CS 514
Applied Artificial Intelligence
Project 1

Green Card Category Determination System

Abstract

It's a rule based Green Card Category determination system, which determines the Green card category that an applicant is eligible for. The rule-based expert system is designed using JESS Rule Engine.

1. DOMAIN

Green Card Categories

2. DESCRIPTION

The Green Card process takes many years, and there are several requirements immigrants must meet. For many people, those steps can be complicated and intimidating. Forms, paperwork, appointments, and procedures are vital elements of the Green Card procedure, but sometimes the entire process can be overwhelming for applicants.

That's why the Green Card Category Determination system aims at giving personalized qualification results for an applicant based on the applicant's answers of a couple of questions.

3. FEATURES
- It uses an applicant's basic immigration details to determine if he qualifies for a Family category.
- If one doesn't qualify for the Family category, a check is made on the employment qualifications to determine if he/she qualifies for any of the Employment Based green card categories, which checks for exceptional abilities or outstanding educational or research experience- essentially for people who can be beneficial to the economy of the United States.
- If neither of them have been satisfied, the system also checks for refugee and asylee status and finally for Special category status based on the answers of the applicant. The system asks the applicant for information and uses the same information to determine what questions to ask next in order to determine which category the applicant falls under.

For the knowledge base of this system, I referred to the USCIS website for getting familiar with the different green card categories and their criteria.

4. RULES

Green Card in the Family Category	
F1	**Family First Preference** is for unmarried adults who are at least 21 years old and have at least one U.S. parent.
F2	**Family Second Preference** applies to spouses and unmarried children under 21 years old of Green Card holders with an F2A designation. Unmarried children 21 or older are given an F2B designation.
F3	**Family Third Preference** is applied to married people of any age with at least one parent who is a United States citizen
F4	**Family Fourth Preference** is for sisters and brothers of United States citizens, assuming the citizen is at least 21 years old
Employment based Green Card	
EB1	**Employment First Preference** is given to outstanding educators and researchers, executives with multi-national companies, and people with extraordinary abilities in the arts, sciences, athletics or business.
EB2	**Employment Second Preference** is given to executives with advanced degrees, and persons with exceptional abilities or exceptional professors and researchers.
EB2 National Interest	**Employment Second Preference with a National Interest Waiver** is given to persons and advanced degree professionals involved in activities that will substantially benefit U.S. national interests.
EB3	**Employment Third Preference** is given to professionals with a U.S. Bachelor's degree, skilled and unskilled workers.
EB4	**Employment Fourth Preference** is for religious workers, other miscellaneous categories of workers and those who are defined as "Special Immigrants." Special immigrants can fall into many categories and situations.
EB5	**Employment Fifth Preference** is for investors who agree to invest $1 million or more into a U.S. business that employs at least 10 workers. This amount drops to $500,000 if the investment is made in an area designated as economically depressed.

Refugee or Asylum	
Refugee	**Refugee** status is for people outside the boundaries of the United States. Granting asylum applies the same standards as granting refugee status.
Asylee	**Asylum** is for people already in the United States or they are at a border, such as an air, land or sea port of entry, ready to cross into the U.S.
Special Categories	
Cuban Adjustment Act	• Are a Cuban native or citizen, or • Are the spouse or child of a Cuban native or citizen
Diversity Immigrant Visa Program	Were selected for a diversity visa in the Department of State's diversity visa lottery

5. INSTRUCTIONS TO RUN THE SYSTEM
- Save the **Greencard.clp** file in the **Jess71p2\bin** folder on your computer.
- Run the command line interface of Jess and execute the file using the batch command as follows:
  batch Greencard.clp

6. NOTE

1. Please make sure that you are entering a valid input from among the options presented to you.

7. TEST CASES

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 28 day(s).
f-0   (MAIN::initial-fact)
For a total of 1 facts in module MAIN.

****WELCOME TO THE GREEN CARD DECISION MAKER BOT****

$$ This application uses the user applicant's information to decide what kind of a visa he will get and is rejected if he doesn't qualify for that visa

**NOTE: PLEASE PROVIDE A VALID INPUT FOR ALL THE QUESTIONS. REFER THE DOCUMENTATION FOR MORE INFO ON HOW TO USE THIS APPLICATION

*************Applicant Info Section****************

Please enter your name:

Reena

What is your age?

23

Are you married?[for yes, input 1/ for no, input 0]

1

Do you have a US Citizen in your immediate family?[for yes, input 1/ for no, input 0]

1

Do you have a green card holder in your immediate family?[for yes, input 1/ for no, input 0]

1

*************Family member information (Greencard)****************

What is your family member's name?

Francis

What is your family member's age

23

What is your family member's relation [for Spouse input 2/ for Parent input 1/ for sibling 0]

0

*************Family member information (Citizen)****************

What is your family member's name?

FRiend

What is your family member's age

34

What is your family member's relation [for Spouse input 2/ for Parent input 1/ for sibling 0]

1

Type: F3

Family Third Preference is applied to married people of any age with at least one parent who is a United States citizen

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**NOTE: PLEASE PROVIDE A VALID INPUT FOR ALL THE QUESTIONS. REFER THE DOCUMENTATION FOR MORE INFO ON HOW TO USE THIS APPLICATION
*************Applicant Info Section****************

Please enter your name:
Reena
What is your age?
23
Are you married?[for yes, input 1/ for no, input 0]
0
Do you have a US Citizen in your immediate family?[for yes, input 1/ for no, input 0]
0
Do you have a green card holder in your immediate family?[for yes, input 1/ for no, input 0]
0

*************Family member information (Greencard)****************

Are you a person of extraordinary ability, an outstanding educators and researchers or an executives with MNC's [1 for yes, 0 for no]
0
Are you an executive with advanced degrees or a person with exceptional abilities or exceptional professors and researchers.?[1 for yes, 0 for no]
0
Are you a professional with an advanced degree, involved in activities that will substantially benefit U.S. national interests? [1 for yes, 0 for no]
0
Are you a professional with a U.S. Bachelor's degree, skilled and unskilled workers.? [1 for yes, 0 for no]
0

Are you a religious workers or a Special Immigrants [1 for yes, 0 for no]
0
Are you an investor who agrees to invest $1 million or more into a U.S. business that employs at least 10 workers [1 for yes, 0 for no]
0

************** Diversity Lottery (Greencard) *****************

Are you from a country that is among the diversity country list by USA? 1/0
1
Type: Diversity Category
Were selected for a diversity visa in the Department of State's diversity visa lottery

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**NOTE: PLEASE PROVIDE A VALID INPUT FOR ALL THE QUESTIONS. REFER THE DOCUMENTATION FOR MORE INFO ON HOW TO USE THIS APPLICATION
*************Applicant Info Section****************

Please enter your name:
Reena
What is your age?
23
Are you married?[for yes, input 1/ for no, input 0]
0
Do you have a US Citizen in your immediate family?[for yes, input 1/ for no, input 0]
0
Do you have a green card holder in your immediate family?[for yes, input 1/ for no, input 0]
0

*************Family member information (Greencard)****************

Are you a person of extraordinary ability, an outstanding educators and researchers or an executives with MNC's [1 for yes, 0 for no]
1

Are you an executive with advanced degrees or a person with exceptional abilities or exceptional professors and researchers.?[1 for yes, 0 for no]

0

Are you a professional with an advanced degree, involved in activities that will substantially benefit U.S. national interests? [1 for yes, 0 for no]

0

Are you a professional with a U.S. Bachelor's degree, skilled and unskilled workers.? [1 for yes, 0 for no]

0

Are you a religious workers or a Special Immigrants [1 for yes, 0 for no]

0

Are you an investor who agrees to invest $1 million or more into a U.S. business that employs at least 10 workers [1 for yes, 0 for no]

0

Type: EB1

Employment First Preference is given to outstanding educators and researchers, executives with multi-national companies, and people with extraordinary abilities in the arts, sciences, athletics or business.

****WELCOME TO THE GREEN CARD DECISION MAKER BOT****

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**NOTE: PLEASE PROVIDE A VALID INPUT FOR ALL THE QUESTIONS. REFER THE DOCUMENTATION FOR MORE INFO ON HOW TO USE THIS APPLICATION

*************Applicant Info Section****************

Please enter your name:

Reena

What is your age?

23

Are you married?[for yes, input 1/ for no, input 0]

0

Do you have a US Citizen in your immediate family?[for yes, input 1/ for no, input 0]

0

Do you have a green card holder in your immediate family?[for yes, input 1/ for no, input 0]

0

*************Family member information (Greencard)****************

Are you a person of extraordinary ability, an outstanding educators and researchers or an executives with MNC's [1 for yes, 0 for no]

1

Are you an executive with advanced degrees or a person with exceptional abilities or exceptional professors and researchers.?[1 for yes, 0 for no]

0

Are you a professional with an advanced degree, involved in activities that will substantially benefit U.S. national interests? [1 for yes, 0 for no]

0

Are you a professional with a U.S. Bachelor's degree, skilled and unskilled workers.? [1 for yes, 0 for no]

1

Are you a religious workers or a Special Immigrants [1 for yes, 0 for no]

0

Are you an investor who agrees to invest $1 million or more into a U.S. business that employs at least 10 workers [1 for yes, 0 for no]

1

Type: EB1 Type: EB5

Employment First Preference is given to outstanding educators and researchers, executives with multi-national companies, and people with extraordinary abilities in the arts, sciences, athletics or business.

Employment Fifth Preference is for investors who agree to invest $1 million or more into a U.S. business that employs at least 10 workers. This amount drops to $500,000 if the investment is made in an area designated as economically depressed.

****WELCOME TO THE GREEN CARD DECISION MAKER BOT****

$$ This application uses the user applicant's information to decide what kind of a visa he will get and is rejected if he doesn't qualify for that visa

**NOTE: PLEASE PROVIDE A VALID INPUT FOR ALL THE QUESTIONS. REFER THE DOCUMENTATION FOR MORE INFO ON HOW TO USE THIS APPLICATION

*************Applicant Info Section*****************

Please enter your name:

Reena

What is your age?

23

Are you married?[for yes, input 1/ for no, input 0]

0

Do you have a US Citizen in your immediate family?[for yes, input 1/ for no, input 0]
1
Do you have a green card holder in your immediate family?[for yes, input 1/ for no, input 0]
1

**************Family member information (Greencard)****************

What is your family member's name?
das
What is your family member's age
10
What is your family member's relation [for Spouse input 2/ for Parent input 1/ for sibling 0]
0

**************Family member information (Citizen)****************

What is your family member's name?
bas
What is your family member's age
12
What is your family member's relation [for Spouse input 2/ for Parent, input 1/ for sibling 0]
1

Type: F2A Type: F1

Family Second Preference applies to spouses and unmarried children under 21 years old of Green Card holders with an F2A designation. Unmarried children 21 or older are given an F2B designation.

Family First Preference is for unmarried adults who are at least 21 years old and have at least one U.S. parent.

8. REFERENCES

Green card categories: https://www.uscis.gov/greencard/eligibility-categories

Conditions for qualifying for a Green Card category: https://eligibility.com/green-cards/how-to-qualify