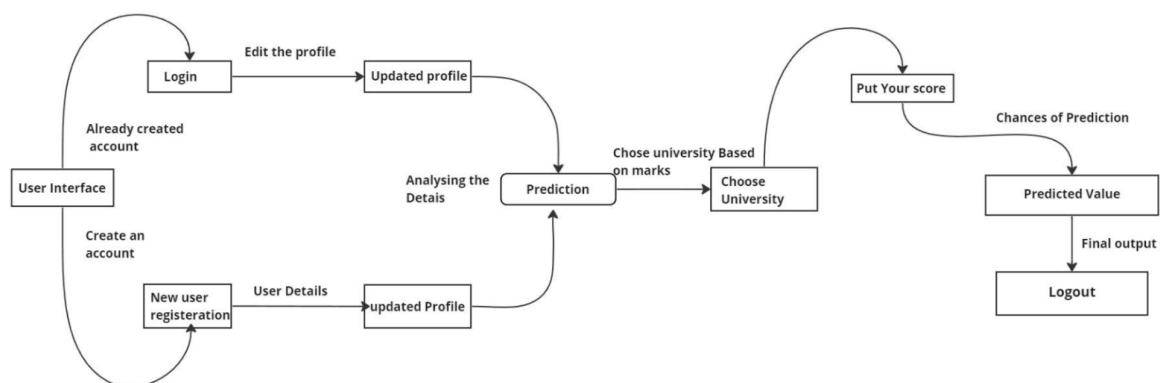
FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	<ul style="list-style-type: none"><li>• Even a beginner user can access the system because it doesn't require any prior technological expertise from them.</li><li>• The user interface would give recognition more weight than recall.</li><li>• Friendly to users</li><li>• Be aware of internal sources of control</li><li>• The loading and display of the content wouldn't take too long (30 seconds).</li><li>• The site's fields would be self-explanatory.</li></ul>
NFR-2	<b>Security</b>	<ul style="list-style-type: none"><li>• The site's services may only be accessed by authorised users.</li><li>• Every hour, the database has to be backed up.</li><li>• The system should be able to resume normal operation in less than an hour in the case of any errors.</li></ul>
NFR-3	<b>Reliability</b>	<ul style="list-style-type: none"><li>• Given the importance of the data and the potential damage</li><li>• The damage that erroneous or inadequate data</li><li>• System will constantly aim for the highest level of dependability.</li><li>• The system will function every day of the week.</li></ul>

NFR-4	<b>Performance</b>	<ul style="list-style-type: none"> <li>The website may effectively manage traffic by quickly responding to queries.</li> <li>This webpage may be seen in less than 30 seconds using a 64 kbps modem connection (quantitatively, the mean time)</li> </ul>
NFR-5	<b>Availability</b>	Low data redundancy, lower danger of mistake, and quick and efficient
NFR-6	<b>Scalability</b>	<ul style="list-style-type: none"> <li>An academic portal is required for the courses that use it, therefore a large number of users must be able to use the system at once.</li> <li>The system must be able to accommodate several users at once because the admissions season is likely to be its busiest time.</li> </ul>

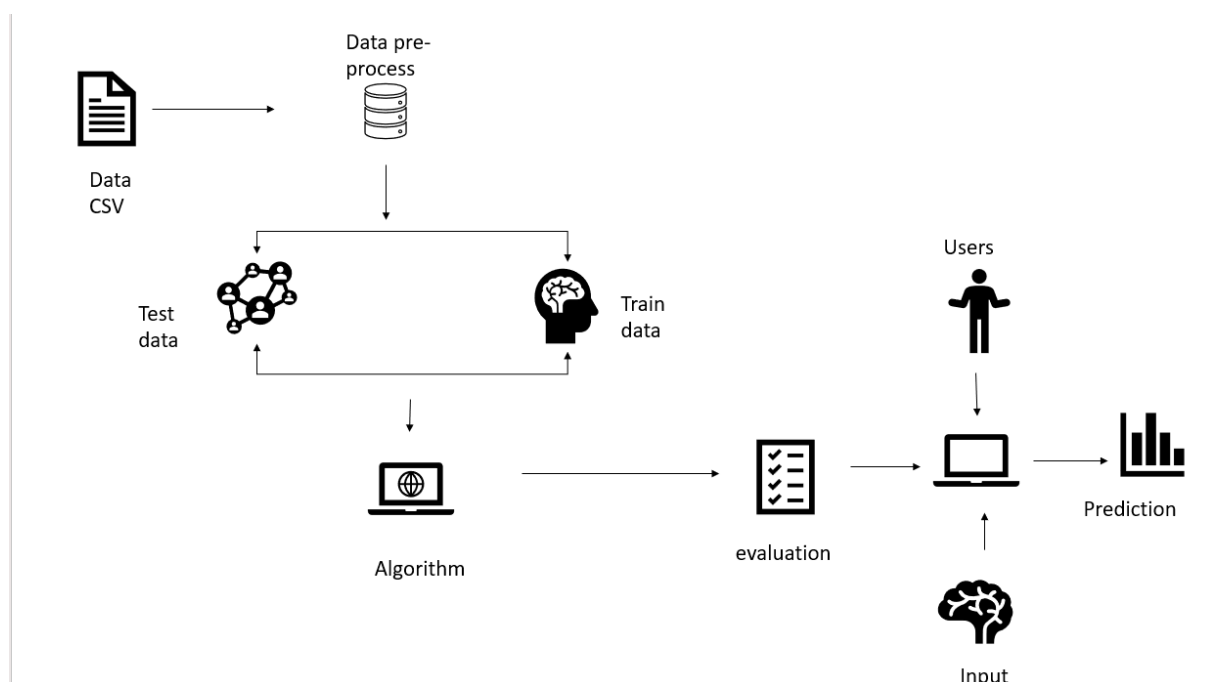
## V. PROJECT DESIGN:

### 5.1 Data Flow Diagrams

The classic visual depiction of how information moves through a system is a Data Flow Diagram (DFD). A tidy and understandable DFD may visually represent the appropriate quantity of the system demand. It demonstrates how information enters and exits the system, what modifies the data, and where information is kept.



### 5.2 Solution & Technical Architecture



## 5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer	Homepage	USN-1	I can see information about the university as a user.	I can get to the school's home page.	Medium	Sprint-1
		USN-2	I may access the most recent university news as a user.	I have access to the most recent news.	Medium	Sprint-1
		USN-3	As a user, I can submit inquiries using the contact form.	I am able to complete and submit the contact form.	Low	Sprint-2
		USN-4	As a user, I have access to the university's social media profiles.	I may contact them through social media.	Medium	Sprint-1
		USN-5	As a user, I am able to view testimonials from university graduates.	I have access to the testimonies.	Medium	Sprint-1
	Admissions	USN-6	I can see the prior year's cut off markings as a user.	I may obtain the prior year's cut-off information.	High	Sprint-2
		USN-7	As a user, I may read about the university's proud alumni.	May obtain information on university alumni	Medium	Sprint-2
		USN-8	As a user, I can anticipate my eligibility for university entrance.	I can obtain either an eligible or ineligible result.	High	Sprint-2
	Courses Offered	USN-9	As a user, I may see the PG courses provided by the institution.	I have access to the course information.	Medium	Sprint-3
	Events	USN-10	As a user, I may view a list of upcoming technical events at the institution.	I can register for the events	Low	Sprint-3
	Scholarship	USN-11	As a user, I will look for information about scholarship opportunities.	I have access to scholarship resources.	High	Sprint-4
Administrator	Homepage	USN-12	As an administrator, I will keep the university's news up to date.	I can see if the update has been reflected or not.	Medium	Sprint-4
	Events	USN-13	As an administrator, I can change the list of activities that will be held.	I can see if the update has been reflected or not.	Medium	Sprint-4

## VI. PROJECT PLANNING & SCHEDULING:

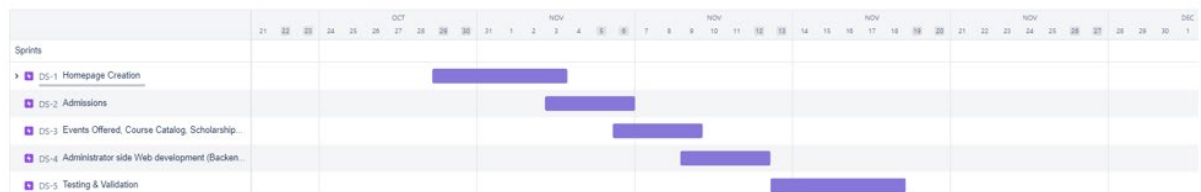
### 6.1 Sprint Planning & Estimation

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release	Team Members
Customer	Homepage	USN-1	I can see information about the university as a user.	I can get to the school's home page.	Medium	Sprint-1	Sashaank S, Santosh K K
		USN-2	I may access the most recent university news as a user.	I have access to the most recent news.	Medium	Sprint-1	Sashaank S, Santosh K K
		USN-3	As a user, I can submit inquiries using the contact form.	I am able to complete and submit the contact form.	Low	Sprint-2	Sudharsan S, Sakthivel R
		USN-4	As a user, I have access to the university's social media profiles.	I may contact them through social media.	Medium	Sprint-1	Sashaank S, Santosh K K
		USN-5	As a user, I am able to view testimonials from university graduates.	I have access to the testimonies.	Medium	Sprint-1	Sudharsan S, Sakthivel R
	Admissions	USN-6	I can see the prior year's cut off markings as a user.	I may obtain the prior year's cut-off information.	High	Sprint-2	Sudharsan S, Sakthivel R
		USN-7	As a user, I may read about the university's proud alumni.	May obtain information on university alumni	Medium	Sprint-2	Sudharsan S, Sakthivel R
		USN-8	As a user, I can anticipate my eligibility for university entrance.	I can obtain either an eligible or ineligible result.	High	Sprint-2	Sudharsan S, Sakthivel R
	Courses Offered	USN-9	As a user, I may see the PG courses provided by the institution.	I have access to the course information.	Medium	Sprint-3	Sashaank S, Santosh K K
	Events	USN-10	As a user, I may view a list of upcoming technical events at the institution.	I can register for the events	Low	Sprint-3	Sudharsan S, Sakthivel R
Administrator	Scholarship	USN-11	As a user, I will look for information about scholarship opportunities.	I have access to scholarship resources.	High	Sprint-4	Sashaank S, Santosh K K
	Homepage	USN-12	As an administrator, I will keep the university's news up to date.	I can see if the update has been reflected or not.	Medium	Sprint-4	Sashaank S, Santosh K K
	Events	USN-13	As an administrator, I can change the list of activities that will be held.	I can see if the update has been reflected or not.	Medium	Sprint-4	Sashaank S, Santosh K K

### 6.2 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	10	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	10	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	15	11 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	17 Nov 2022

### 6.3 Reports from JIRA





## VII. CODING & SOLUTIONING:

### 7.1 Feature 1

#### INDEX.HTML

# University Admission Predictor

## Admission Counselling

### ABOUT

Enter your details to predict whether you'll get an admission or not.

#### DETAILS

##### GRE SCORE

Score range 0-340

##### TOEFL SCORE

Score range 0-120

##### UNIVERSITY RATING

1

##### SOP

Score range 0-5

##### LOR

Score range 0-5

##### CGPA

Score range 0-10

##### RESEARCH

Yes

Submit



index.html Templates\index.html\...

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title> Responsive Registration Form </title>
    <link rel="stylesheet" href="style.css">
  </head>
  <style type="text/css">

    h1,h2{
      font-family: 'Raleway', sans-serif;
      color: black;
    }
    h2,h1,form,p,b{
      text-align: left;
      color: black;
    }
    label,p,b{
      font-family: 'Noto Sans HK', sans-serif;
      color: black;
    }
    .elements{
      padding-top: 2px;
    }
    div.background {

      /* background: url("C:\Users\santosh\OneDrive\Desktop\toro.jpg.crdownload") repeat; */
      background-size: auto;
      background-color: rgb(42, 39, 234);
      border: 2px solid black;
    }

    div.transbox {
      margin: 30px;
      background-color: #ffffff;
      border: 1px solid black;
      opacity: 0.6;
    }

    div.transbox p {
      margin: 5%;
      font-weight: bold;
      color: #000000;
    }
    div.gallery{
      margin: 5px;
      border: 1px solid #ccc;
      float: left;
      width:180px;
    }
  </style>
</html>
```

```

</style>
<body>
  <div class="background">
    <div class="transbox">
      <h3 style="font-size: 4rem; text-decoration-thickness: auto; position: -webkit-sticky; text-align: center;" >University Adm
    </div>
  </div>
  <div class="gallery">
    <img src = "static/images/bg.jpg" alt="Cinque Terre" width="1900" height="1600" />
  </div>

  <h1 style="color: ■ #ccc; font-size: 3rem; text-decoration-style: auto; position: sticky; text-align: center; text-decoration:
  <br>
  <br>
  <p style=" color:■ #ffffff; font-size: 2rem; font-family: 'Raleway', sans-serif; text-align: center;"> <strong> ABOUT </strong>
  <p style=" color:■ #white; font-size: 2rem; font-family: 'Raleway', sans-serif; text-align: center;">Enter your details to pred

  <form action="/predict" method="POST" class="elements" style="font-size: 1rem;">
    <p style=" color:■ #ffffff; font-size: 2rem; font-family: 'Raleway', sans-serif; "> <strong> DETAILS </strong></p>
    <p style="color:■ #whitesmoke;font-size: 1.5rem; font-style: inherit; font-weight: bolder;" class="elements">GRE SCORE</p>
    <p><input type="text" name="gre" placeholder="Score range 0-340" style=" border-radius: 200px; height: 30px; width: 30%;" req
    <p style="color:■ #ffffff;font-size: 1.5rem; font-style: initial; font-weight: bolder;" class="elements">TOEFL SCORE</p>
    <p><input type="text; range" name="tofl" placeholder="Score range 0-120" min="50" max="120" style=" border-radius: 20px; heig
    <p style="color:■ #ffffff; font-size: 1.5rem; font-style: inherit; font-weight: bolder;"class="elements">UNIVERSITY RATING</p>
    <select name="rating" style=" border-radius: 100px; height: 30px; width: 30%;" required>
      <option value="1">1</option>
      <option value="2">2</option>
      <option value="3">3</option>
      <option value="4">4</option>
      <option value="5">5</option>
    </select>
    <br>
    <p style=" color:■ #ffffff;font-size: 1.5rem; font-style: inherit; font-weight: bolder;" class="elements">SOP</p>
    <p><input type="text" name="sop" placeholder="Score range 0-5" style=" border-radius: 20px; height: 30px; width: 30%;" requir
    <p style=" color:■ #ffffff;font-size: 1.5rem; font-style: inherit; font-weight: bolder;" class="elements">LOR</p>
    <p><input type="text" name="lor" placeholder="Score range 0-5" style=" border-radius: 20px; height: 30px; width: 30%;" requir
    <p style=" color:■ #ffffff;font-size: 1.5rem; font-style: inherit; font-weight: bolder;"class="elements">CGPA</p>
    <p><input type="text" name="cgpa" placeholder="Score range 0-10" style=" border-radius: 20px; height: 30px; width: 30%;" requ
    <p class="elements" style=" color:■ #ffffff;font-size: 1.5rem; font-style: inherit; font-weight: bolder;">RESEARCH</p>
    <select name="research" style=" border-radius: 100px; height: 30px; width: 30%;" required>
      <option value="Yes">Yes</option>
      <option value="No">No</option>
    </select>
    <br>
    <br>
    <input type="submit" value="Submit" style=" border-radius: 40rem; height: 35px; width:15%; margin-left:6%;"></p>

  </body>
</html>

```

## 7.2 Feature 2

### RESULT.HTML



```

result.html Templates\result.html\html\html\body\div.center\div.results\p.result-p

<!DOCTYPE html>
<html>
  <html lang="en" dir="ltr">
  <head>
    <link rel="stylesheet" href="style.css">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title> Prediction Score</title>
  </head>
  <body>
    <div class="center">
      <div class="results">
        <p class="result-p">Probability Score (Out of 50): {{ lower_limit }}</p>
      </div>
    </div>
  </body>
</html>

```

## FLASK FILE TO INTEGRATE WEBSITE (app.py):

```

app.py
app.py > predict
import numpy as np
import os
import requests
from flask import Flask, request, render_template, redirect, url_for
import pickle
# from cloudant.client import Cloudant

filename = 'Linear_Regression.pkl'

regressor = pickle.load(open(filename, 'rb'))

# NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
API_KEY = "2vsoae6dnyR7hktIXZi19ElXPmPlmrbXI83mzj13UcE"
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}

app = Flask(__name__)

@app.route('/')
def index():
    return render_template('index.html')

@app.route('/predict', methods=['POST', 'GET'])
def predict():
    temp_array = list()

    if request.method == 'POST':
        #gre_score = request.form["gre"]
        #toefl_score = request.form["toefl"]
        #university_rating = request.form["rating"]
        #sop = request.form["sop"]
        #lor = request.form["lor"]
        #cgpa = request.form["cgpa"]
        #research = request.form["research"]

        gre_score = int(request.form["gre"])
        toefl_score = int(request.form["toefl"])
        university_rating = int(request.form["rating"])
        sop = float(request.form["sop"])
        lor = float(request.form["lor"])
        cgpa = float(request.form["cgpa"])
        research = request.form["research"]

        payload_scoring = {"input_data": [{"field": ["GRE Score", "TOEFL Score", "University Rating", "SOP", "LOR", "CGPA", "Research", "Chance of Admit"], "values": [[gre_score, toefl_score, university_rating, sop, lor, cgpa, research, 0]]}]
        response_scoring = requests.post("https://us-south.ml.cloud.ibm.com/ml/v4/deployments/eede2024-9b01-4f89-8f2b-9d0cb309fae0/predictions?version=2022-11-17", json=payload_scoring, headers=header)
        print(response_scoring)
        predictions = response_scoring.json()
        print(predictions)
        pred = predictions["predictions"][0]["values"][0][0]
        print(pred)
    
```

```

app.py x
app.py > predict
#cgpa = request.form['cgpa']
#research = request.form['research']

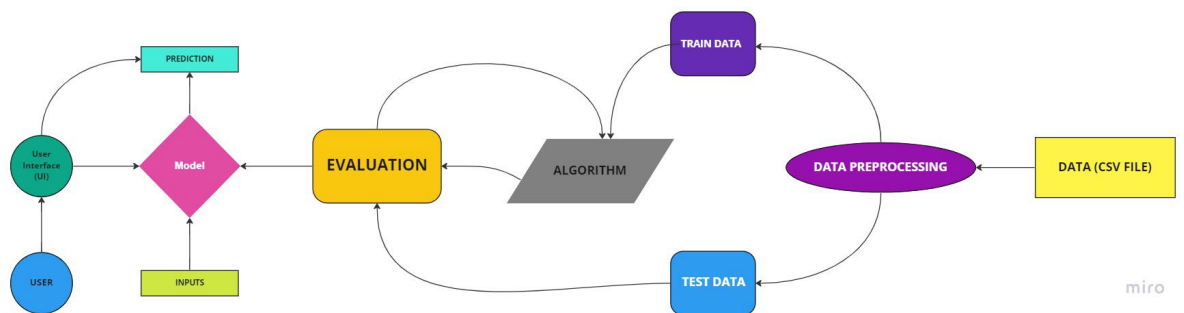
gre_score = int(request.form['gre'])
toefl_score = int(request.form['toefl'])
university_rating = int(request.form['rating'])
sop = float(request.form['sop'])
lor = float(request.form['lor'])
cgpa = float(request.form['cgpa'])
research = request.form['research']
payload_scoring = {"input_data": [{"field": ["GRE Score", "TOEFL Score", "University Rating", "SOP", "LOR", "CGPA", "Research", "Chance of Admit"], "values": [[gre_score, toefl_score, university_rating, sop, lor, cgpa, research, "Chance of Admit"]]}]}
response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/eede2024-9b01-4f89-8f2b-9d8cb309fae0/predictions?version=2022-11-17', json=payload_scoring, headers={'Authorization': 'Bearer ' + mltoken})
print("Scoring response")
predictions = response_scoring.json()
print(predictions)
pred = predictions['predictions'][0]['values'][0][0]
print(gre_score)
print(toefl_score)
print(university_rating)
print(sop)
print(lor)
print(cgpa)

temp_array = temp_array + [gre_score, toefl_score, university_rating, sop, lor, cgpa]
data = np.array([temp_array])
print(data)
print(temp_array)
my_prediction = int(regressor.predict(data)[0])
print(my_prediction)
return render_template("result.html", lower_limit=my_prediction)

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

```

## 7.3 Database Schema



## VIII. TESTING:

### 8.1 Test Cases

Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status
LoginPage_TC_OO 2	UI	Index	Verify the UI elements in home page		1.Enter URL and click go 2.Enter the Scores 3.Click the Submit button	<a href="http://127.0.0.1:5000/home">http://127.0.0.1:5000/home</a>	Working as expected	Working as expected	Pass
LoginPage_TC_OO 3	Functional	Chance	Verifying whether the student is eligible for admission		1.As per the Entered Model Value. 2.Getting above 50%. 3.You have a Chance will get displayed	<a href="http://127.0.0.1:5000/chance/90.1742255758468">http://127.0.0.1:5000/chance/90.1742255758468</a>	Working as expected	Working as expected	Pass
LoginPage_TC_OO 4	Functional	NoChance	Verifying whether the student does not have a chance of admission		1.As per the Entered Model Value. 2.Getting below 50%. 3.You have a Low/Nochance will get displayed	<a href="http://127.0.0.1:5000/nochance/41.52682121752442">http://127.0.0.1:5000/nochance/41.52682121752442</a>	Working as expected	Working as expected	Pass

### 8.2 User Acceptance Testing

The purpose of User Acceptance Testing 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).

#### 8.2.1 Defect Analysis

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

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	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

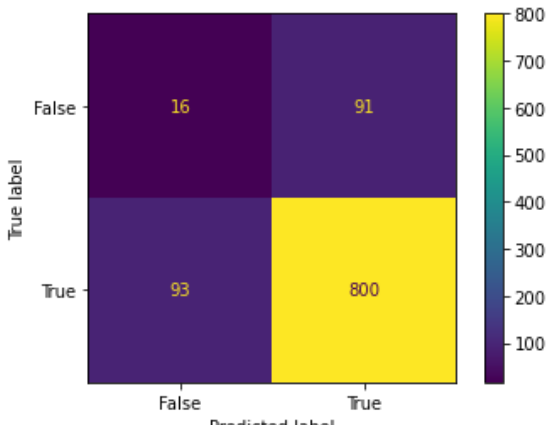
### 8.2.2 Test Case Analysis

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

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	45	0	0	45
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

## IX. RESULTS:

### 9.1 Performance Metrics

S.No.	Parameter	Values	Screenshot																														
1.	Metrics	<p><b>Regression Model:</b> MAE - , 0.04555  MSE - , 0.00426  RMSE – 0.06527 ,  R2 score – 0.71683</p> <p><b>Classification Model:</b> Confusion Matrix -  Accuracy Score-  Classification Report -</p>	<p><b>Mean Squared Error (MSE)</b></p> <pre>In [25]: from sklearn.metrics import mean_squared_error, r2_score mse = mean_squared_error(pred_test,y_test)</pre> <pre>In [26]: mse</pre> <pre>Out[26]: 0.004260810050671112</pre> <p><b>Root Mean Squared Error (RMSE)</b></p> <pre>In [27]: rmse = np.sqrt(mse)</pre> <pre>In [28]: rmse</pre> <pre>Out[28]: 0.06527488070208257</pre> <p><b>R2 Score</b></p> <pre>In [29]: r2_score(pred_test, y_test)</pre> <pre>Out[29]: 0.7168318679092451</pre> <p><b>Mean Absolute Error (MAE)</b></p> <pre>In [32]: from sklearn.metrics import mean_absolute_error mean_absolute_error(pred_test, y_test)</pre> <pre>Out[32]: 0.0455524319663054</pre> <div></div> <pre>In [44]: Accuracy = metrics.accuracy_score(actual, predicted) Accuracy</pre> <pre>Out[44]: 0.816</pre> <p><b>Classification Report</b></p> <pre>In [56]: from sklearn.metrics import classification_report print(classification_report(actual, predicted))</pre> <table><thead><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr></thead><tbody><tr><td>0</td><td>0.15</td><td>0.15</td><td>0.15</td><td>107</td></tr><tr><td>1</td><td>0.90</td><td>0.90</td><td>0.90</td><td>893</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.82</td><td>1000</td></tr><tr><td>macro avg</td><td>0.52</td><td>0.52</td><td>0.52</td><td>1000</td></tr><tr><td>weighted avg</td><td>0.82</td><td>0.82</td><td>0.82</td><td>1000</td></tr></tbody></table>		precision	recall	f1-score	support	0	0.15	0.15	0.15	107	1	0.90	0.90	0.90	893	accuracy			0.82	1000	macro avg	0.52	0.52	0.52	1000	weighted avg	0.82	0.82	0.82	1000
	precision	recall	f1-score	support																													
0	0.15	0.15	0.15	107																													
1	0.90	0.90	0.90	893																													
accuracy			0.82	1000																													
macro avg	0.52	0.52	0.52	1000																													
weighted avg	0.82	0.82	0.82	1000																													



2.	Tune the Model	Hyperparameter Tuning- Validation Method – Stratified K-Fold	<p><b>2.Stratified K-Fold</b></p> <pre> In [63]: from sklearn import datasets from sklearn.tree import DecisionTreeClassifier from sklearn.model_selection import StratifiedKFold, cross_val_score  X, y = datasets.load_iris(return_X_y=True) clf = DecisionTreeClassifier(random_state=42) sk_folds = StratifiedKFold(n_splits = 5)  scores = cross_val_score(clf, X, y, cv = sk_folds)  print("Cross Validation Scores: ", scores) print("Average CV Score: ", scores.mean()) print("Number of CV Scores used in Average: ", len(scores))  Cross Validation Scores: [0.96666667 0.96666667 0.9        0.93333333 1.        ] Average CV Score:  0.9533333333333334 Number of CV Scores used in Average: 5 </pre>
----	----------------	--	---

## X. ADVANTAGES & DISADVANTAGES

### Advantages

- It helps student for making decision for choosing a right college.
- Here the chance of occurrence of error is less when compared with the existing system.
- It is fast, efficient and reliable.
- Avoids data redundancy and inconsistency.
- Very user-friendly.
- Easy accessibility of data.

### Disadvantages:

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

## XI. CONCLUSION

Thus it is concluded that our model provides a robust prediction score with Multiple Linear Regression Algorithm & users are able to predict the scores what they expected. User experience of the website is a simple one to use & puts the user at ease to utilize the feature.

## XII. FUTURE SCOPE

We intend to enhance the user experience by adding the details of every universities so that the user can get to know the culture of the place, alumni reviews, rating of the universities etc.

## XIII. APPENDIX

Github : <https://github.com/IBM-EPBL/IBM-Project-16807-1659623106>

Project Demo:

<https://www.youtube.com/watch?v=sYDYi0kXbCY&list=PLhatl1wESE0tKt-0bhLiVhJSBCG6Att7S>