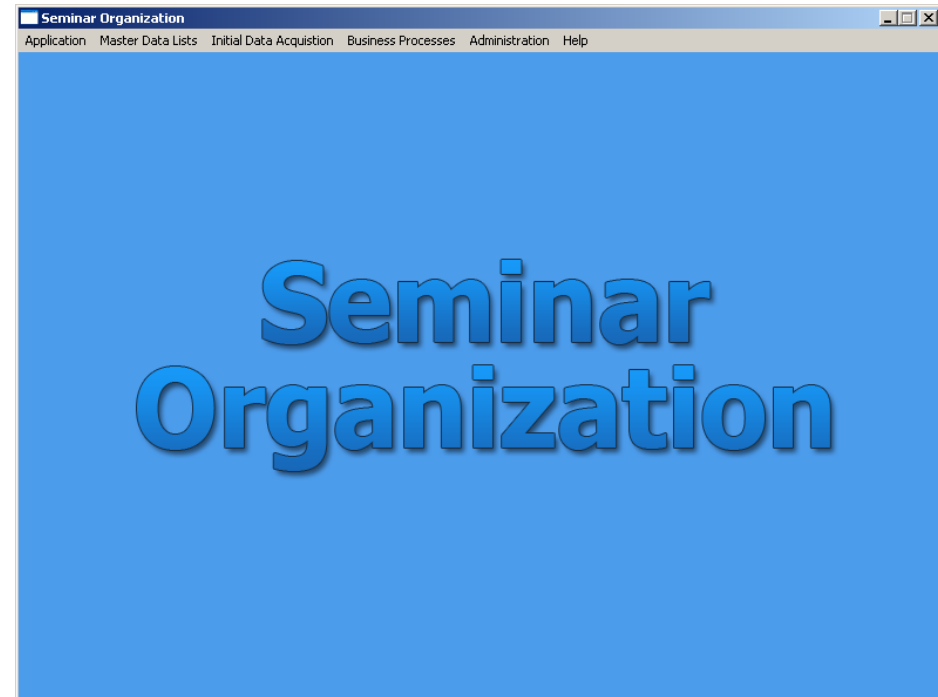


# A new Implementation of „Seminar Organization“

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Uli Sacklowski  
Michael Ritzschke



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

# Several implementations of „Seminar Organization“ are available now

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- 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)

# 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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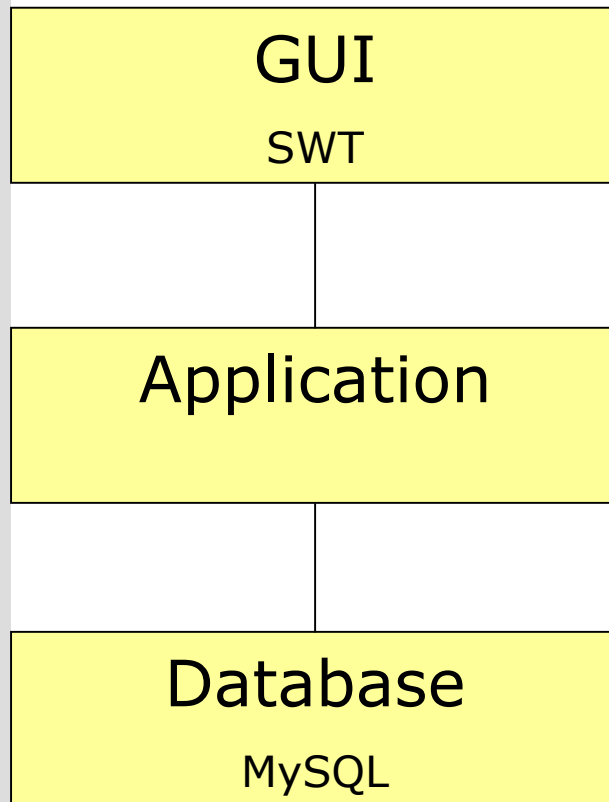
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# HUSemOrg topics

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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

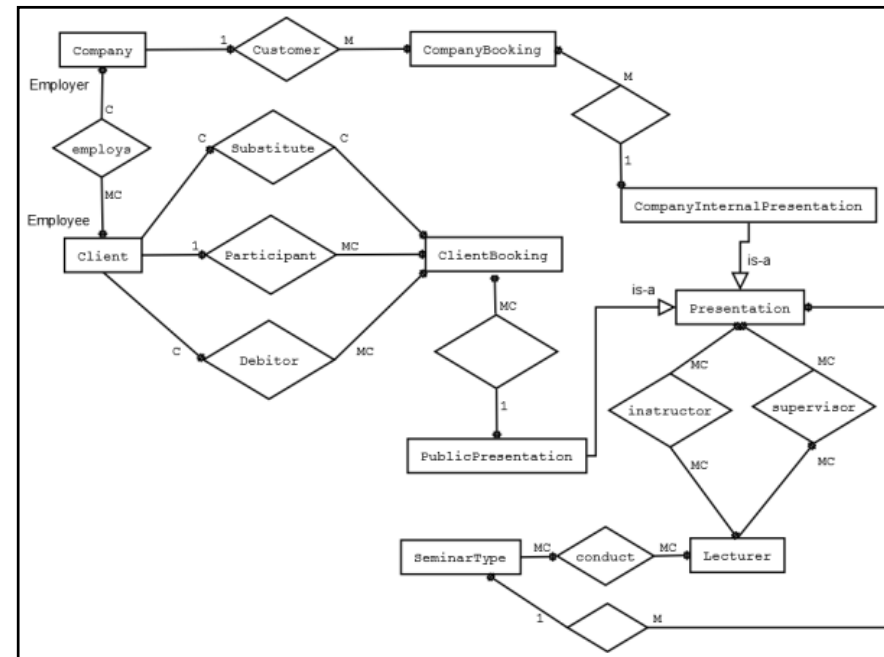
The table names in the database consist only of lowercase characters. We used the mixed notation to enhance the readability.

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 if the column
- **Not Null:** indicates, if a NULL value is allowed for the column
- **Key:** indicates, if the column is a primary key
  - **PRI:** column is part of the primary key
  - **UNI:** value must be unique in the table
  - **MU:** multiple occurrences of the same value are allowed
- **Default:** the default value of the attribute
- **Extra:** extra information

## The Table Person

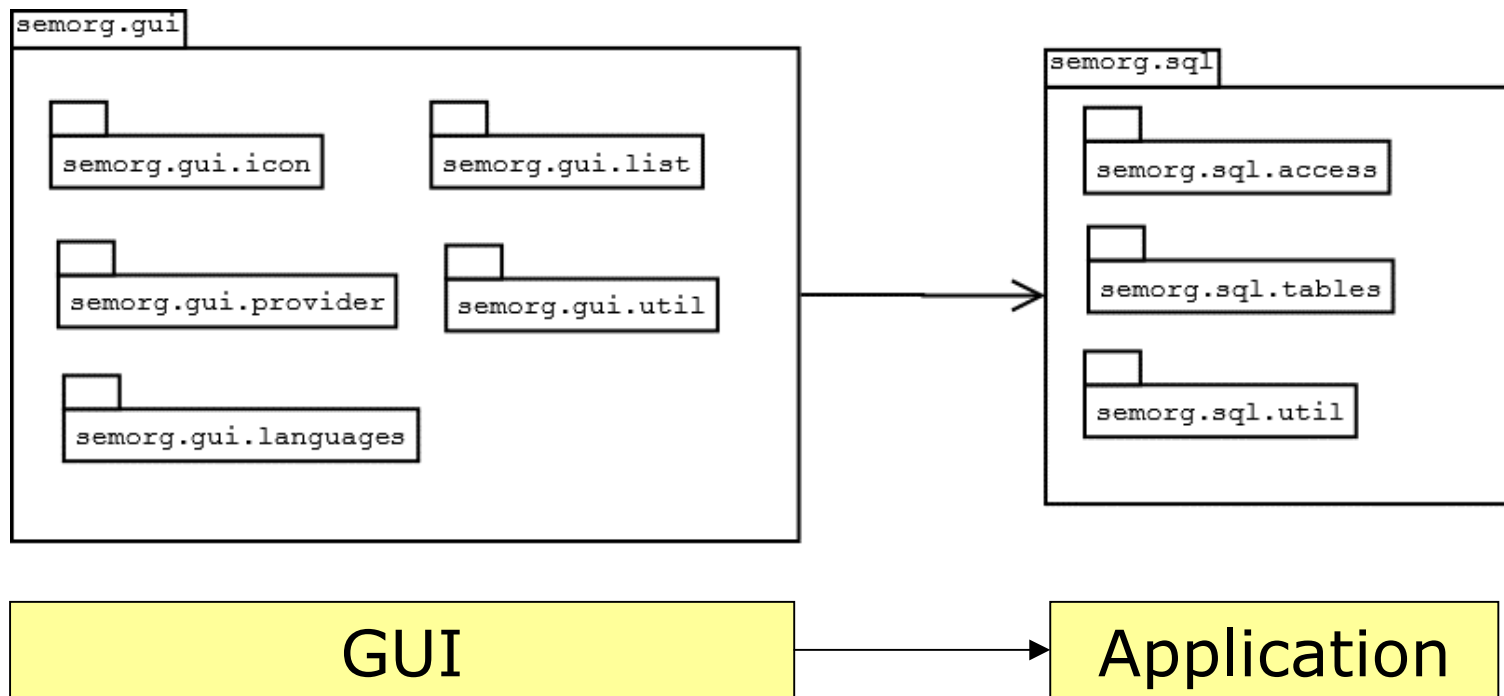
Field	Type	Not Null	Key	Default	Extra
number_pk	int(11)	yes	PRI	NULL	auto_increment
salutation	varchar(13)	yes			
title	varchar(13)			NULL	
firstname	varchar(30)			NULL	
name	varchar(30)	yes			
street	varchar(50)			NULL	
zipCode	varchar(5)			NULL	





# Implementation Design

- The source code is organized in 10 packages



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

## ■ Joint Course in Software Engineering:

Course Materials			
<a href="#">Structure of the course</a>	<a href="#">Topics</a>	<a href="#">Slides</a>	<a href="#">Assignments</a>
<a href="#">Case studies</a>	<a href="#">Literature</a>	<a href="#">Slide printouts</a>	<a href="#">Examinations</a>
<a href="#">Tools</a>	<a href="#">Demo topics (ppt, doc)</a>	<a href="#">Slide handouts</a>	<a href="#">Students feedback form</a>

### Case studies

The proposed syllabus currently uses two case studies:

- **the main one (Seminar organization)**, that is used throughout the lectures and in some assignments
  - [Preliminary Requirements Specification v 3.0](#)
  - [Preliminary Requirements Specification v 2.3](#)
  - [Requirements Specification v 3.0](#)
  - [Requirements Specification v 2.3](#)
  - [Implementation](#) in Java (Novi Sad)
  - [Implementation](#) in Java (Humboldt University), [Documents](#), [Developer version](#) (with Java-sources)
- **the additional one (XCTL control system)**, that is partially used during the lecture and in some assignments seminar works or student projects.

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

# ■ Documents → husemorg\_documents.html

## Seminar Organization

### HUSemOrg: Documentation

The documentation contains 4 documents:

- [Quick Start Guide](#)
- [Class Diagram](#)
- [Implementation Design](#)
- [Database Design](#)

You can also load all documents as [zip-File](#).

#### Tables

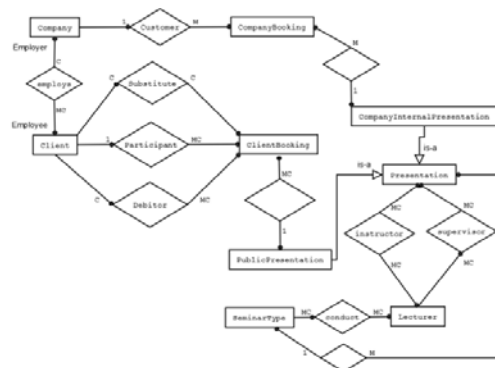
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  - **PK:** column is part of the primary key
  - **UNI:** value must be unique in the table
  - **MU:** multiple occurrences of the same value are allowed
- **Default:** the default value of the attribute
- **Extra:** extra information

#### The Table Person

Field	Type	Not Null	Key	Default	Extra
number_pk	int(1)	yes	PK	NULL	auto_increment
substation	varchar(3)	yes			
title	varchar(3)			NULL	
firstname	varchar(30)			NULL	
name	varchar(30)	yes			
street	varchar(30)			NULL	
streetnr	varchar(3)			NULL	



#### The packages `semorg.gui.icon` and `semorg.gui.languages`

These two resource packages only contain resources used by the application. The package `semorg.gui.icon` contains all graphics of the application whereas `semorg.gui.languages` contains all text resources shown in the GUI of the application.

#### The packages `semorg.gui.list` and `semorg.gui.provider`

We use GUI tables to display the existing data records of the database tables. Thus there two problems to solve: firstly we need to draw the list windows and its components and secondly we've got to input the data records into the tables. The first problem is solved by the package `semorg.gui.list` and the second one by the package `semorg.gui.provider`, i.e. the first package defines the outer appearance of the list windows and some GUI specific functionality whereas the second package gets the data from the application layer and puts it into the GUI tables.

#### The package `semorg.gui.util`

This package encapsulates all utility classes of the GUI layer, such as some complex parts of the editing windows, such as the controls, which enables the user to manage associations between several classes the calendar control which enables the user insert the date in very comfortable way.

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

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

[.settings]	<DIR>	22.08.2007
[bin]	<DIR>	22.08.2007
[conf]	<DIR>	22.08.2007
[doc]	<DIR>	22.08.2007
[lib]	<DIR>	22.08.2007
[src]	<DIR>	22.08.2007
[wiki]	<DIR>	22.08.2007
.classpath		1.199 22.08.2007
.cvsignore		32 22.08.2007
.project		384 22.08.2007
buildJavadoc	xml	1.004 22.08.2007
HUSEMORG-jar-Builder	xml	1.362 22.08.2007

[index-files]	<DIR>	24.08.2007
[resources]	<DIR>	24.08.2007
[semorg]	<DIR>	24.08.2007
allclasses-frame	html	11.037 22.08.2007
allclasses-noframe	html	9.477 22.08.2007
constant-values	html	31.788 22.08.2007
deprecated-list	html	5.238 22.08.2007
help-doc	html	9.955 22.08.2007
index	html	1.379 22.08.2007
overview-frame	html	1.892 22.08.2007
overview-summary	html	7.263 22.08.2007
overview-tree	html	29.040 22.08.2007
package-list		135 22.08.2007
serialized-form	html	7.010 22.08.2007
stylesheet	css	1.420 22.08.2007

[icon]	<DIR>	22.08.2007
[languages]	<DIR>	22.08.2007
[list]	<DIR>	22.08.2007
[provider]	<DIR>	22.08.2007
[util]	<DIR>	22.08.2007
AppStarter	java	689 22.08.2007
AssociateWindow	java	39.869 22.08.2007
ClientBookingWindow	java	29.849 22.08.2007
ClientWindow	java	45.076 22.08.2007
CompanyBookingWindow	java	28.464 22.08.2007
CompanyInternalPresentation..	java	49.889 22.08.2007
CompanyWindow	java	51.306 22.08.2007
EnumerationWindow	java	9.388 22.08.2007
LectureWindow	java	43.652 22.08.2007
MainWindow	java	17.746 22.08.2007
package	html	162 22.08.2007
PublicPresentationWindow	java	50.186 22.08.2007
SelectLanguageWindow	java	5.320 22.08.2007
SeminarTypeWindow	java	38.747 22.08.2007

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

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

[All Classes](#)

Packages

- [semorg.conf](#)
- [semorg.gui](#)
- [semorg.gui.list](#)
- [semorg.gui.provider](#)
- [semorg.gui.util](#)
- [semorg.sql.access](#)
- [semorg.sql.tables](#)
- [semorg.sql.util](#)

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**All Classes**

- [AbstractTable](#)
- [AppStarter](#)
- [Associate](#)
- [AssociateListWindow](#)
- [AssociateTableProvider](#)
- [AssociateWindow](#)
- [AssociationTabControl](#)
- [Booking](#)
- [CalendarControl](#)
- [CalendarControl.SWTCalendarListener](#)
- [CalendarControl.SWTCalendarPopupListClient](#)

**Overview** Package Class Use [Tree](#) [Deprecated](#) [Index](#) [Help](#)

[PREV](#) [NEXT](#) [FRAMES](#) [NO FRAMES](#)

## HU SemOrg

### Packages

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

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**Overview** Package Class Use [Tree](#) [Deprecated](#) [Index](#) [Help](#)

[PREV](#) [NEXT](#) [FRAMES](#) [NO FRAMES](#)

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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	23.05.2007	equinox.common	jar	79.780	19.01.2007
HUSmeorgNoConsole	bat	201	23.05.2007	husemorg	jar	769.005	22.08.2007
				iface	jar	813.596	19.01.2007
				mysql-connector-java-3.0.16-g..	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\jfac
e.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 0.80 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

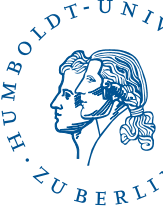
## ■ semorg Novi Sad

```
http://cloc.sourceforge.net v 0.80 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

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- [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!