Undergraduate University Application Consultancy Services

Contents:

Abstract:

This project was designed to help the students applying to the university by telling the areas where they can improve and also the documents required. Students face a lot of issues while applying to a university. They do not know the various criteria of the university and sometimes due to lack of information they will apply to a certain university where they do not meet these criteria. This rule –based expert system will act as a consultant for these students and help them understand is they should apply to the university or not.

Features:

- The automated consultant displays the values inputted by the student so as to double check the values.
- Then it checks if the student satisfies the GPA requirement of the university.
- If the course desired by the student is offered or not.
- Afterwards, it checks for the backlogs as the university does not allow any previous backlogs.
- Then it checks if the student is international or domestic, as an international student will have a lesser chance than a domestic one.
- A check for Common App Personal Essay is also installed as it is a mandatory requirement for applying students.
- It also verifies if the applying student possess the school report as that is also a mandatory requirement.
- Lastly, it checks for the SAT and TOEFL score also present. The university has a minimum requirement for TOEFL score but for SAT, a score of 1150 and above is encouraged.
- If all the above stated requirements are met, the automated consultant will suggest the student to proceed with the application and submit it.

Rules and Description:

In this project, I have defined 1 template and 13 rules.

Template-

The template is defined for the applying student named 'applicant' as follows-

(deftemplate applicant

  (slot name)

  ; Applying for course (Right now limited to CS, ECE, Bioengineering, Civil, Mech, Chemical and Electrical)

  (slot major)

  ; Intended term of application

  (slot term (allowed-values fall spring))

  ; GPA in High school out of 4.0

  (slot gpa (type FLOAT))

  ; Any pending backlogs from high school?

  (slot backlog (allowed-values Yes No))

  ; Out-of-school experiences, including summer activities, work, and hobbies in form of years.

  (slot ex (type INTEGER))

  ; Availibility of school report.

  (slot schlrep (allowed-values Yes No))

  ; International applicant or domestic

  (slot intrnatnl (allowed-values Yes No))

  ;Score in SAT

  (slot sat (type INTEGER))

  ; TOEFL score (enter 120 if domestic student)

  (slot toefl (type INTEGER))

  ; Recommendation Letters from experience or academic.

  (slot lor (type INTEGER))

  ; Common Application Personal Essay

  (slot cape (allowed-values Yes No))

)

Rules-

A total of 13 rules are defined in the project. They go as follows:

- **credentials**: Print the initial information provided.
- **checkGPA:** To check whether the applicant's GPA satisfies the University's criteria.
- **checkSpecialization:** To check whether the applicant's intended specialization is offered by the university or not.
- **checkBacklog:** If a student has any pending backlogs, he will not be accepted by the university.
- **internationalCheck:** If he/she is an international applicant, admission will be tough.
- **capeCheck**: The University requires an applicant to submit a Common App Personal Essay.
- **repCheck:** If the applicant is not able to provide school report currently,admission cannot be granted.
- **toeflCheck:** The University has a minimum TOEFL requirement of 80.
- **satScore:** The University generally gives admit to candidates with SAT score of 1150 and above.
- **lorCheck:** The applicant should submit 4 or more Letter of Recommendation.
- **exCheck:** If the applicant has no Out-of-school experiences, including summer activities, work, and hobbies then he is notified that getting in might be difficult but he can still apply.
- **proceedApp:** If all criteria are met, we indicate the applicant to move further with his applicant and submit.
- **printFacts:** To print all the facts added to the working memory.

Usage Manual-

- Open command prompt and run 'jess.bat' on your machine to start Jess.
- Once, Jess starts up successfully, you can copy the '.clp' file anywhere in your system.
- Use command (batch "filepath/.clp") to run the project.

The test case hard coded into the file is as follows-

(applicant (name "Victor DeMello")

    (course Civil)

    (term spring)

    (gpa 3.7)

    (backlog No)

    (ex 1)

    (schlrep Yes)

    (intrnatnl Yes)

    (sat 1250)

    (toefl 106)

    (lor 4)

    (cape Yes))

To insert a different test case in the program, the grader can make the acceptable changes in the above template and insert in the project while removing the previous assertion.

Sample Output-

<u>Sample Output 1-</u>

Example Used-

(applicant (name "Victor DeMello")

    (course Civil)

    (term spring)

    (gpa 3.7)

    (backlog Yes)

    (ex 1)

  (schlrep No)

   (intrnatnl Yes)

   (sat 1250)

   (toefl 106)

   (letter 4)

   (cape Yes))

Output-

```
Jess, the Rule Engine for the Java Platform
Copyright (C) 2008 Sandia Corporation
Jess Version 7.1p2 11/5/2008

This copy of Jess will expire in 1788 day(s).
Welcome to Undergraduate University Application Consultancy Services
Hey Victor DeMello. Thank you for reaching out to us
The information you provided to us
Intended course: Civil
Intended term: spring
GPA in high school: 3.7
Backlogs in high school: Yes
Work Experience: 1 years
School Report availability:  No
International or Domestic Student?: Yes
SAT Score: 1250
TOEFL Score (Auto-filled to be 120 if you are a domestic applicant):
106
Letter of Recommendation: 4
Statement of Purpose: Yes
Your GPA exceeds the average requirement of the university. While this
is not the only criteria your profile is judged on, it is a strong
steering factor.
Sorry but the university finds your academic performance unsatisfactory
and cannot offer you admission at this time. (Pending Backlogs)
```

We regret to inform you that university does not offer addmision
without submission of School Report.
We see that you have low job experience. While this may not necessarily
be a red flag on your profile and you can still apply, getting in may
be difficult since the application process is highly competitive.
The international intake at our university is low and competition will
be quite tough.
While your SAT score meets the minimum criteria, generally the
university admits students with higher SAT score.
You met the criteria of minimum TOEFL requirement but giving it another
shot might be worth it.
f-0   (MAIN::initial-fact)
f-1   (MAIN::applicant (name "Victor DeMello") (course Civil) (term
spring) (gpa 3.7) (backlog Yes) (ex 1) (schlrep No) (intrnatnl Yes)
(sat 1250) (toefl 106) (letter 4) (cape Yes))
f-2   (MAIN::gpa_data <Java-Object:nrc.fuzzy.FuzzyValue>)
f-3   (MAIN::ex_data <Java-Object:nrc.fuzzy.FuzzyValue>)
f-4   (MAIN::sat_data <Java-Object:nrc.fuzzy.FuzzyValue>)
f-5   (MAIN::toefl_data <Java-Object:nrc.fuzzy.FuzzyValue>)
For a total of 6 facts in module MAIN.