

# JoinSports



Gruppenmitglieder:  
Timo Rautenberg, Alexander Bierenstiel, Dominik Schmitt

Datum: 20. Juni 2017

# Agenda

- ▶ Vision
- ▶ Rollenverteilung
- ▶ RUP (Rational Unified Process)
- ▶ Technology
- ▶ Development Tools
- ▶ Risk Management
- ▶ Kostenabschätzung - Function Points
- ▶ Softwarearchitektur
- ▶ Patterns
- ▶ Testing
- ▶ Automatisierung
- ▶ Metrics
- ▶ Continuous Integration/Lifecycle Management
- ▶ Live Demo

# Vision

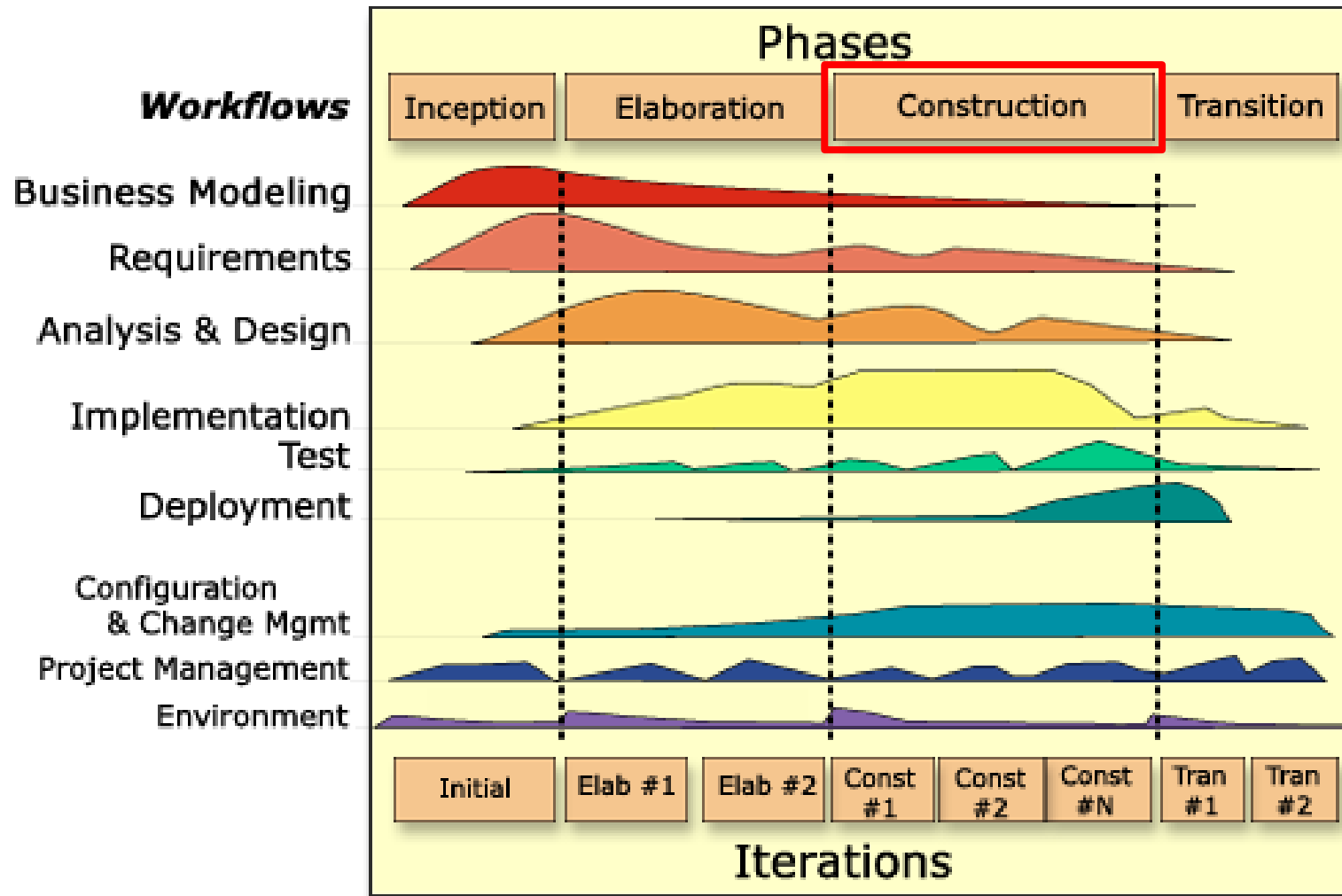
- ▶ App-Anwendung zur einfachen Vernetzung von Fußballfans
- ▶ Organisation von Matches auf öffentlichen Sportplätzen



# Rollenverteilung

Timo Rautenberg	Alexander Bierenstiel	Dominik Schmitt
<ul style="list-style-type: none"><li>• Project Manager</li><li>• Implementer</li><li>• Tool Specialist</li><li>• Graphic Artist</li></ul>	<ul style="list-style-type: none"><li>• Implementer</li><li>• Test Designer/Tester</li><li>• Tech Writer</li><li>• Editor</li></ul>	<ul style="list-style-type: none"><li>• Implementer</li><li>• Test Designer/Tester</li></ul>

# RUP (Rational Unified Process)



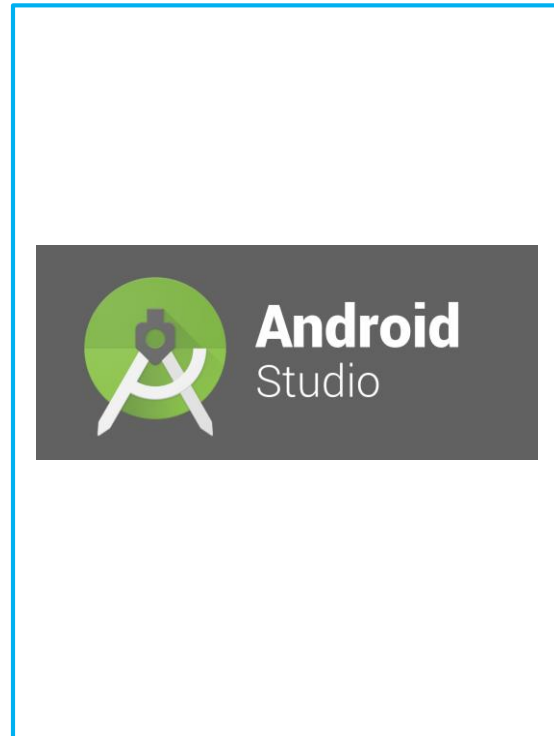
# Technology

- ▶ Alle verwendeten Sprachen/Tools

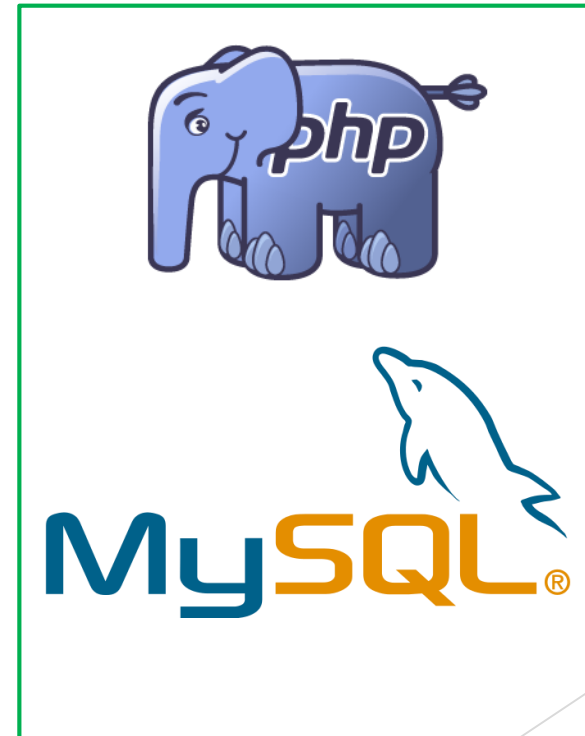
## Frontend



## IDE

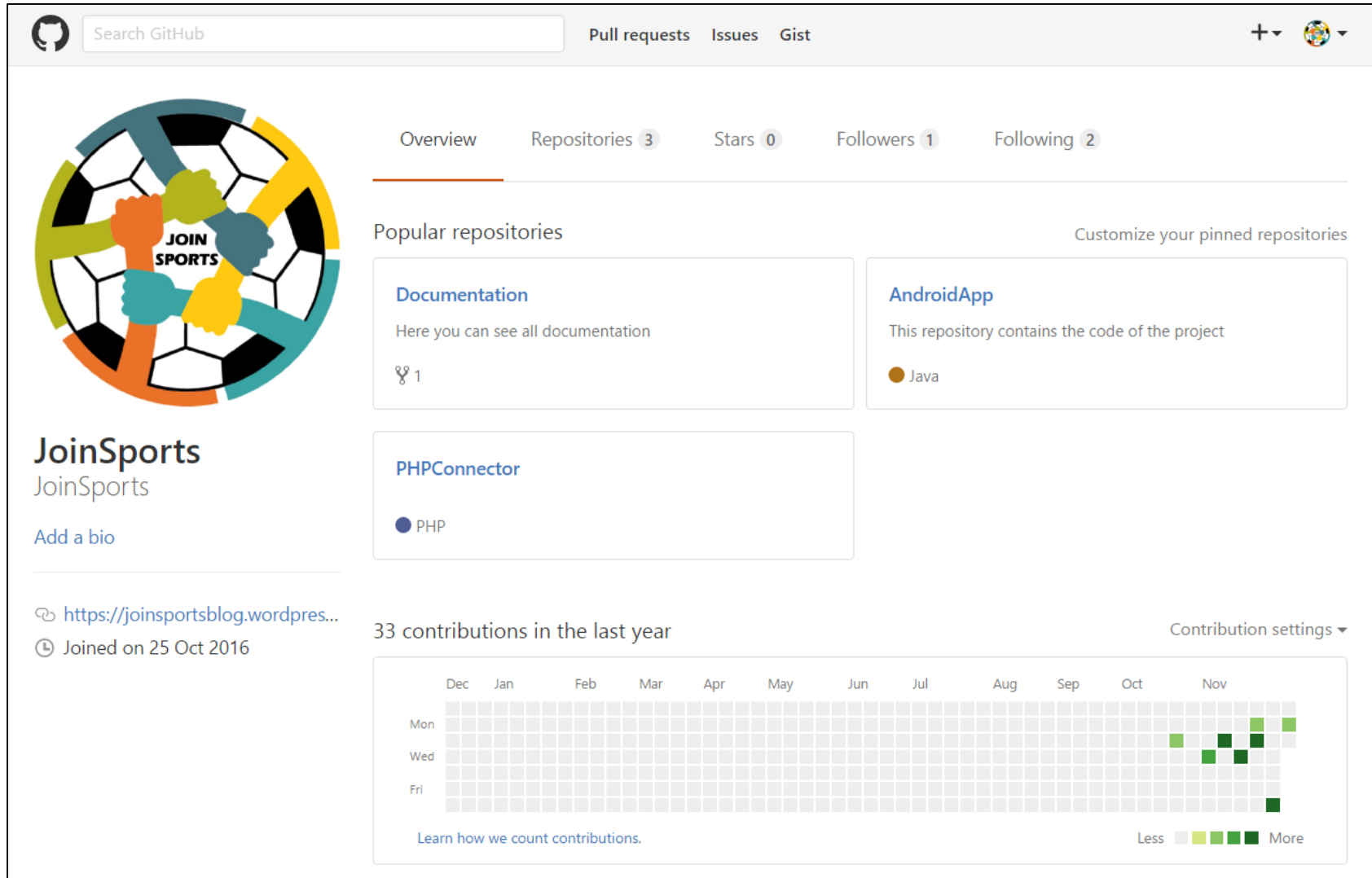


## Backend



# Development Tools

## ► GitHub als Versionsverwaltung



The screenshot shows a GitHub profile for 'JoinSports'. The profile includes a custom avatar, a bio, a website link, and a join date. The main content area displays 'Popular repositories' with three items: 'Documentation', 'AndroidApp', and 'PHPConnector'. At the bottom, there is a '33 contributions in the last year' section with a calendar grid showing contribution activity.

**JoinSports**  
JoinSports  
[Add a bio](#)

<https://joinsportsblog.wordpress...>  
Joined on 25 Oct 2016

**Popular repositories**

- Documentation**  
Here you can see all documentation  
🔗 1
- AndroidApp**  
This repository contains the code of the project  
● Java
- PHPConnector**  
● PHP

**33 contributions in the last year**

Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov

Mon  
Wed  
Fri

Learn how we count contributions.

Contribution settings ▼

Less [color scale] More

# Development Tools

## ► Scrumming via Jira

The screenshot shows the Jira interface for a project named 'Midterm Project Milestone'. The top navigation bar includes 'JIRA', 'Startseite', 'Projekte', 'Vorgänge', 'Tempo', 'Boards', and a blue 'Erstellen' button. The left sidebar contains navigation links: 'JoinSports' (with a sub-link 'JoinSports Android App'), 'Backlog', 'Aktive Sprints', 'Berichte', 'Vorgänge', 'Stundenzettel', 'Git Commits', 'Gantt-Chart (OLD/deprecated)', 'Gantt-Diagramm', and 'Add-ons'. Below these is a section for 'PROJEKTKÜRZEL' with instructions to add links and a '+ Verknüpfung hinzufügen' button. At the bottom left is a 'Projektverwaltung' link.

The main content area is titled 'Midterm Project Milestone' and includes a 'SCHNELL-FILTER: Nur meine Vorgänge' and 'Zuletzt aktualisiert' text. It features a Scrum board with three columns: 'Aufgaben', 'Wird Ausgeführt', and 'Fertig'. The 'Fertig' column contains a list of tasks, each with a checkbox, a key, and a description.

Aufgaben	Wird Ausgeführt	Fertig
	<div><input checked="" type="checkbox"/> JOIN-11 ↑ Elab: Create Presentation for Midterm</div>	<div><input checked="" type="checkbox"/> JOIN-6 ↑ Elab: UC CreateTeam</div>
	<div><input checked="" type="checkbox"/> JOIN-16 ↑ Elab: Create more Design Views</div>	<div><input checked="" type="checkbox"/> JOIN-8 ↑ Elab: UC CreateUser</div>
		<div><input checked="" type="checkbox"/> JOIN-9 ↑ Elab: UC LoginUser</div>
		<div><input checked="" type="checkbox"/> JOIN-12 ↑ Const: Create Database</div>
		<div><input checked="" type="checkbox"/> JOIN-13 ↑ Const: Implement Database Connector</div>
		<div><input checked="" type="checkbox"/> JOIN-14 ↑ Const: Create first CRUD for User</div>
		<div><input checked="" type="checkbox"/> JOIN-15 ↑ Const: Create needed Classes</div>
		<div><input checked="" type="checkbox"/> JOIN-17 ↑ Elab: Analyse data exchange (JSON)</div>
		<div><input checked="" type="checkbox"/> JOIN-19</div>

At the bottom right of the board, there is a clock icon and the text '0 Tage übrig Sprint'.



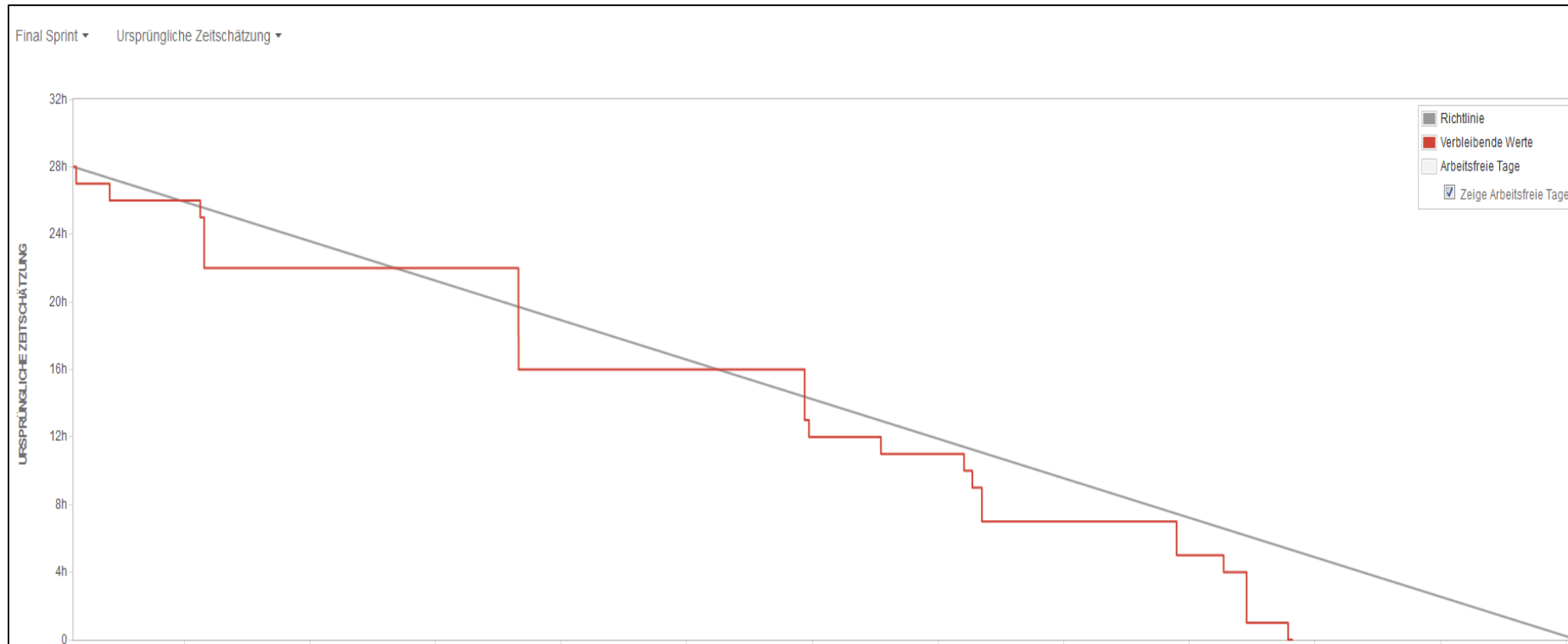
# Development Tools

## ► Burndown Chart: Midterm Presentation



# Development Tools

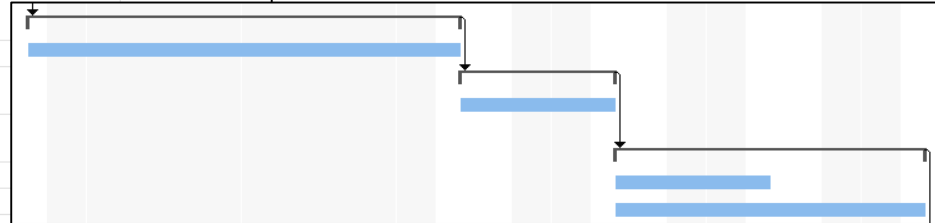
## ► Burndown Chart: Final Sprint



# Development Tools

## ► Langzeitplanung via MS Project

	Vorgangsmodus	Vorgangsname	Dauer	Anfang	Ende	Vorgänger	Ressourcennamen
1		<b>Inception</b>	5,75 Tage	Mit 05.10.16	Mit 12.10.16		
2		<b>Project Managment</b>	0,5 Tage	Mit 05.10.16	Mit 05.10.16		
3		Projektidee überlegen	2 Std.				
4		Projektplan erstellen	4 Std.				
5		Rollenverteilung der Teammitglieder definieren	1 Std.				
6		<b>Buisness Modelling</b>	0,38 Tage	Fre 07.10.16	Fre 07.10.16		
7		Blog in Wordpress erstellen	3 Std.				
8		<b>Requirements</b>	0,13 Tage	Mit 12.10.16	Mit 12.10.16		
9		Entscheidung für Technology (Android App)	1 Std.				
10		<b>Analysis and Design</b>	0,75 Tage	Mit 12.10.16	Mit 12.10.16		
11		Diskussion über Features der App	6 Std.				
12		Diskussion über Aufbau & Design der App	4 Std.				
13		<b>Test</b>	0 Tage	Mit 05.10.16	Mit 05.10.16		
14		<Neuer Vorgang>	0 Std.				
15		<b>Environment</b>	0,03 Tage	Mit 05.10.16	Mit 05.10.16		
16		Einrichten Team-Email-Account	0,25 Std.				
17		Einrichten GoogleDocs Speicher	0,25 Std.				
18		<b>Configuration and Change Managment</b>	0 Tage	Mit 05.10.16	Mit 05.10.16		
20		<b>Elaboration</b>	43 Tage	Don 13.10.16	Die 13.12.16	1	
21		<b>Project Managment</b>	0,5 Tage	Mit 19.10.16	Mit 19.10.16		
22		Erstellung Jira Scrumboard	1 Std.				
23		Verwaltung der Projekt-Tasks in Jira	4 Std.				
24		Projektplan updaten	4 Std.				
25		Erstellen eines Longterm-Plans in MS Project	4 Std.				
26		<b>Requirements</b>	1 Tag	Mit 19.10.16	Don 20.10.16		
27		Software Requirement Speciation Template erstellen					
28		Mockups entwerfen	2 Std.				



GANTT-DIAGRAMM

# Risk Management

Risk	Description	Probability of occurrence	Damage	Mitigation strategy	Person in charge	Risk factor
System outages	PHP-API is unavailable	1%	9	Redundant infrastructure	Dominik Schmitt	0.09
Bad time management	Project exceeds deadline	8%	3	Define exact time plan	Timo Rautenberg	0.24
Versioning troubles	Get trouble with Git-Repository	3%	2	Read Github tutorials	Alex Bierenstiel	0.06
Personnel deficits	Team member drops out	5%	4	Adjust time plan	Timo Rautenberg	0.2
Technical deadlock	Technology change required	20%	7	Searching for alternatives	Dominik Schmitt	1.4
Inexperience of team members	Most of the members use the technologies for the first time	60%	5	Read documentations and tutorials	ALL	3.0
Influence of the workload of other lectures	Parallel projects like PIC-Simulator, Web-Engineering, ...	30%	7	Strict Round Robin processing	Timo Rautenberg	2.1
Bugs	Throwback in time plan through bugs	50%	4	Clean coding	Alexander Bierstiel	2.0
Miscommunication	Inadequate communication among the members	5%	2	Weekly meetings	Timo Rautenberg	0.1

# Kostenabschätzung - Function Points

Vergleich:

- wirklich benötigte Zeit
- geschätzte Zeit

UC	Time	FP
CreateUser	11	27,59
LoginUser	9	22,25
UpdateUser	6	31,15
DeleteUser	4	16,91
CreateTeam	6	22,25
ReadTeam	6,873568314	20,47
UpdateTeam	10,81947831	25,81
DeleteTeam	7	16,91
CreateEvent	18,05364664	35,6
ReadEvent	6,873568314	20,47
UpdateEvent	20,68425331	39,16
DeleteEvent	4,242961649	16,91
CreateMatch	16,08069164	32,93
ReadMatch	6,873568314	20,47
UpdateMatch	18,71129831	36,49
DeleteMatch	4,242961649	16,91

# Kostenabschätzung - Function Points

Complexity Adjustment Table

ITEM	COMPLEXITY ADJUSTMENT QUESTIONS	SCALE					
		No Influence 0	1	2	3	4	Essential 5
1	Does the system require reliable backup and recovery?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Are data communications required?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
3	Are there distributed processing functions?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Is performance critical?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	Will the system run in an existing, heavily utilized operational environment?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Does the system require on-line data entry?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Does the on-line data entry require the input transaction to be built over multiple screens or operations?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Are the master files updated on-line?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	Are the inputs, outputs, files or inquiries complex?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
10	Is the internal processing complex?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	Is the code to be designed reusable?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	Are conversion and installation included in the design?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	Is the system designed for multiple installations in different organizations?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	Is the application designed to facilitate change and ease of use by the user?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>



Software Engineering  
**Tiny Tools**

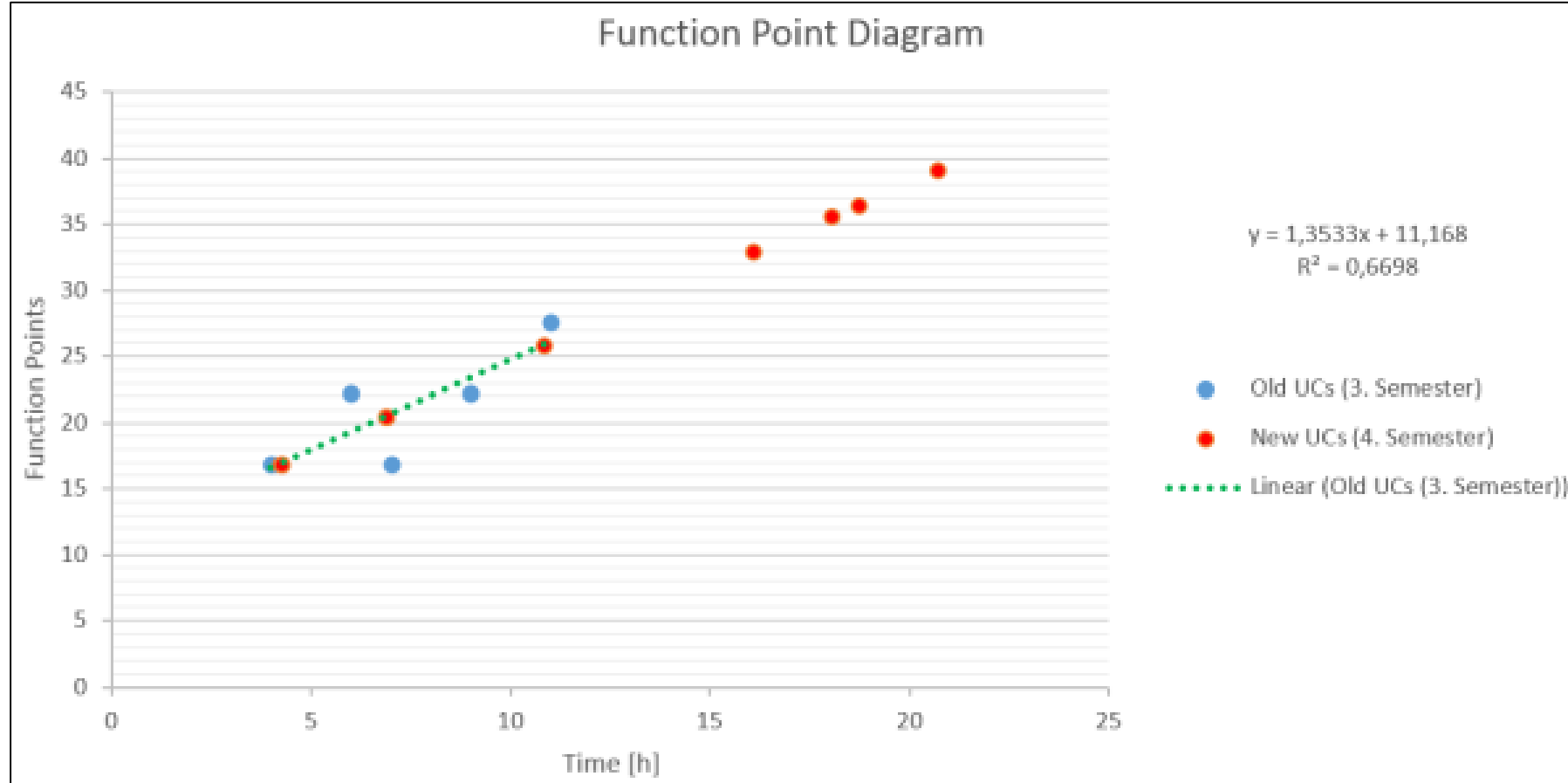
# Kostenabschätzung - Function Points

Domain Characteristic Table

MEASUREMENT PARAMETER	COUNT (value $\geq 0$ )	WEIGHTING FACTOR		
		Simple	Average	Complex
Number of User Input	<input type="text" value="6"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of User Outputs	<input type="text" value="1"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of User Inquiries	<input type="text" value="2"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of Files	<input type="text" value="1"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of External Interfaces	<input type="text" value="1"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Complexity Adjustment Table](#) | [FP Calculation](#)

# Kostenabschätzung - Function Points





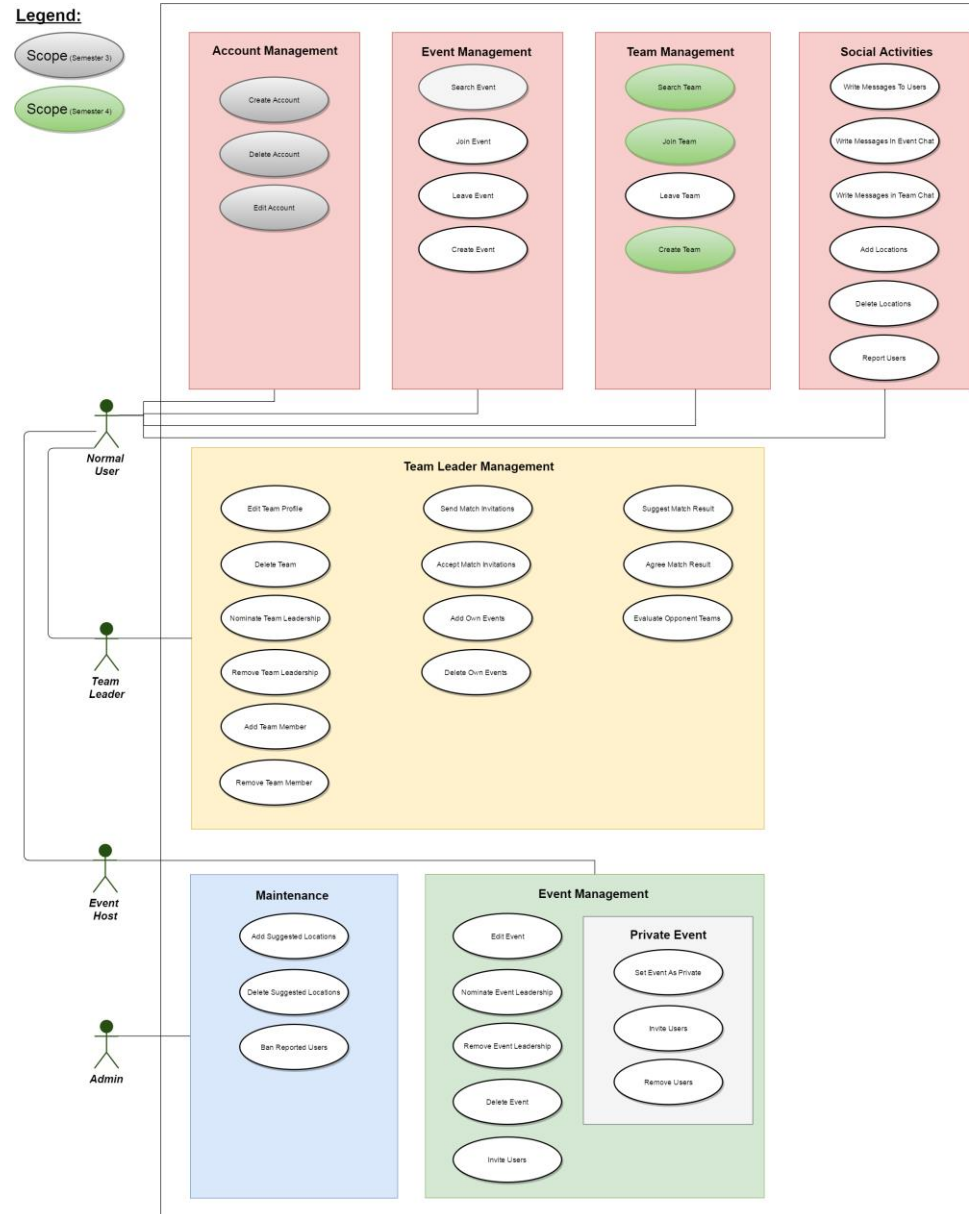
# Softwarearchitektur

## ► UC Diagramm

### Legend:

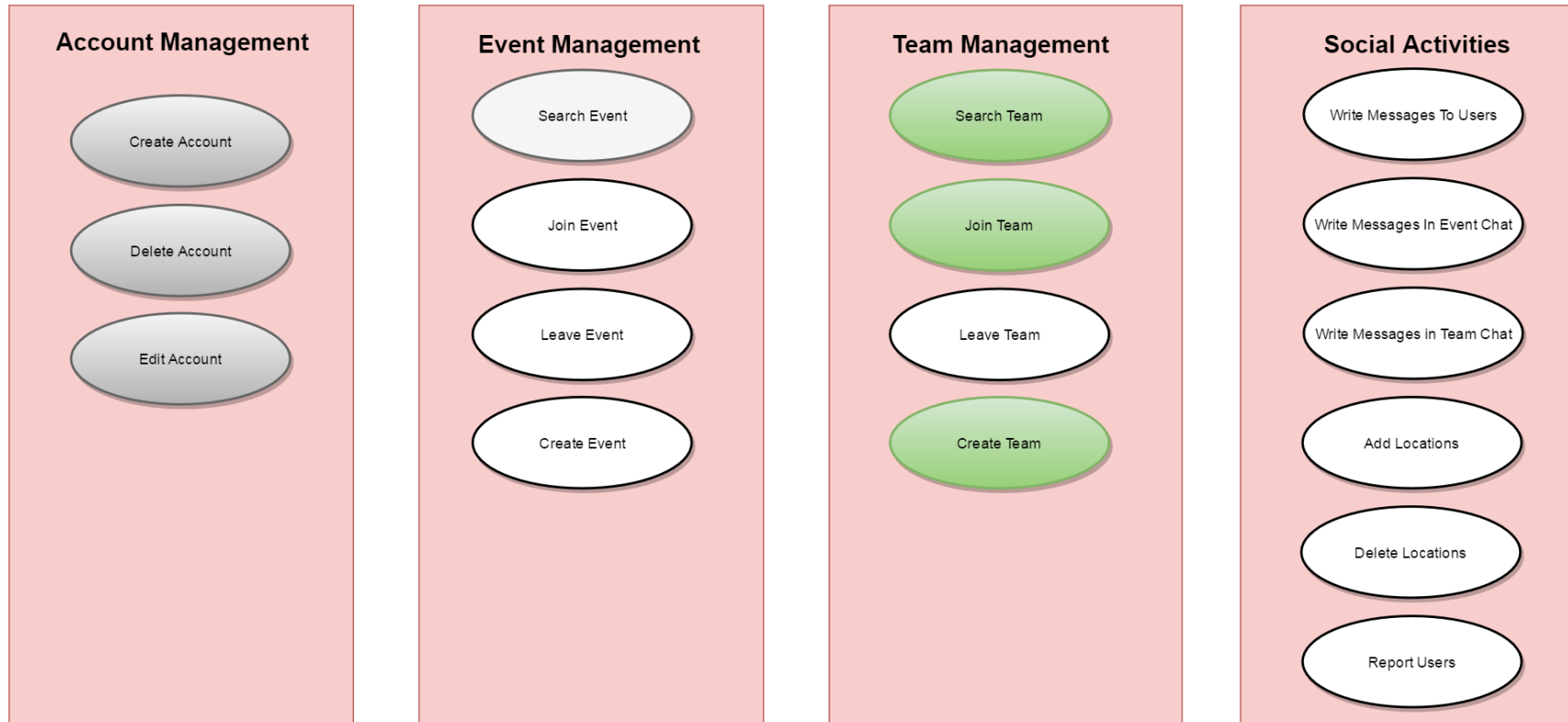
Scope (Semester 3)

Scope (Semester 4)



# Softwarearchitektur

## ► UC Diagramm



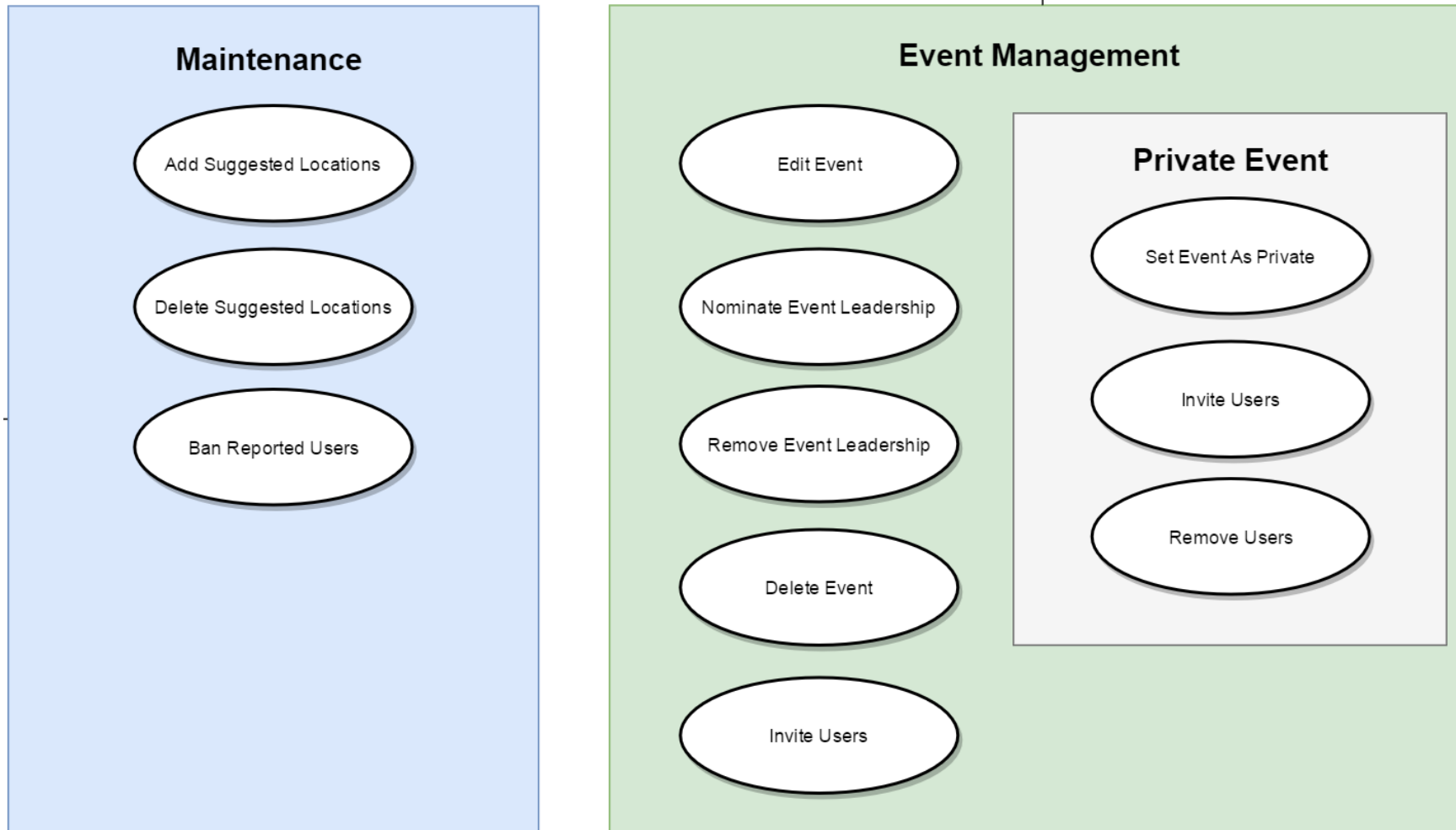
# Softwarearchitektur

## ► UC Diagramm



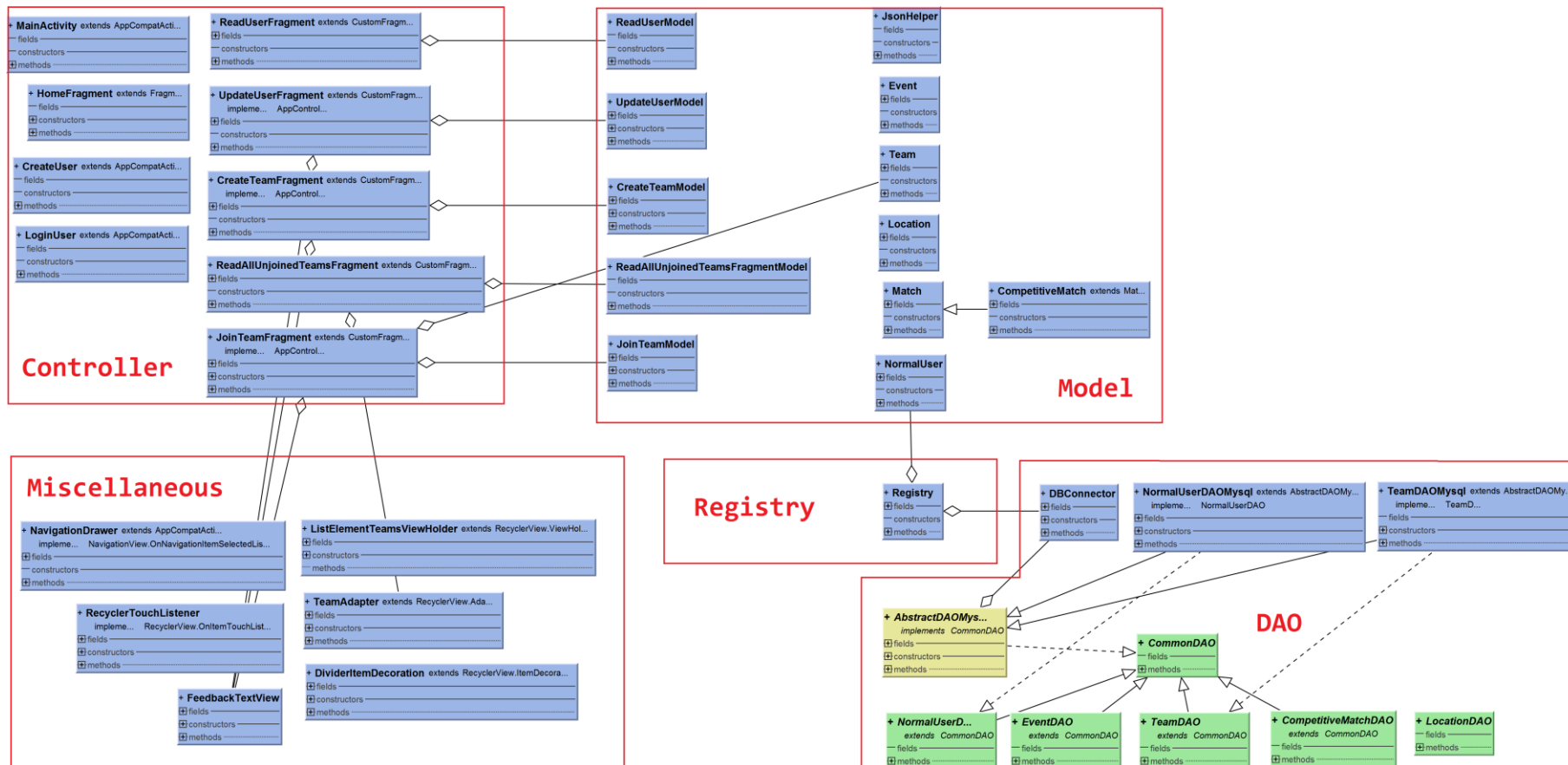
# Softwarearchitektur

## ► UC Diagramm



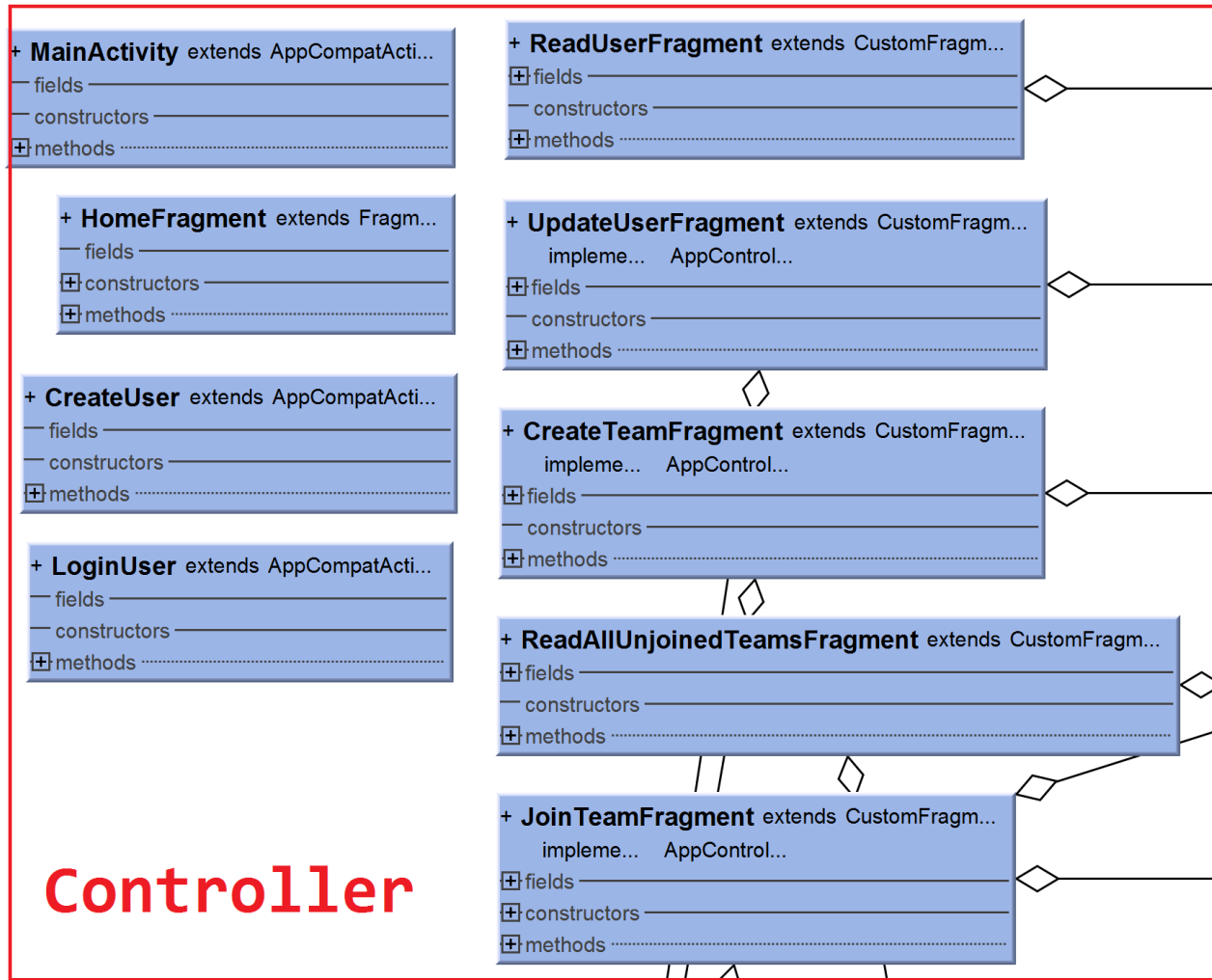
# Softwarearchitektur

## ► Klassen-Diagramm (UML)



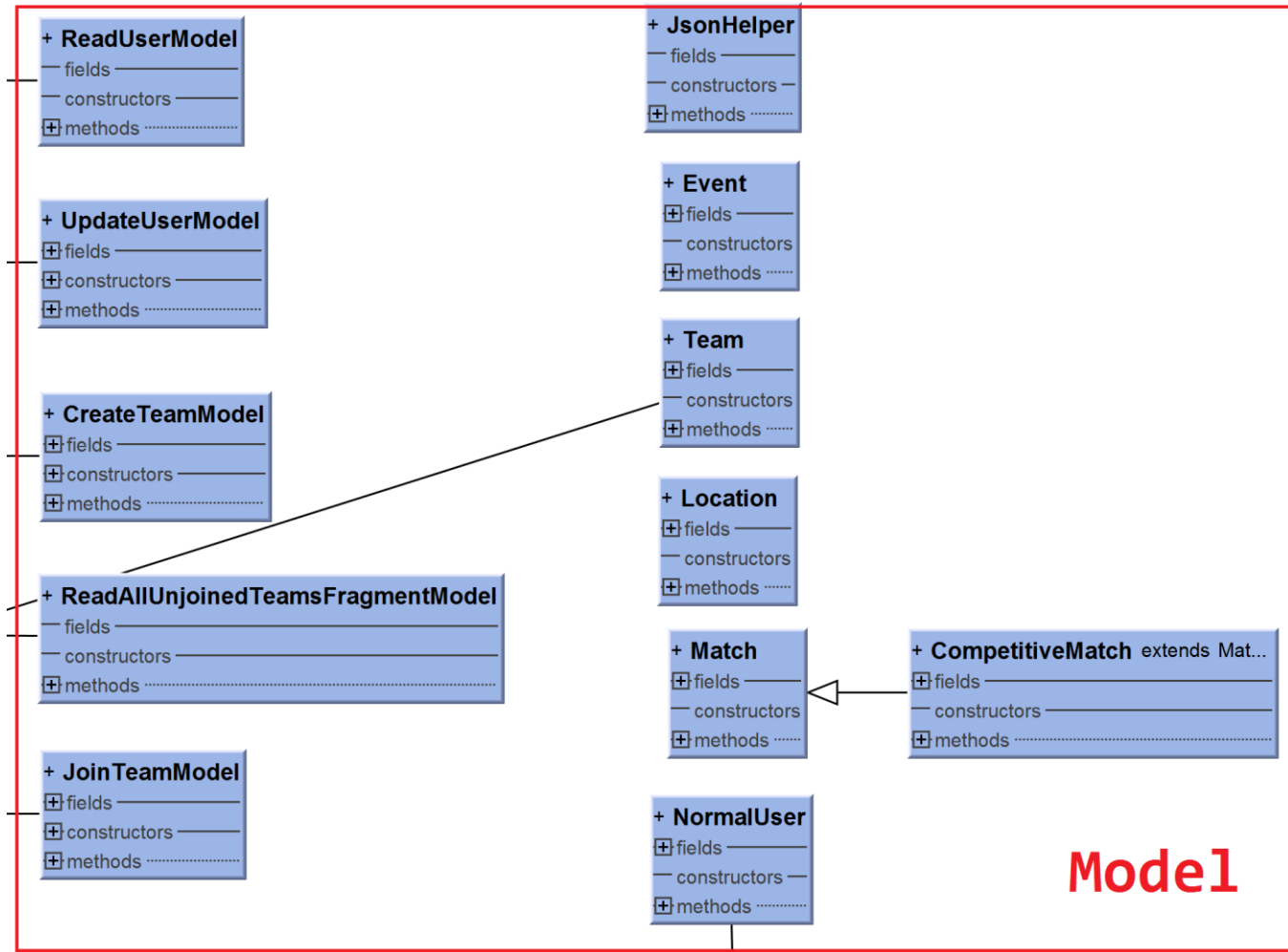
# Softwarearchitektur

## ► Klassen-Diagramm (UML)



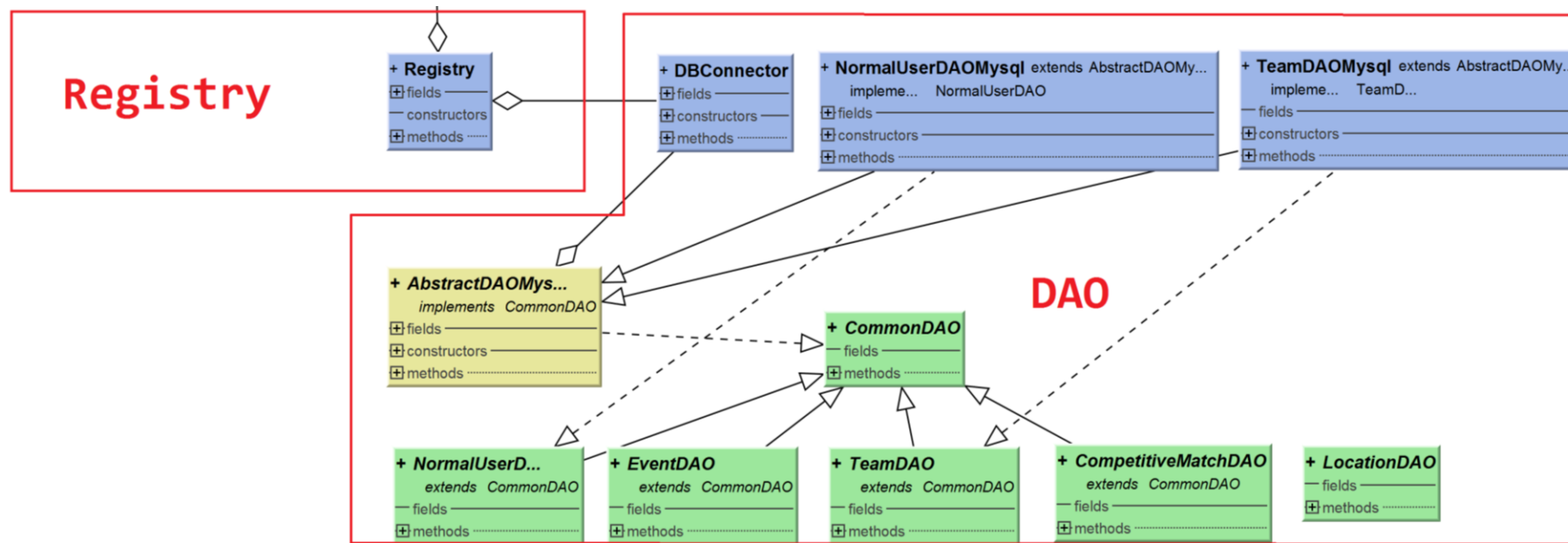
# Softwarearchitektur

## ► Klassen-Diagramm (UML)



# Softwarearchitektur

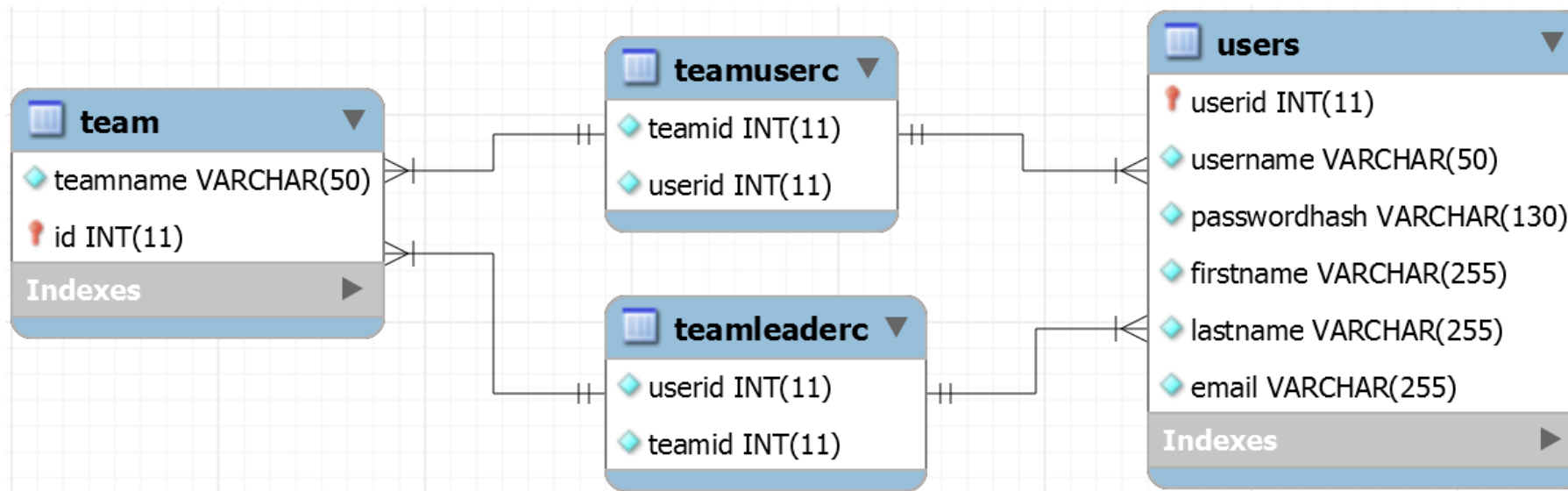
## ► Klassen-Diagramm (UML)





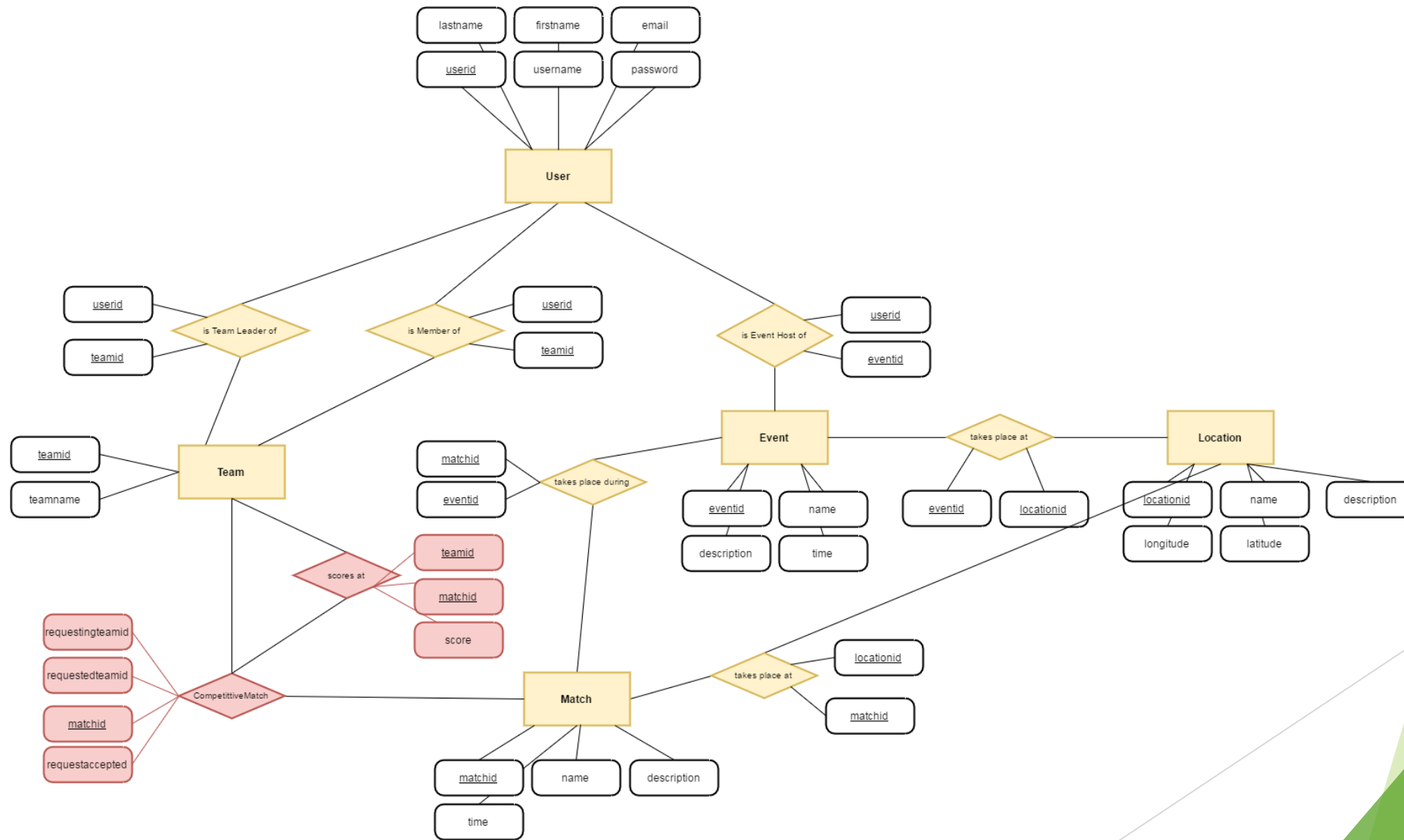
# Softwarearchitektur

## ► Entity-Relationship-Modell (ERM) → MySQL



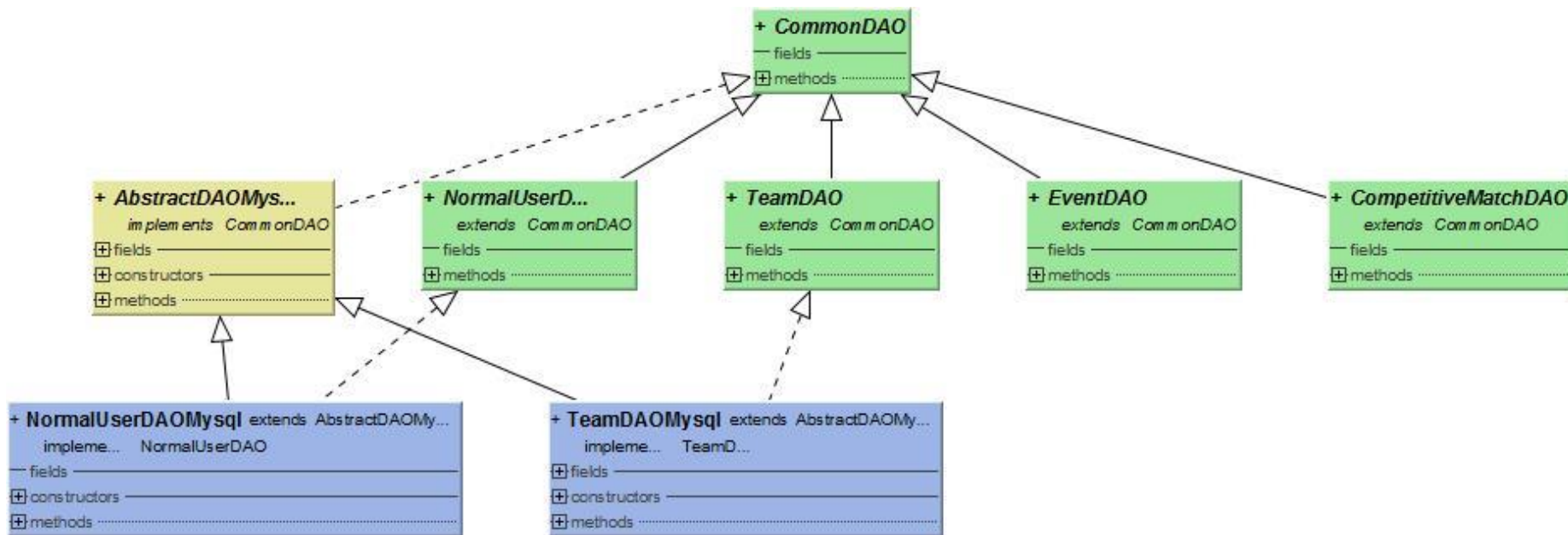
# Softwarearchitektur

## ► Entity-Relationship-Modell (ERM)



# Patterns

## ► DAO (Data Access Object)



# Testing

- ▶ Espresso UI-Tests
- ▶ JUnit Unit-Tests
- ▶ User-Tests
- ▶ Auswertung mit Coveralls
- ▶ Automatisiertes Tests mit TravisCI



**J**Unit

**COVERALLS**



**Travis CI**

# Automatisierung

## ► TravisCI

### JoinSports / AndroidApp


build passing

Current






Branches

Build History

Pull Requests

More options 

#### Default Branch

<div><div>✓ master</div><div> 44 builds</div></div>	<div><div> #74 passed</div><div> 5 days ago</div></div>	<div><div> c6d9c1f</div><div> GitHub</div></div>	<div><div>✓</div><div>✓</div><div>✓</div><div>✓</div><div>✓</div></div>
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# Metrics

## ► Codacy

COMPLEXITY ▼
31
30
15
15
12
12
11



C O D A C Y

Performance

100%

codacy B

# Continuous Integration/Lifecycle Management (Automatic Deploy)

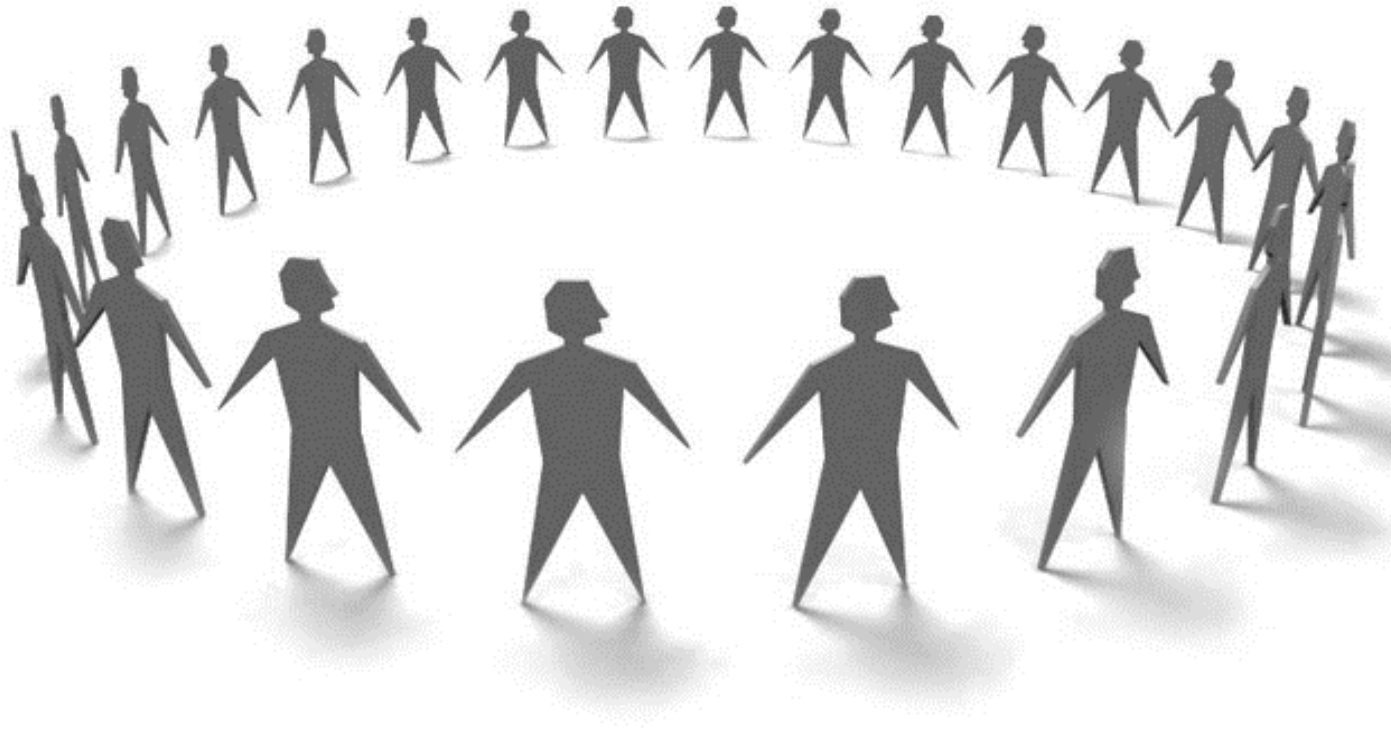
- ▶ TravisCI
- ▶ Möglichkeit App automatisch in den Google Play Store zu stellen

# Live Demo





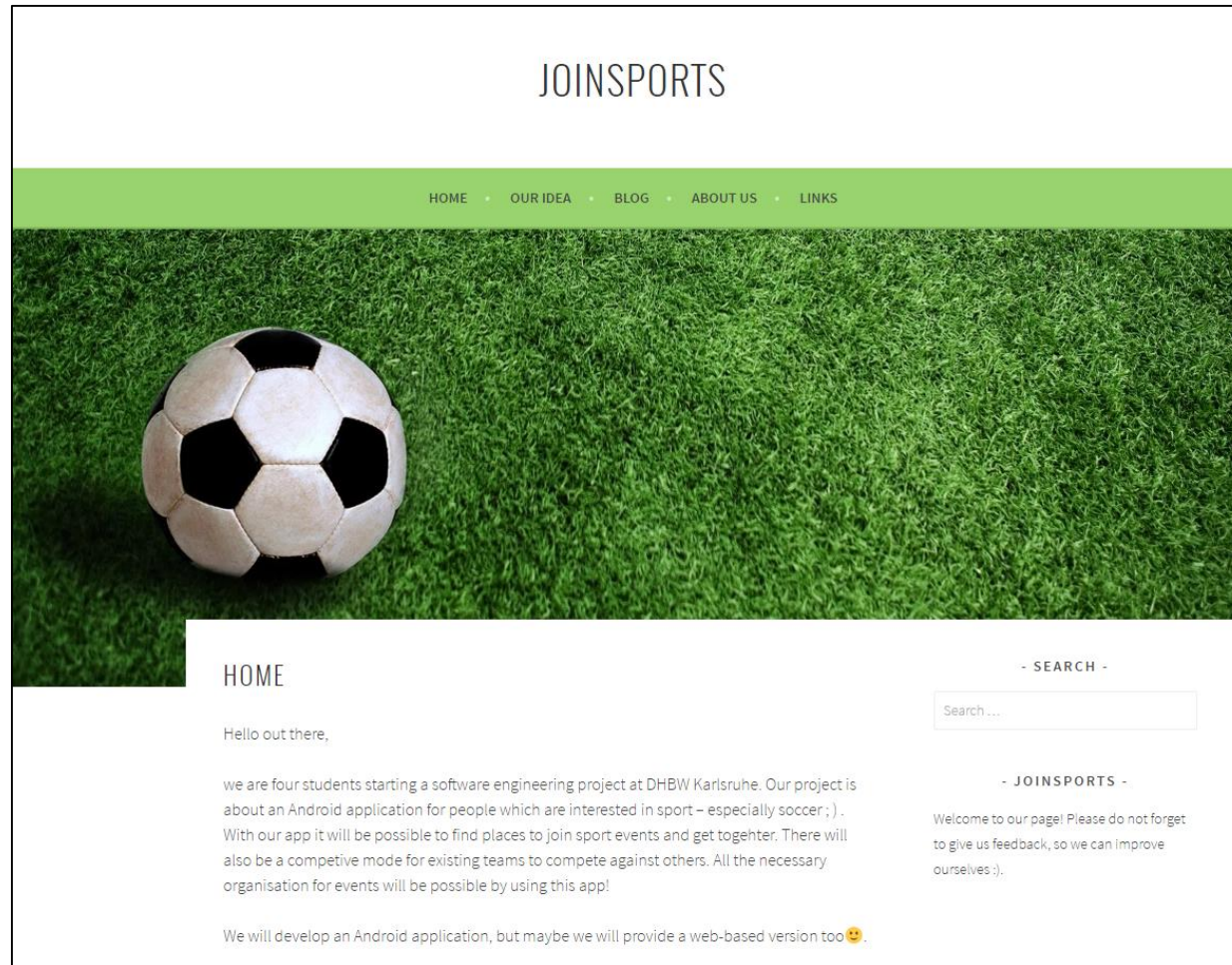
# Warum wir ?



# Blog-Site

- Bleiben Sie auf dem aktuellsten Stand & besuchen Sie unseren Blog!

<https://joinsportsblog.wordpress.com/>





Vielen Dank für Ihre  
Aufmerksamkeit!