

# A new Implementation of „Seminar Organization“

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- Motivation
- Architecture and Design
- Documents
- Installation
- Summary



## Several implementations of „Seminar Organization“ are available now

- Balzert: Original – but without Sources
- Ivan Pribela (DAAD workshop, Zagreb, 2005):
  - Java-Sources
  - new GUI
- HU (authors: Volker Janetschek, Michael Hidebrandt):
  - Java-Sources
  - GUI like Balzert - which is more ergonomic
  - all Functions and Associations
  - high Stability
  - Detailed Documentation (JavaDoc, installation guide, class diagram, implementation design, database design)

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## Where is „Seminar Organization“ used?

- JCSE (Joint Course in Software Engineering):
  - Commercial case study (XCTL technical)
  - Illustrates all required documents throughout the JCSE
  - Illustrates principles of software ergonomics
  - Real-world example ...
- Base for working with other tools:
  - Software metrics (CCCC)
  - Regression Test (ATOS)

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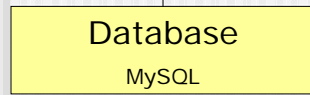
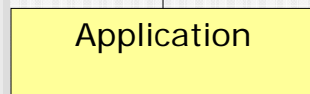
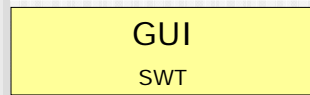


## HUSemOrg topics

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- Stand-alone application
- MySQL-Database (free Essential-Version)
- GUI-Base: Standard Widget Toolkit (SWT)
- The running-version uses Windows
- Also possible: Linux/Unix, Mac – but you have to download the appropriate SWT version

# HUSemOrg: Layered architecture



- Provides a pleasant graphical interface for the user
- SWT is fast, offers a wide spectrum of functionality and is also very portable
- Interface for easy access to the application data
- Correctness checking (entered data and associations)
- Relational database husemorg (→ Database Design)
- Java database connectivity driver

# Database Design

- Documentation: Structure of all database tables and the ERM

## Tables

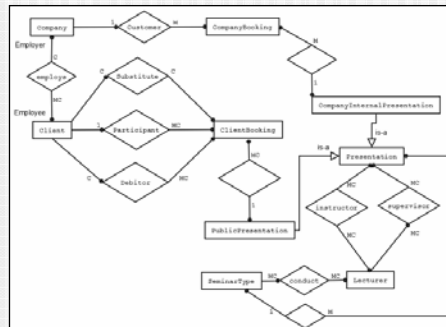
The table names in the database consist only of lowercase characters. We used the mixed notation to enhance the readability.

We present the structure of the tables in tabular form using the following columns:

- **Field:** the name of the attribute or table column
- **Type:** the SQL datatype of the column
- **Not Null:** indicates, if a NULL value is allowed for the column
- **Key:** indicates, if the column is a primary key
  - **PK:** column is part of the primary key
  - **UNI:** value must be unique in the table
  - **MI:** multiple occurrences of the same value are allowed
- **Default:** the default value of the attribute
- **Extra:** extra information

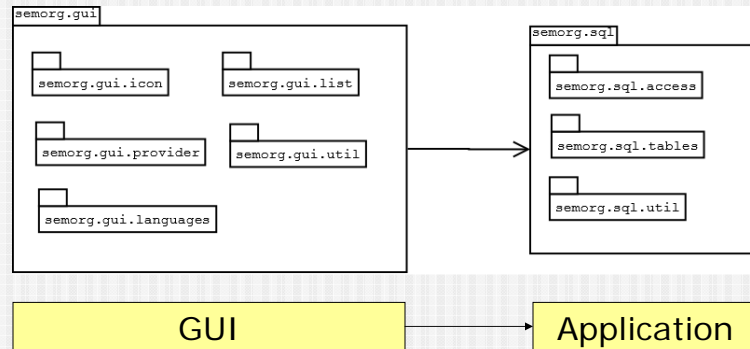
### The Table Person

Field	Type	Not Null	Key	Default	Extra
number_pk	int(11)	yes	PK	NULL	auto increment
salutation	varchar(13)	yes			
title	varchar(13)			NULL	
firstname	varchar(50)			NULL	
name	varchar(50)	yes			
street	varchar(50)			NULL	
zip	varchar(10)			NULL	



# Implementation Design

- The source code is organized in 10 packages



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<http://www2.informatik.hu-berlin.de/swt/intkoop/jcse/>

■ **Developer version** → husemorg\_project.zip

[.settings]	<DIR>	22.08.2007	[index files]	<DIR>	24.08.2007
[bin]	<DIR>	22.08.2007	[resources]	<DIR>	24.08.2007
[conf]	<DIR>	22.08.2007	[resources]	<DIR>	24.08.2007
[doc]	<DIR>	22.08.2007	allclasses-frame	html	11.037 22.08.2007
[lib]	<DIR>	22.08.2007	allclasses-noframe	html	9.477 22.08.2007
[src]	<DIR>	22.08.2007	constant-values	html	31.700 22.08.2007
[wiki]	<DIR>	22.08.2007	dependencies-list	html	8.239 22.08.2007
.classpath		1.199 22.08.2007	help-dsw	html	9.905 22.08.2007
.cvsignore		32 22.08.2007	index	html	1.379 22.08.2007
project		384 22.08.2007	overview-frame	html	1.852 22.08.2007
buildJavadoc	xml	1.004 22.08.2007	overview-summary	html	7.283 22.08.2007
HUSEMORG-jar-Builder	xml	1.362 22.08.2007	overview-tree	html	29.040 22.08.2007
			package-list	html	135 22.08.2007
			serialized-form	html	7.010 22.08.2007
			stylesheet	css	1.420 22.08.2007

[icon]	<DIR>	22.08.2007	CompanyInternalPresentation	java	49.069 22.08.2007
[languages]	<DIR>	22.08.2007	CompanyWindow	java	51.306 22.08.2007
[list]	<DIR>	22.08.2007	CompanyWindow	java	8.389 22.08.2007
[provider]	<DIR>	22.08.2007	LecturesWindow	java	43.652 22.08.2007
[util]	<DIR>	22.08.2007	MainWindow	java	17.746 22.08.2007
AppStarter	java	689 22.08.2007	package	html	162 22.08.2007
AssociateWindow	java	29.069 22.08.2007	PublicPresentationWindow	java	50.116 22.08.2007
ClientWindow	java	28.049 22.08.2007	SubclassLanguageWindow	java	5.320 22.08.2007
ClientWindow	java	45.076 22.08.2007	SeminarTypeWindow	java	38.747 22.08.2007
CompanyBookingsWindow	java	28.464 22.08.2007			

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<http://www2.informatik.hu-berlin.de/swt/intkoop/jcse/>

■ **javadoc** → index.html  
- full description of all packages and classes

The screenshot shows a web browser displaying the javadoc for the 'HU SemOrg' project. The page has a navigation bar with 'Overview', 'Package', 'Class', 'Use', 'Tree', 'Deprecated', 'Index', and 'Help'. Below the navigation bar, the title 'HU SemOrg' is centered. The main content area is titled 'Packages' and contains a table with the following entries:

<b>semorg.conf</b>	This package provides the functionalities to set and get certain configuration properties.
<b>semorg.gui</b>	Provides SWT based classes modelling editing windows for creating new or change existing data records.
<b>semorg.gui.list</b>	Provides several list windows of the GUI.
<b>semorg.gui.objects</b>	Provides the mapping list windows <-> data objects (application layer).
<b>semorg.gui.util</b>	This package provides utilities for the several window classes.
<b>semorg.sql.access</b>	The package provides the access to the database and the whole connection and SQL statement management.
<b>semorg.sql.tables</b>	Implements the object-relational mapping.
<b>semorg.sql.util</b>	This packages provides utility classes for database layer classes.

On the left side of the page, there are two panels: 'All Classes' and 'Packages'. The 'All Classes' panel lists various classes such as AbstractTable, AssocStarter, Associate, AssociateListWindow, AssociateTableProvider, AssociateWindow, AssociationTabControl, Buchung, CalendarControl, CalendarControlSWT, CalendarUser, CalendarControlSWT, CalendarProvider, and ClientWindow. The 'Packages' panel lists packages like semorg.conf, semorg.gui, semorg.gui.list, semorg.gui.objects, semorg.gui.util, semorg.sql.access, semorg.sql.tables, and semorg.sql.util.

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# Quick Start Guide

## Seminar Organization

### HUSemOrg: Quick Start Guide

(Sacklowski, 18.07.07; Hildebrandt 14.08.07)

This guide refers to the installation on the Windows operation system. The application should also run under Linux/Unix or Mac operating systems, but in this case you have to download the appropriate SWT version.

There two steps to follow for the appropriate installation.

- Step 1: Install MySQL and some tools
- Step 2: Install the husemorg

## 2. Install HuSemOrg

- HuSemOrg is Java application, so it's necessary to install the Java Runtime Environment (Version 5 and higher).
- HuSemOrg comes with all the needed libraries, so you just have to unpack the zip archive husemorg.zip.
- You can start the application by executing the HUSemOrg.bat or the HUSemOrgNoConsole.bat.



<http://www2.informatik.hu-berlin.de/swt/intkoop/jcse/>

- Implementation → husemorg.zip
- Running version

[conf]	<DIR>	23.08.2007	husemorg	properties	160	22.08.2007
[lib]	<DIR>	24.08.2007	core.commands	jar	89.522	19.01.2007
HUSmeorg	bat	195	equinox.common	jar	79.780	19.01.2007
HUSmeorgNoConsole	bat	201	husemorg	jar	769.005	22.08.2007
			jface	jar	813.596	19.01.2007
			mysql-connector-java-3.0.16-ga	jar	236.079	19.01.2007
			swt	jar	1.432.438	19.01.2007
			swt-win32-3232	dll	323.584	19.01.2007

```
javaw -cp lib\husemorg.jar;lib\core.commands.jar;lib\equinox.common.jar;lib\jface.jar;lib\mysql-connector-java-3.0.16-ga-bin.jar;lib\swt.jar;bin\ -Djava.library.path=lib semorg.gui.MainWindow
```

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<http://cloc.sourceforge.net>:  
cloc.exe (count lines of code)

### ■ HUSemOrg

```
http://cloc.sourceforge.net v 0.8.0 T=7.0 s (12.1 files/s, 4559.1 lines/s)
```

Language	files	blank	comment	code	scale	3rd gen.	equiv
Java	75	4363	7163	20314 x	1.36	=	27627.04
HTML	10	10	0	64 x	1.90	=	121.60
SUM:	85	4373	7163	20378 x	1.36	=	27748.64

### ■ semorg Novi Sad

```
http://cloc.sourceforge.net v 0.8.0 T=29.0 s (2.3 files/s, 581.1 lines/s)
```

Language	files	blank	comment	code	scale	3rd gen.	equiv
Java	65	2618	3216	11015 x	1.36	=	14980.40
DOS Batch	3	0	0	3 x	0.63	=	1.89
SUM:	68	2618	3216	11018 x	1.36	=	14982.29

## Where you can find the software



- [http://www2.informatik.hu-berlin.de/swt/intkoop/jcse/case\\_studies/SeminarOrg/hu/](http://www2.informatik.hu-berlin.de/swt/intkoop/jcse/case_studies/SeminarOrg/hu/)

Thank you for your attention!