10/21/2024

Business Analysis 3.2 Group Assignment

CEREBROBRAINS
Artificial Intelligence

P MOLEWA 221348158
P MATHEBULA 221867082
VK MALATJIE 221982418
MN SENWANA 222086645

Table of Contents

DECLARATION

We (Senwana MN, Malatjie VK, Khambane TL, Molewa P, Mathebula P) hereby declare that this document (CerebroBrain document) Is our original group work, except for cited sources and acknowledge contributions. We have not previously submitted this work for any academic or professional purpose. We understand that plagiarism and academic dishonesty will not be tolerated.

Signed:
       Senwana MN
       MalatjiE VK
       Khambane TL
       Molewa P
       Mathebula P

Date: 21/10/202

CerebroBrains

AI Solution

The AI solution that we have proposed is the AI assistant for universities online application system. The name of our AI Assistant is UNIPLY, the aim is to simplify the online application process for universities to assist applicants in navigating university requirements efficiently and accurately. Uniply will provide fit course recommendations based on the applicant's results that they use to apply (grade 11 or matric results), and bursary opportunities aligned to the courses. It helps the applicant with informed decision-making, making career exploration less difficult.

Problem definition

Having to go through universities prospectus manually searching for courses that you qualify for can be time consuming and very stressful. Applicants end up applying for courses that they do not even meet the minimum requirements of the university. For instance, you would find an applicant whom it is their first time applying at the university choosing or applying for postgraduate courses instead of undergraduate courses. This would be stress causing because the applicant will be having high hopes of being accepted by the university while their application will not even be considered.

Most university applicants do not have relevant information about bursaries that are offered related to their courses. You would find out that sometimes an individual is accepted at the university but they do not have funding.

With the proposed AI online application assistant, most matriculants and prospective students will benefit by making informed career decisions applying for courses that they qualify for increasing their chances of being accepted at the university and be able to further their studies.

Business Overview

Cerebrobrains was founded by a group of students from Vaal University of Technology in August 2024. The company is an AI-based solution provider focused on transforming the university online application process for matriculants and prospective students. Our main focus will be building this AI online application assistant for VUT. The aim is to simplify the online application process by creating an AI online application assistant that assist applicants apply for courses they are qualified for, saving time for students to go through prospectus, and reducing errors and stress for students while increasing their chances of acceptance by aligning their results with the right courses.

Business objectives:

Simplifying the application process to put an end to challenges faced by students when applying online. Uniply will guide applicants ensuring that they provide accurate information and apply for courses they qualify for.

Enhancing accessibility as Uniply will filter relevant information from the university prospectus and present courses that align with the applicant's academic achievements.

Reduce errors, like mistakes that applicants often make by applying for postgraduate courses, which end up causing frustrations and stress.

Success Criteria:

To measure the achievements and business objectives to evaluate the performance and progress of our business, we will identify areas in the business that can be improved in a form of feedback from our users to make our business more marketable to other universities. Make partnership with other service providers like ITS because our system will work in-hand with VUT's online application process.

Key features:

User friendly interface.

Admission Points Score (APS) Calculation – calculating APS after the applicant has entered their results.

Course Matching – the AI will analyze the applicant's results and APS to recommend suitable VUT courses.

Bursary Matching – Uniply will also suggest bursaries that align with the chosen course, removing the hustle of searching multiple sources.

How the AI works:

The applicant will have to enter their subjects and level for each subject, then the AI will calculate the APS and based on some courses specification for certain subject level, Uniply will only show courses the applicant qualify for and filter the courses they do not qualify. The courses will be categorized by faculty to make them easily readable and for the applicant to know which faculty the course they choose fall under. Uniply will also make some bursary suggestions for certain courses that are funded by that bursary making easy for applicants to have funding suggestions.

Advantages:

Avoid invalid Applications – Uniply ensure students do not apply for courses they do not qualify for, preventing wasted time.

Save time and effort – applicants won't need to go through prospectus causing complications.

Simplified bursary search – Uniply will suggest bursaries aligned to the courses you qualify for removing the need to search through papers or internet.

Challenges:

Lack of experience – as students and not being exposed to the cooperate world of AI implementation, Uniply won't be as advanced as it should be due to use of outdated tools and techniques.

Limited resources – due to financial constraints, we won't have all the necessary tools needed for the development.

Time constraints – time will be a big factor to measure the success of our project as we will be focusing on finishing the project on time and not having enough time to explore other resources that could be useful.

Risks:

Inaccurate user information – the system may be affected by outdated or information, for example, suggesting bursaries that do no longer do any intakes, giving the applicant high hopes that there is a possibility of getting funding.

Data privacy – applicant's data being compromised.

Linking the VUT database with our AI solution - VUT data privacy may be compromised as we will be having their database information

AI Tools and Techniques:

Python will be used as the main programing language for building the entire project.

Natural Language Processing will be employed to process and analyze user inputs, enabling the AI to understand qualifications and courses.

Text-to-text generation, this will allow the AI to provide detailed and personalized responses to users.

POSTER