PMF
Presentation Modeling Framework

UI MDA Engineering Solution

Yves YANG

Agenda

- Purpose
- Features
- Architecture
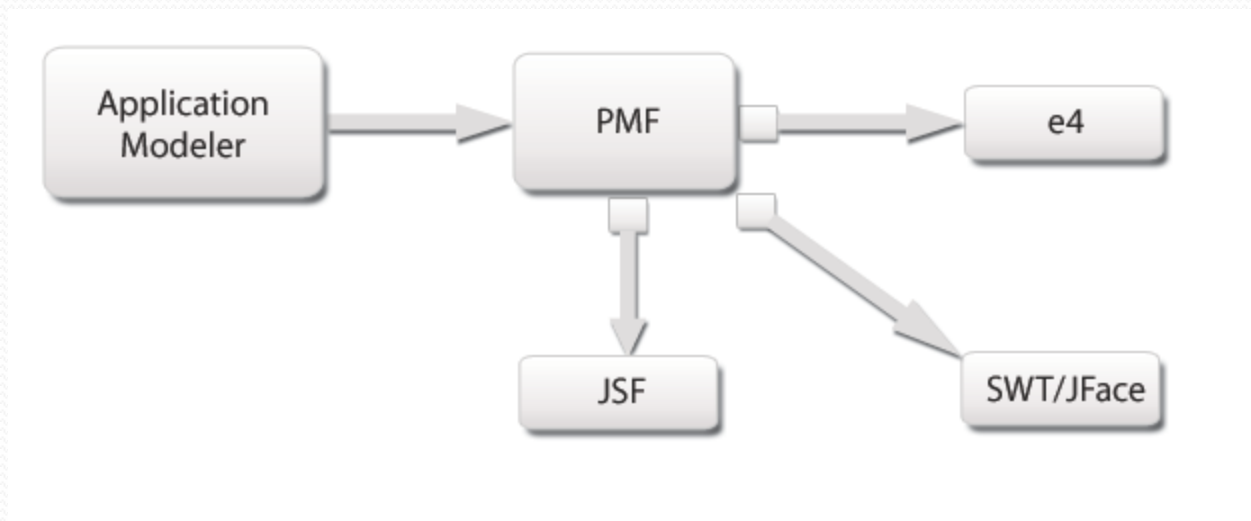- Project update
- Roadmap

Purpose

- Terminology
  - UI – User Interface

    Widget control + Event Handling = SWT/Jface
  - Presentation - UI with Data

    UI, Data Binding, View Management, Presentation Patterns, …
- Motivation
  - UI Technology is changing quickly
  - UI development takes a lot of time and requires knowledge
  - Complete the MDA tool-chain
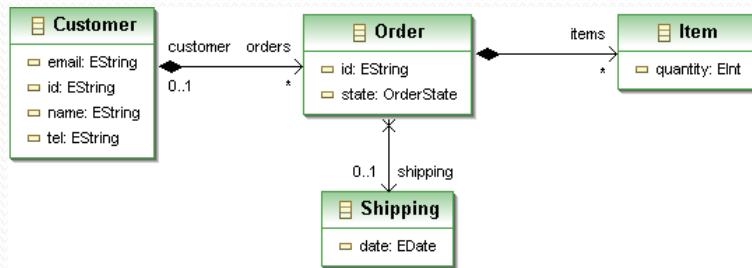 - Lack of easy-to-use tools to do UI

PMF

Presentation Modeling Framework

Purpose

- PMF is a high Extensible Enterprise Modeling Solution for data presentation.

Demo

EMF model

e4 Application

Purpose

- Abstraction
  - Data Model
  - UI Model
  - Data Binding technology
  - Target programming language
- Extensibility, Integration & Customization
  - UI Model
  - Model Transformation engine
  - Integration with other tools such as DSL
- Top-down approach

PIM

PSM

PMF

Presentation Modeling Framework
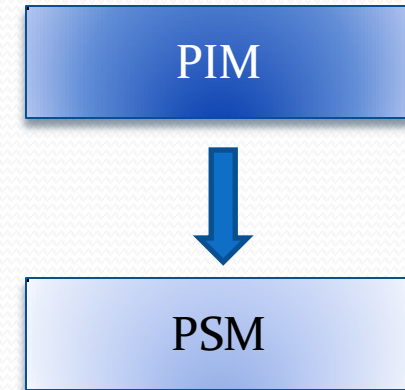
Purpose

- Runtime mode
  - Interactive
    - Standalone
    - Embedded in other tools
  - Automated
    - Integration in build system
- Users
  - Framework developer
  - Application designer

Purpose

- Benefices
  - Make UI development easier
  - More productive
  - Separate roles in UI development to enable specialization and customization
  - Integrate UI development with other Eclipse tool stack

Features

- Data Model Management
- Data Binding
- Presentation Modeling
  - Static UI
  - Dynamic UI
  - Page Flow
    Wizard, BPMN
- View Management
- Application Management

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Presentation Modeling Framework

Features

- Data Model Management
  - Data Model

    EMF, Java, UML etc
  - Data model services
    - Data binding
    - Model transformation
      - Code generation

Features

- Data Binding modeling
  - Model connection
    - Simple binding
    - Path binding
    - Aggregation binding
  - Validation
  - Data convertion
  - Error Handling

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Features

- Presentation modeling
  - Static UI
    - Master/Detail
  - Dynamic UI
    - Control Event based
    - Data Event based
  - Page flow
    - Transaction Edition
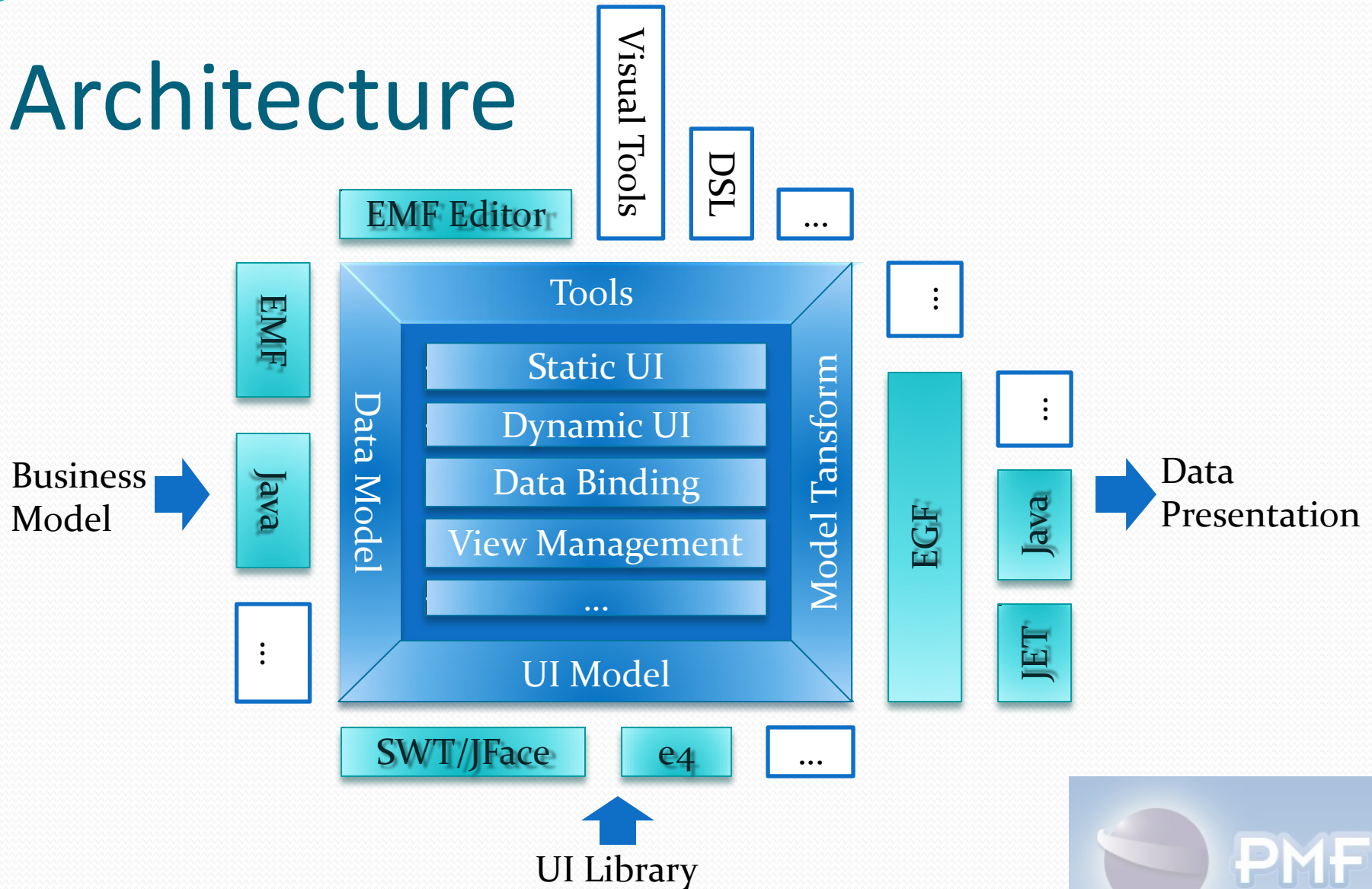   - Wizard
    - Finder

Features

- View Management
  - Each data type may have more than one view
  - One view can be changed in some conditions
    - User Profile
    - Execution context
    - Security role

Architecture

Visual Tools

DSL

...

EMF Editor

EMF

Java

...

Business Model →

Tools

Data Model

Static UI

Dynamic UI

Data Binding

View Management

...

Model Tansform

UI Model

...

EGF

Java

JET

→ Data Presentation

SWT/JFace

e4

...

↑ UI Library

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Project update

- Contribution
  - PIM
    Yves YANG with the participation of Jim Van DAM
    - Data Model (100%)
    - Data Binding model (80%)
    - UI Model (30%)
    - View Management (25%)
    - Application structure (80%)
  - EMF reflective editor
    Yves YANG
  - Code Generation on EGF for e4/XWT (POC)
    Thomas GUIU

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Presentation Modeling Framework

Roadmap

- V0.9 - Summar 2010
  - PIM – Dynamic UI
  - Integration of e4/SWT/Jface
  - Integration of e4/XWT
- V1 - June 2011
  - View management
- TBD
  - Integration of other solutions
    - Web, Android, IPhone, …
    - Xpand, MTL …
    - Xtext, …
  - Page flow

Info

- Web: http://www.eclipse.org/pmf
- Wiki: http://wiki.eclipse.org/pmf
- Newsgroup: eclipse.pmf
- Mailing list: pmf-dev@eclipse.org