



# Model Driven Development in Healthcare using Eclipse

Grahame Grieve

Eclipse Open Healthcare Framework

CTO, Jiva Medical

Co-chair HL7 Infrastructure & Messaging

# Case #1: MPI & UML

---



- Goal
  - Build a Master Patient Index system dynamically driven by UML
- UML + OCL specified all the behavior
- Records stored in XML
- Outcome:
  - Cool tools
  - Failure (*User / technology interface*)

# Case #2: MDD System

---



- Goal:
  - Build a Radiology Information System
  - Use generated code to save to time and force consistency
- Custom Modeling environment + code generation
- Model = database schema, drives SQL
- Outcome:
  - Success (*Quickly build large consistent application*)
  - To Do (*an amazingly long list of things*)

# HL7 V3 & MDD

---



- V3 is a natural candidate for MDD:
  - Wide scope – thousands of specifications
  - All based on a common reference model
- V3 is a tough proposition for MDD:
  - Heavy reliance on constraints
  - Hard to do generate re-usable code
  - Terminology Considerations
  - UML vs. Schema issues
- Work in progress

# EMF in Eclipse OHF

---



- Eclipse Modeling Framework (EMF)
  - Eclipse's built in framework for MDD
  - Generates code from Schema, XMI, more
- Open Health Framework (OHF)
  - Uses EMF:IBM's XDS framework
  - Doesn't use EMF: H3ET / MIF

# MDD in Healthcare

---



A work in progress:

- Increasing the sophistication of MDD tools
- Improving the models of healthcare
- Getting healthcare practitioners to conform to the models