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Expert system report on:

Travel Destination Recommendation

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Abstract

Most people dream of moving abroad or going on a vacation to another country, but having so many options to choose from, it gets hard to know which destination is most suitable for them, their budget, and their preferences.

Travel Destination Recommendation is the app where this problem is solved, this software suggests the best travel destination depending on each user's specific requirements, asking simple questions, it will help users find their dream destination in less than 5 minutes.

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Chapter 1: Introduction:

Software Project Consultant is an expert system that will help travelers find the destination most suitable for them, it takes into consideration the purpose of travel where it provides the best options for immigration, education, and leisure.

This service can be used worldwide by independent users or travel agencies to try and ease the decision taking the user had to do before.

Chapter2: Knowledge Acquisition:

This Expert System gathered knowledge from different kind of resources such as articles, websites and travel agencies. In general, the knowledge base was gathered and organized in a way that can help the system give the best results with the least questions and effort possible.

Some questions asked to the expert:

1. If a someone wants to study abroad what things are taken into consideration when choosing a country?
   -The level of education they want, language proficiency, yearly budget, working opportunities, GPA, and the field of study.
2. What are the countries with highest acceptance rate for lower GPAs? -The United Kingdom.
3. What is the cheapest country to study in? -Germany.
4. What are the best options for immigration if someone wants to improve their work?
   -It depends on whether they have a degree or not, their age, and their experience.

5. What are the best options for immigration for a family?
   -It depends on children and their age, if someone has special needs, the family's ability to adapt to different cultures.
6. Where can a family go for a vacation?
   -It depends on the kinds of activities they prefer, and what counties they like.
7. Where can newlyweds go for a honeymoon?
   -It depends on whether they want a private property or to stay in a resort, and if they plan on doing some activities and what activities they prefer.

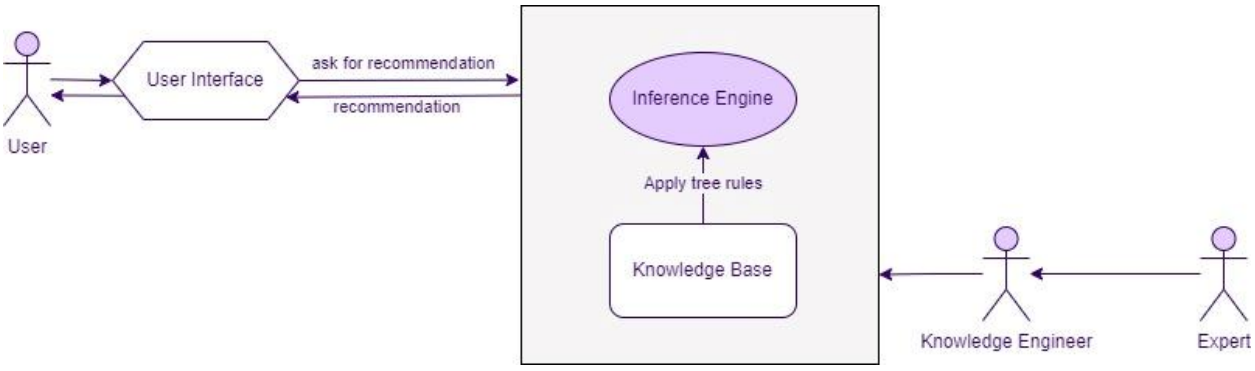
Chapter 3: Analysis:

After chatting with the human expert and looking through the internet and acquiring the useful information, we tried to extract the explicit knowledge from the answers provided, and sort them in the most efficient way, creating questions and simple answers.

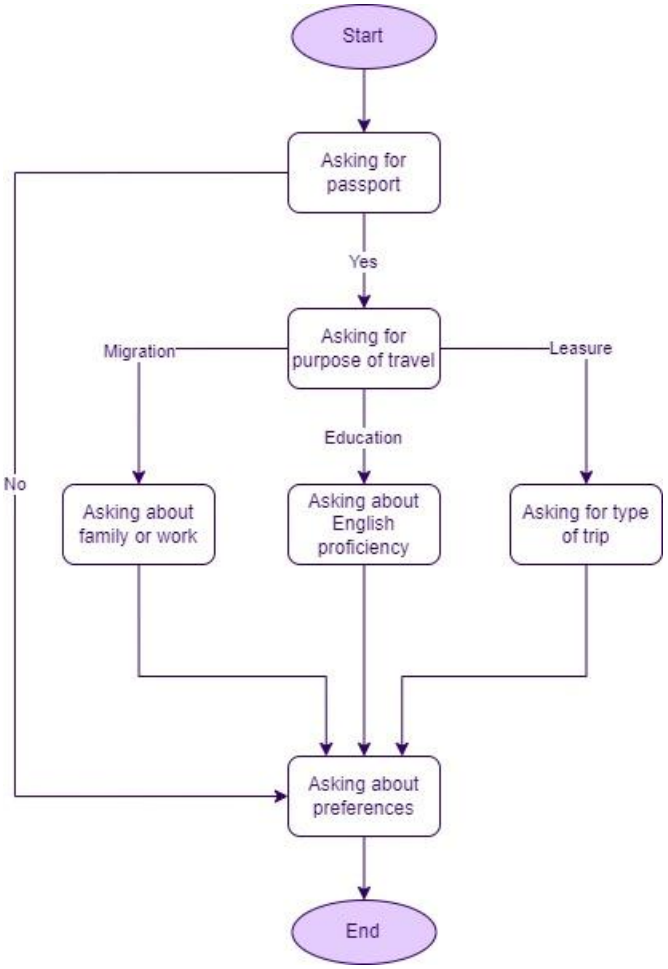
After the preparation of the questions, arranging the questions was focusing on making the questions go from the most general down to the most specific, which can help the system to ignore the excluded cases and avoid repetition.

Chapter 4: Diagrams:

4.1. Block Diagram:

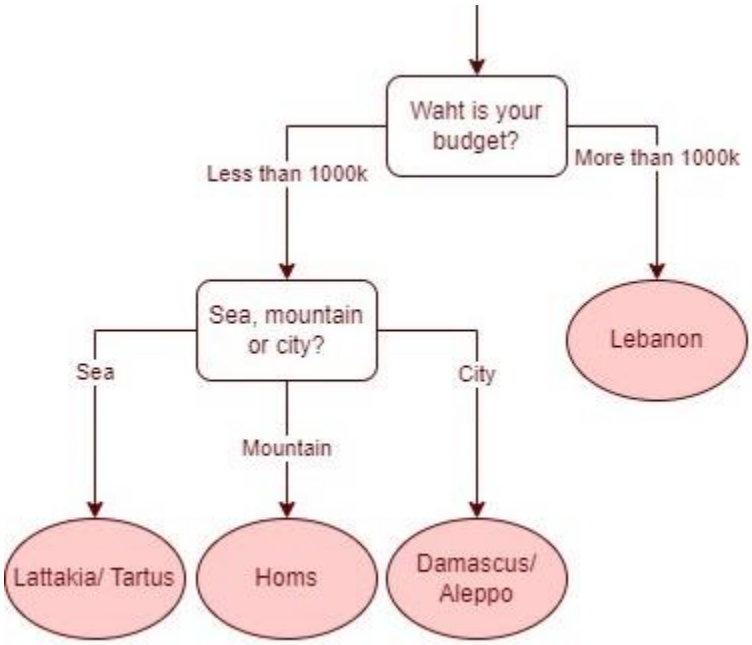


4.2. Flowchart:

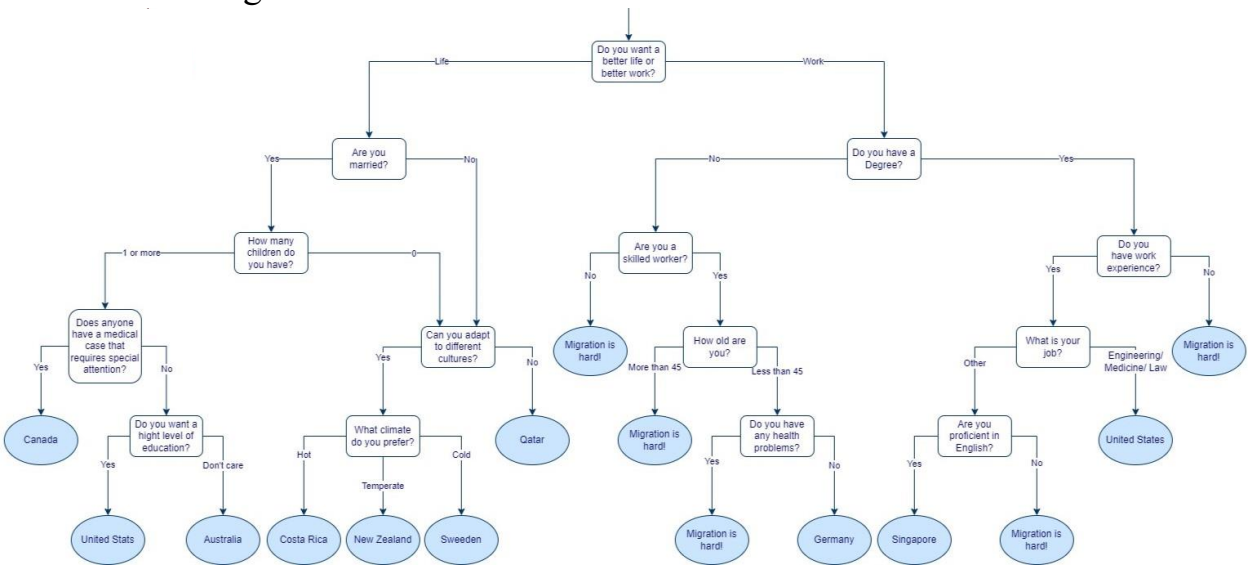


4.3. Decision Tree:

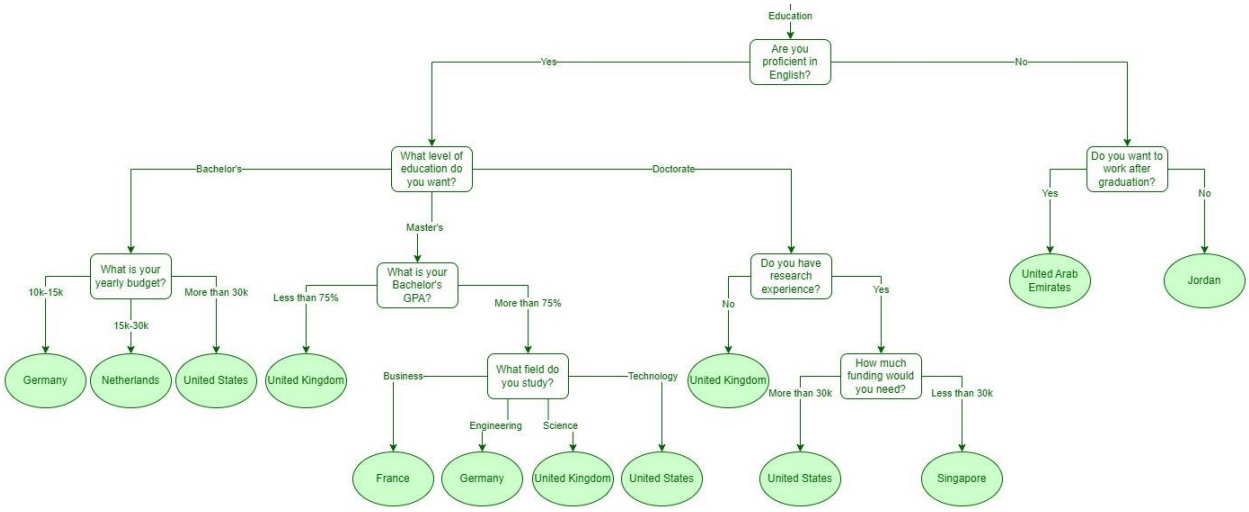
1. No Passport:



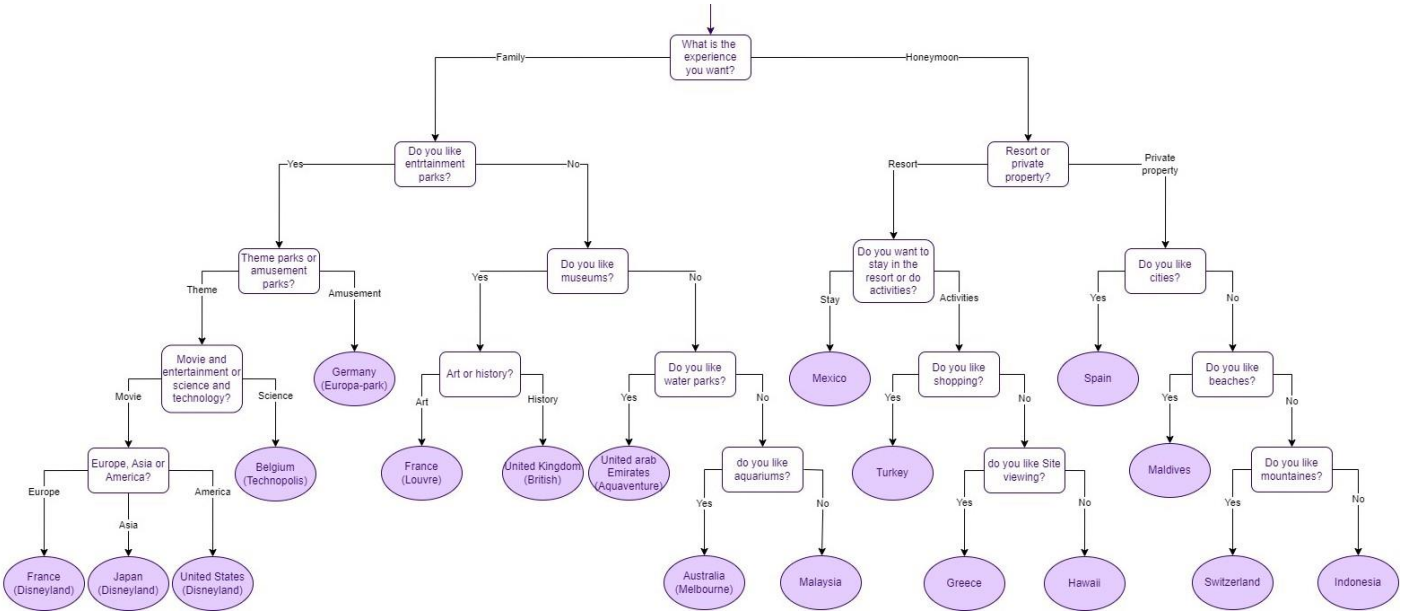
2. Passport:
   2.1. Immigration:



2.2. Education:



2.3. Leisure:



Chapter 5: Implementation:

The code was implemented through Python using Experta library that can function the system processes from user-given facts and the flow of events inside the system leading to the correct decision.

Chapter 6: Snapshots:

```
In [85]: runfile('C:/Users/zeina/.spyder-py3/temp.py', wdir='C:/Users/zeina/.spyder-py3')

Do you have a passport? (y/n) n

What is your budget in usd? 300

Sea, mountain or city? (s/m/c) m

You should visit Homs!
```

```
In [84]: runfile('C:/Users/zeina/.spyder-py3/temp.py', wdir='C:/Users/zeina/.spyder-py3')

Do you have a passport? (y/n) y

What is the purpose of your travle? (i-immigration / e-education / l-leisure) i

Do you want a better life or better work? (l/w) l

Are you married? (y/n) y

How many children do you have? 2

Does anyone have a medical case that requires special attention? (y/n) n

Do you want a high level of education? (y/n) n

You should move to Australia!
```

```
In [83]: runfile('C:/Users/zeina/.spyder-py3/temp.py', wdir='C:/Users/zeina/.spyder-py3')
Do you have a passport? (y/n) y
What is the purpose of your travle? (i-immigration / e-education / l-leisure) e
Are you proficient in English? (y/n) y
What level of education do you want? (b-bachelor's / m-master's / d-doctorate) d
Do you have research experiance? (y/n) y
How much funding would you need in usd? 35000
You should study in the United States!
```

```
In [81]: runfile('C:/Users/zeina/.spyder-py3/temp.py', wdir='C:/Users/zeina/.spyder-py3')
Do you have a passport? (y/n) y
What is the purpose of your travle? (i-immigration / e-education / l-leisure) l
What is the experiance you want? (f-family / h-honeymoon) f
Do you like entertainment parks? (y/n) y
Do you like theme parks or amusement parks? (t/a) t
Do you like movies and entertainment or science and technology? (m/s) m
Do you prefer Europe, Asia or America? (e/a/m) a
You should visit Japan (Disneyland)!
```

Chapter 7: Difficulties:

- Not so many online resources.
- Local experts only know about a little number of countries that are famous destinations for Syrian nationals.

Chapter 8: Future work:

Adding a feature where the user's nationality is required to check if recommended country requires a visa, change recommendation depending on whether the budget is enough for a trip +visa fees, and difficulty of visa acquiring.

References:

Local Travel agencies.

https://reachimmigration.com/en/

https://www.educations.com/

https://www.goabroad.com/

https://expatra.com/

https://www.cntraveller.com/