

iVuBlender : A Tool for Merging Incomplete and Inconsistent Views

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September 1, 2005

Trivia

→ What does *iVuBlender* stand for?

↪ *i* → incomplete

➤ ... and inconsistent, of course.

↪ *Vu* → View

↪ Blender

➤ ... signifies the nature of the merge operation

▮▮▮ i.e., combining a set of objects to produce an amalgamated one

Background and Motivation

→ What is view merging?

- Combining a set of views to create a new view encompassing the given views

→ Why do we need to merge views?

- Creating a unified perspective
- Exploring interactions between views
- Performing various kinds of analyses

→ Wait! What do you mean by “view”?

- A view is a model delineated in a particular notation
 - can be a stakeholder’s perspective, a feature, or a concern

→ **View (here) = Viewpoint (here) = Viewpoint (Steve’s talk)**

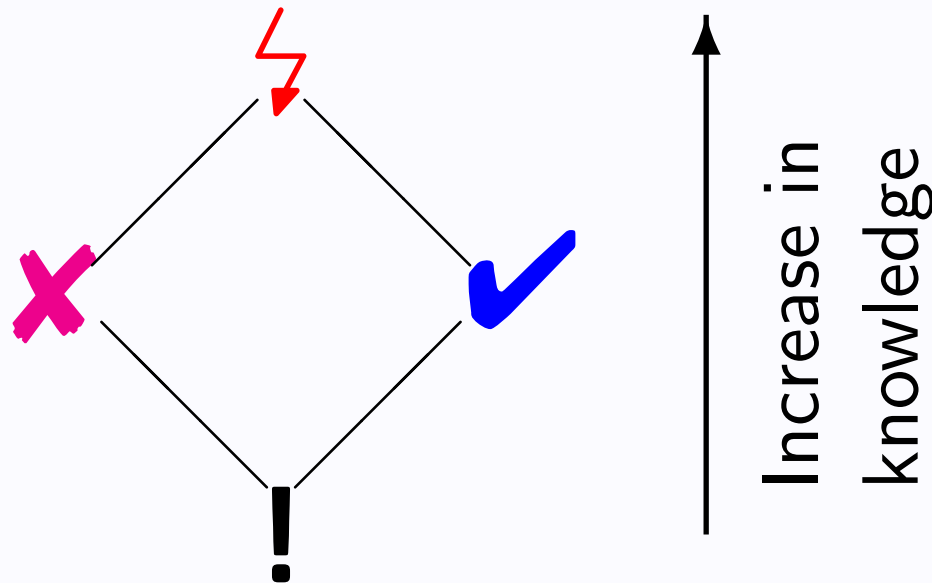
Our Approach in a Nutshell

→ Basic Constructs

- ↳ **Annotated graphs** for representing views
 - Annotations denote stakeholders' beliefs about view elements
- ↳ **Mappings** for relating view pairs
 - Each mapping specifies how a view is (potentially) **embedded** into another
- ↳ **Interconnection diagrams** for hypothesizing merges
 - Each interconnection diagram is given by a set of views and a set of mappings between them

View Annotations

→ We annotate view elements with stakeholders' beliefs



- **!**: **proposed** but not certain to be well-conceived
- **✓**: known to be well-conceived (**confirmed**)
- **✗**: known to be ill-conceived (**repudiated**)
- **⚡**: both repudiated and confirmed, hence **disputed**

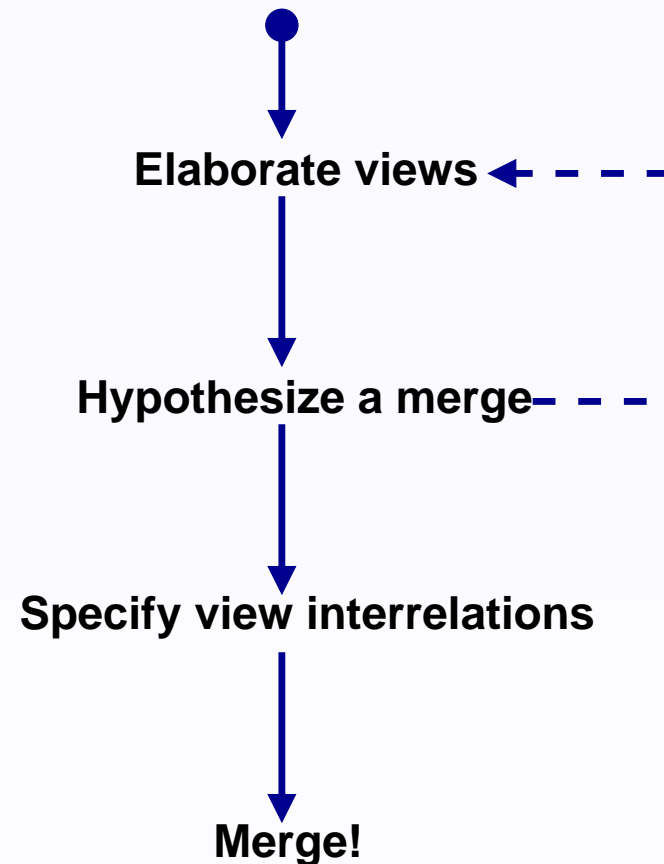
Methodology

→ No strict methodology for using the tool

→ Constraints:

- The two ends of each mapping need to be materialized before the mapping itself
- All the views and mappings referenced in an interconnection diagram need to be materialized prior to merging

→ In exploratory modeling:



And the Demo ...