Laptop Recommendation Expert System

by

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Abstract

The age of information has made computing devices ubiquitous. Laptops have become a neccessity, blending portability and performance. The purpose and budget for buying a laptop are different for every user. A large number of options and the associated technical jargon can be overwhelming for a layman. We present a recommendation system that will suggest the best laptop available according to the requirements of the user and satisfying the budget constraints. This system comes with a flexible knowledge base that can be easily extended to add new entrants and delete old models. A console based user interface is used to ask a few questions based on which a recommendation is provided by the expert system.

1 Introduction

The expert system asks a few questions and then uses the rules provided to choose a suitable laptop from the knowledge base. The knowledge base currently has about 170 laptops and can be easily extended. The laptops are classified into four main categories according to their hardware specifications and installed operating system. Then they are checked for budget constraints and sorted using a custom made comparator function.

2 Knowledge Acquisition

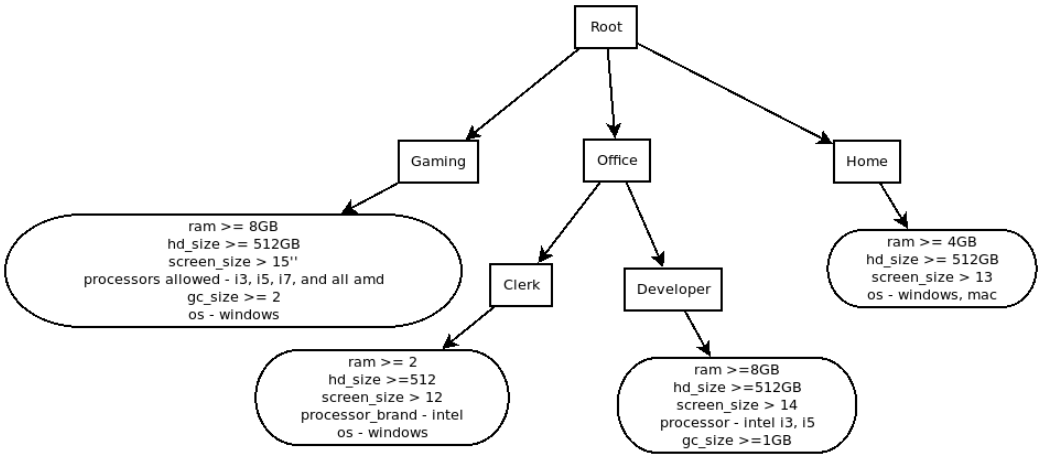
The facts were collected from *Amazon.in* laptop store. The following details about every laptop were collected -

1. Brand
2. Model
3. RAM
4. Hard Disk type - SSD or HDD
5. Hard Disk size
6. Screen Size
7. Price
8. Processor Brand
9. Processor Model
10. Clock Speed
11. GPU Brand
12. GPU Size
13. Operating System
14. Weight.

Every laptop was assigned a unique *id* and these facts were declared using predicates of arity 2.

3 Design

The laptops are first classified into four main categories - Gaming, Clerical, Development, Home according to their hardware specifications and operating system present. The resultant list obtained is checked for price constraints. Laptops having price greater than the budget provided by the user are removed from the list. After that, the list is sorted using a custom made



coparator function such that the best laptop is at the head of the list, which is then recommended to the user.

4 Implementation and User Interface

The whole expert system is made in Prolog. The console is used to ask questions from the user and a final recommendation is given.

5 Screenshots

```
?- test(M).
Type of laptop: 1 for gaming, 2 for dev, 3 for clerk, 4 for home 1.
Input Upper bound on Price |: 70000.



Dell
Inspiron 15-3567
true .

?-
```