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Web-Based Knowledge Warehouse Development 2

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Aim & Objectives

The aim of the research is to facilitate knowledge management process for grinding technology by building a flexible and easy to use web-based knowledge warehouse (Web-KW), which could manage both explicit and tacit knowledge.

The objectives are to design and develop the following modules:

- Date Interface (DIM)
- Database (DBM)
- Problem Solving (PSM)
- Learning Knowledge Discovery (LKDM)
- Knowledge warehouse (KWM)
- Knowledge Analysis (KAM).

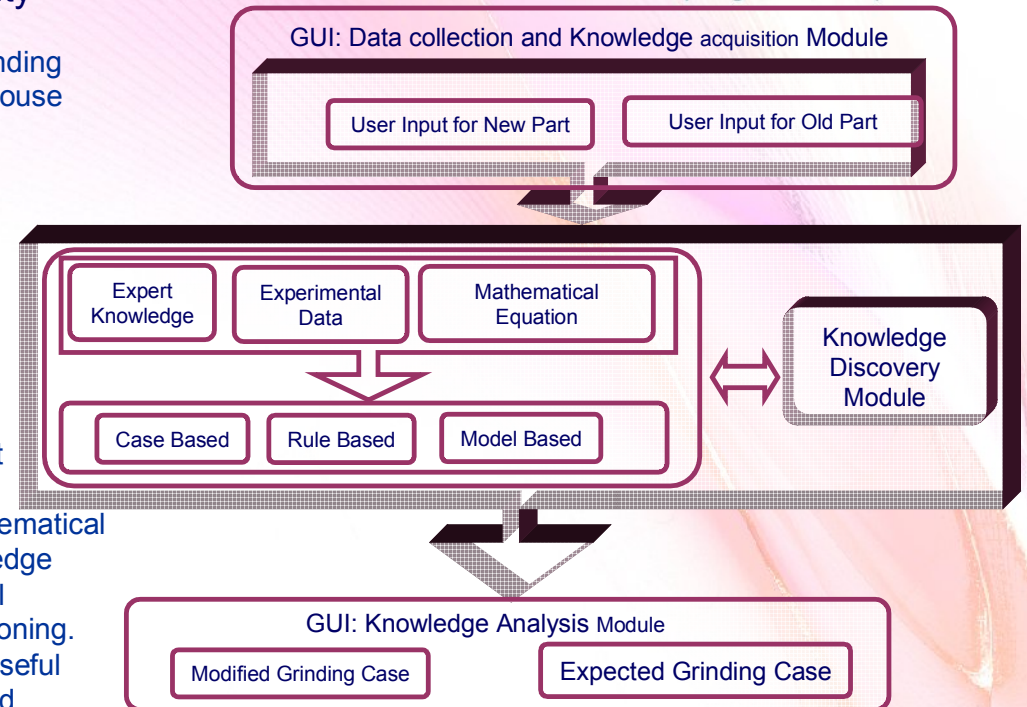
Methodology

Web-GKW is constructed by incorporating tacit and explicit knowledge. Explicit knowledge is found as experimental data and grinding cases.

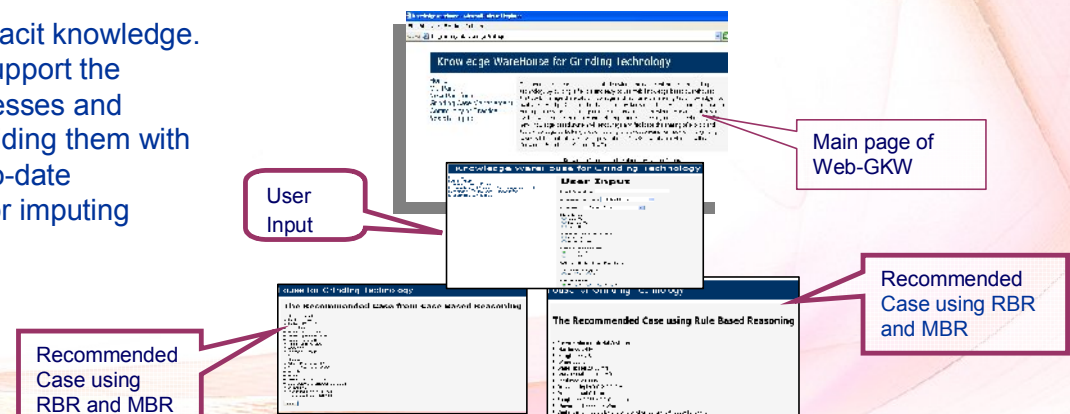
Tacit knowledge (human experts) is transferred into production rules and mathematical models. Based on knowledge established, problem solving module and knowledge discovery module performs search for the recommended grinding case that will maximise the user input using cased based, rule based and model based reasoning. On the other hand, LKDM extracts implicit, previously unknown and potential useful rules and patterns to modify and update existing rules and patterns. Web-based software is developed using PHP, MySQL and Apache for a wide accessibility.

Potential Benefits and Future Plans

The new KW will encourage and facilitate the sharing of explicate and tacit knowledge. The grinding cases will be kept in the knowledge warehouse that will support the decision making process for selecting grinding conditions for new processes and optimisation. As a result, it will save the time for CoP members by providing them with most relative answer to their questions. It also helps them sharing up-to-date knowledge. The current work is to develop confidence level measure for imputing missing data and apply this procedure to the collected grinding cases.



Structure of the Web-Based GKW



Structure of the Web-Based GKW Software Input and Output

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