PROJECT REPORT DOCUMENTATION

UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

TEAM ID: PNT2022TMID02194

College Name: Rajalakshmi Engineering College

Team Members:

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1. INTRODUCTION

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.

The required data was obtained from thegradcafe.com. Based on this 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.
The project is implemented using a Machine-Learning model that predicts whether the user is eligible for admission to the selected rated universities with provided details such as marks and others. The algorithm works in such a way that when the user provides the details such as (GRE Score, TOEFL Score, University Rating, SOP, LOR, CGPA, Research) the percentage of chance of admit is displayed. The user is provided with a UI (Web based application) in which the user can enter the details mentioned above for prediction.

1.2 Purpose

Our project helps students seeking admission to universities check their eligibility according to various parameters such as GRE, GPA, TOFEL, SOP, CGPA, Research. students can view the eligibility in the online mode without wasting the money, time and parent's personnel work in simple way at the home.

Students from rural background find it difficult to do the necessary analysis and prepare a preference list. This idea will be beneficial for them. Students who belong to multiple categories face difficulty in analyzing cut-offs in each of these categories and predict the best colleges they can get an admission in. Whatsoever is the student's rank, this application will aid them in finding the best branch and college for his/her rank. This 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.

2. Literature survey

2.1 Existing Problem

Previous research done in this area used Naive Bayes algorithm which will evaluate the success probability of student application into a respective university but the main drawback is they didn't consider all the factors which will contribute in the student admission process like TOEFL/IELTS, SOP, LOR and under graduate score. Bayesian Networks Algorithm have been used to create a decision support network for evaluating the application submitted by foreign students of the university. This model was developed to forecast the progress of prospective students by comparing the score of students currently studying at university. The model thus predicted whether the aspiring student should be admitted to university on the basis of various scores of students. Since the comparisons are made only with students who got admission into the universities but not with students who got their admission rejected so this method will not be that much accurate.

2.2 References

● L. Chang , Applying Data Mining to Predict College Admissions Yield, Chapter 4 in J. Luan and C. Zhao (Eds.), Data mining in action: Case studies, Spring 2008 - College of Education. Data-mining technology's predictive modeling was applied to enhance the prediction of enrollment behaviors of admitted applicants at a large state university.

● Rensong Dong,The module of prediction of College Entrance Examination aspiration, Fuzzy Systems and Knowledge Discovery (FSKD), 31 May 2012 ,1559-1562. Many factors are involved in the prediction of College Entrance Examination (CEE) aspiration which is a non-linear classification problem. We proposed a CEE aspiration prediction approach based on support vector machine learning algorithm. Firstly, CEE score and ranking in all subjects, the number of college admission plan and relevant data of the latest two years are collected and a training set is formed.

● Data Visualization, Machine Learning: https://www.analyticsvidhya.com/blog/2017/09/common-machin e learning-algorithms/

● Journal of Network Communications and Emerging Technologies(JNCET) Volume 8, Issue 4, April (2018) College Admission Predictor System is a web based application system in which students can register their marks along with their personal information. This helps to predict their admissions in colleges. Administrator can add the college details and the batch details. Using this Application, the entrance seat allotment becomes easier and efficient.

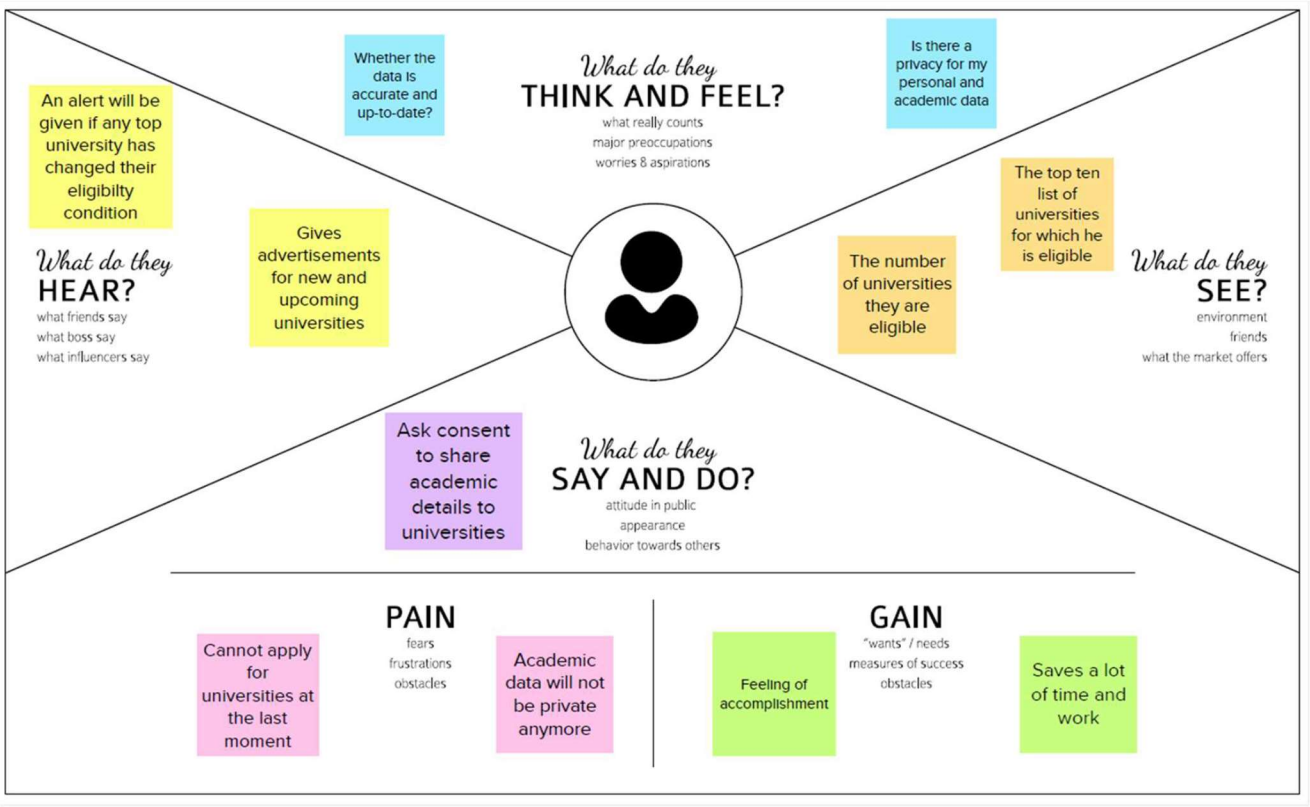
2.3 Problem Statement Definition

There are a lot of students wondering and anxious whether they will get the University they want. There are some circumstances where the student does not get the University they want. This can be avoided by using this web application. The students can check whether they are eligible to get their desired University using this web application. This proposed system uses Machine Learning algorithms to predict whether the particular student gets the university he/she desires based on the GRE Score, TOEFL/IELTS Score, CGPA and Research or not. When this system is used, Students can get a clear idea on which university they can try and succeed in getting into it.

Reviewing is a great way to know whether our system works fine based on the reviews that are given by the user. Once the outcome is predicted and shown on the screen, the student can give their review for this model. There will also be an option to give a review after the student gets into the University. This helps in improving the model more.

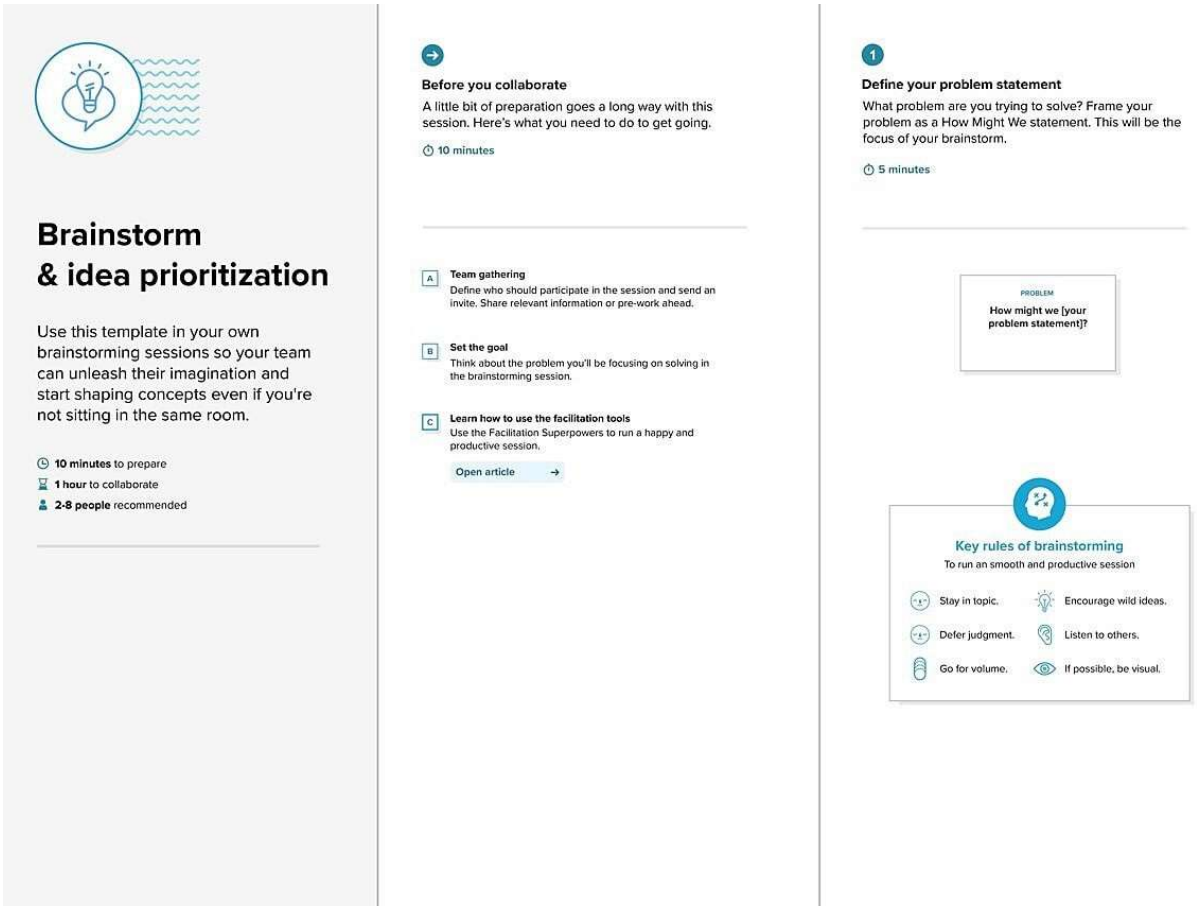
3. IDEATION AND PROPOSED SOLUTION

3.1 Empathy Map Canvas

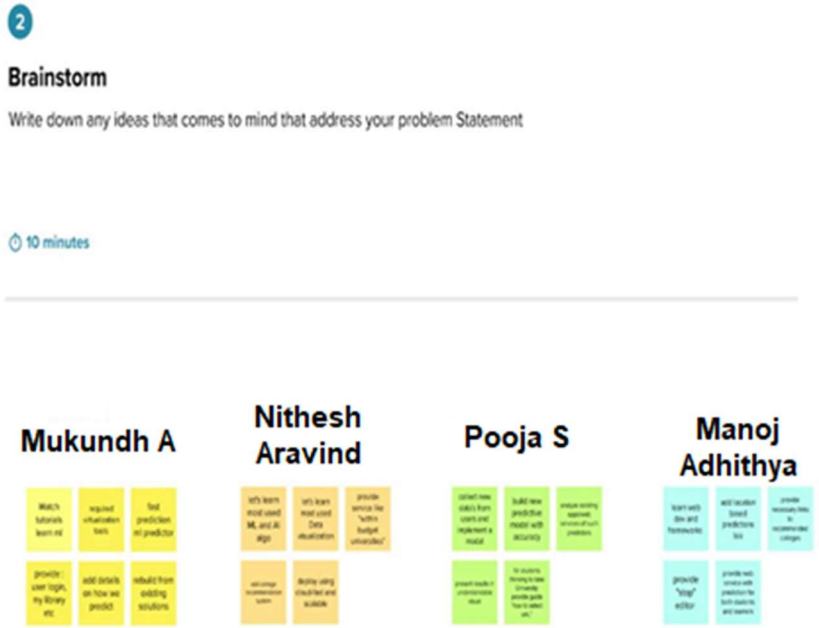


3.2 Ideation and Brainstorming

Step-1: Team Gathering, Collaboration and Select the Problem Statement



Step-2: Brainstorm, Idea Listing and Grouping



3

Group ideas

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 and break it up into smaller sub-groups.

20 minutes

Requirements

Application Type

Core Features

Additional Features

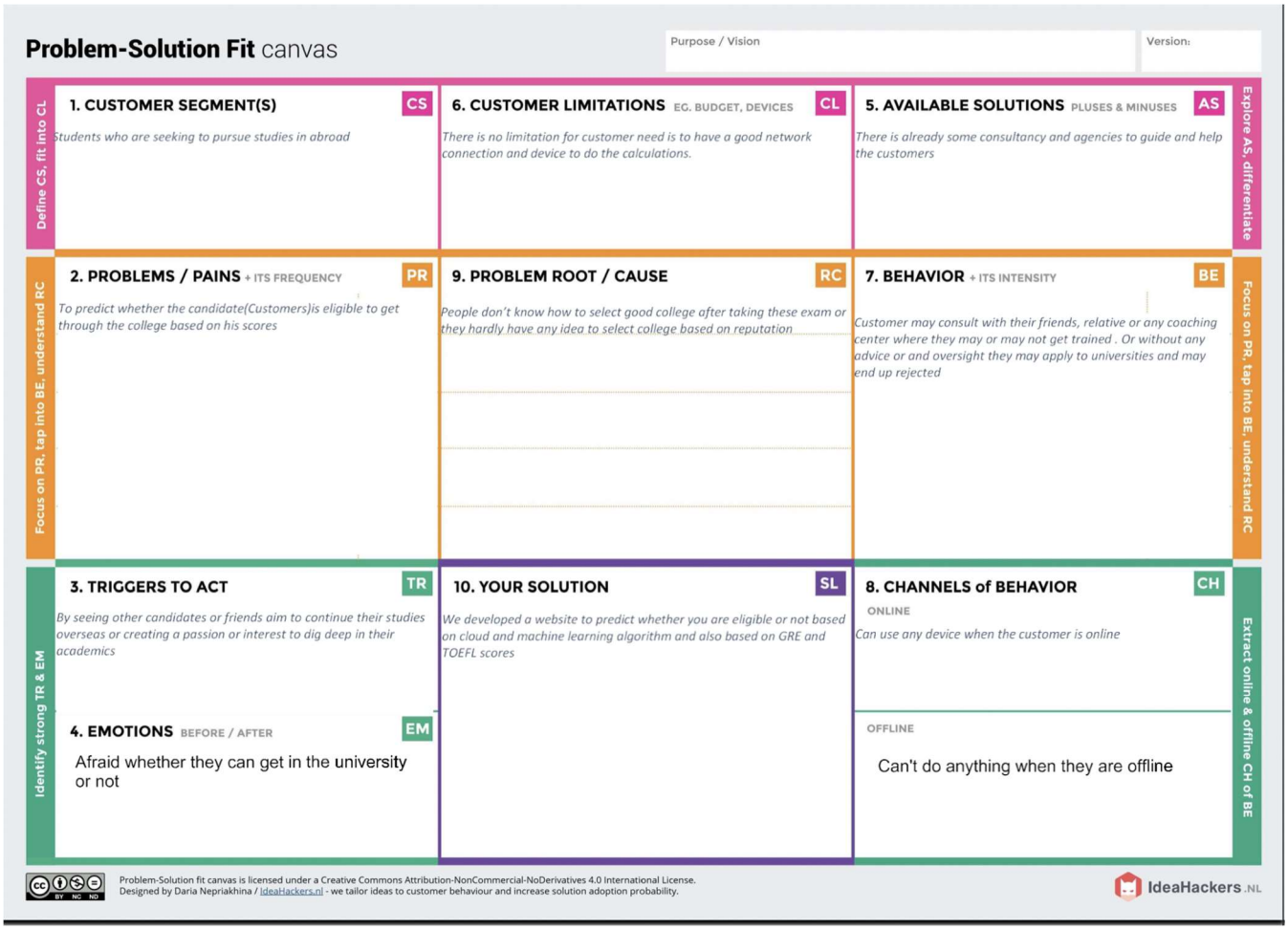
Extras

Step-3: Idea Prioritization

3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	A lot of students wonder and get anxious whether they will get the University they want. There are some circumstances where the student does not get the University they want. At the last moment they won't be able to apply to other institutions too. This creates a lot of stress to the student. It would be better if students are able to know whether they can get their desired University before itself so that they can be prepared for the worst case
2.	Idea / Solution description	A program based on machine learning algorithm to classify the result with the help of the given details like GRE scores, TOEFL scores etc.
3.	Novelty / Uniqueness	Without any reduction of feature and used all the data and done with high accuracy algorithm
4.	Social Impact / Customer Satisfaction	Really useful and more precise according to customer review and also prediction more than 95 %
5.	Business Model (Revenue Model)	Initially good amount of time was spent on understanding the problem statement by understanding the concerns of students regarding the current application process, the objectives of the research were defined in this process
6.	Scalability of the Solution	The Application is very much user friendly and can be accessed all over the world with no further complications of registering, or any other issues, it is open sourced like a calculator and there is no restriction for like a particular user.

3.4 Problem Solution Fit



4. REQUIREMENT ANALYSIS

4.1 Functional Requirements

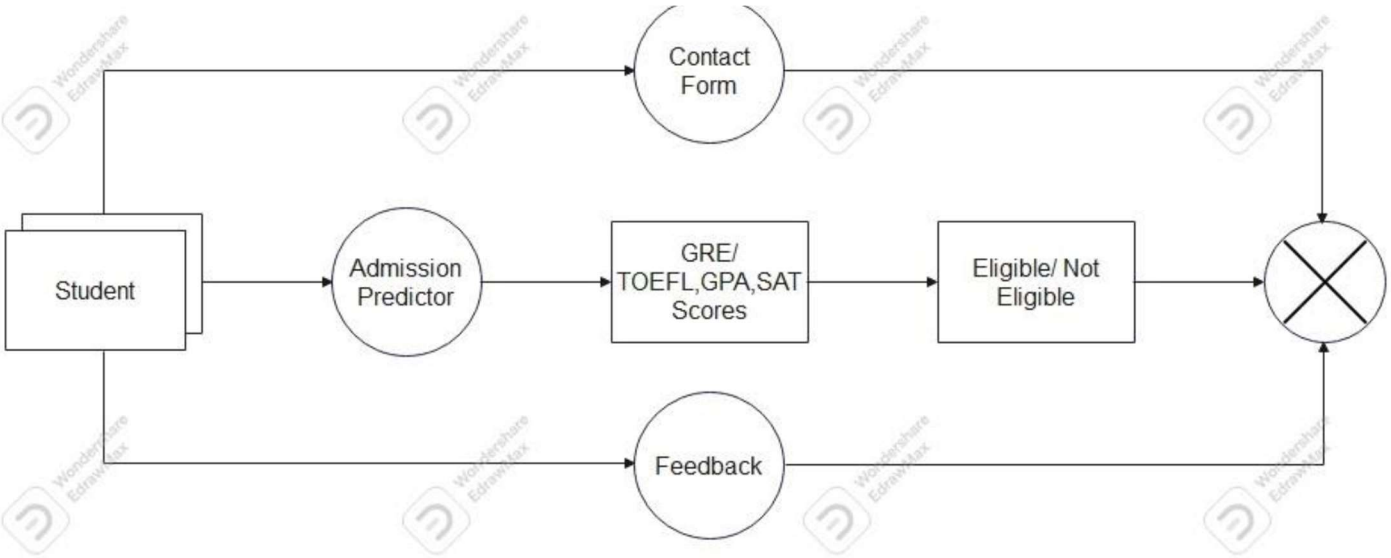
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Details	Submit the documents 1. GRE or/and TOEFL Score Sheet 2. Curriculum Vitae (CV) 3. Statement of Purpose (SOP) 4. Letter of Recommendation
FR-2	User Requirements	1. Upload all the relevant documents in the appropriate location in the website 2. Based on the uploads, the system would scrape all the necessary information 3. The list of all possible university for the candidate would be displayed based on the scraped information

4.2 Non-Functional Requirements

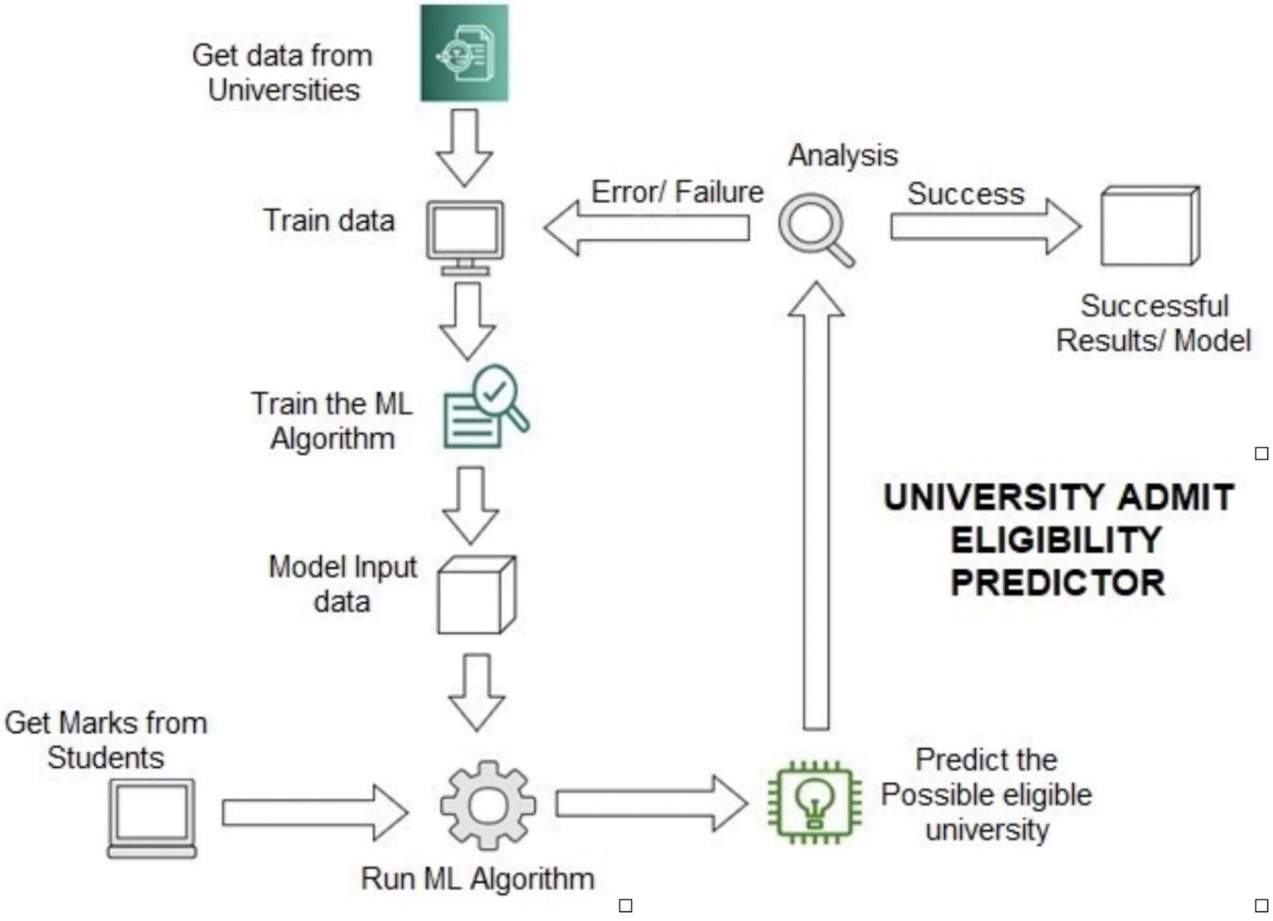
FR No.	Non-Functional Requirement	Description
NFR-1	Usability	1. The system doesn't expect any technical pre-requisite from the user i.e.; even the naïve user can access it 2. The UI would focus on recognize over recall 3. User friendly 4. Reduced focus on Short Term memory load Focus on Internal Locus of Control 5. The page would not take a lot of time to load the content and display them (< 30 seconds) 6. The fields in the site would be Self-explanatory
NFR-2	Reliability	1. The system would always strive for maximum reliability due to the importance of data and damages that could be cause by incomplete and incorrect data 2. The system will run 7 days a week, 24 hours a day
NFR-3	Performance	1. The website can efficiently handle the traffic by service the request as soon as possible 2. Viewing this webpage using a 56-kbps modem connection would not exceed 30 seconds (quantitatively, the mean time)
NFR-4	Availability	1. Minimal data redundancy 2. Less prone to errors 3. Fast and efficient 4. The system will run 7 days a week, 24 hours a day
NFR-5	Scalability	1. Since an academic portal is crucial to the courses that use it, it is crucial that a sizable number of users be able to access the system at the same time. 2. The admission season is probably when the system will be under the most strain. 3. It must therefore be able to manage numerous concurrent users.

5. PROJECT DESIGN

5.1 Data Flow Diagram



5.2 Solution and Technical Architecture



5.3 User Stories

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Student	Landing Page	USN-1	As a user, I can view details about the University Predictor.	I can access the university landing page	Medium	Sprint-1
		USN-2	As a user, I can fill the contact form for queries	I can fill and submit the contact form	Low	Sprint-2
	Admission	USN-3	As a user, I can predict my eligibility for admission at the university	I can get result as either eligible/not eligible	High	Sprint-1
	Updates	USN-4	As a user, I can check various updates	I can view the updates	Low	Sprint-3
	Feedback	USN-5	As a user, I can give a feedback	I can give either good or bad feedback	Low	Sprint-4

User Type	Functional Requirement (Epic)	User Story Number	User Story/ Task	Acceptance criteria	Priority	Release
	Scholarship	USN-12	As a user, I shall find resources regarding schol arship availa bility	I can access scholarship resources	High	Sprint-4
	Test prep materials	USN-13	As a user, I can download and Read GRE, TOEFL test preparation materials	I can download test preparation materials	Medium	Sprint-4
Administrator	Landing page	USN-14	As an administrator, I shall update the news about the university	I can check if the update is reflected or not	Medium	Sprint-4
	Events	USN-15	As an administrator, I can update the list of activities to be hosted	I can check if the update is reflected or not	Medium	Sprint-4

6. PROJECT PLANNING AND SCHEDULE

6.1 Sprint Planning and Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Set	USN-1	Performing Data Analysis , Choosing perfect model(ML),Checking Error Matrix.	5	High	Mukundh A
Sprint-2	Designing Data Entry page	USN-2	As a user,I can enter the details of marks ,to predict universities\Designing User Interface Page.	5	High	Pooja S
Sprint-3	Result Page	USN-3	As a user, I can Predict the Chances of Universities.	5	Medium	Nithesh Aravindh T
Sprint-4	Python And Flask	USN-4	Integrating Backend and Frontend with using Flask.	5	High	Manoj Adhithya R

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	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

7. CODING AND SOLUTIONING

7.1 Feature 1

We have updated the website image which can change the visual appearance of website that can be very effective way to refresh the above fold content. It helps to attract attention and to guide the user 's line of sight. Clear and consistent navigation is a basic requirement for the user interface. If it turns out to be difficult, most users will not want to waste their time to figure it out

Easy to Understand, Well designed and functional. Site visitors are always in a hurry. Don’t make them work for information. User Experience plays a key role in helping visitors use, understand and stay on your website. Optimized for Search and the Social Web Images enables the identification of features that may not be as easily detected in the spatial domain.

index.html

```
<!DOCTYPE html>
<html>

<head>
  <!-- Basic -->
  <meta charset="utf-8" />
  <meta http-equiv="X-UA-Compatible" content="IE=edge" />
  <!-- Mobile Metas -->
  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no" />


  <title>UAPS</title>

  <!-- slider stylesheet -->
  <link rel="stylesheet" type="text/css"
    href="https://cdnjs.cloudflare.com/ajax/libs/OwlCarousel2/2.1.3/assets/owl.carousel.min.css" />

  <!-- bootstrap core css -->
  <link rel="stylesheet" type="text/css" href="css/bootstrap.css" />

  <!-- fonts style -->
  <link href="https://fonts.googleapis.com/css?family=Poppins:400,700&display=swap" rel="stylesheet" />
  <!-- Custom styles for this template -->
  <link href="css/style.css" rel="stylesheet" />
  <!-- responsive style -->
  <link href="css/responsive.css" rel="stylesheet" />
</head>

<body>
  <video autoplay muted loop id="myVideo">
    <source src="css/NTP Video.mp4" type="video/mp4">
  </video>
  <div class="content">

    <!-- header section strats -->
    <!-- end header section -->
    <!-- slider section -->
    <section class=" slider_section position-relative">
      <div id="carouselExampleControls" class="carousel slide" data-ride="carousel">
        <div class="carousel-inner">
          <div class="carousel-item active">
            <div class="slider_item-box">
              <div class="slider_item-container">
                <div class="container">
                  <div class="row">
                    <div class="col-md-6">
                      <div class="slider_item-detail">
                        <div>
```

```
                <h1>
                  University Admission <br />
                  Prediction System
                </h1>
                <p>
                  Your Future in Your Fingertip!
                </p>
                <div class="d-flex">
                  <a href="check.html" class="text-uppercase custom_orange-btn mr-3">
                    Check Now!
                  </a>

                </div>
              </div>
            </div>
          </div>
          <div class="col-md-6">
            <div class="slider_img-box">
              <div>
                <img src="images/slide-img.png" alt="" class="" />
              </div>
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>

</section>

</div>
</body>
</html>
```

7.2 Feature 2

Congrats.html

```
<!DOCTYPE html>
<html>

<head>
 <!-- Basic -->
 <meta charset="utf-8" />
 <meta http-equiv="X-UA-Compatible" content="IE=edge" />
 <!-- Mobile Metas -->
 <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no" />


 <title>UAPS</title>

 <!-- slider stylesheet -->
 <link rel="stylesheet" type="text/css"
  href="https://cdnjs.cloudflare.com/ajax/libs/OwlCarousel2/2.1.3/assets/owl.carousel.min.css" />

 <!-- bootstrap core css -->
 <link rel="stylesheet" type="text/css" href="css/bootstrap.css" />

 <!-- fonts style -->
 <link href="https://fonts.googleapis.com/css?family=Poppins:400,700&display=swap" rel="stylesheet" />
 <!-- Custom styles for this template -->
 <link href="css/style2.css" rel="stylesheet" />
```

```
  <!-- responsive style -->
  <link href="css/responsive.css" rel="stylesheet" />


  <script>
    const Confettiful = function(el) {
this.el = el;
this.containerEl = null;

this.confettiFrequency = 3;
this.confettiColors = ['#EF2964', '#00C09D', '#2D87B0', '#48485E','#EFFF1D'];
this.confettiAnimations = ['slow', 'medium', 'fast'];

this._setupElements();
this._renderConfetti();
};

Confettiful.prototype._setupElements = function() {
const containerEl = document.createElement('div');
const elPosition = this.el.style.position;

if (elPosition !== 'relative' || elPosition !== 'absolute') {
this.el.style.position = 'relative';
}

containerEl.classList.add('confetti-container');

this.el.appendChild(containerEl);

this.containerEl = containerEl;
};

Confettiful.prototype._renderConfetti = function() {
this.confettiInterval = setInterval(() => {
const confettiEl = document.createElement('div');
const confettiSize = (Math.floor(Math.random() * 3) + 7) + 'px';
const confettiBackground = this.confettiColors[Math.floor(Math.random() * this.confettiColors.length)];
const confettiLeft = (Math.floor(Math.random() * this.el.offsetWidth)) + 'px';
const confettiAnimation = this.confettiAnimations[Math.floor(Math.random() * this.confettiAnimations.length)];

confettiEl.classList.add('confetti', 'confetti--animation-' + confettiAnimation);
confettiEl.style.left = confettiLeft;
confettiEl.style.width = confettiSize;
confettiEl.style.height = confettiSize;
confettiEl.style.backgroundColor = confettiBackground;

confettiEl.removeTimeout = setTimeout(function() {
  confettiEl.parentNode.removeChild(confettiEl);
}, 3000);

this.containerEl.appendChild(confettiEl);
}, 25);
};

window.confettiful = new Confettiful(document.querySelector('.js-container'));
</script>



</head>
```

```
<body>

   <div class="js-container container" style="top:0px !important;"></div>

 <div style="text-align:center;margin-top:30px;position:  fixed;width:100%;height:100%;top:0px;left:0px;">
   <div class="checkmark-circle">
     <div class="background"></div>
     <div class="checkmark draw"></div>
   </div>
   <h1>Hurrayyyy</h1>
   <p>You are more likely to get into this University. Well done!</p>
   <button class="submit-btn" type="submit" onclick="location.href='index.html';">Continue</button>

 </div>
 </body>
 </html>
```

sorry.html

```
<!DOCTYPE html>
<html>

<head>
  <!-- Basic -->
  <meta charset="utf-8" />
  <meta http-equiv="X-UA-Compatible" content="IE=edge" />
  <!-- Mobile Metas -->
  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no" />


  <title>UAPS</title>

  <!-- slider stylesheet -->
  <link rel="stylesheet" type="text/css"
    href="https://cdnjs.cloudflare.com/ajax/libs/OwlCarousel2/2.1.3/assets/owl.carousel.min.css" />

  <!-- bootstrap core css -->
  <link rel="stylesheet" type="text/css" href="css/bootstrap.css" />

  <!-- fonts style -->
  <link href="https://fonts.googleapis.com/css?family=Poppins:400,700&display=swap" rel="stylesheet" />
  <!-- Custom styles for this template -->
  <link href="css/style3.css" rel="stylesheet" />
  <!-- responsive style -->
  <link href="css/responsive.css" rel="stylesheet" />
</head>
<body>
   <div style="text-align:center;margin-top:30px;position:  fixed;width:100%;height:100%;top:0px;left:0px;">
       <p>Sorry, You are not eligible to join this University.</p>
   <p>Don't Worry! There a lot of University you can try!</p>
      <button class="submit-btn" type="submit" onclick="location.href='index.html';">Continue</button>
      </div>
   <div style="width:1200px; margin:1000 auto;">
   <img src="https://assets.materialup.com/uploads/b036c734-92e5-4597-80a6-07d764e7eab0/preview.gif" alt="Sad Emoji"
class="img-responsive preview">


   </div>

</body>
</html>
```

7.3 Database Schema

	A	B	C	D	E	F	G	H	I	J
1	Serial No.	GRE Score	TOEFL Sco	University	SOP	LOR	CGPA	Research	Chance of	Admit
2	1	337	118	4	4.5	4.5	9.65	1	0.92	
3	2	324	107	4	4	4.5	8.87	1	0.76	
4	3	316	104	3	3	3.5	8	1	0.72	
5	4	322	110	3	3.5	2.5	8.67	1	0.8	
6	5	314	103	2	2	3	8.21	0	0.65	
7	6	330	115	5	4.5	3	9.34	1	0.9	
8	7	321	109	3	3	4	8.2	1	0.75	
9	8	308	101	2	3	4	7.9	0	0.68	
10	9	302	102	1	2	1.5	8	0	0.5	
11	10	323	108	3	3.5	3	8.6	0	0.45	
12	11	325	106	3	3.5	4	8.4	1	0.52	
13	12	327	111	4	4	4.5	9	1	0.84	
14	13	328	112	4	4	4.5	9.1	1	0.78	
15	14	307	109	3	4	3	8	1	0.62	
16	15	311	104	3	3.5	2	8.2	1	0.61	
17	16	314	105	3	3.5	2.5	8.3	0	0.54	

8. 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	Commnets	TC for Automation(Y/N)	BUG ID	Executed By
LoginPage_TC_OO1	Functional	Home Page	User can check the Web app URL is valid or Not	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.Enter URL and click go 2.Verify Login page is visible or Not.	http://127.0.0.1:5000/	The Project will be Display	Working as expected	Pass	No Commnets	-		HARI PRASAD P G(TL)
LoginPage_TC_OO2	UI	Home Page	Verify the UI is Visble or not	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.Enter URL and click go 2..User will see the interface	http://127.0.0.1:5000/	Application should show below UI elements: a.GRE text box b.TOFEL text box c.SOP text box d.LOR text box e.CGPA text box f.Research text box	Working as expected	Pass	No Commnets	-		SUREETH T L
LoginPage_TC_OO3	Functional	Home page	Verify user is able to enter the GRE , TOFEL Score or Not	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	GRE Score : Value must be 250 to 340 , TOFEL Score : Value must be 50 to 120	Application Should shows Chance / No chance image with Prediction value	Working as expected	Pass	No Commnets	-		NARESH S
LoginPage_TC_OO4	Functional	HomePage	Verify user is able to enter the SOP , LOR Score or Not	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	SOP Score : Value must be 1 to 5 , LOR Score : Value must be 1 to 5	Application Should shows Chance / No chance image with Prediction value	Working as expected		No Commnets	-		SHANMUGAM P L
LoginPage_TC_OO4	Functional	Home Page	Verify user is able to enter the CGPA , University rating Score or Not	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict botton	CGPA Score : Value must be 5 to 10 , University Rating Score : Value must be 1 to 5	Application Should shows Chance / No chance image with Prediction value	Working as expected	Pass	No Commnets	-		GONAVARAM BALA VISWANATH
LoginPage_TC_OO4	UI	Home Page	Verify user is able to see the predict botton	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2..Enter Valid inputs in the text box 3..Click the predict botton	http://127.0.0.1:5000/	Application Predit bottom will be look at Black	Working as expected	Pass	No Commnets	-		HARI PRASAD P G(TL)

Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Commnets	TC for Automation(Y/N)	BUG ID	Executed By
LoginPage_TC_OO5	Functional	Home Page	Verify the user able to access the research radio botton is working or not	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	Research : Enter value 1 or 0	Application research text box working	Working as expected	Pass	No Commnets	-		NARESH S
LoginPage_TC_006	Funtional	Home Page	Verify that user gets warning when the user entering the value that lesser than or greater than the given input value limit	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	1.GRE Score : Value must be 250 to 340 , TOFEL Score : Value must be 50 to 120 2.SOP Score : Value must be 1 to 5 , 3.LOR Score : Value must be 1 to 5CGPA Score : Value must be 5 to 10 , University Rating Score : Value must be 1 to 5	Application Warning pop-up must be shown	Working as expected	Pass	No Commnets	-		HARI PRASAD P G(TL)
LoginPage_TC_007	Functioal	HomePage	Verify that user can get redirected to the destination page that shows their eligibility criteria when entering all requested values correctly	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	Redirect to eligible page when the user was eligible or Redirected to not-eligible page when the user was not meeting the minimum requirements	Redirecting to destination page as suited for users given data	Working as expected	Pass	No Commnets	-		HARI PRASAD P G(TL)
LoginPage_TC_008	UI	HomePage	Visibility of the picture in the background	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	Visibility of the picture in the background	Background picture is visible	Working as expected	Pass	No Commnets	-		SUREETH T L

Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Commnets	TC for Automation(Y/N)	BUG ID	Executed By
Login_Page_TC_010	UI	HomePage	Verify that the font size of the website was easy to read by the user in safe distance	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	http://127.0.0.1:5000/	Website must have larger font size	Working as expected	Pass	No Commnets	-		SHANMUGAM P L
Login_Page_TC_011	UI	HomePage	Verify that website was capable of running in different devices	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	http://127.0.0.1:5000/	Website must run on different devices	Working as expected	Pass	No Commnets	-		GONAVARAM BALA VISWANATH
Login_Page_TC_012	Functional	Homepage	Verify that website was calculating the given data and shows result with suitable redirected page	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	http://127.0.0.1:5000/	Website must redirect to suitable webpages with respect to the calculated results	Working as expected	Pass	No Commnets	-		SHANMUGAM P L
Login_Page_TC_013	UI	Result Page 1	Verify that redirecting to chance result page	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	http://127.0.0.1:5000/chance/72.9825019624117 6	Verify that redirecting to chance result page	Working as expected	Pass	No Commnets	-		NARESH S
Result_Page_TC_014	UI	Result Page 2	Verify that redirecting to no chance result page	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	http://127.0.0.1:5000/nochance/38.3846839944299 8	Verify that redirecting to no chance result page	Working as expected	Pass	No Commnets	-		GONAVARAM BALA VISWANATH
Result_Page_TC_014	Funtional	Result Page 1	Verify that result page was shown the calculated result with respected eligibility	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	http://127.0.0.1:5000/chance/72.9825019624117 6	Website must show the calculated result along with the eligibility level	Working as expected	Pass	No Commnets	-		HARI PRASAD P G(TL)
Result_Page_TC_015	Funtional	Result Page 2	Verify that result page was shown the calculated result with respected eligibility	Proper Working Condition Laptop/Desktop,Wifi /Internet connection,Any legal Browser.	1.EnterURL(http://127.0.0.1:5000/) and click go 2.Enter Valid inputs in the text box 3.Click the predict button	http://127.0.0.1:5000/nochance/38.3846839944299 8	Website must show the calculated result along with the eligibility level	Working as expected	Pass	No Commnets	-		SUREETH T L

8.2 User Acceptance Testing

1. 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).

2. 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	0	0	2	1	3
Duplicate	1	0	0	0	1
External	0	0	1	0	1
Fixed	0	1	1	0	2
Not Reproduced	0	1	0	0	1
Skipped	0	0	0	0	0
Won't Fix	0	0	0	0	0
Totals	1	2	4	1	8

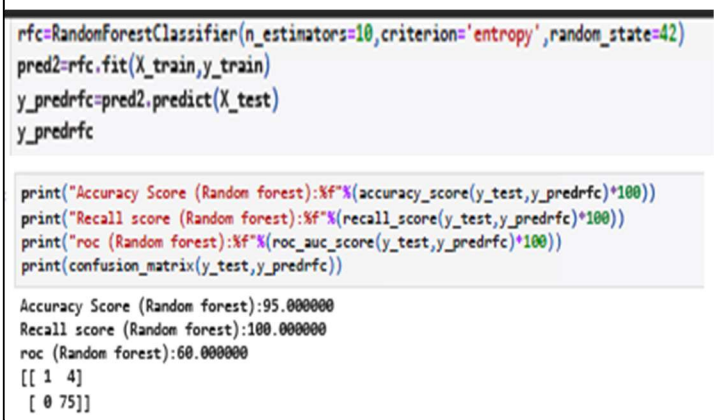
3. Test Case Analysis

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

Section	Total Cases	Not Tested	Fail	Pass
View home page	10	0	0	10
Enter the scores	25	0	0	25
Click Submit button	25	0	0	25
Redirecting to Prediction page	25	0	0	25
Final Report Output	25	0	0	25
Version Control	20	0	0	20

9. RESULTS

9.1 Performance Metrics

S.No.	Parameter	Values	Screenshot
1.	Metrics	Accuracy Score (Random forest):95.000000Recall score (Random forest):100.000000roc (Random forest):60.000000	
2.	Tune the Model	Hyper parameter Tuning – I have changed the parameters it gives 1 percent more accuracy	

10. ADVANTAGES AND DISADVANTAGES

Advantages

1. It helps student for making decision for choosing a right college.
2. Here the chance of occurrence of error is less when compared with existing system.
3. It is fast, efficient and reliable.
4. Avoids data redundancy and inconsistency.
5. Very user-friendly.
6. Easy accessibility ofdata.
7. It would be the easiest mode to predict the university/colleges person is applicable for as well as it would unbiased and totally transparent.
8. Individually would no more need to depend upon the consultancies who may be slightly deviated towards the list of colleges/university that may be having contract with them.
9. Moreover, applying to only that colleges/university where the student has genuine chance would even reduce application process.
10. Additionally, living expense of the area where colleges/university is located would also be provided on website.

Disadvantages

1. Required active internetconnection.
2. System will provide inaccurate results if data entered incorrectly.
3. Other factors such as changes in policies by the university or by the country can also affect chances of admissions in a way that is beyond the scope of this project.
4. Admissions also depend on the individual university's Policy regarding the intake of foreign students and is not modeled by our System

11. CONCLUSION

Student admission problem is very important in educational institutions. In this project addresses machine learning models to predict the chance of a student to be admitted. This will assist students to know in advance if they have a chance to get accepted. In this paper, 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 Multi-Layer Perceptron. Experiments show that the Multi-Layer 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.

12. FUTURE SCOPE

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

1. This can be implemented in less time for proper admission process.
2. This can be accessed anytime anywhere, since it is a web application provided only an internet connection.
3. 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.
4. The scope of this project is a web application that allows users to enter their academic data and get predictions of their chances of admissions in the university tier of their choosing.
5. It also provides an analysis based on the data set used that shows how the different affect chances of admissions.
6. Database will also be implemented for the systems so that students can save their data and review and edit it as they progress with the most recent predictions being saved with their profile.
7. Future work in the project could include weighing in the features that have been ignored as of yet like percentage seats for Foreign Students.
8. Other criterion's like Co-curricular achievements, Leadership positions held, job experience can also be included as metrics for the model.

13. APPENDIX

Source Code for model saved in IBM cloud

```
import pandas as pd
from flask import Flask, request, jsonify,
render_template,redirect,url_for import requests



# NOTE: you must manually set API_KEY below using information retrieved from your IBM
Cloud account. API_KEY="Vq2uXhLPD6XjkGUZc9xTAHmLJ5vYz3fbFDhNao67a0Og"
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 =       __nam __,template_folder='Template')
Flask(        e



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

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

   GRE_Score = int(request.form['GRE
   Score']) TOEFL_Score =
   int(request.form['TOEFL Score'])
   University_Rating = int(request.form['University
   Rating']) SOP = float(request.form['SOP'])
   LOR =
   float(request.form['LOR'])
   CGPA =
   float(request.form['CGPA'])
   Research = int(request.form['Research'])
   final_features = [[GRE_Score, TOEFL_Score, University_Rating, SOP, LOR, CGPA,Research]]

   payload_scoring={'input_data':[{'fields':[["GRE Score","TOEFL Score","University
Rating","SOP","LOR ","CGPA","Research"]],'values':final_features}]}
   print("hello")
   response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/2872d436-
41b9-47f3-bc57- 6b9f2bc28348/predictions?version=2022-11-10', json=payload_scoring,
   headers={'Authorization': 'Bearer ' +
   mltoken}) print("scoring response")
   pred=response_scoring.json()
```

```
  print(pred)
  output=pred['predictions'][0]['values'][
  0][0]

  if output > 0.5:
    return redirect(url_for('chance',
  percent=output*100)) else:
    return redirect(url_for('no_chance', percent=output*100))



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

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

if name  __ ==    main ":
              "   __     __
  app.run(debug=True)
```

Source Code for model saved in local system

```
import pandas as pd
from flask import Flask, request, jsonify,
render_template,redirect,url_for import pickle

app =       __nam    ,template_folder='Template')
Flask(        e     __
model = pickle.load(open('D:/IBM_UAEP/model.pkl', 'rb'))



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

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

  GRE_Score = int(request.form['GRE
  Score']) TOEFL_Score =
  int(request.form['TOEFL Score'])
  University_Rating = int(request.form['University
  Rating']) SOP = float(request.form['SOP'])
  LOR =
  float(request.form['LOR'])
  CGPA =
  float(request.form['CGPA'])
  Research = int(request.form['Research'])

  final_features = pd.DataFrame([[GRE_Score, TOEFL_Score, University_Rating, SOP, LOR, CGPA,Research]])
```

```
    predict=model.predict(final_features)

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



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

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

if name  __ ==     main ":
             "     __      __
    app.run(debug=True)
```

13.2 GITHUB AND PROJECT DEMO LINK

GitHub link:

https://github.com/IBM-EPBL/IBM-Project-19235-1659694686

Project Demo Link:

https://drive.google.com/drive/folders/1co1yqaG7oqn3bb7X0tmnHAJ614d3ssO7?usp=sharing

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