**Car Selection Recommendation System**

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1. Problem

Nowadays, there are a variety of cars flooding into car trading markets and people are often at lost when they face many choices. As we know, car selection and market investigation in this field are very time consuming tasks. Therefore, a well-designed car selection recommendation system is very useful for its great convenience in helping people make their decision.

1. Goal

In this task, I intend to design a car selection recommendation system based on the theory of fuzzy query. Users could search the cars suitable for them via some uncertain searching conditions, which is very convenient for people, especially for those who have no idea about parameters of cars. The goal of this system is aim at giving a suggestion list of cars that helps people select cars from a large number of choices.

1. Fuzzy Concept

What are fuzzy concepts? Many people have no clearly concept in the parameters of cars. They may only know “I want a car with fast speed”, “I want a car with low petrol consuming” or even “I want a powerful car”, but they do not have idea with the speed of “182km/h”, the petrol consumption parameter of “16.3L/100km” or the power index of “horsepower (hp)”. So the fuzzy concepts are those definitions containing uncertainty like “fast” or ”low”. But how fast is fast or how low is low, and how to represent this uncertainty definitions are still deserve to be fully considered. These all are the problems need to be addressed in the system design.

1. Motivation

To solve these uncertain problems, using a fuzzy expert system is a good choice. So I decide to create this system by implementing a fuzzy expert system. Based on the theory of fuzzy query, representing the uncertainty definitions is a very easy problem by using fuzzy sets. We can represent the degree of uncertainty by using certainty factors (CF). And then, analyze user fuzzy queries, transform their queries into fuzzy query language and calculate the degree of membership. Finally, pick out the required options, rank them by degree of membership and present them to the users. Under the suggestions we provided, users can make their decisions much more easily.

4. Expert Knowledge

The data acquisition is very import part in this system building. Preliminary, I will collect my data from the Internet. Some mobile websites like “www.autohome.come.cn” and “www.pcauto.com” are data sources for me to fetch the parameters and quoted prices of different types of cars. Based on this data, I will start my system design assignment.