An Expert System to Extract the Various Categories of Recycled E-wastes and Generic-wastes

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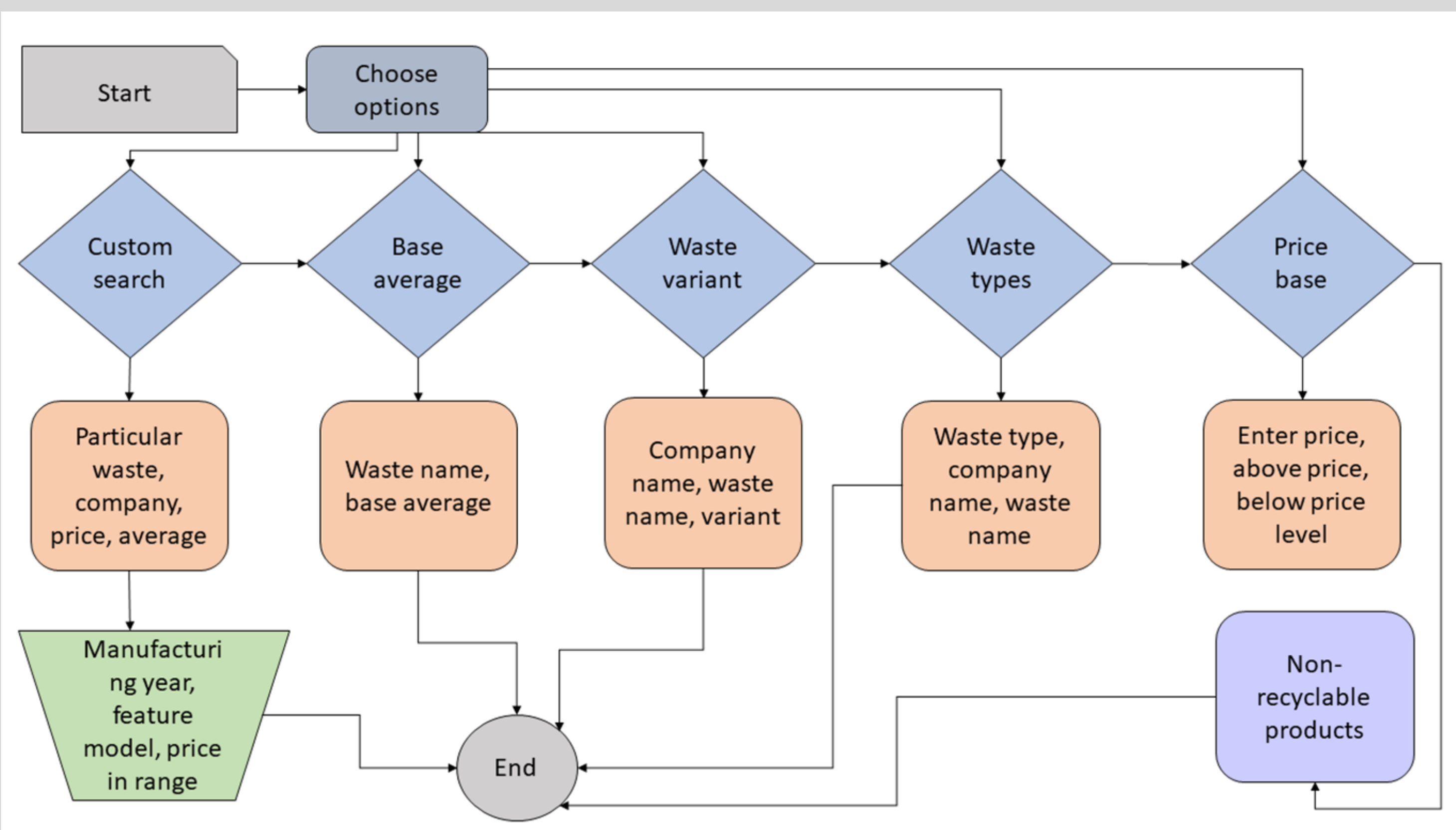
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Introduction

- Waste streams with greatest rate of growth is electronic garbage, also known as WEEE, is dangerous, complicated chemical, typically disposed in ordinary rubbish, devices including televisions, monitors, laptops, notebooks, and tablets.
- Millions of tons of municipal solid garbage are produces, urban waste management is receiving more attention, it causes inconvenience, environmental pollution, and public health hazards.
- If recycled improperly, adds to the depletion of natural resources, harms the environment irreparably, and poses a health risk.
- Many factors contribute to the generation of more electronic, including rapid globalization, urbanization, increased access to modern technology, marketing of new electronic products, consumer purchasing power.
- "COVID-19 created needless short-term investment in technology, which leaves us at danger of data being kept on a wide range of devices" agreed with by 78% of respondents, the unregulated, low-wage informal sector recycles up to 97% of the garbage.
- Solid, liquid, and hazardous waste management issue is a result of developingworld's urbanization, majority of nations have seen social and economic transformation since the 1960s, increased the amount of garbage produced per person.

System Design

- To detect the various categories of recycled electronic and generic wastes, the design explains how the expert system responds to commands supplied to the prolog environment
- The actionsdefine in circular shape, arrows show the direction from one action to the next, all requirements demonstratein following the characteristics
- The category of recycled products is revealed, and the appropriate recycled product is recommended according to proposed budget
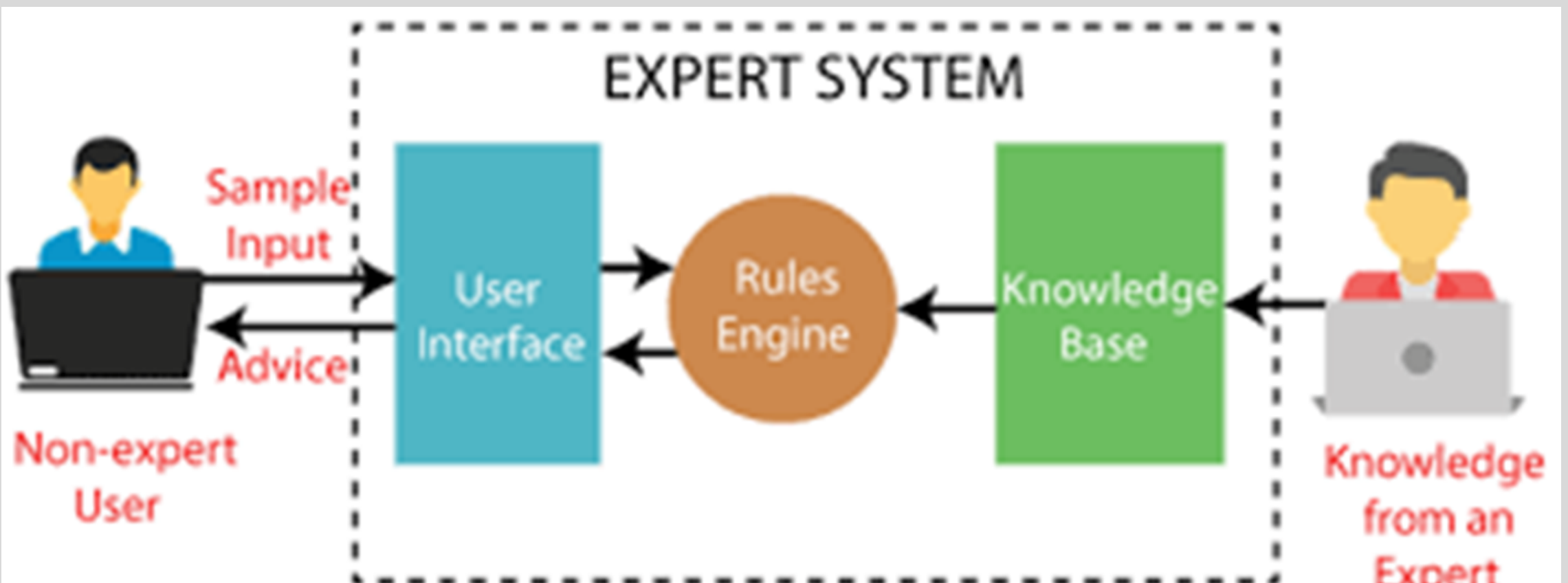

Aims and Objectives

- To identify the e-wastes and generic wastes
- To categorize the e-waste and generic wastes type
- To find out the respective recycle companies of the recyclable wastes
- To extract the model and variants of recyclable products
- To capture the cost of recycled products
- To differentiate non-recyclable wastes from the recyclables
- To demonstrate other surveys, for example: total recyclable products, recycled wastes rate of individual companies etc.
- To suggest the appropriate recycled products according to provided budget

Results

Architecture

The system is based on "Rule Based Architecture", percepts input from the environment, interacts with the user through a user interface, tries to resolute the value of the query or the input, takes facts from the database, uses rules defined into the knowledge base and infer an answer, shows the answer to the user

Conclusion, Future Works and References

- Differentiates between electronic and normal wastes, extract the categories of respective wastes
- Main focus is to propose recycled products according to customers' budget, people not in same economical situation
- Expand the categories of electronic and generic wastes, motivates more people to utilize recycled products
- Plan to give an additional category of non-cyclable products, save our world from the environment pollution

References:
1. E-waste management in Bangladesh (thefinancialexpress.com.bd)
2. What is E-waste Recycling and Process of Recycling Electronic Waste - Conserve Energy Future (conserve-energy-future.com)