

# Multi-agents in data filtering system

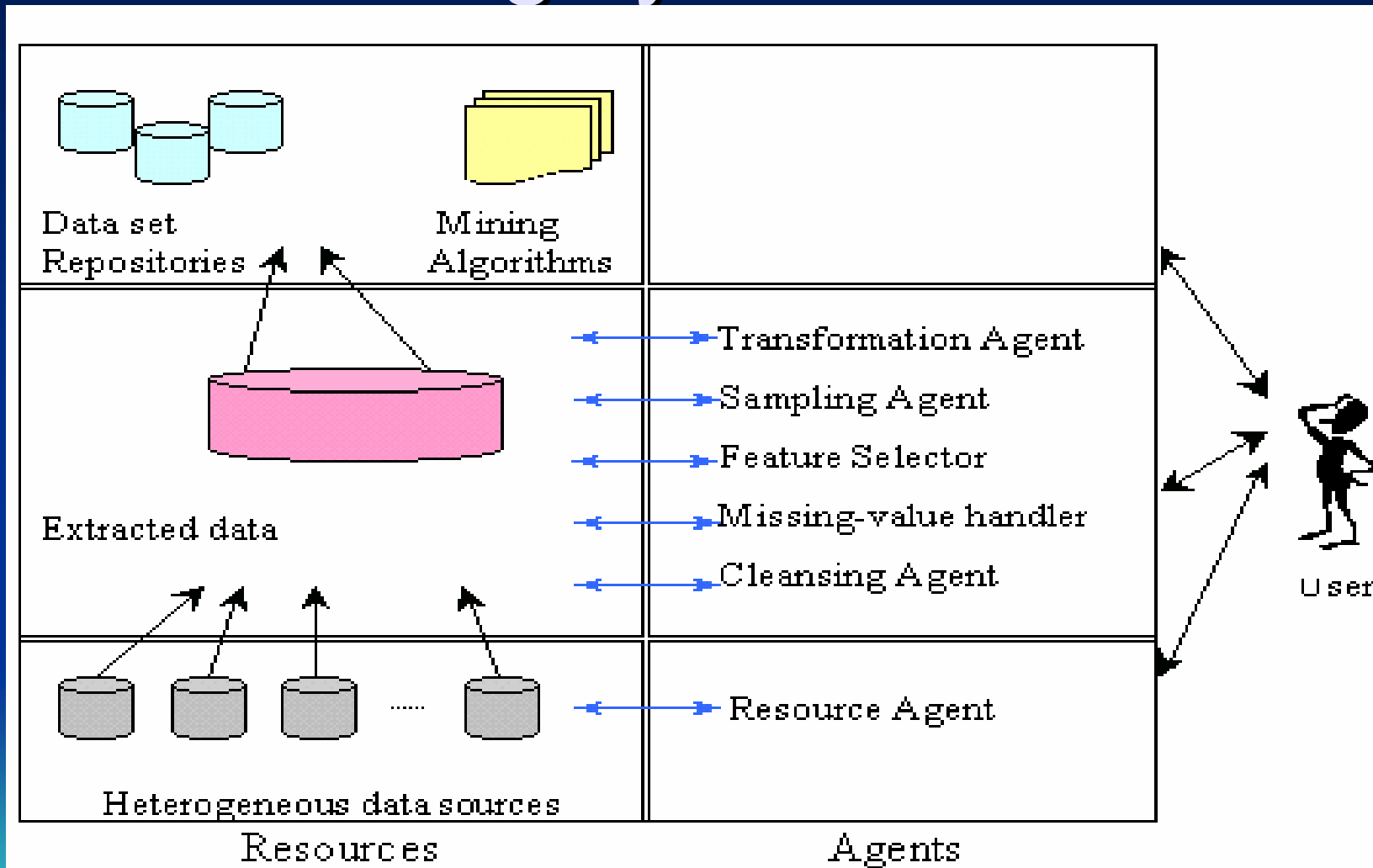
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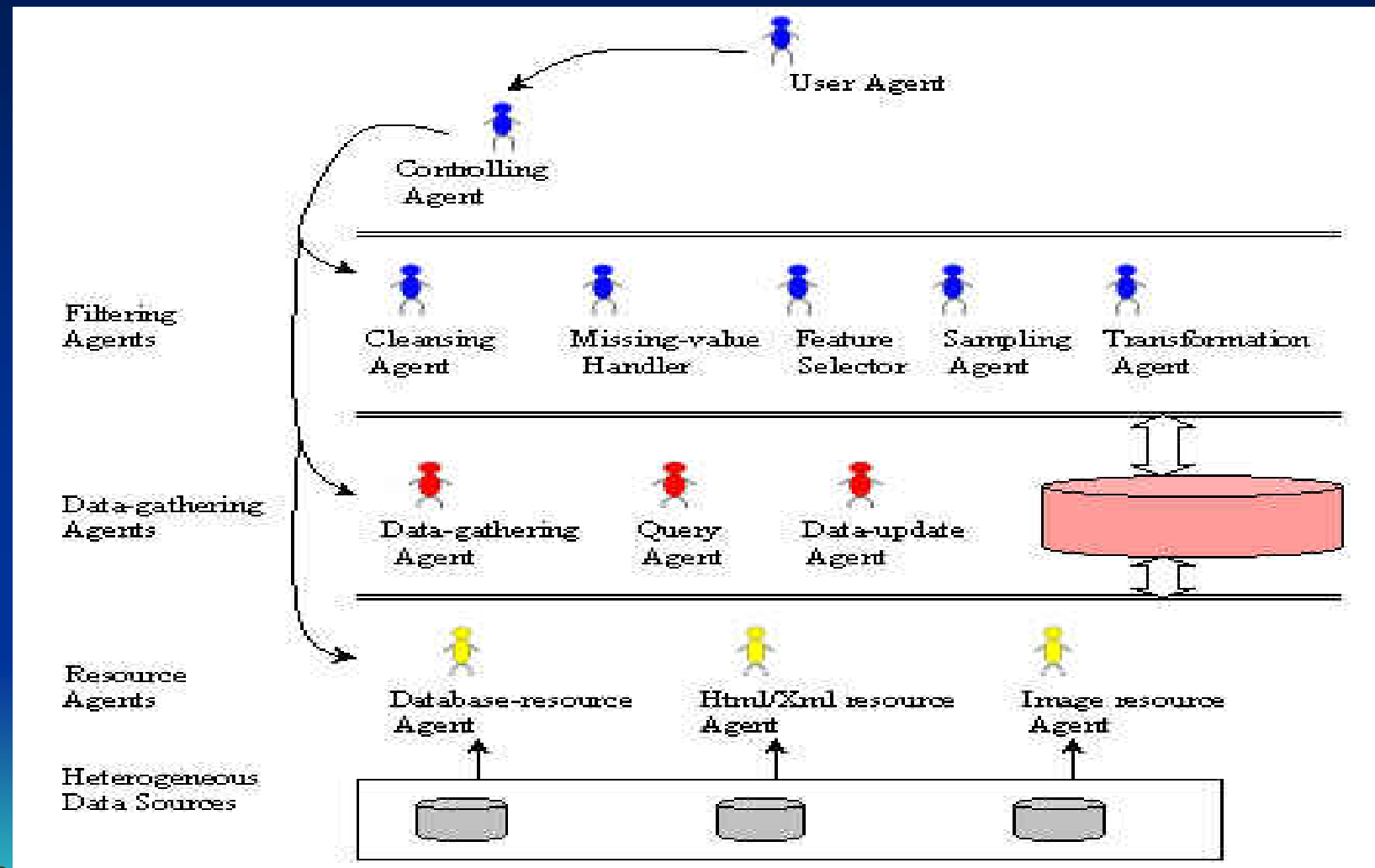
# Objective

To design and develop an agent-based infrastructure for information gathering and treatment to support the analysis phase of knowledge discovery.

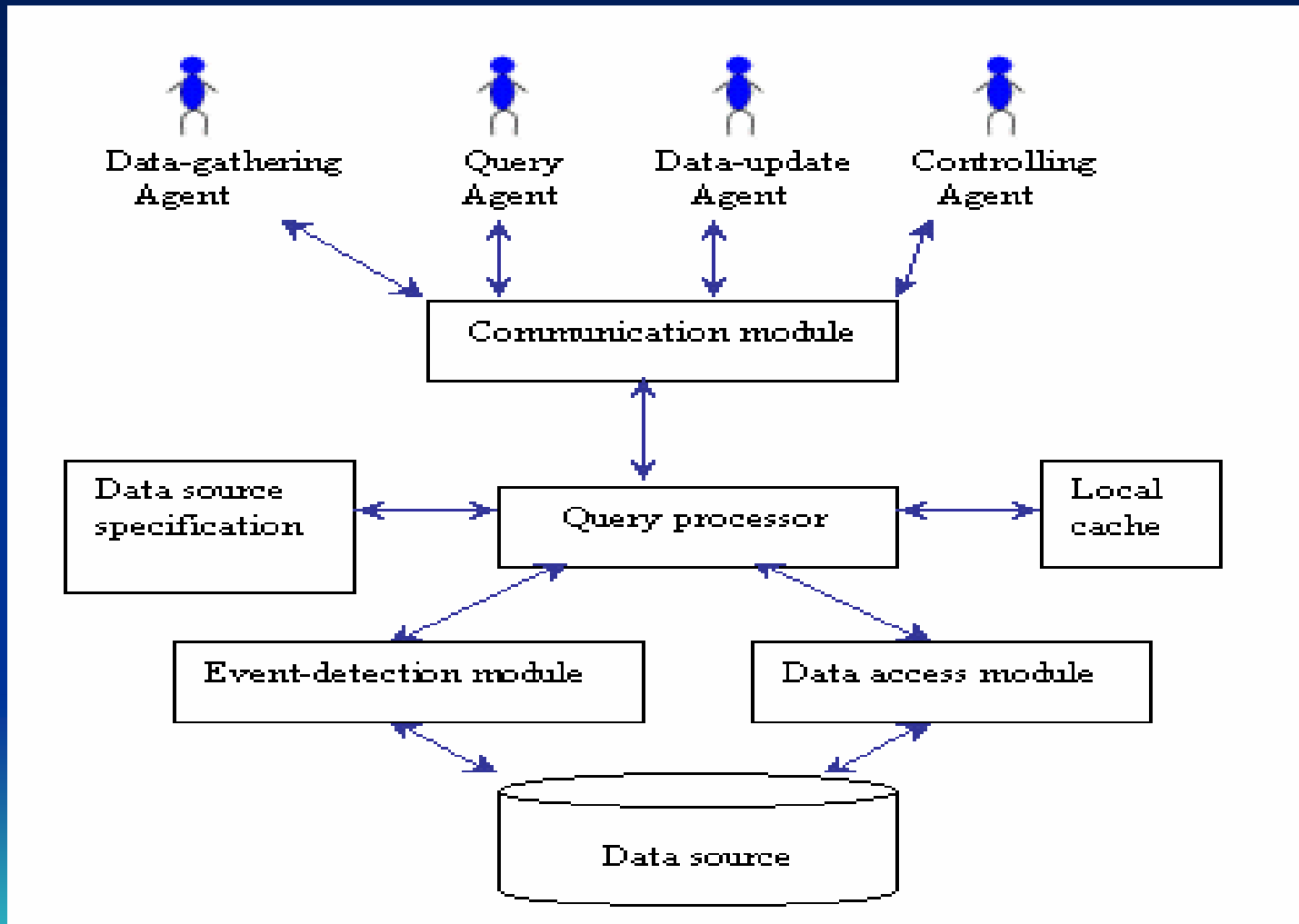
# Data filtering system framework



# Agent-based model



# Modules in resource agents



# Data-gathering agents

- For announcing and retrieving relevant data
- For probing prior knowledge on the relevancy of data sources to the task
- Monitoring changes in the environment

Data-gathering agent

Query agent

Data-update agent

# Filtering agents

- To get rid of noise
- For filling-in missing parts in data content
- To select the most promising feature
- To obtain the representatives
- To turn data to the right format

Cleansing agent

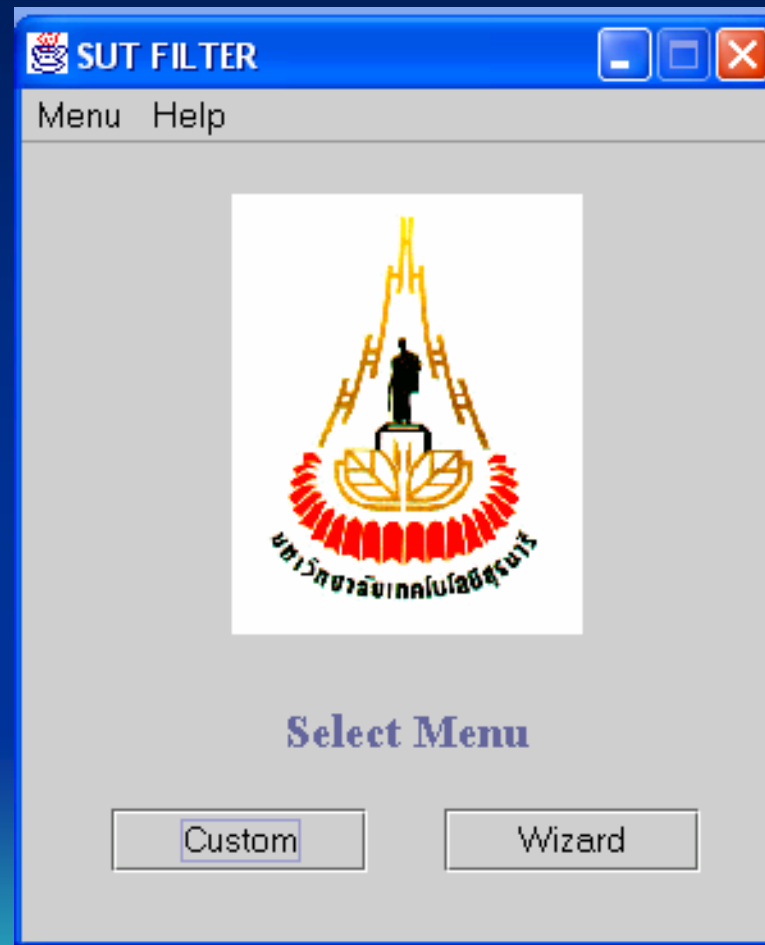
Missing-value handler

Feature selector

Sampling agent

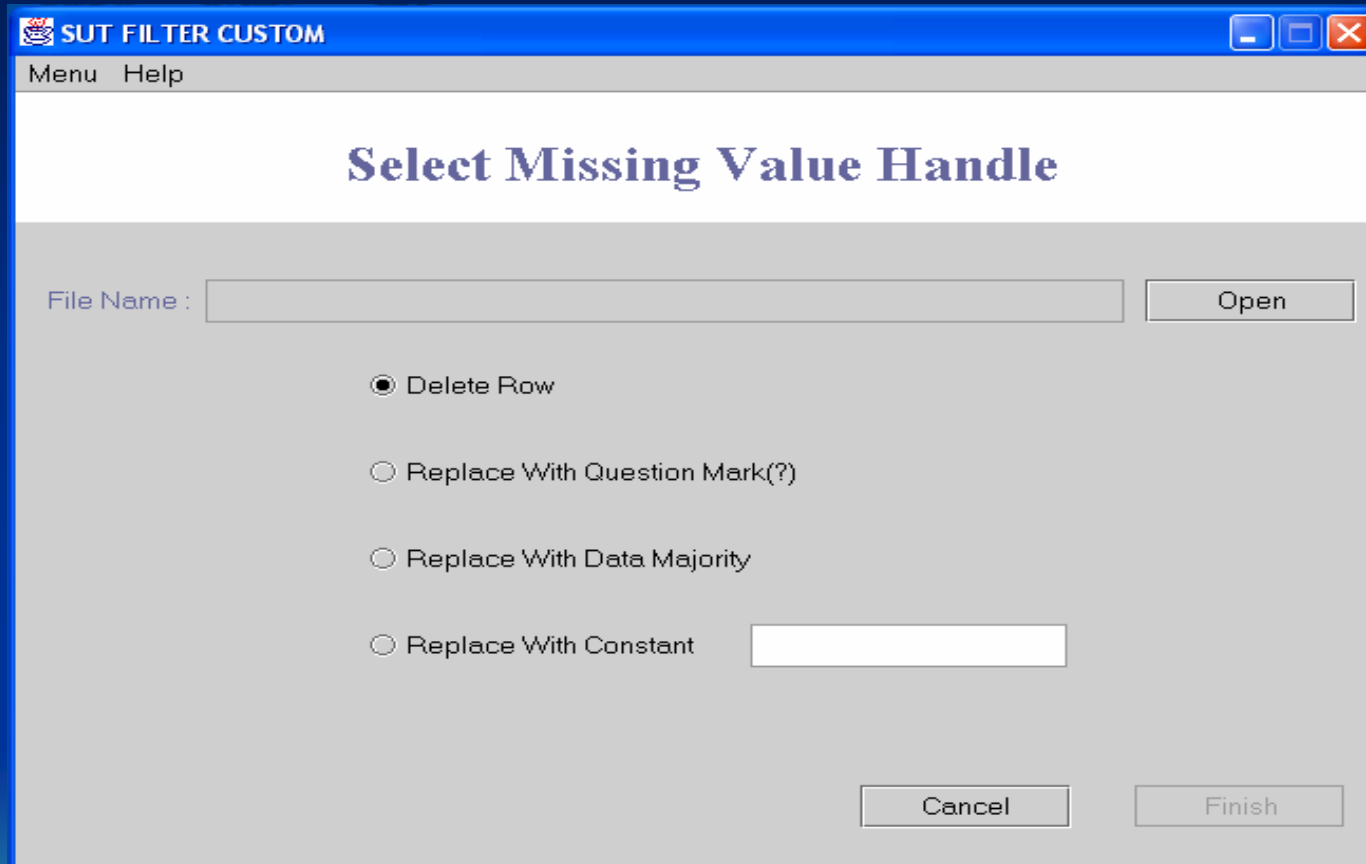
Transformation agent

# Implementation





# Implementation



The image shows a software dialog box titled "SUT FILTER CUSTOM". It has a menu bar with "Menu" and "Help". The main heading is "Select Missing Value Handle". Below this, there is a "File Name" input field and an "Open" button. There are four radio button options: "Delete Row" (which is selected), "Replace With Question Mark(?)", "Replace With Data Majority", and "Replace With Constant". The "Replace With Constant" option has an associated empty text input field. At the bottom right, there are "Cancel" and "Finish" buttons.

SUT FILTER CUSTOM

Menu Help

### Select Missing Value Handle

File Name :

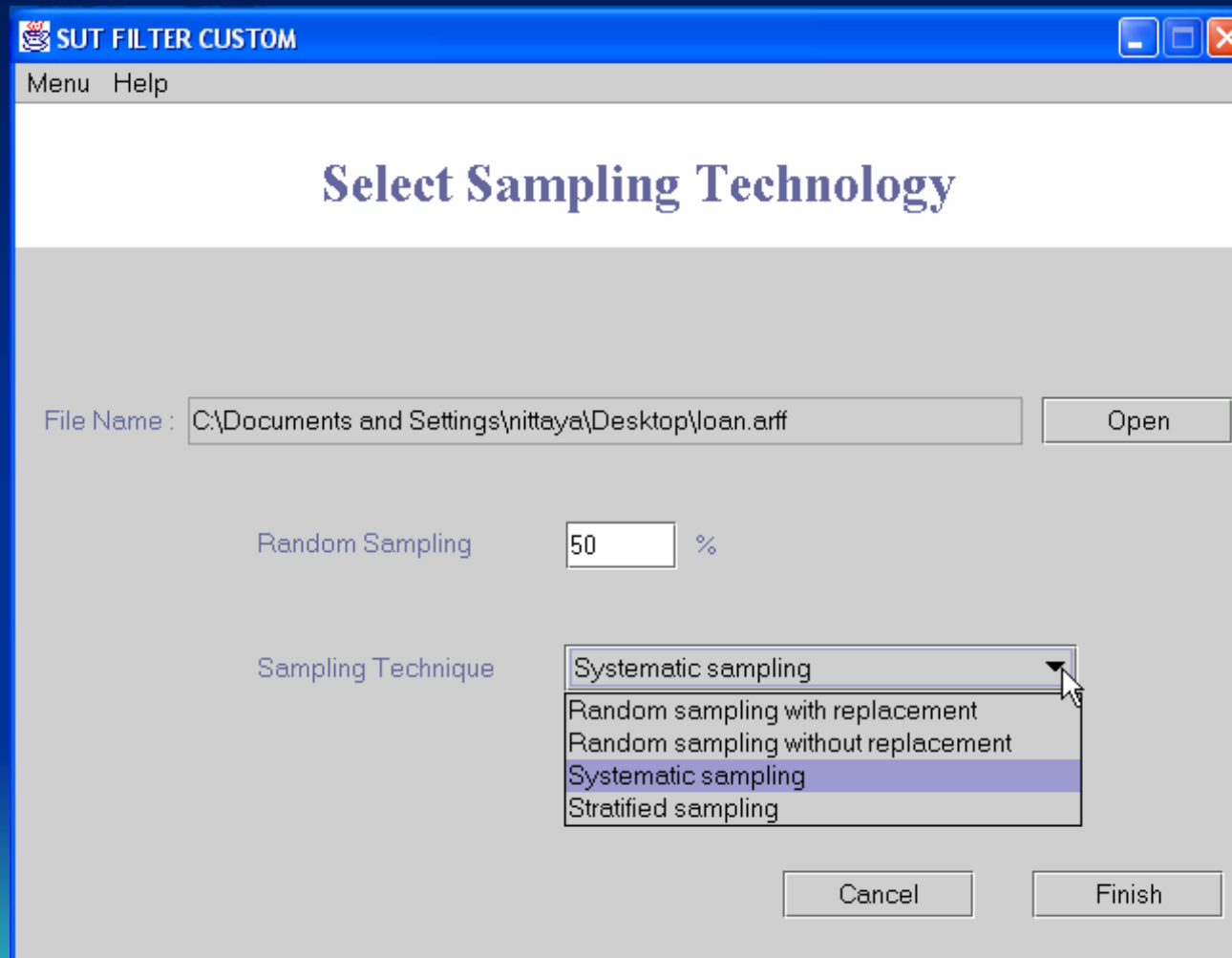
Delete Row

Replace With Question Mark(?)

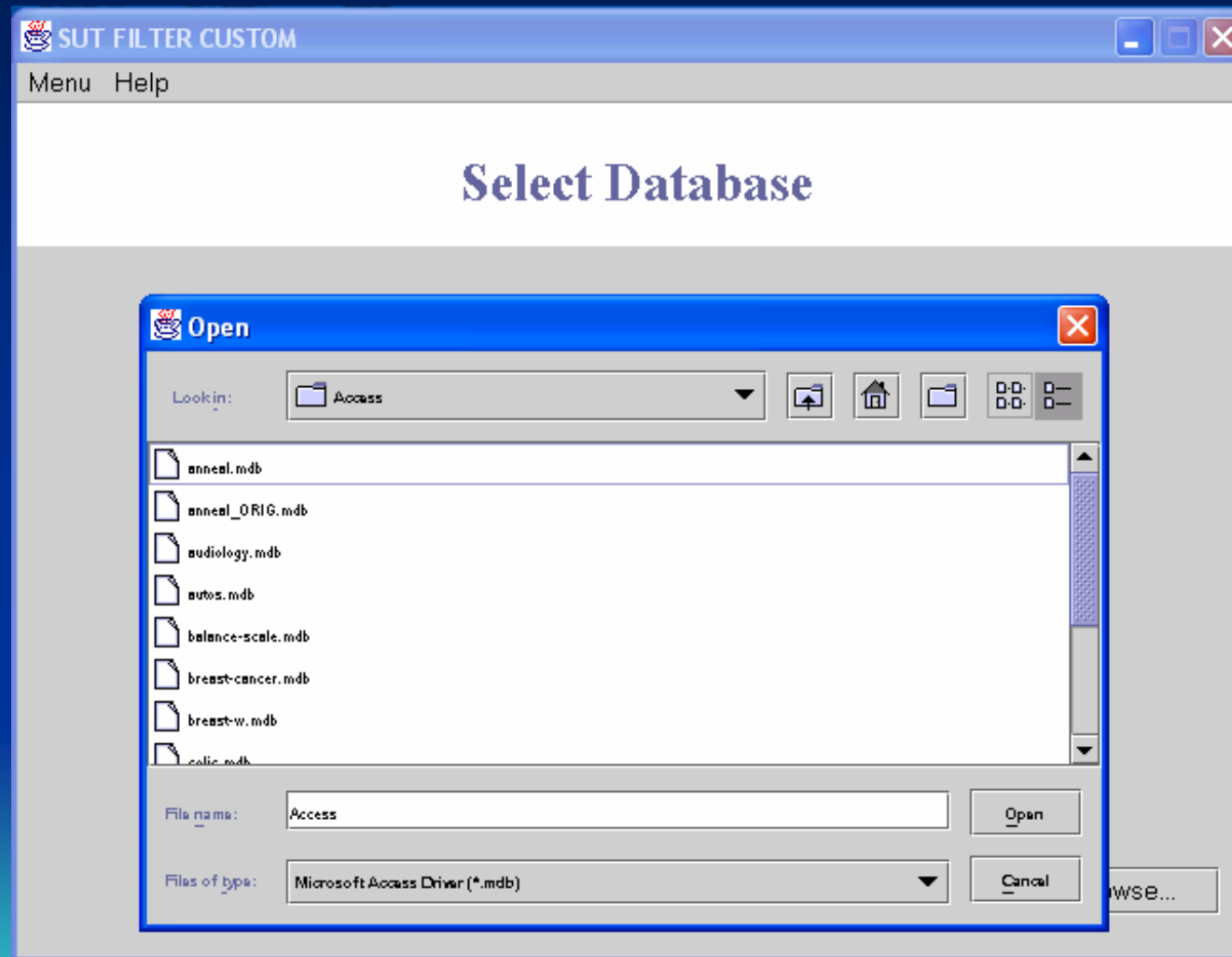
Replace With Data Majority

Replace With Constant

# Implementation



# Implementation



# Conclusion

- Contribution – design and implementation of a system to provide a pre-mining platform supported by a community of agents.
- This platform provides mechanisms of data browsing and extracting, data transform and data-quality improving.
- Future – extend the scope to cover the mining and post-mining phases.