UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

DONE BY:

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ABSTRACT

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.

Objectives:

- To understand regression and classification problems
- To grab insights from data through visualization.
- Applying different ML algorithms to determine the probability of acceptance in a particular university.
- Evaluation metrics
- Build a web application using the Flask framework.

LITERATURE SURVEY

SNo	Title of the Paper	Methodologies/Approach used	Pros	Cons
[1]	Graduate Admission Prediction Using Machine Learning (2020)	In this study, machine learning algorithms are used to forecast a student's likelihood of admission to a master's degree. Students will benefit from knowing in advance whether they stand a chance of being admitted. Multiple linear regression, k-nearest neighbour, random forest, and multilayer perceptron are the machine learning models. The Multilayer Perceptron model outperforms other models, according to experiments.	i)Multiple methods have been tested to determine which model gives the highest accuracy. ii)Ranking of features that play the most crucial role in determining admit to a university.	—
[2]	University Admissions Predictor Using Logistic Regression (2021)	This is a novel study on a predictor for university admissions that allows students to assess their chances of being admitted to an institution. Real student data is gathered in order to construct this. The information is kept in the form of a training set that may be used by the logistic regression classifier designed to predict admissions.	i) Web scraping has been employed to fetch student data from multiple websites.	i)Many factors like publications, work experience, extracurriculars have not been considered. ii)Relies on a single ML model.

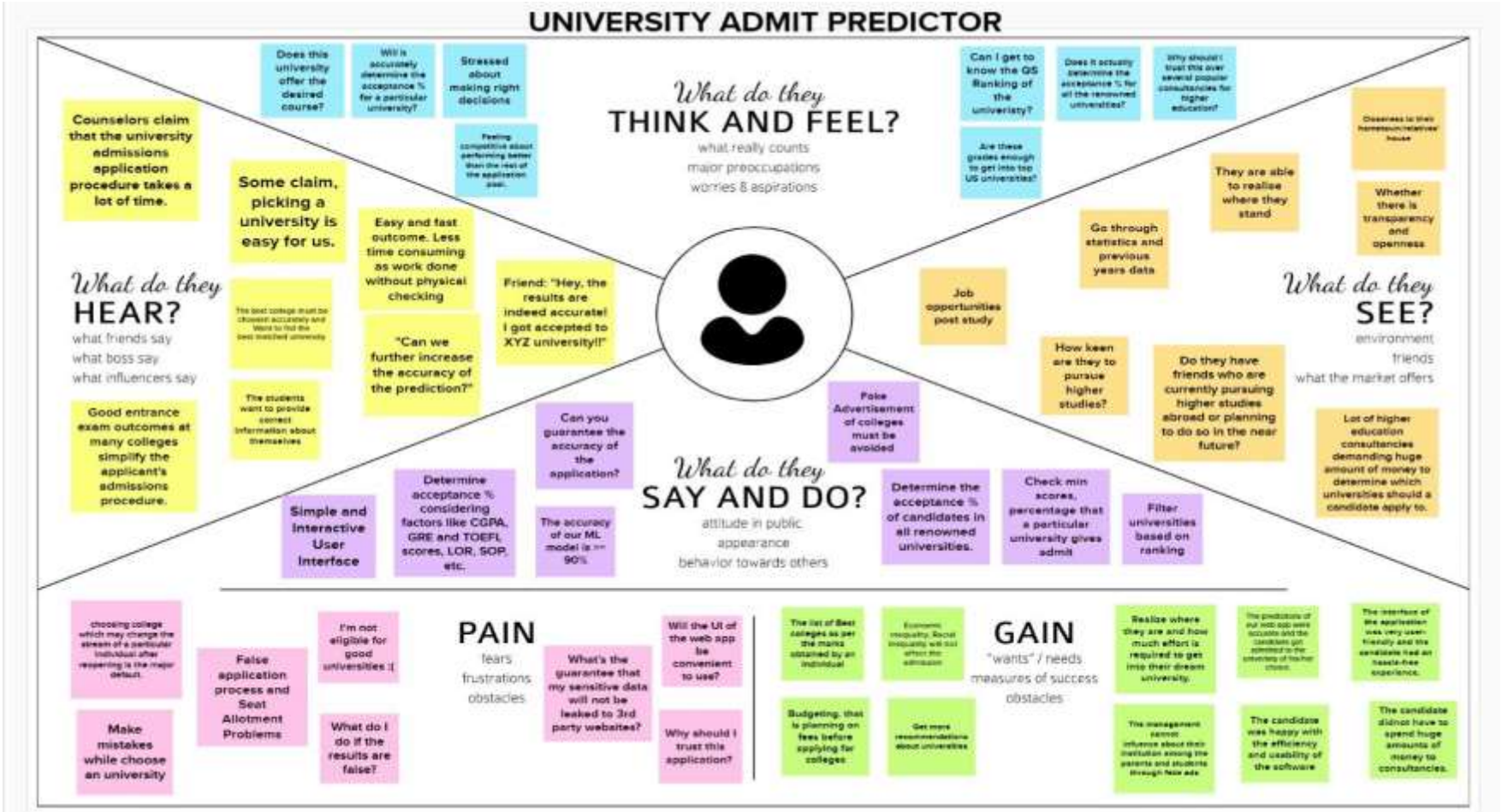
LITERATURE SURVEY

SNo	Title of the Paper	Methodologies/Approach used	Pros	Cons
[3]	Prediction of Admission Process for Gradational Studies using AI Algorithm (2020)	This paper compares and recognizes which AI algorithm is going to give precise outcome for admission chances in a particular university. Algorithms used - Multi Linear Regression, Polynomial Regression, Random Forest	i)Performance of 3 ML algorithms have been compared. ii)The random forest approach has achieved a high accuracy of 94%.	i) Just provides prediction for a particular university, the approach doesn't provide a list of universities where the candidate will be eligible for admission.
[4]	Personalized College Recommender and Cutoff Predictor for Direct Second Year Engineering (2022)	This study makes the claim that it can forecast each college's cut off by analysing data from past years' cutoffs, offer a list of recommended colleges based on student preferences, and compare various institutions in great detail. In order to save time and make the student's college selection process easier, the application is designed to provide a tailored system.	i) Indian-context (Here, colleges in Maharashtra have been considered). ii) Recommends colleges for diploma students who require admission in Direct Second Engineering(DSE).	This approach cannot be generalized to all colleges in India as each state in India follows a different procedure for admission.

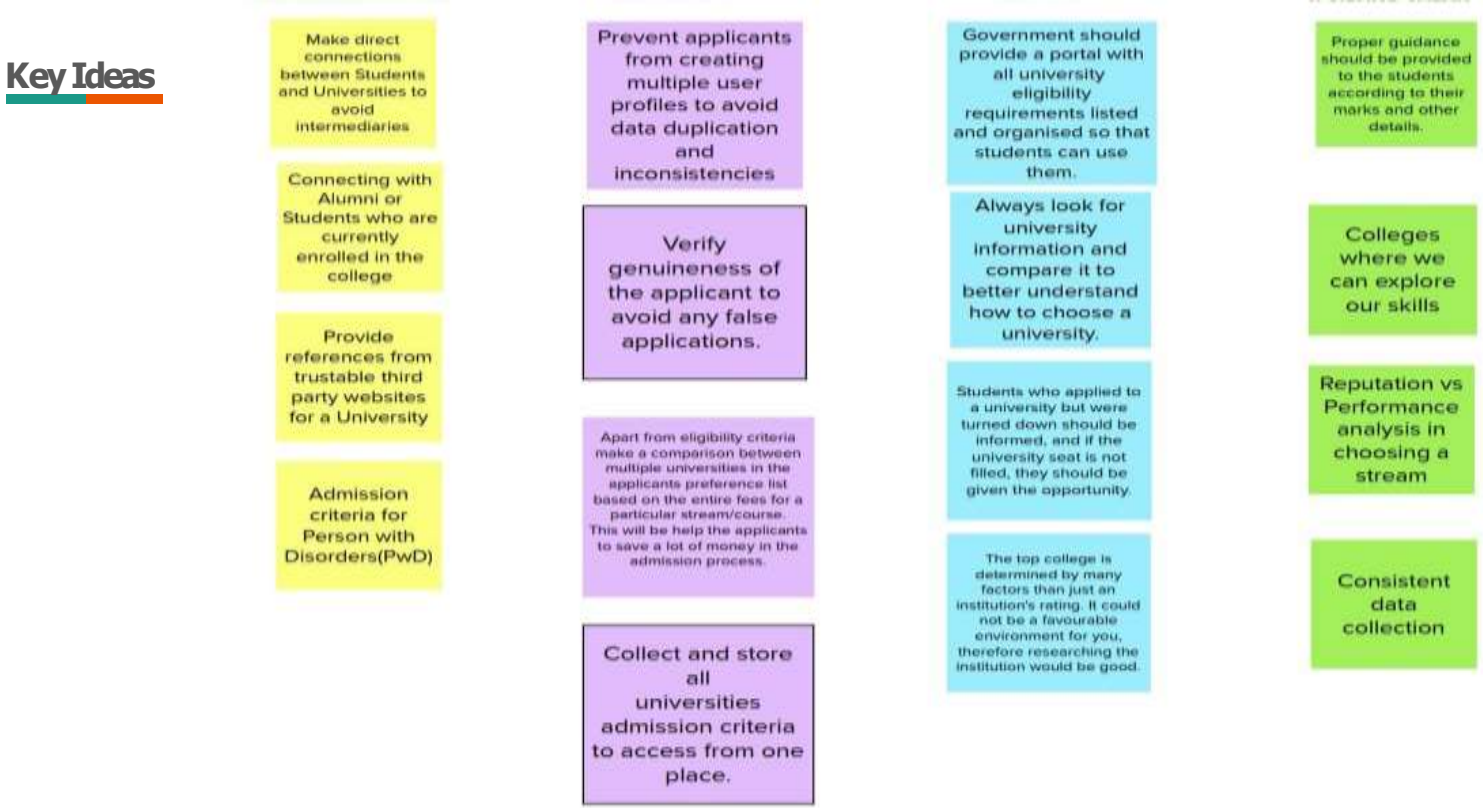
LITERATURE SURVEY (BLOGS)

SR NO	Title	Abstract
i)	Introduction to Modelling Tabular Data: Predicting a student's chance of gaining admission using ML | by Jia Qing	This article uses the Graduate Admissions dataset (UCLA Admissions Dataset) and predicts a student's chances of getting an admit into a US university using ML algorithms. It was concluded that Multiple Linear Regression was the best model for predicting the admission chances of a student.
ii)	UNIVERSITY PREDICTOR by machine learning | by Jigar prajapati | Medium	This article talks about the architecture and algorithm of the system proposed. KNN, Decision Tree, and Logistic Regression were used to find the admits of a particular student. The ML models considers various parameters like GRE and TOEFL Score, SOP, LOR. Finally , upon evaluation, the author states that Decision Tree had the best accuracy out of the three algorithms used.

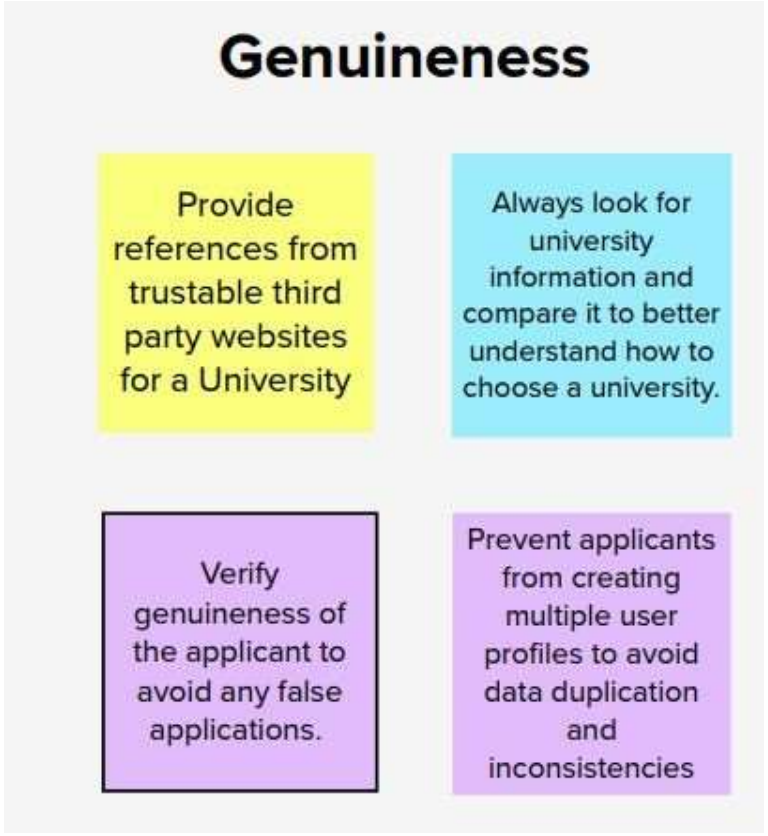
EMPATHY MAP


UNIVERSITY ADMIT PREDICTOR
What do they THINK AND FEEL?
what really counts
major preoccupations
worries & aspirations
Does this university offer the desired course?
Will it accurately determine the acceptance % for a particular university?
Stressed about making right decisions
Counselors claim that the university admissions application procedure takes a lot of time.
Some claim, picking a university is easy for us.
Easy and fast outcome. Less time consuming as work done without physical checking
Friend: "Hey, the results are indeed accurate! I got accepted to XYZ university!!"
"Can we further increase the accuracy of the prediction?"
Can I get to know the QS Ranking of the university?
Does it actually determine the acceptance % for all the renowned universities?
Why should I trust this over several popular consultancies for higher education?
Are these grades enough to get into top US universities?
They are able to realise where they stand
Whether there is transparency and openness
Go through statistics and previous years data
Job opportunities post study
What do they HEAR?
what friends say
what boss say
what influencers say
Good entrance exam outcomes at many colleges simplify the applicant's admissions procedure.
The students want to provide correct information about themselves
What do they SEE?
environment
friends
what the market offers
How keen are they to pursue higher studies?
Do they have friends who are currently pursuing higher studies abroad or planning to do so in the near future?
Lot of higher education consultancies demanding huge amount of money to determine which universities should a candidate apply to.
What do they SAY AND DO?
attitude in public
appearance
behavior towards others
Poke Advertisement of colleges must be avoided
Can you guarantee the accuracy of the application?
Simple and Interactive User Interface
Determine acceptance % considering factors like CGPA, GRE and TOEFL scores, LOR, SOP, etc.
The accuracy of our ML model is >= 90%
Determine the acceptance % of candidates in all renowned universities.
Check min scores, percentage that a particular university gives admit
Filter universities based on ranking
PAIN
fears
frustrations
obstacles
choosing college which may change the stream of a particular individual after reopening is the major detour.
False application process and Seat Allotment Problems
I'm not eligible for good universities :(
Make mistakes while choose an university
What do I do if the results are false?
What's the guarantee that my sensitive data will not be leaked to 3rd party websites?
Will the UI of the web app be convenient to use?
Why should I trust this application?
GAIN
"wants" / needs
measures of success
obstacles
The list of Best colleges as per the marks obtained by an individual
Budgeting, that is planning on fees before applying for colleges
Realize where they are and how much effort is required to get into their dream university.
The candidate was happy with the efficiency and usability of the software
The candidate didnot have to spend huge amounts of money to consultancies.

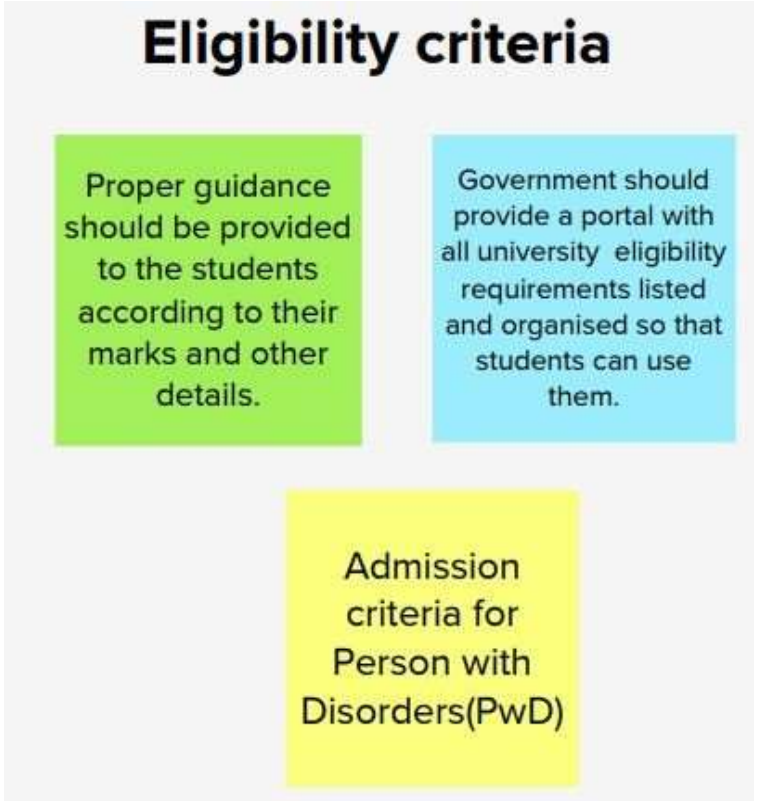
BRAINSTORMING AND IDEA PRIORITIZATION

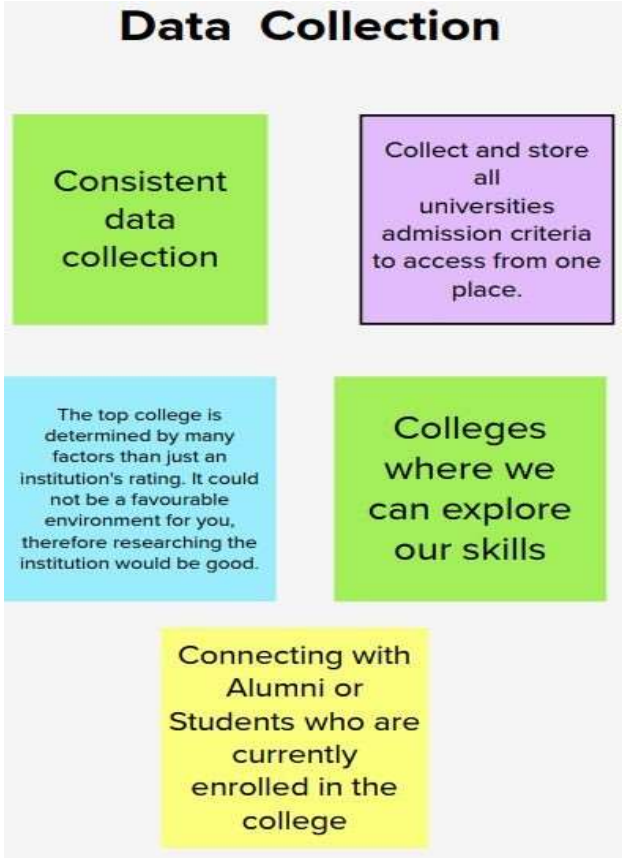


CLUSTERING SIMILAR IDEAS

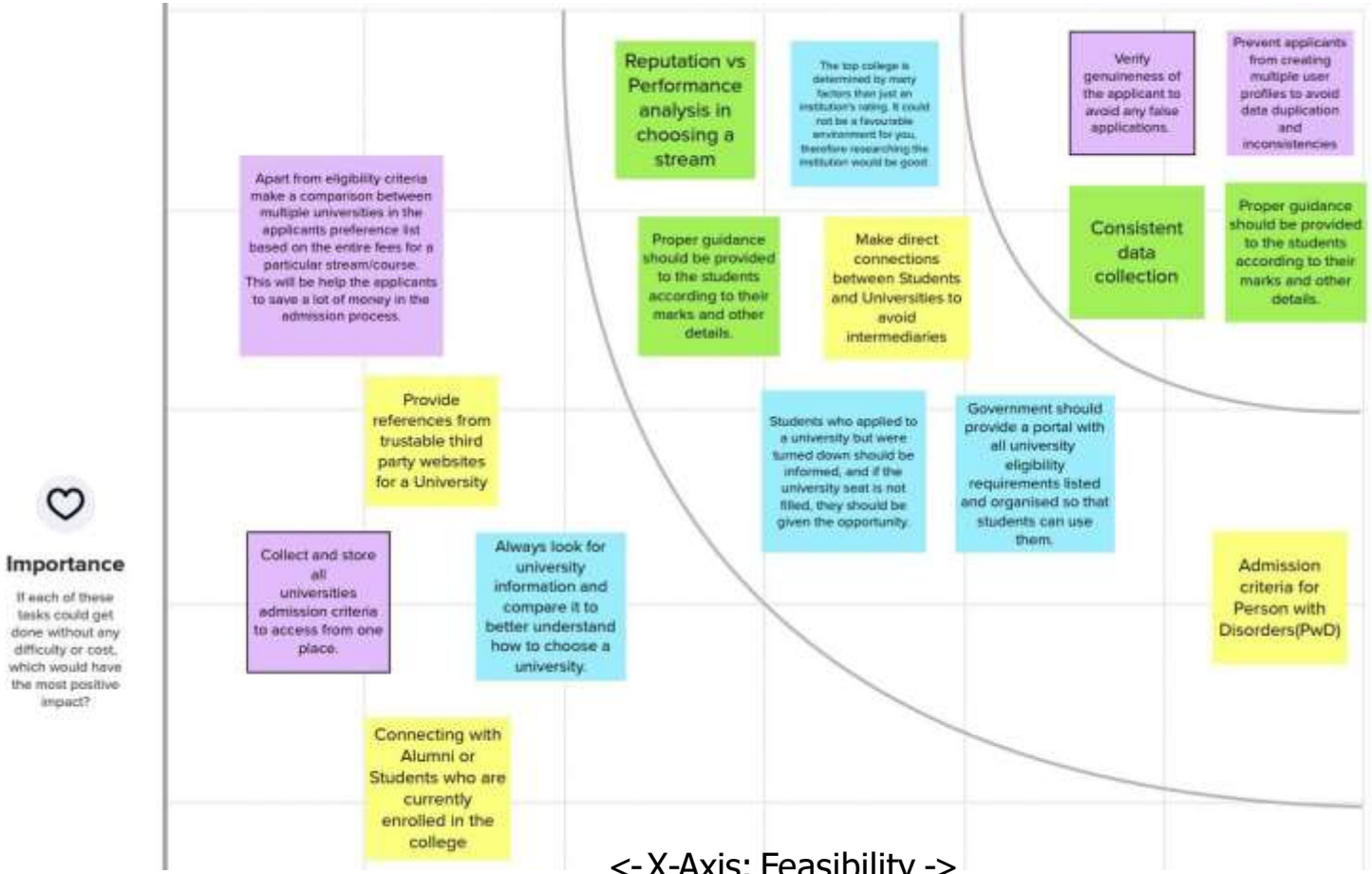


CLUSTERING SIMILAR IDEAS (Contd.)

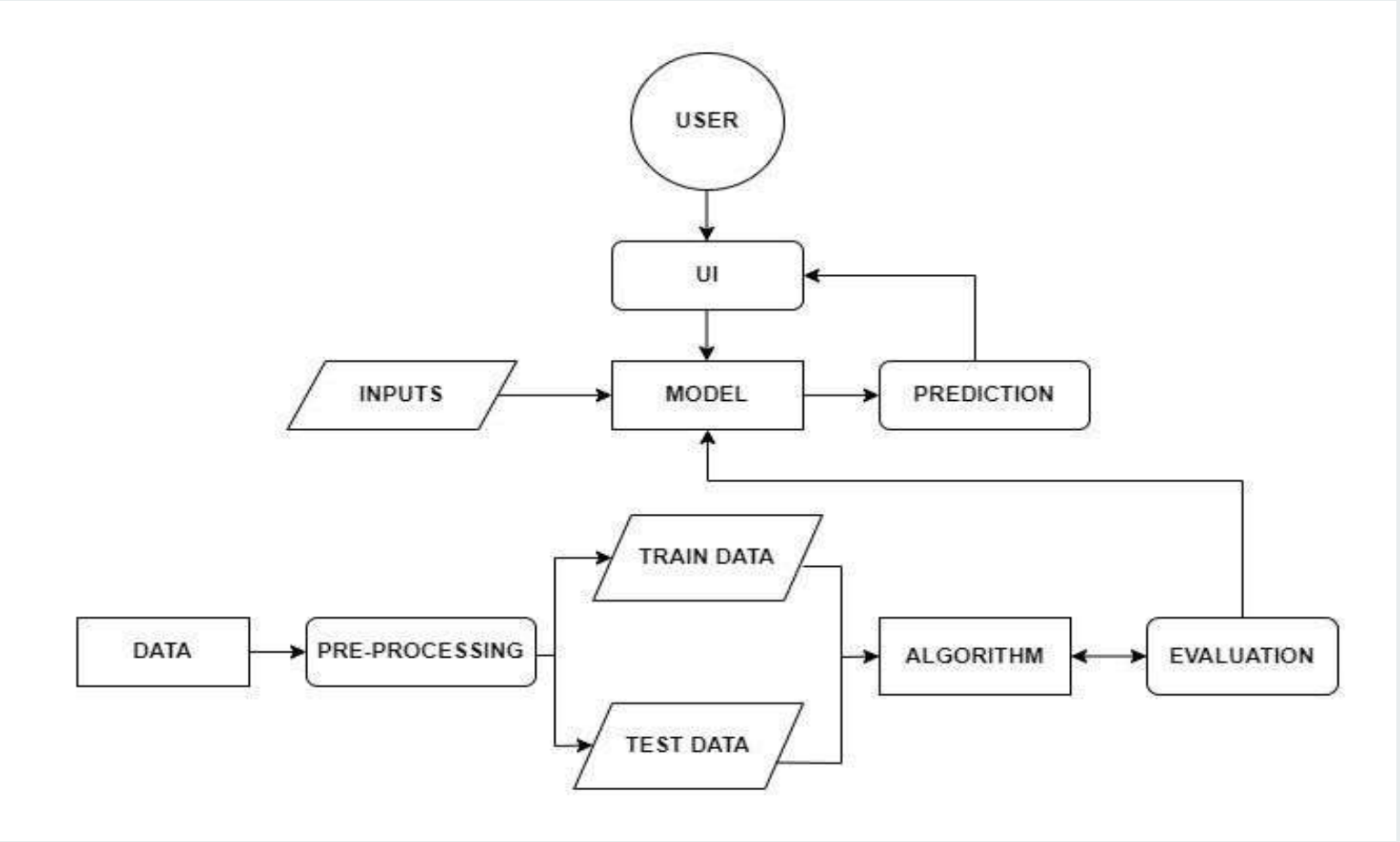




IDEA PRIORITIZATION: IMPORTANCE VS FEASIBILITY



SOLUTION ARCHITECTURE



NOVELTY

- Develop a novel deep learning-based hybrid model that has a better accuracy than the existing traditional ML models.

- Provide feedback on the parameters where the candidate is lacking so that he can improve on those areas.

SOCIAL IMPACT

- Students often feel difficult in shortlisting the universities to apply which they tend to wonder if their profile matches the requirement of a certain university.
- Moreover, the cost of applying to a university is extremely high making it critical that students shortlist universities based on their profile.
- A university admission prediction system is quite useful for students to determine their chances of acceptance to a specific university.
- This system reduces dependence on educational consultancies, who charge loads of money to analyse a candidate’s profile and determine the universities he/she should apply to.

SCALABILITY

- A future update could have chat space where candidates, faculties, current students of the university and alumni can interact and candidates can get their doubts resolved instantly.
- Get in touch with grad-schools' and professors and determine other important factors that play a key role in increasing the chances of admit.
- To deal with huge volumes of data in the future (Both - applicants and university details), cloud based storages (IBM cloud, AWS, GCP, AZURE) and NoSQL databases (MongoDB, Redis, etc.) could be used instead of the traditional RDBMS storage.
- Alternatively, distributed big-data processing techniques could be explored if the no. of users using the website increase exponentially during the course of time.

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THANK YOU !!