Automobile Fault Diagnosis

Topic: Rule Based Expert System

Domain: Automobile Industry

Platform Used: JESS

An online software is required that can on the basis of certain input from the user provide easy diagnosis for automobile issues. Instead of the user interacting with a human all the time, it would be easier for them to use an intelligent system that can ask a few questions and provide easy solutions quickly.

I have created a software using JESS called Automobile Fault Diagnosis. It basically takes in the body type of automobile and price range of the vehicle along with what problem it is facing and how often it is serviced from the user. Based on the data selected by the user, a diagnosis to the fault is presented to the user.
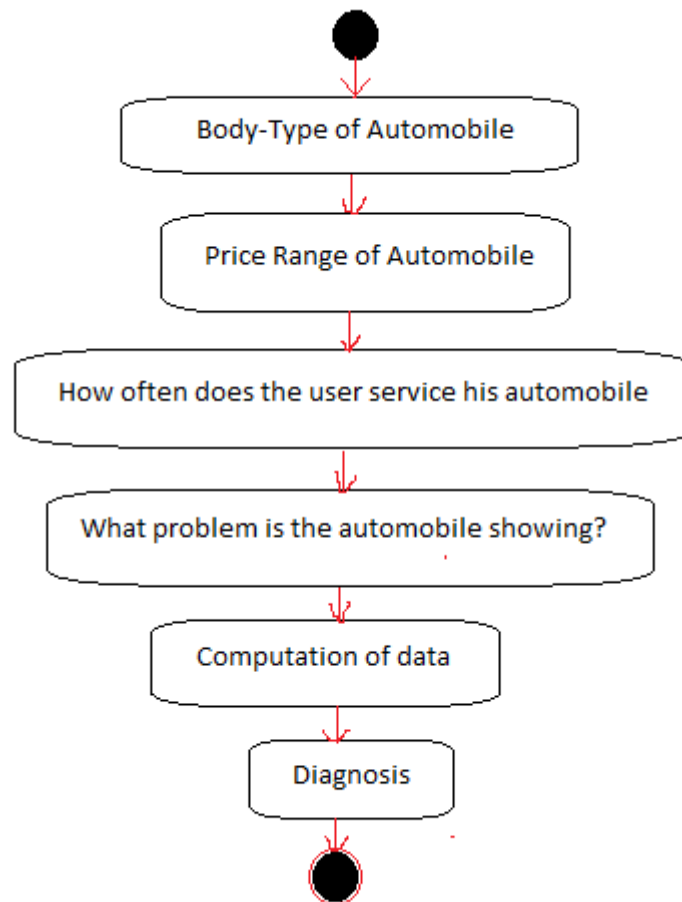

Figure: Steps for Automobile Fault Diagnosis

For this the following steps have been utilized:

Steps of Automobile Fault Diagnosis:

1.   First the body type of the vehicle is asked to the user. The group has been divided into the following categories:

- SUV
- Sedan
- Sports Car
- Diesel
- Hatchback

2.   Next, the price of the vehicle is asked to the user. The options are:

- <$30,000
- >$30,000

3.   The user is then asked as to how often he services his vehicle. He is provided with the following options:

- Never
- Rarely (Once a year)
- Sometimes (Once in 6 months)
- Very often (Once a month)

4.   The user is also asked what problem his vehicle is facing based on the kind of vehicle he has selected and price range. For example:

- Engine start problems
- Engine overheating problems
- HVAC problems
- Brake problems
- Tire problems etc.

5.   An analysis of the entered data is done based on the input.

6.   Diagnosis is provided in the end as to what can be done based on the faults presented by the vehicles.

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****************************
     DIAGNOSIS
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Your automobile is an expensive Sedan which is not serviced very often.
For a blown motor, you can either repair the engine block, the cylinder head or a complete engine replacement could be requir
Check if the transmission fluid is low. If low, add more. If fluid is completely burnt or black, it may require a complete fl
HVAC problems can be solved by replacing air filters or cleaning them up.
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Figure: Conclusion of Automobile Fault Diagnosis

Security:

For the security purposes the user is asked for a login username and password.

Username: admin

Password: adminpass