

An Approach for Fusing Data from Multiple Sources to Support Construction Productivity Analysis



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NSF Grant #: CMS-0448170



Problem Statement

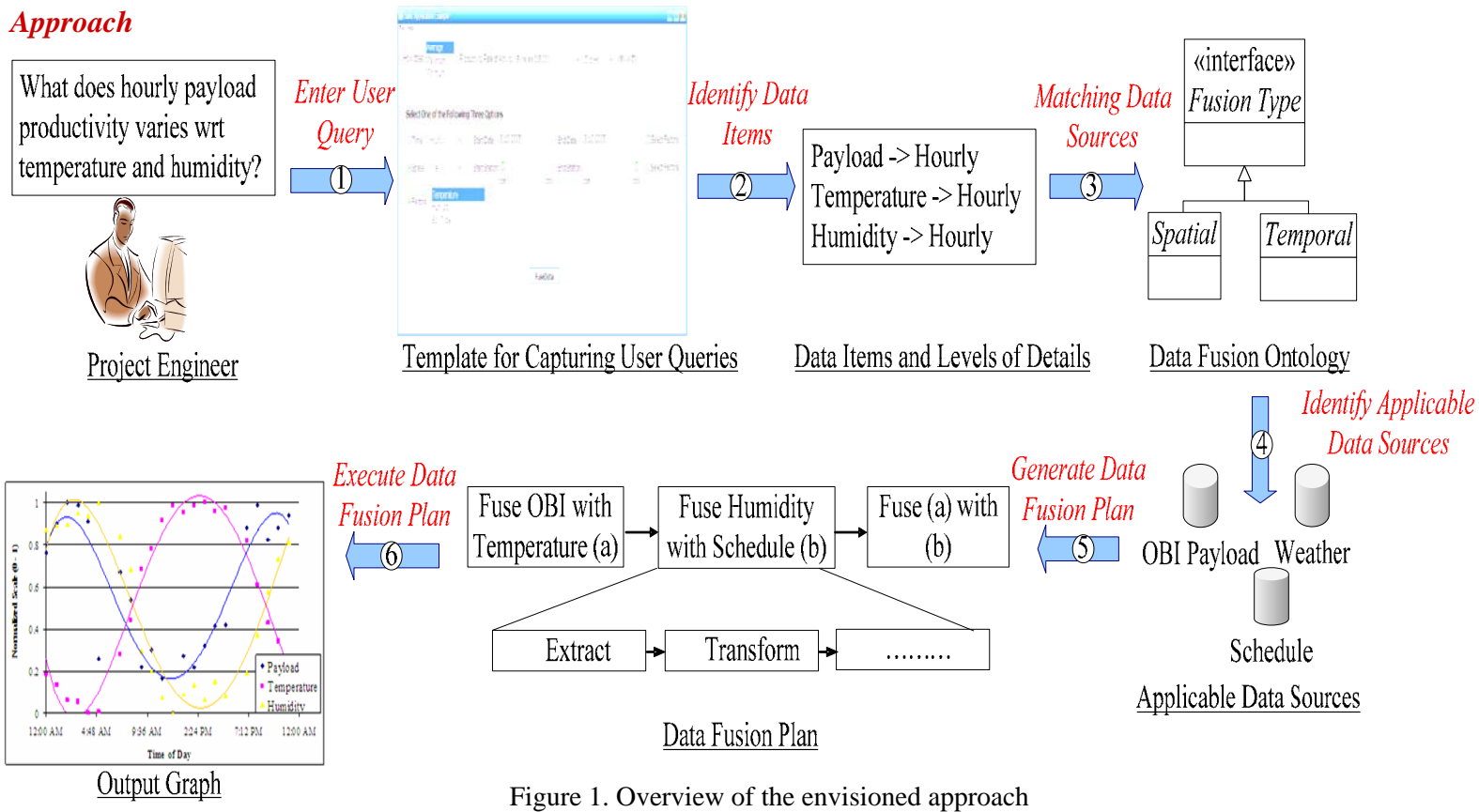
- ❖ Human decision making can be **biased** due to lack of information.
- ❖ Available **commercial systems** fuse **limited** set of **data**.
- ❖ Data fusion process requires combining data from multiple sources available at different levels of details.
- ❖ Manual approach to data fusion is time consuming. Thus, there is a need for formalized approach to automate data fusion process.

Objectives

Formalize multiple source data fusion to support construction productivity analysis.

- ❖ Capture user's productivity-related queries.
- ❖ Identify applicable data sources for a given query and generate data fusion plan.
- ❖ Generate fused data by executing given data fusion plan.

Approach



Expected Contributions & Practical Implications

- ❖ A general approach for generating fused data based on user queries.
- ❖ Proposed data fusion approach can assist project engineers in daily decision making process.
- ❖ Proposed data fusion approach can be used to design information pull-based data fusion system.

Related Publications

- ❖ Kiziltas, S., Pradhan, A. R., Akinci, B. (2006). "Developing Model-Based Project Histories by Leveraging Multisensor Data Fusion", Joint International Conference on Computing and Decision Making in Civil and Building Engineering, ICCCB E XI, June 14-16, 2006, Montreal, Canada.
- ❖ Pradhan, A. R. and Akinci, B. (2007). "A Planning Based Approach for Fusing Data from Multiple Sources For Productivity Monitoring", Construction Research Congress