

CS 514 Applied Artificial Intelligence

Project 2: Domain: Vacation Recommender

Abstract

Weekend Planner is an expert system built using JESS rule engine that helps you to determine the place that you would like to visit during a weekend or a vacation. This system gives recommendation based on the person's budget, no of days he has, his preferred mode of transportation, his place of interest and the distance he wants to travel. It also validates his budget and travel plan.

Features:

- ❖ The system takes following inputs to recommend a location:
 1. Budget that a person has
 2. Time for which he wants to travel
 3. Distance he is willing to travel
 4. Preferred mode of transportation
 5. Does he want to go to the beach?
 6. Is he interested in hiking?
 7. Is he interested in historical landmarks?
- ❖ The system also validates the budget, i.e., whether it is possible to travel for those many days with the budget he has and the mode of transportation that he is planning to use.
- ❖ The system also checks whether the input is feasible or not.

Rules:

There are 26 rules in this application which are as follows

Rule 1: Setting up global variables

Rule 2: Prints user input data

Rule 3: Validates Travel Plan

Rule 4 – 24: Finds a travel destination based on the travel plan.

Rule 25: Executes if travel plan does not exist

Rule 26: Provides input to the program

Instructions:

1. Extract the zip file and open the project in Eclipse
2. Include the "fuzzyJ-2.0.jar" in the library
3. In the edit configuration change the jess main class to "nrc.fuzzy.jess.FuzzyMain"
4. Run the file in eclipse

❖ Input is changed through Rule 26

Test Cases with Output:

1. Rule 4:

```
(assert (planner (distance 100) (budget 150) (time 1) (hike 0) (beach 1) (history 0) (preference 0)))
```

```
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 1795 day(s).
f-0 (MAIN::initial-fact)
For a total of 1 facts in module MAIN.
*****Welcome to Travel Planner*****
Your Travel Budget is being evaluated
=====
Budget: 150
Time: 1
Distance: 100
Preference: 0
Beach: 1
Hike: 0
History: 0
You can visit Indiana Dunes
```

2. Rule 7:

```
(assert (planner (distance 4000) (budget 6000) (time 5) (hike 0) (beach 1) (history 0) (preference 1)))
```

```

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Jess Version 7.1p2 11/5/2008

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f-0 (MAIN::initial-fact)
For a total of 1 facts in module MAIN.
*****Welcome to Travel Planner*****
Your Travel Budget is being evaluated
=====
Budget: 6000
Time: 5
Distance: 4000
Preference: 1
Beach: 1
Hike: 0
History: 0
You can visit Oahu, Hawaii

```

3. Rule 13

```

(assert (planner (distance 1500) (budget 1000) (time 3) (hike 1) (beach
0) (history 0) (preference 1)))

```

```

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This copy of Jess will expire in 1794 day(s).
f-0 (MAIN::initial-fact)
For a total of 1 facts in module MAIN.
*****Welcome to Travel Planner*****
Your Travel Budget is being evaluated
=====
Budget: 1000
Time: 3
Distance: 1500
Preference: 1
Beach: 0
Hike: 1
History: 0
You can do the Lost Coast Trail, California

```

4. Rule 18

```

(assert (planner (distance 800) (budget 400) (time 2) (hike 0) (beach
0) (history 1) (preference 1)))

```

```

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This copy of Jess will expire in 1794 day(s).
f-0 (MAIN::initial-fact)
For a total of 1 facts in module MAIN.
*****Welcome to Travel Planner*****
Your Travel Budget is being evaluated
=====
Budget: 400
Time: 2
Distance: 800
Preference: 1
Beach: 0
Hike: 0
History: 1
You can visit Freedom Trail, Boston

```

Summary:

The vacation recommender can recommend places for you to visit based on your input criteria.