Flow-Centric Business Process + DB Access = Mess

KingFore (kingfore.net) Heating Equipment Repairing Co.
- 18,900 lines of handwritten code, 20% are for DB access
- A deletion of two tasks in a business process results in a rewriting of 800 lines of codes

Artifacts and Data Mapping

- Artifact = Business Process + Data Model [Nigam-Caswell 03]
- A data mapping language is needed to map artifact data to the enterprise database

Main Results of ED Mapping

- Updatable if and only if every leaf primitive attribute has exactly one mapping rule
- To determine if two business entities are isolated can be done in polynomial time

Entity-Data (ED) Mapping Language

ED mapping is equivalent to a subset of Clio [Popa et al 02]

Syntactic conditions are formulated for the subset

Main results

Updatability

- Can DB capture the updates of artifacts, and vice versa?

Adding the new tuple for “Repairperson” in artifacts can be translated to adding a new tuple for “RepairInfo” in DB

Isolation

- Will an artifact update affect other artifact instances?

New addr. updated by instance1 will be seen by instance 2, even when instance 2 is not executing

Hard-coded SQL

Database of the Company

A repair business process

A repair artifact

A data mapping should be aware of the properties of

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