Lab Project Using PROLOG

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TITLE

Laptop Selection Recommendation System

INTRODUCTION:

The "*Laptop Selection Recommendation System*" is a Prolog-based intelligent system designed to assist users in selecting the most suitable laptop based on their preferences, usage requirements, and budget constraints. With the increasing diversity of laptops available in the market, users often find it challenging to identify a device that best fits their needs. This system simplifies the decision-making process by asking a series of targeted yes/no questions and providing personalized recommendations. This system is divided into three categories- daily use, programming, and gaming & designing. Moreover, this system leverages Prolog's rule-based logic for precise and dynamic decision-making.

PROBLEM STATEMENT

At present, there are about 70 ongoing laptop brands in the whole world. Out of them, 7 are the major brands. The brands divide the laptops in categories like- budget, gaming, coding, designing, editing, office work, and so on. So, while buying a laptop, a user have number of options. Different users have unique requirements. For this reason, there is a need for a system that can assist users in selecting suitable ones based on their preferences and use cases.

AIMS OF THE SYSTEM:

- To develop a recommendation system that guides users in selecting an ideal laptop.
- To simplify the decision-making process for users by asking targeted questions.
- To provide personalized recommendations based on the user's preferences and budget.

OBJECTIVES OF THE SYSTEM:

- Categorize laptops into three broad categories: Daily Use, Programming, and Gaming & Designing.
- Develop a decision-making process using Prolog's rule-based logic to ask users a series of questions.
- Ensure the system handles invalid inputs and guides users towards valid choices.
- Recommend a specific laptop model based on the user's answers and preferences.

PROJECT DESIGN

The Laptop Selection Recommendation System has five main components:

A. User Interface

Allows users to input preferences (e.g., usage, budget, portability) through a series of yes/no questions.

B. Knowledge Base

Stores rules and facts about laptops, categorized into Daily Use, Programming, and Gaming & Designing. Rules follow the logic: IF (condition) THEN (recommendation).

C. Inference Engine

Matches user inputs with rules in the Knowledge Base to provide the most suitable laptop recommendation.

D. Knowledge Acquisition

Updates the system with new laptop data and market trends through expert feedback and user interactions.

E. Storage

Saves user inputs, recommendations, and system updates for future refinements.

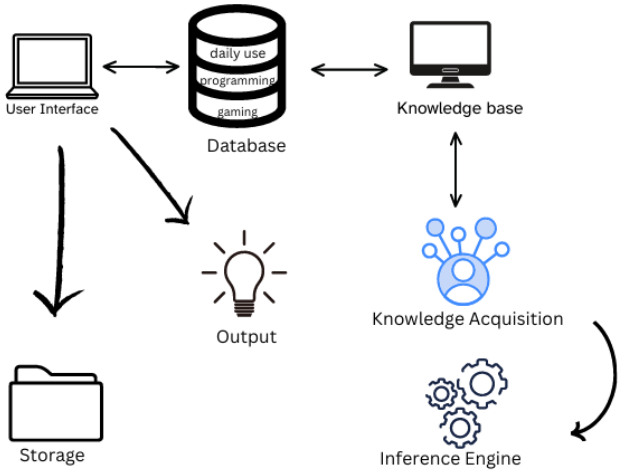

Fig. 1. Knowledge-based Expert System Structure