EclipseSource

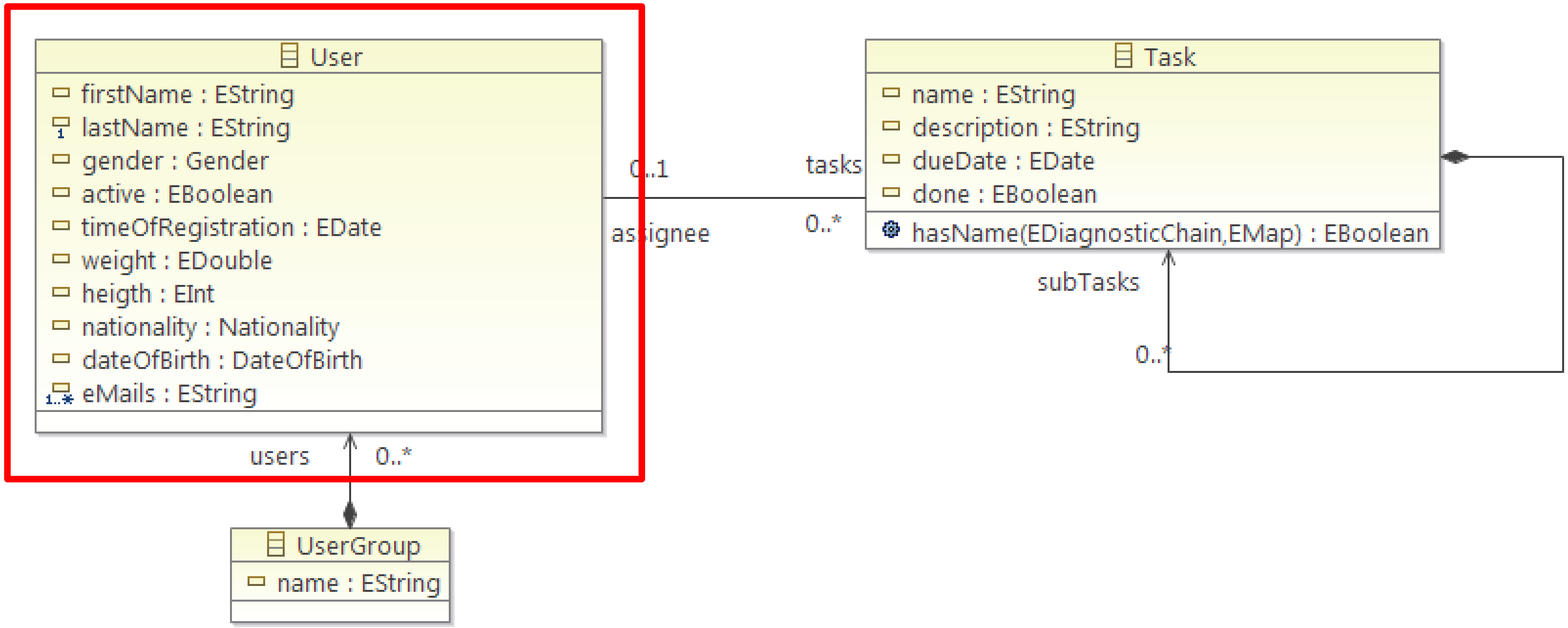
Building and maintaining form-based
Are you still manually coding UIs?
UIs for data entry efficiently

Eclipse Finance Day 2013 – Zürich

Maximilian Koegel

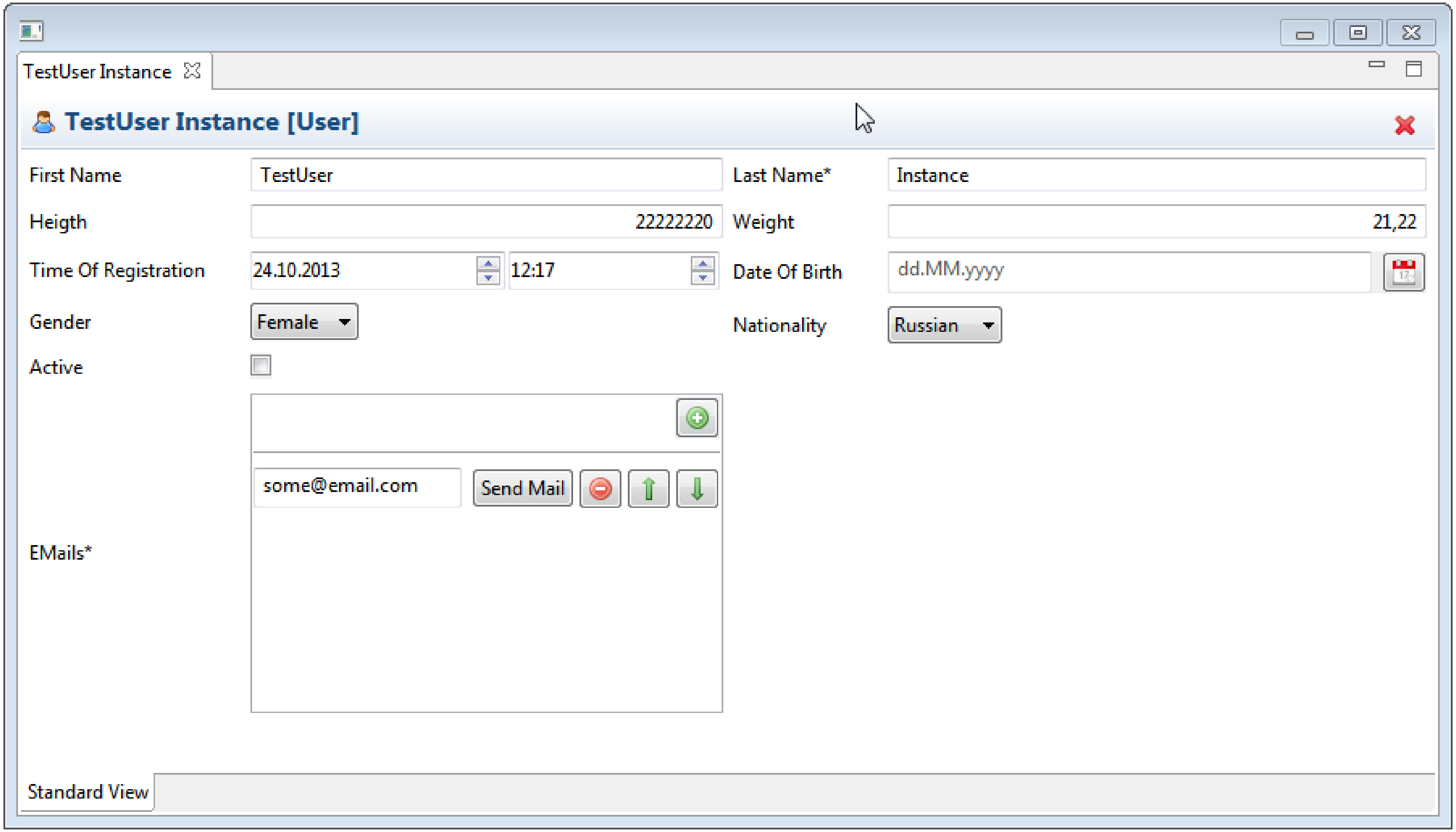
mkoegel@eclipsesource.com

Data conforms to a domain-specific data model



EclipseSource

Data is often viewed/edited in a form-based UI

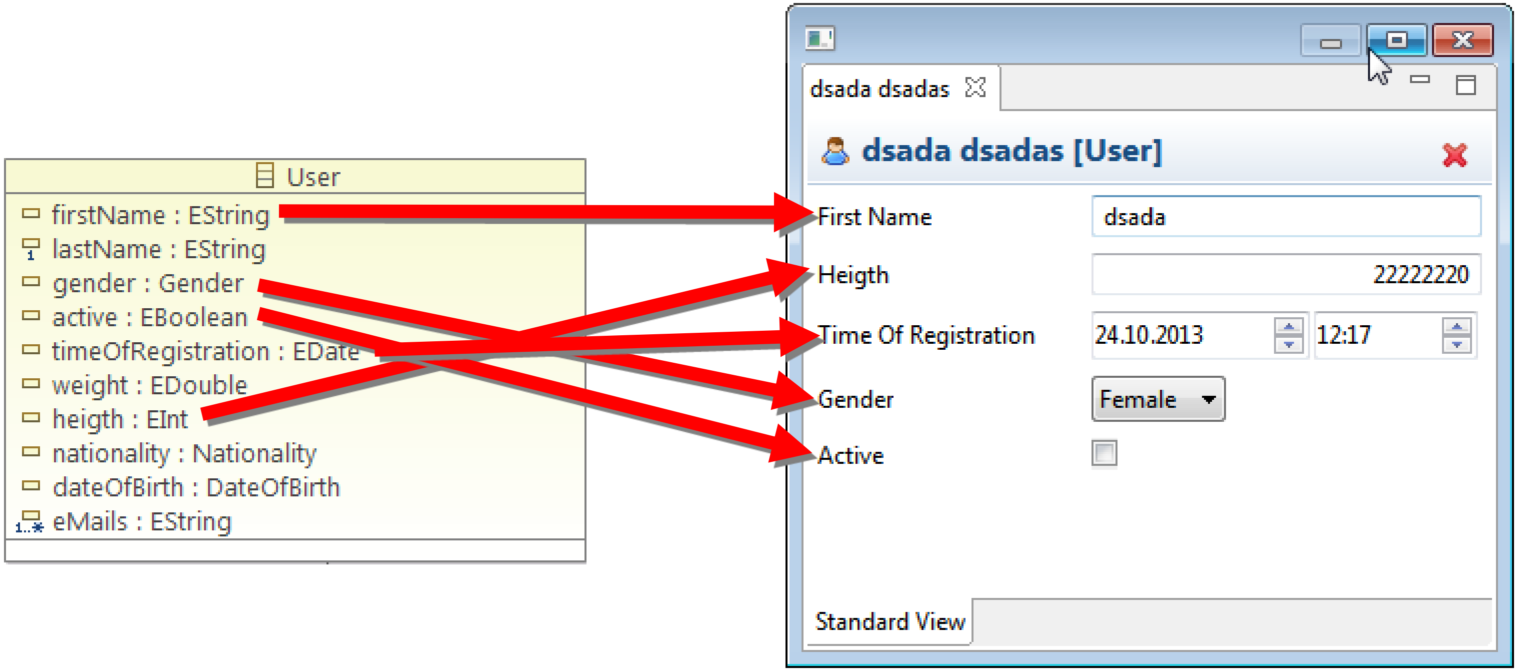


TestUser Instance

TestUser Instance [User]

First Name	TestUser	Last Name*	Instance
Heigth	22222220	Weight	21,22
Time Of Registration	24.10.2013 12:17	Date Of Birth	dd.MM.yyyy
Gender	Female	Nationality	Russian
Active	□		
EMails*	some@email.com		

Data model needs to be mapped to UI



First Name: dsada

Heigth: 22222220

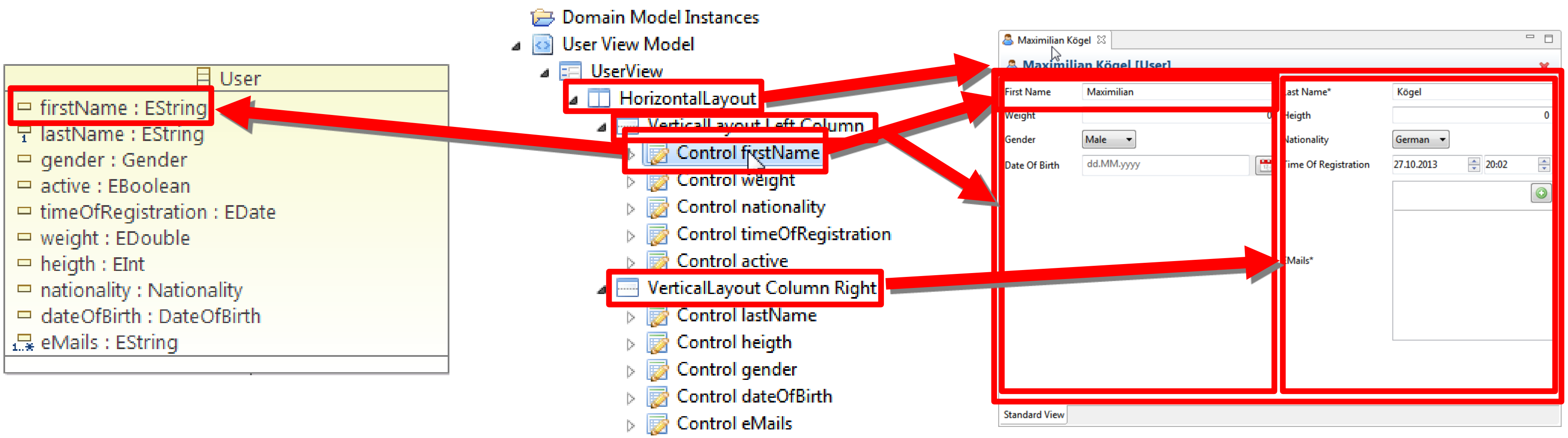
Time Of Registration: 24.10.2013 12:17

Gender: Female

Active: □

Modeling the UI

Domain Model **View Model** **UI**



User
- firstName : EString
- lastName : EString
- gender : Gender
- active : EBoolean
- timeOfRegistration : EDate
- weight : EDouble
- heigth : EInt
- nationality : Nationality
- dateOfBirth : DateOfBirth
- eMails : EString

```
Domain Model Instances
User View Model
  UserView
    HorizontalLayout
      VerticalLayout Left Column
        Control firstName
        Control weight
        Control nationality
        Control timeOfRegistration
        Control active
      VerticalLayout Column Right
        Control lastName
        Control heigth
        Control gender
        Control dateOfBirth
        Control eMails
```

Maximilian Kögel

Maximilian Kögel [User]

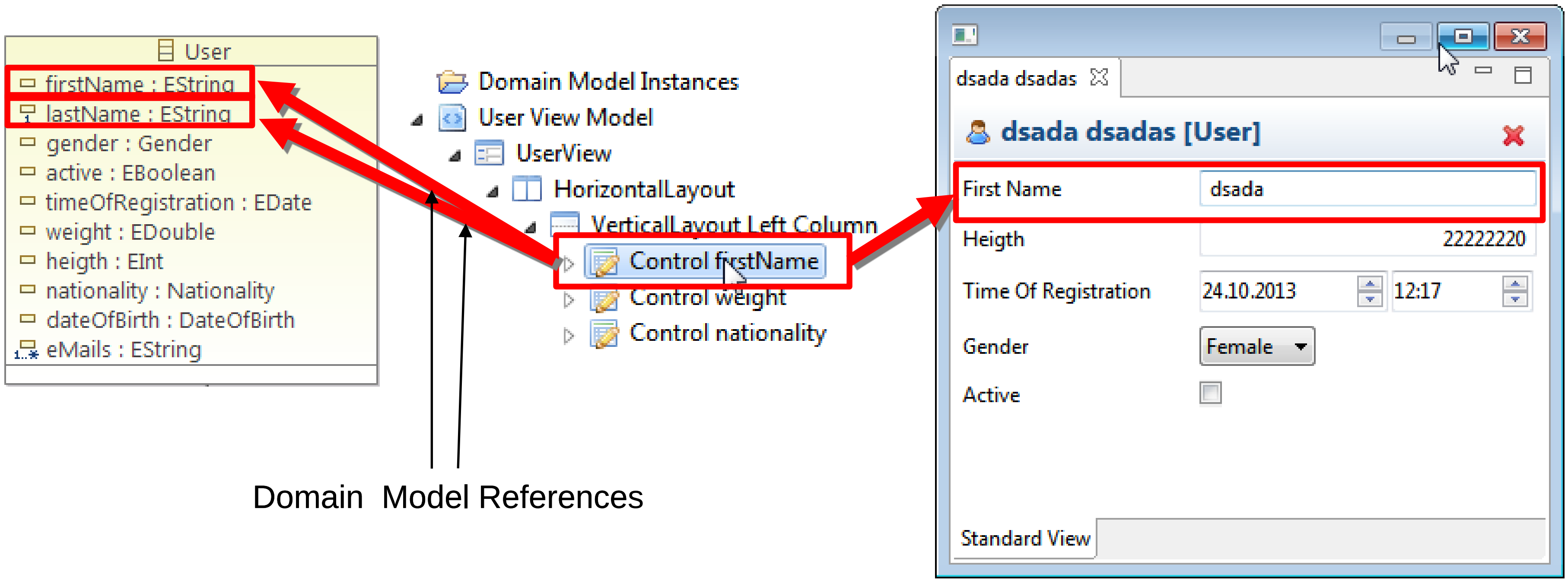
First Name	Maximilian	ast Name*	Kögel
Weight	0	eigth	0
Gender	Male	ationality	German
Date Of Birth	dd.MM.yyyy	ime Of Registration	27.10.2013 20:02
		Mails*	

Standard View

1. Data Binding with Controls
2. Modeling Structure with Layouts

Modeling UI Data Binding with Controls

Domain Model **View Model** **UI**



User
- firstName : EString
- lastName : EString
- gender : Gender
- active : EBoolean
- timeOfRegistration : EDate
- weight : EDouble
- heigth : EInt
- nationality : Nationality
- dateOfBirth : DateOfBirth
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```
Domain Model Instances
User View Model
  UserView
    HorizontalLayout
      VerticalLayout Left Column
        Control firstName
        Control weight
        Control nationality
```

dsada dsadas

dsada dsadas [User]

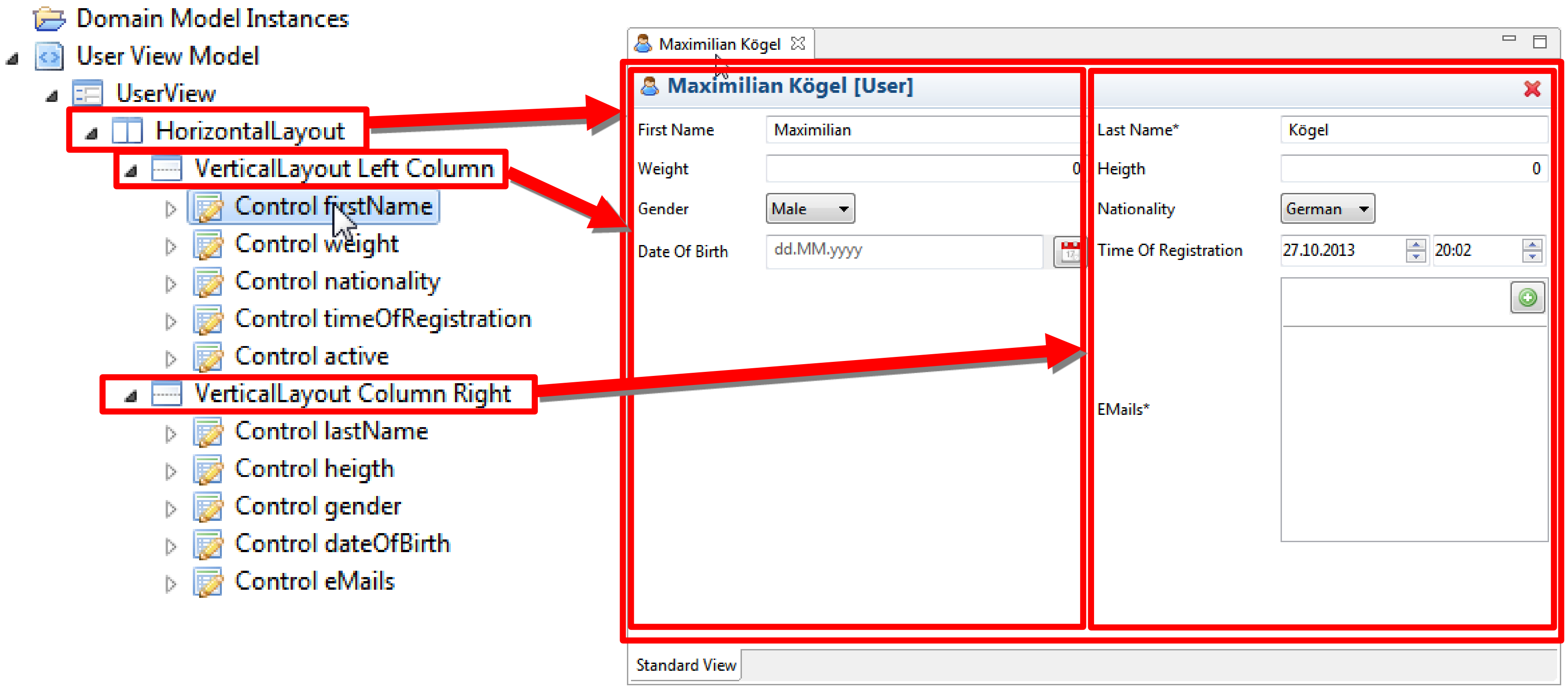
First Name	dsada
Heigth	22222220
Time Of Registration	24.10.2013 12:17
Gender	Female
Active	□

Standard View

Domain Model References

Modeling UI Structure with Layouts

View Model **UI**



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        - Control dateOfBirth
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Maximilian Kögel

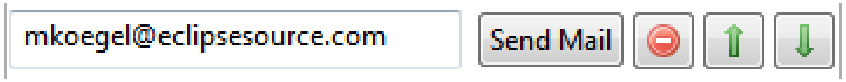
Maximilian Kögel [User]

First Name	Maximilian	Last Name*	Kögel
Weight	0	Heigth	0
Gender	Male	Nationality	German
Date Of Birth	dd.MM.yyyy	Time Of Registration	27.10.2013 20:02
		EMails*	

Standard View

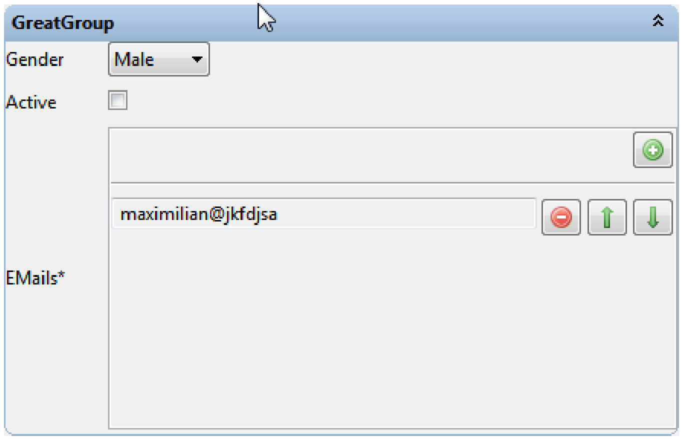
Extensibility and Adaptability

- Custom Controls
  - e.g. Email-Control



mkoegel@eclipsesource.com

- Custom View Model Elements and Renderers
  - e.g. Group

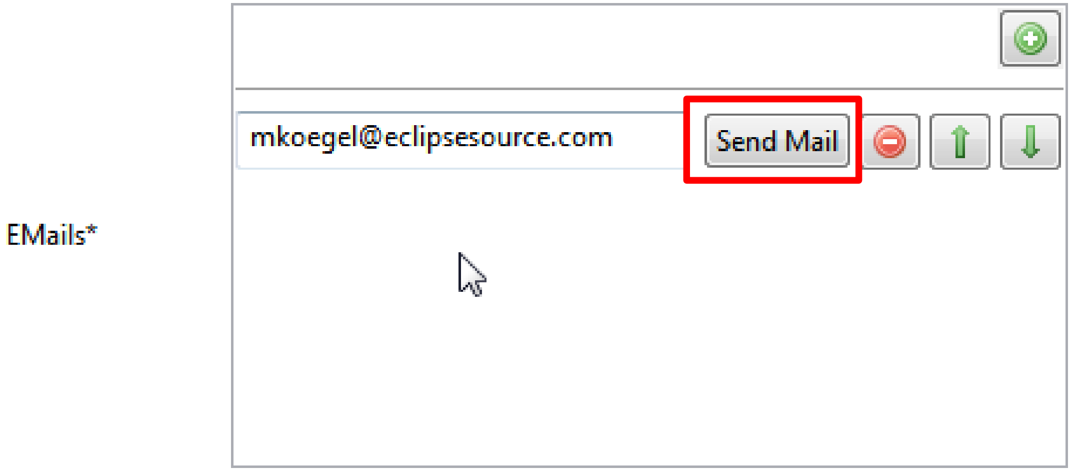


Gender: Male

Active: □

maximilian@jkfdjsa

Custom Control: Email

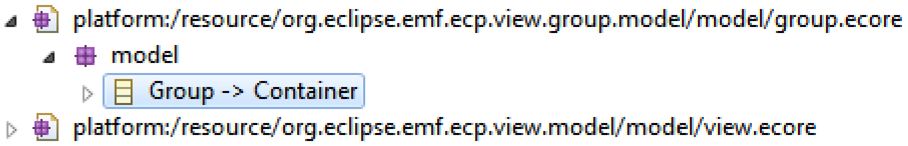


EMails*

mkoegel@eclipsesource.com

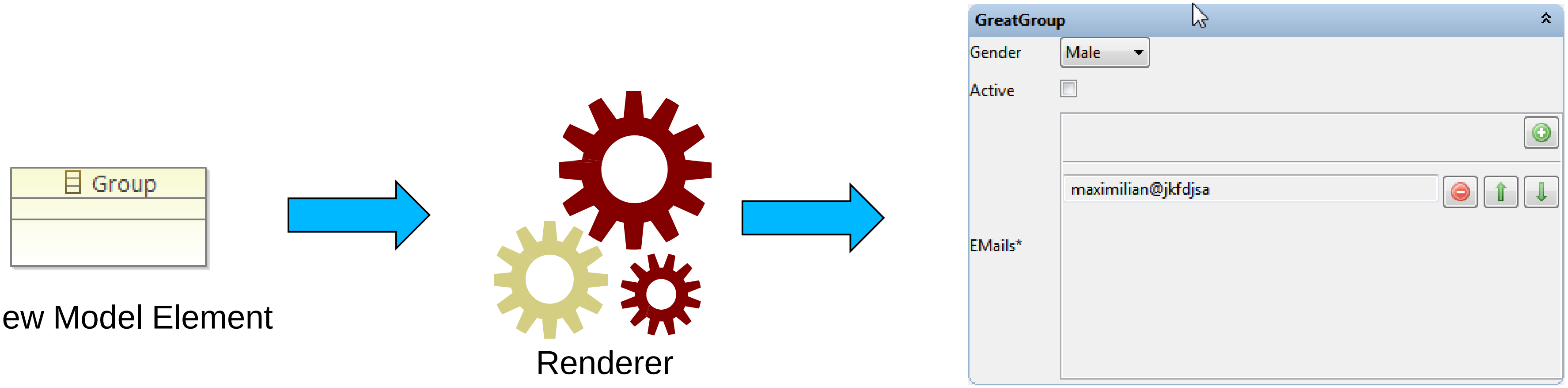
Custom View Model Element

- Define new view model element in Ecore



```
◢ platform:/resource/org.eclipse.emf.ecp.view.group.model/model/group.ecore
    ◢ model
        ▷ Group -> Container
▷ platform:/resource/org.eclipse.emf.ecp.view.model/model/view.ecore
```

- Generate model and edit plugins
- Create a Renderer



View Model Element

Renderer

GreatGroup

Gender: Male

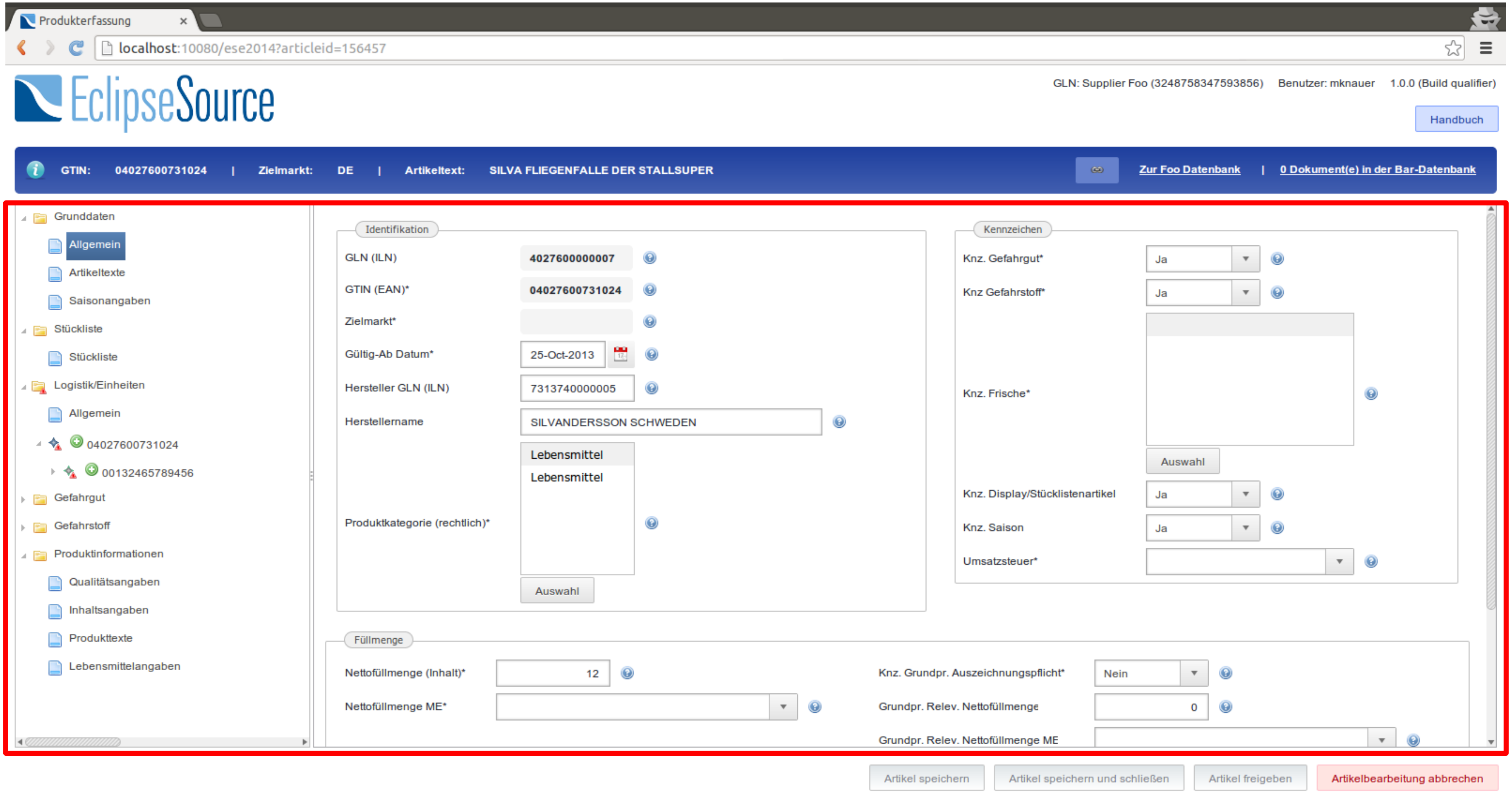
Active: □

EMails*: maximilian@jkfdjsa

Exchangeable UI Technology

- UI Model is independent of Renderers
- Only renderers are UI technology dependent
- Renderers can be replaced
- Allows for parallel use of different UI technologies
- Existing renderers:
  - RCP/SWT
  - Web based on RAP
  - JavaFX (demo only)

Web-Renderer based on RAP



Produkterfassung

localhost:10080/ese2014?articleid=156457

GLN: Supplier Foo (3248758347593856) Benutzer: mknauer 1.0.0 (Build qualifier)

Handbuch

GTIN: 04027600731024 | Zielmarkt: DE | Artikeltext: SILVA FLIEGENFALLE DER STALLSUPER

Zur Foo Datenbank | 0 Dokument(e) in der Bar-Datenbank

- Grunddaten
  - Allgemein
  - Artikeltexte
  - Saisonangaben
- Stückliste
  - Stückliste
- Logistik/Einheiten
  - Allgemein
  - 04027600731024
    - 00132465789456
- Gefahrgut
- Gefahrstoff
- Produktinformationen
  - Qualitätsangaben
  - Inhaltsangaben
  - Produkttexte
  - Lebensmittelangaben

Identifikation

GLN (ILN)	4027600000007
GTIN (EAN)*	04027600731024
Zielmarkt*	
Gültig-Ab Datum*	25-Oct-2013
Hersteller GLN (ILN)	7313740000005
Herstellername	SILVANDERSSON SCHWEDEN
Produktkategorie (rechtlich)*	Lebensmittel Lebensmittel

Auswahl

Kennzeichen

Knz. Gefahrgut*	Ja
Knz Gefahrstoff*	Ja
Knz. Frische*	
Knz. Display/Stücklistenartikel	Ja
Knz. Saison	Ja
Umsatzsteuer*	

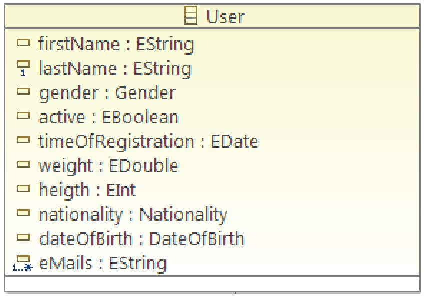
Auswahl

Füllmenge

Nettofüllmenge (Inhalt)*	12
Nettofüllmenge ME*	
Knz. Grundpr. Auszeichnungspflicht*	Nein
Grundpr. Relev. Nettofüllmenge	0
Grundpr. Relev. Nettofüllmenge ME	

When to use/not use of UI Modeling

- Large Domain Model
- Many different Views
- Frequent Domain Model changes
- Homogenous UI
- UI Technology Independence
- Improved Customer Involvement
  - Fast Turnaround + Rapid Prototyping
  - Easy-to-grasp UI concepts



User
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- lastName : EString
- gender : Gender
- active : EBoolean
- timeOfRegistration : EDate
- weight : EDouble
- heigth : EInt
- nationality : Nationality
- dateOfBirth : DateOfBirth
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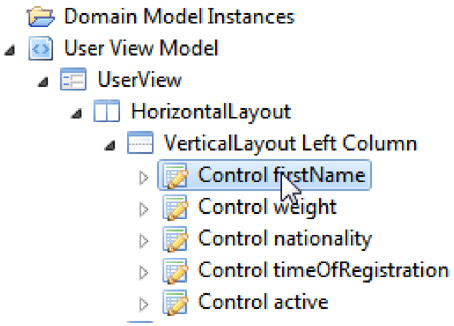

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      - VerticalLayout Left Column
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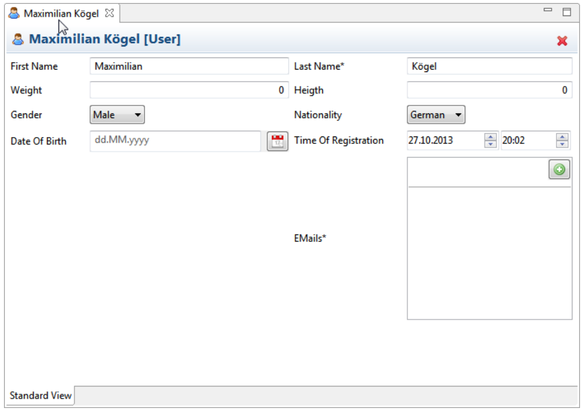
        - Control active



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Weight	0	Heigth	0
Gender	Male	Nationality	German
Date Of Birth	dd.MM.yyyy	Time Of Registration	27.10.2013 20:02
		EMails*	

Standard View

More Information

- Current Release 1.1: Minimal public view model API
- Roadmap:
  - Expose more view model API
  - JavaFX Renderer
  - Tooling

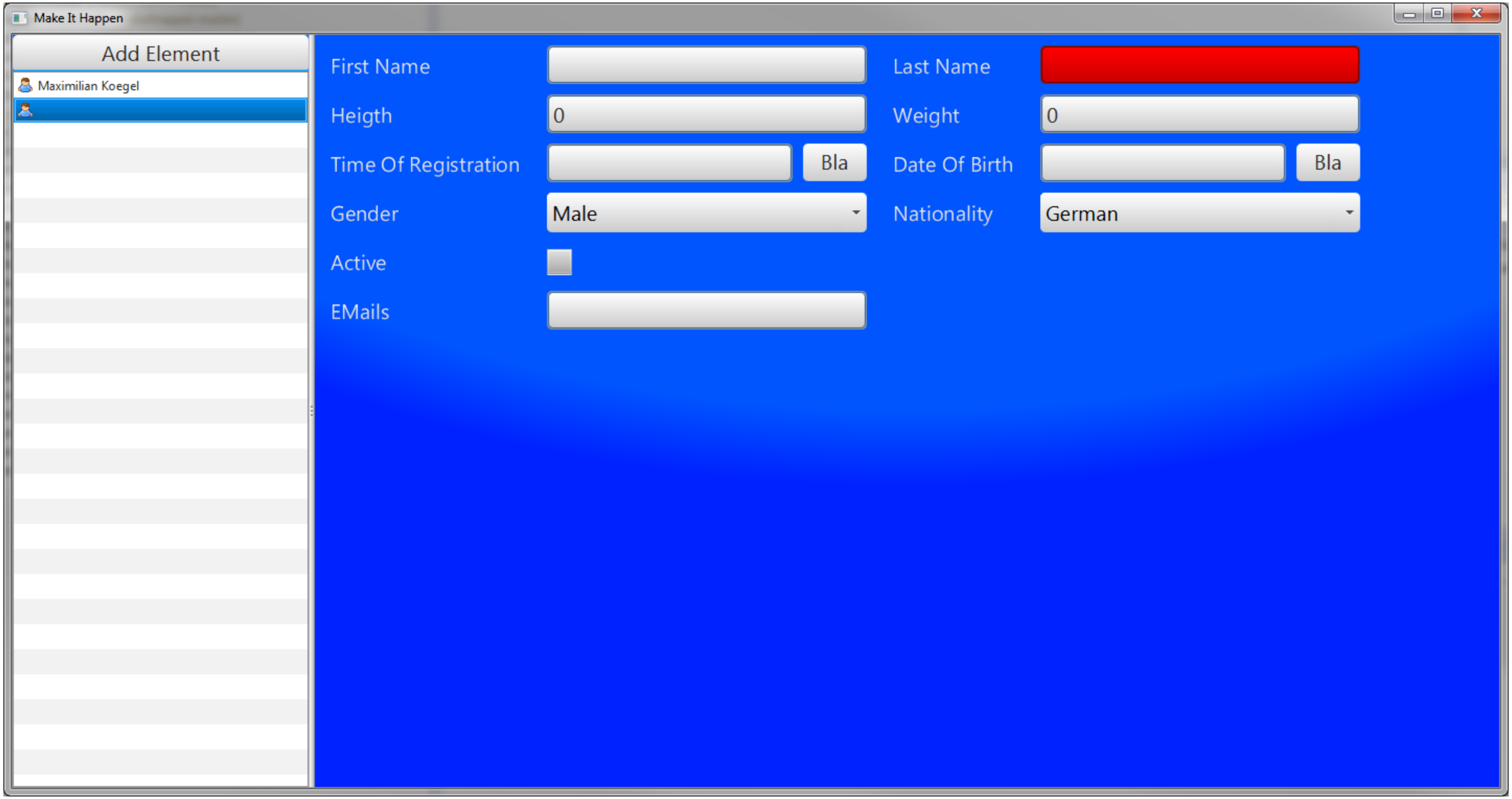
- **EMF Client Platform: http://eclipse.org/emfclient**

- Twitter: #emfcp https://twitter.com/EMFCP

follow us on twitter

Backup Slides

JavaFX Renderer



First Name

Last Name

Heigth 0

Weight 0

Time Of Registration

Date Of Birth

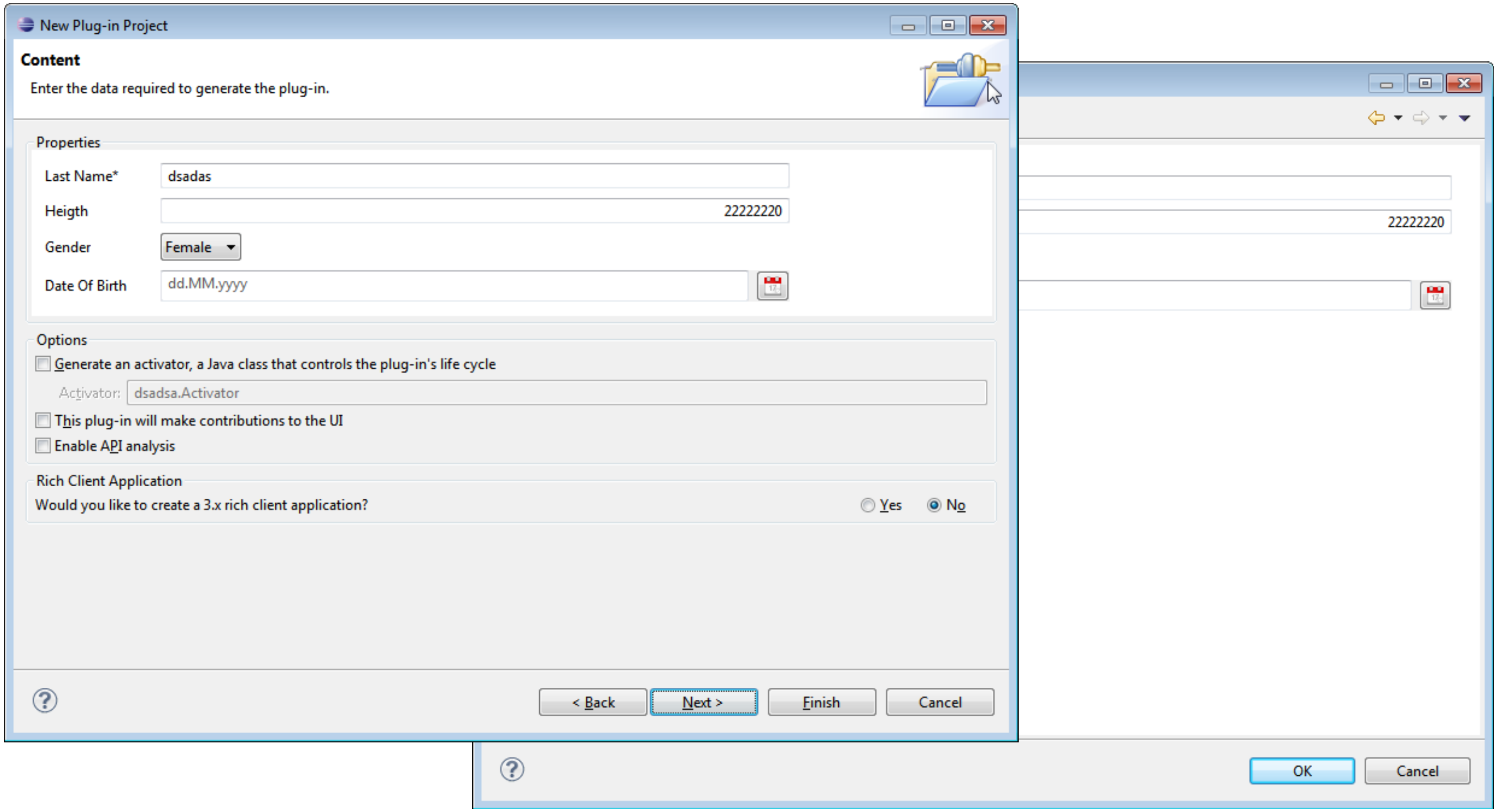
Gender Male

Nationality German

Active □

EMails

Embedding the editor



New Plug-in Project

Content

Enter the data required to generate the plug-in.

Properties

Last Name*: dsadas

Heigth: 22222220

Gender: Female

Date Of Birth: dd.MM.yyyy

Options

□ Generate an activator, a Java class that controls the plug-in's life cycle

Activator: dsadsa.Activator

□ This plug-in will make contributions to the UI

□ Enable API analysis

Rich Client Application

Would you like to create a 3.x rich client application? ○ Yes ● No

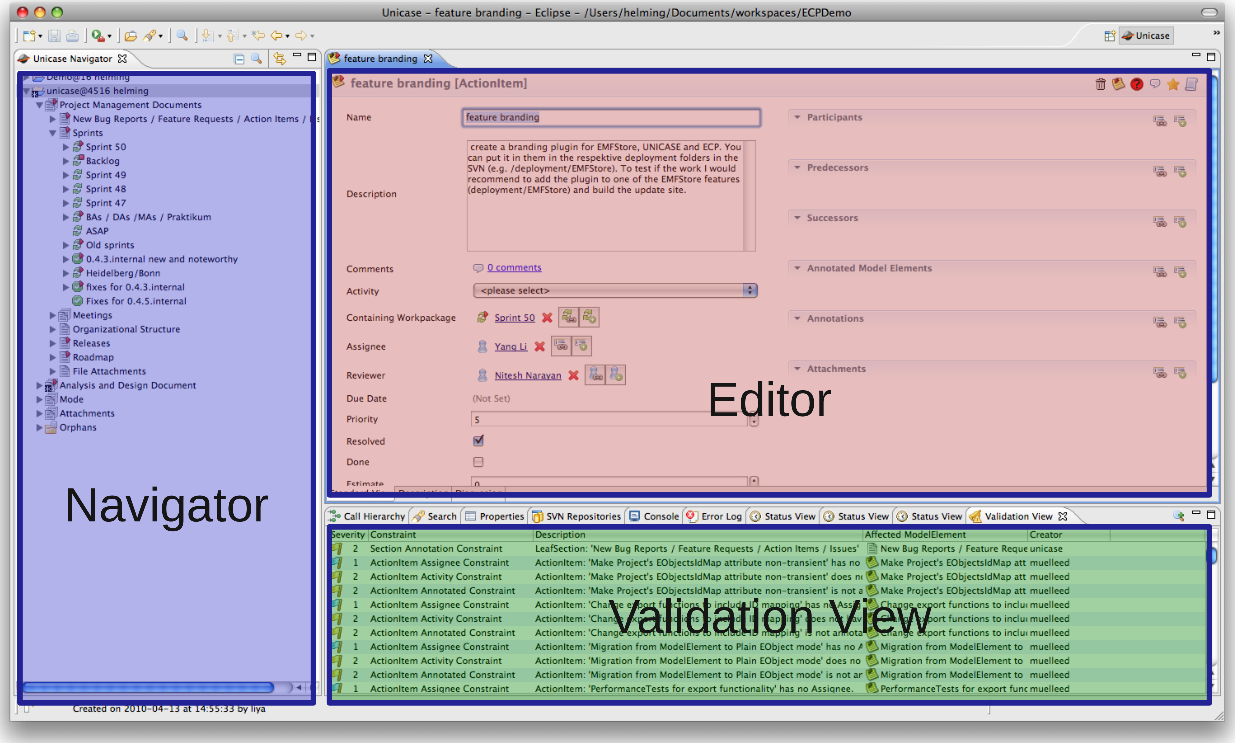
22222220

What is EMF?

“The EMF project is a **modeling framework** and **code generation** facility for building tools and other applications based on a **structured data model**. From a model specification described in XMI, EMF provides tools and runtime support to produce a set of **Java classes** for the model, along with a set of adapter classes that enable **viewing** and **command-based editing** […].”

Source: http://www.eclipse.org/emf

What is EMF Client Platform?



Unicase – feature branding – Eclipse – /Users/helming/Documents/workspaces/ECPDemo

Unicase Navigator

- Demo@16 helming
- unicase@4516 helming
  - Project Management Documents
    - New Bug Reports / Feature Requests / Action Items / Is
    - Sprints
      - Sprint 50
      - Backlog
      - Sprint 49
      - Sprint 48
      - Sprint 47
      - BAs / DAs /MAs / Praktikum
      - ASAP
      - Old sprints
      - 0.4.3.internal new and noteworthy
      - Heidelberg/Bonn
      - fixes for 0.4.3.internal
      - Fixes for 0.4.5.internal
    - Meetings
    - Organizational Structure
    - Releases
    - Roadmap
    - File Attachments
  - Analysis and Design Document
  - Mode
  - Attachments
  - Orphans

Created on 2010-04-13 at 14:55:33 by Ilya

feature branding [ActionItem]

Name: feature branding

Description: create a branding plugin for EMFStore, UNICASE and ECP. You can put it in them in the respektive deployment folders in the SVN (e.g. /deployment/EMFStore). To test if the work I would recommend to add the plugin to one of the EMFStore features (deployment/EMFStore) and build the update site.

Comments: 0 comments

Activity: <please select>

Containing Workpackage: Sprint 50

Assignee: Yang Li

Reviewer: Nitesh Narayan

Due Date: (Not Set)

Priority: 5

Resolved: ☑

Done: □

Estimate: 0

Participants

Predecessors

Successors

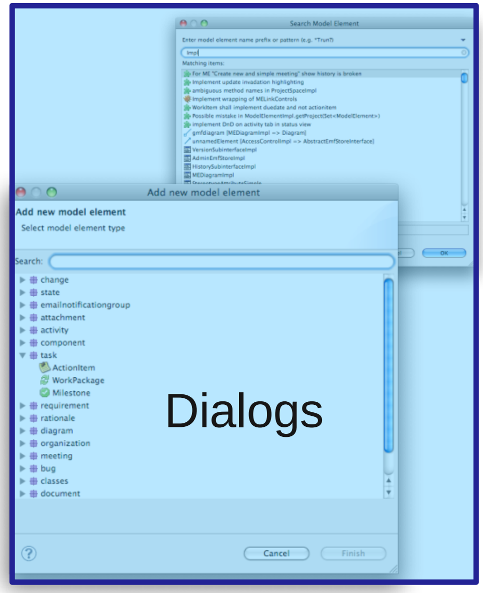
Annotated Model Elements

Annotations

Attachments

Call Hierarchy | Search | Properties | SVN Repositories | Console | Error Log | Status View | Status View | Status View | Validation View

Severity	Constraint	Description	Affected ModelElement	Creator
2	Section Annotation Constraint	LeafSection: 'New Bug Reports / Feature Requests / Action Items / Issues'	New Bug Reports / Feature Reque	unicase
1	ActionItem Assignee Constraint	ActionItem: 'Make Project's EObjectsIdMap attribute non-transient' has no	Make Project's EObjectsIdMap att	muelleed
2	ActionItem Activity Constraint	ActionItem: 'Make Project's EObjectsIdMap attribute non-transient' does n	Make Project's EObjectsIdMap att	muelleed
2	ActionItem Annotated Constraint	ActionItem: 'Make Project's EObjectsIdMap attribute non-transient' is not a	Make Project's EObjectsIdMap att	muelleed
1	ActionItem Assignee Constraint	ActionItem: 'Change export functions to include ID mapping' has no Assig	Change export functions to inclu	muelleed
2	ActionItem Activity Constraint	ActionItem: 'Change export functions to include ID mapping' does not hav	Change export functions to inclu	muelleed
2	ActionItem Annotated Constraint	ActionItem: 'Change export functions to include ID mapping' is not annota	Change export functions to inclu	muelleed
1	ActionItem Assignee Constraint	ActionItem: 'Migration from ModelElement to Plain EObject mode' has no A	Migration from ModelElement to	muelleed
2	ActionItem Activity Constraint	ActionItem: 'Migration from ModelElement to Plain EObject mode' does no	Migration from ModelElement to	muelleed
2	ActionItem Annotated Constraint	ActionItem: 'Migration from ModelElement to Plain EObject mode' is not ar	Migration from ModelElement to	muelleed
1	ActionItem Assignee Constraint	ActionItem: 'PerformanceTests for export functionality' has no Assignee.	PerformanceTests for export func	muelleed



Search Model Element

Enter model element name prefix or pattern (e.g. *Trun?)

Impl

Matching items:

- For ME "Create new and simple meeting" show history is broken
- Implement update invadation highlighting
- ambiguous method names in ProjectSpaceImpl
- Implement wrapping of MELinkControls
- WorkItem shall implement duedate and not actionitem
- Possible mistake in ModelElementImpl.getProject(Set<ModelElement>)
- implement DnD on activity tab in status view
- gmfdiagram [MEDiagramImpl => Diagram]
- unnamedElement [AccessControlImpl => AbstractEmfStoreInterface]
- VersionSubinterfaceImpl
- AdminEmfStoreImpl
- HistorySubinterfaceImpl
- MEDiagramImpl
- StereotypeAttributeSimple

Add new model element

Add new model element

Select model element type

Search:

- change
- state
- emailnotificationgroup
- attachment
- activity
- component
- task
  - ActionItem
  - WorkPackage
  - Milestone
- requirement
- rationale
- diagram
- organization
- meeting
- bug
- classes
- document

Model Workspace