

# 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

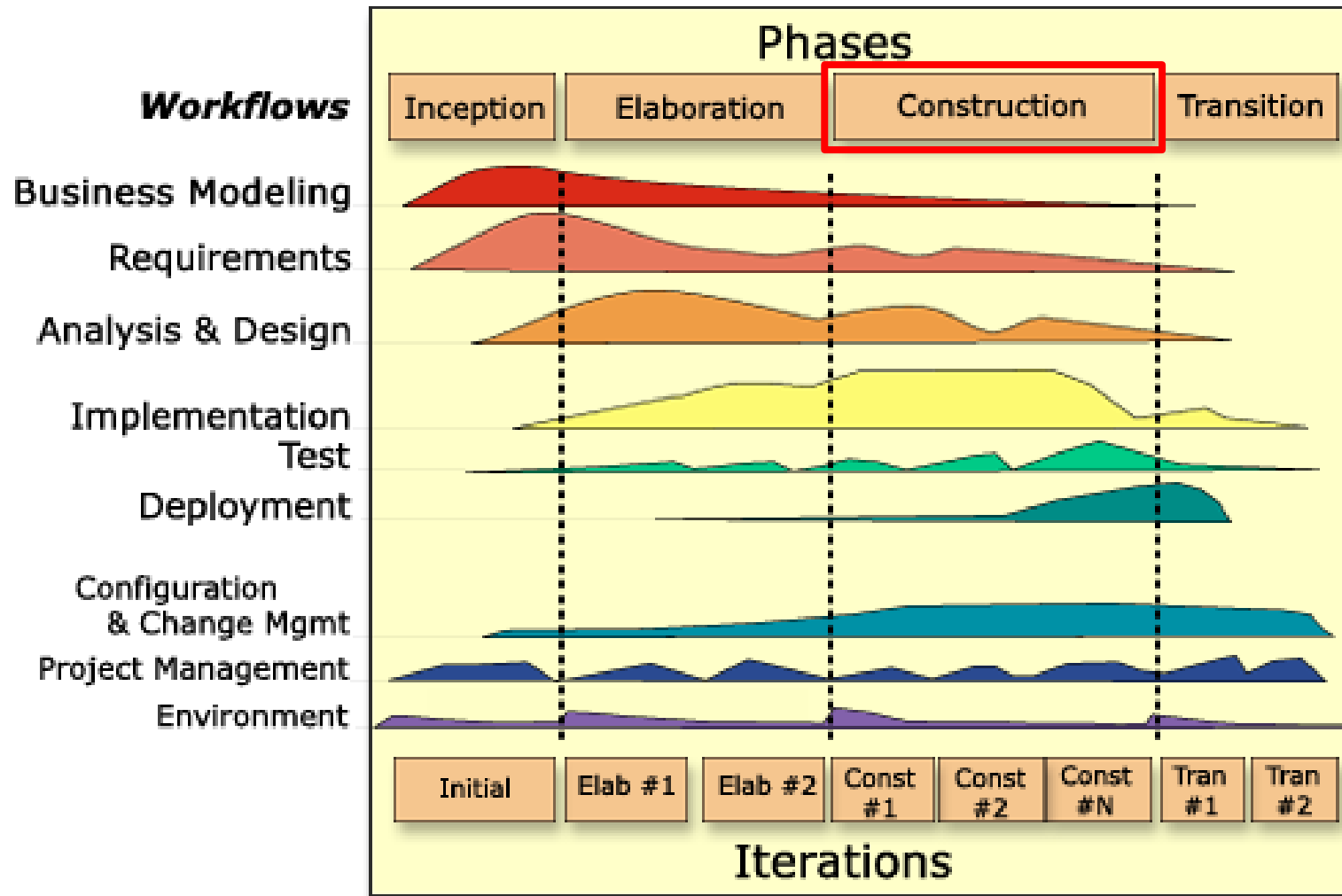
- ▶ App-Anwendung zur einfachen Vernetzung von Fußballfans
- ▶ Organisation von Matches auf öffentlichen Sportplätzen



# 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)



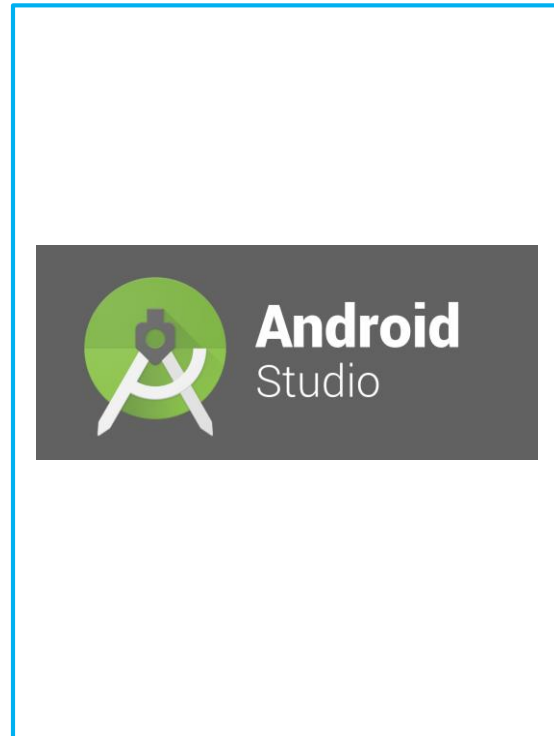
# Technology

- ▶ Alle verwendeten Sprachen/Tools

## Frontend



## IDE



## Backend



# Development Tools

## ► GitHub als Versionsverwaltung

The screenshot shows a GitHub profile for 'JoinSports'. The profile picture is a soccer ball with hands holding it, and the text 'JOIN SPORTS' is in the center. The bio is 'JoinSports' and the website is 'https://joinsportsblog.wordpress...'. The user joined on 25 Oct 2016. The profile has 3 repositories, 0 stars, 1 follower, and 2 following. The 'Popular repositories' section shows three repositories: 'Documentation' (1 star), 'AndroidApp' (Java), and 'PHPConnector' (PHP). The '33 contributions in the last year' section shows a calendar grid with green squares indicating contributions. The grid shows contributions on Monday, Wednesday, and Friday in November, and on Friday in December. The legend indicates that the color of the squares represents the number of contributions, from 'Less' (light green) to 'More' (dark green).

Search GitHub

Pull requests Issues Gist

Overview Repositories 3 Stars 0 Followers 1 Following 2

**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

Customize your pinned repositories

33 contributions in the last year

Contribution settings

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

Mon  
Wed  
Fri

Learn how we count contributions.

Less More

# Development Tools

## ► Scrumming via Jira

The screenshot displays the Jira interface for a project named 'Midterm Project Milestone'. The top navigation bar includes links for 'Startseite', 'Projekte', 'Vorgänge', 'Tempo', 'Boards', and a prominent 'Erstellen' button. The left sidebar contains navigation options: '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 on adding links and a '+ Verknüpfung hinzufügen' button. The main content area is titled 'Midterm Project Milestone' and includes a 'SCHNELL-FILTER: Nur meine Vorgänge' and 'Zuletzt aktualisiert' status. The board is organized into three columns: 'Aufgaben' (empty), 'Wird Ausgeführt' (containing two tasks), and 'Fertig' (containing nine tasks). Each task entry includes a checkbox, a task ID (e.g., JOIN-11), and a description (e.g., 'Elab: Create Presentation for Midterm'). A timer at the top right indicates '0 Tage übrig' for the 'Sprint'.

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



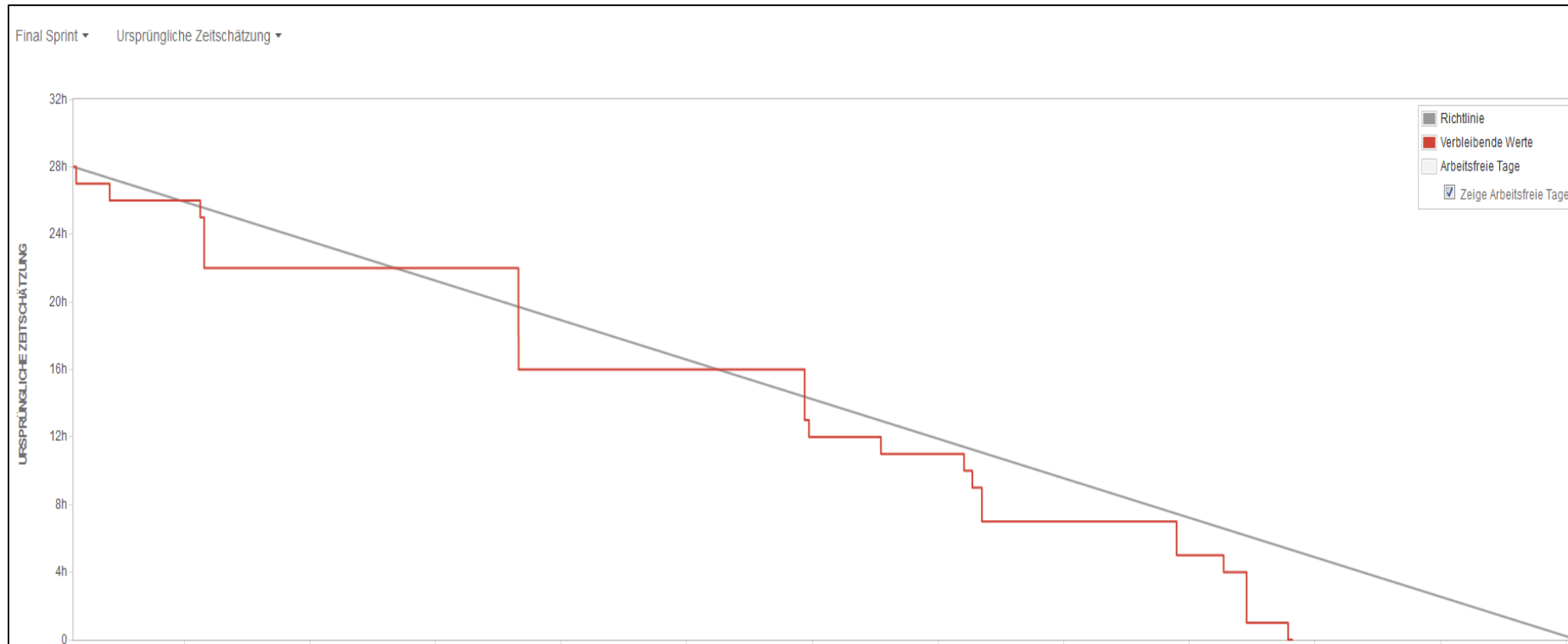
# Development Tools

## ► Burndown Chart: Midterm Presentation



# Development Tools

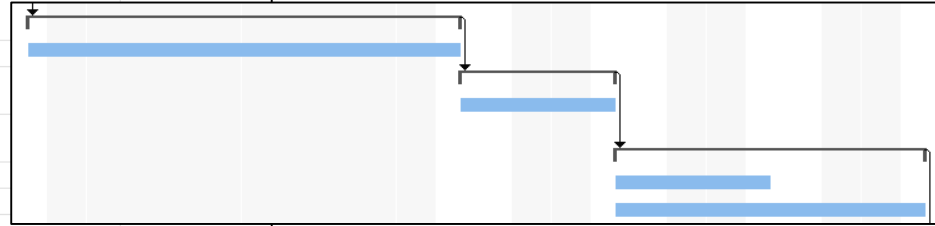
## ► Burndown Chart: Final Sprint



# Development Tools

## ► Langzeitplanung via MS Project

	Vorgangsmodus	Vorgangsname	Dauer	Anfang	Ende	Vorgänger	Ressourcennamen
1		Inception	5,75 Tage	Mit 05.10.16	Mit 12.10.16		
2		Project Managment	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		Buisness Modelling	0,38 Tage	Fre 07.10.16	Fre 07.10.16		
7		Blog in Wordpress erstellen	3 Std.				
8		Requirements	0,13 Tage	Mit 12.10.16	Mit 12.10.16		
9		Entscheidung für Technology (Android App)	1 Std.				
10		Analysis and Design	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		Test	0 Tage	Mit 05.10.16	Mit 05.10.16		
14		<Neuer Vorgang>	0 Std.				
15		Environment	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		Configuration and Change Managment	0 Tage	Mit 05.10.16	Mit 05.10.16		
20		Elaboration	43 Tage	Don 13.10.16	Die 13.12.16	1	
21		Project Managment	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		Requirements	1 Tag	Mit 19.10.16	Don 20.10.16		
27		Software Requirement Speciation Template erstellen					
28		Mockups entwerfen	2 Std.				



# 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**

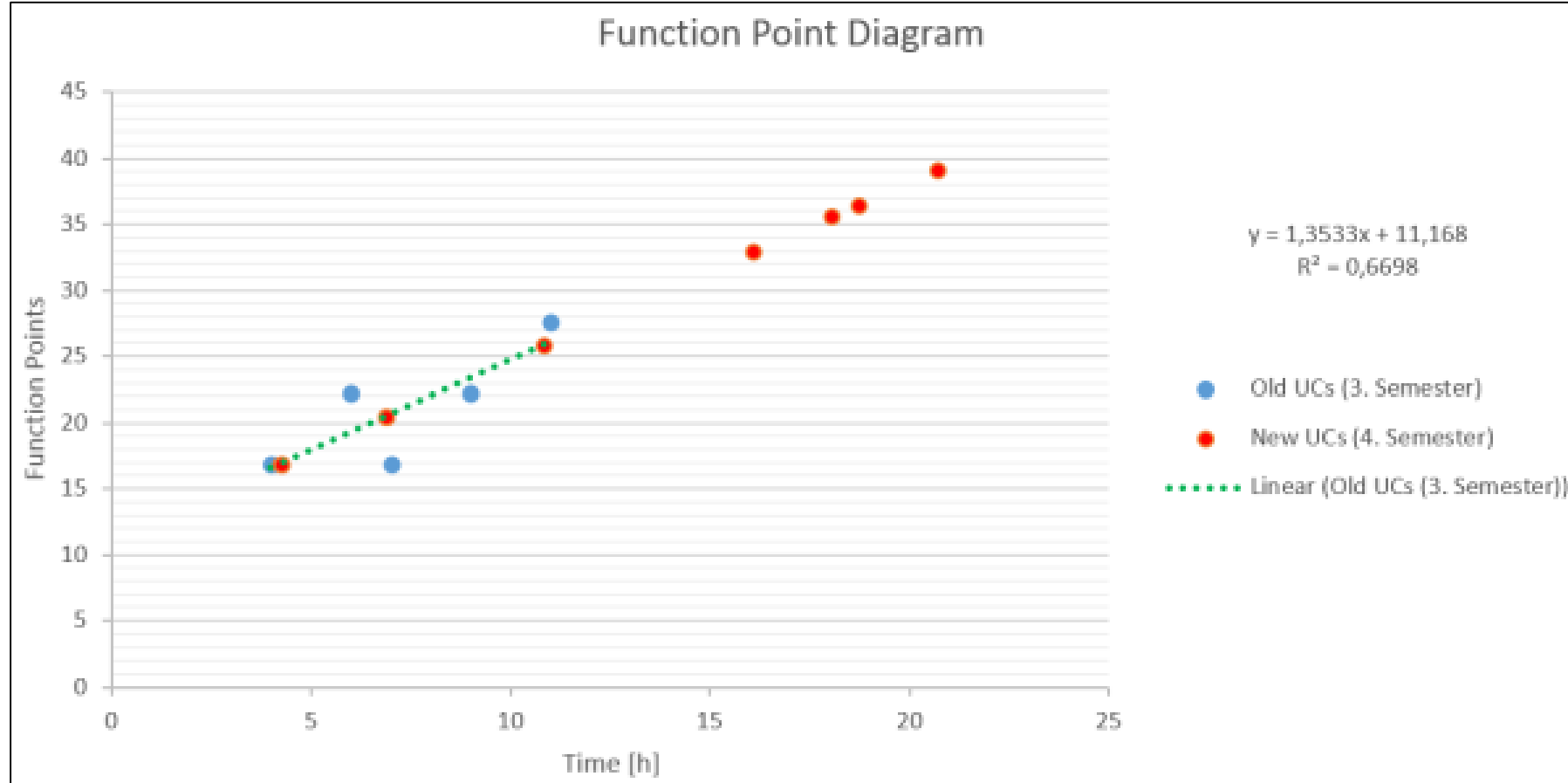
# Kostenabschätzung - Function Points

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





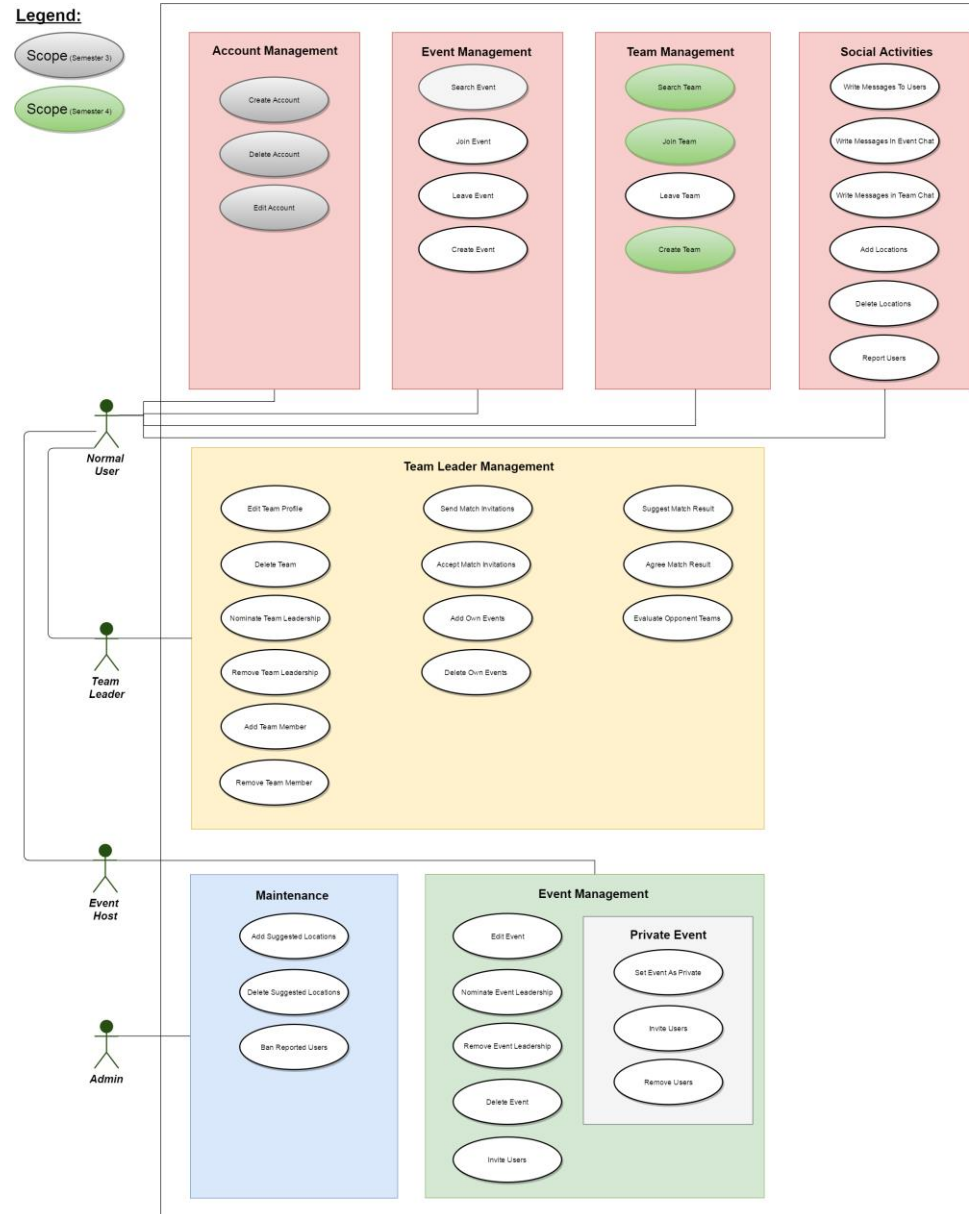
# Softwarearchitektur

## ► UC Diagramm

### Legend:

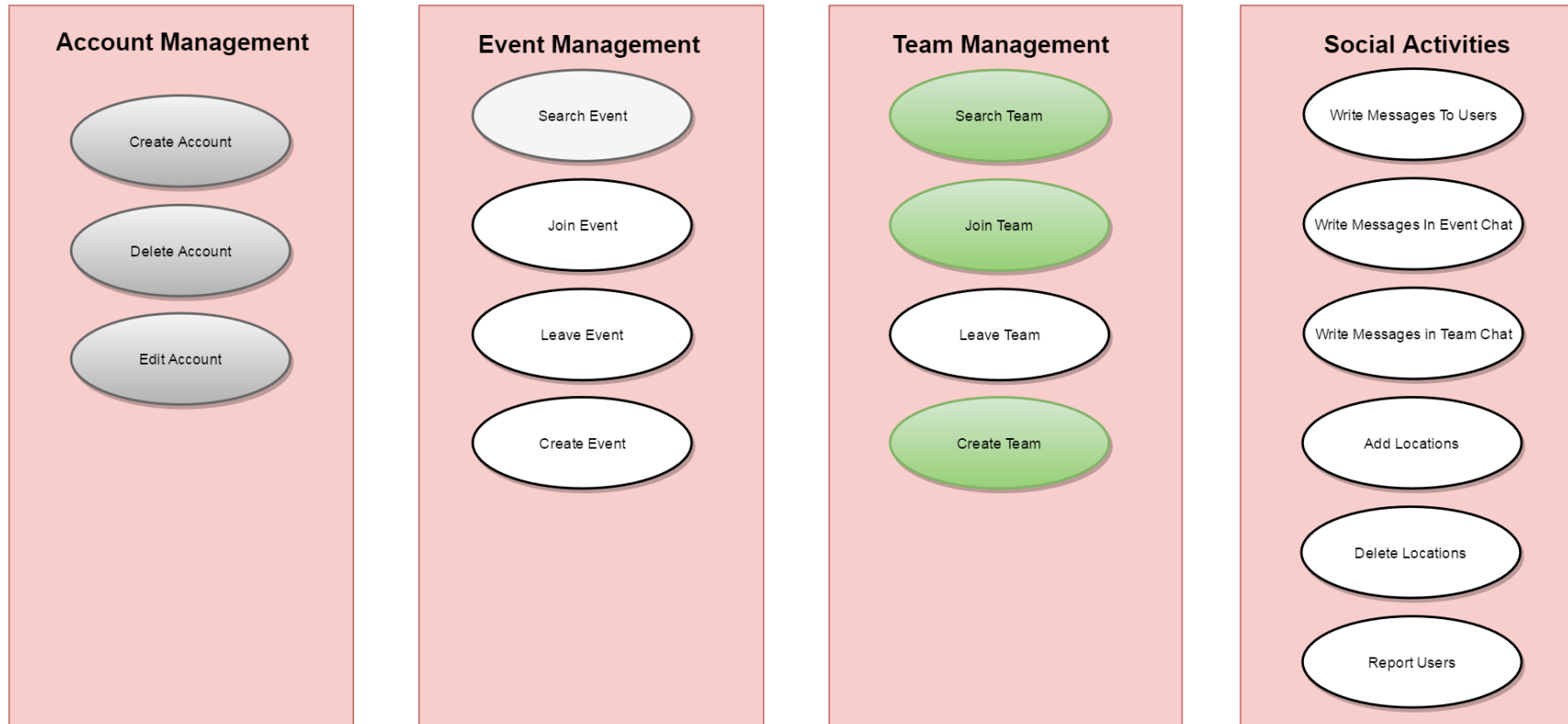
Scope (Semester 3)

Scope (Semester 4)



# Softwarearchitektur

## ► UC Diagramm



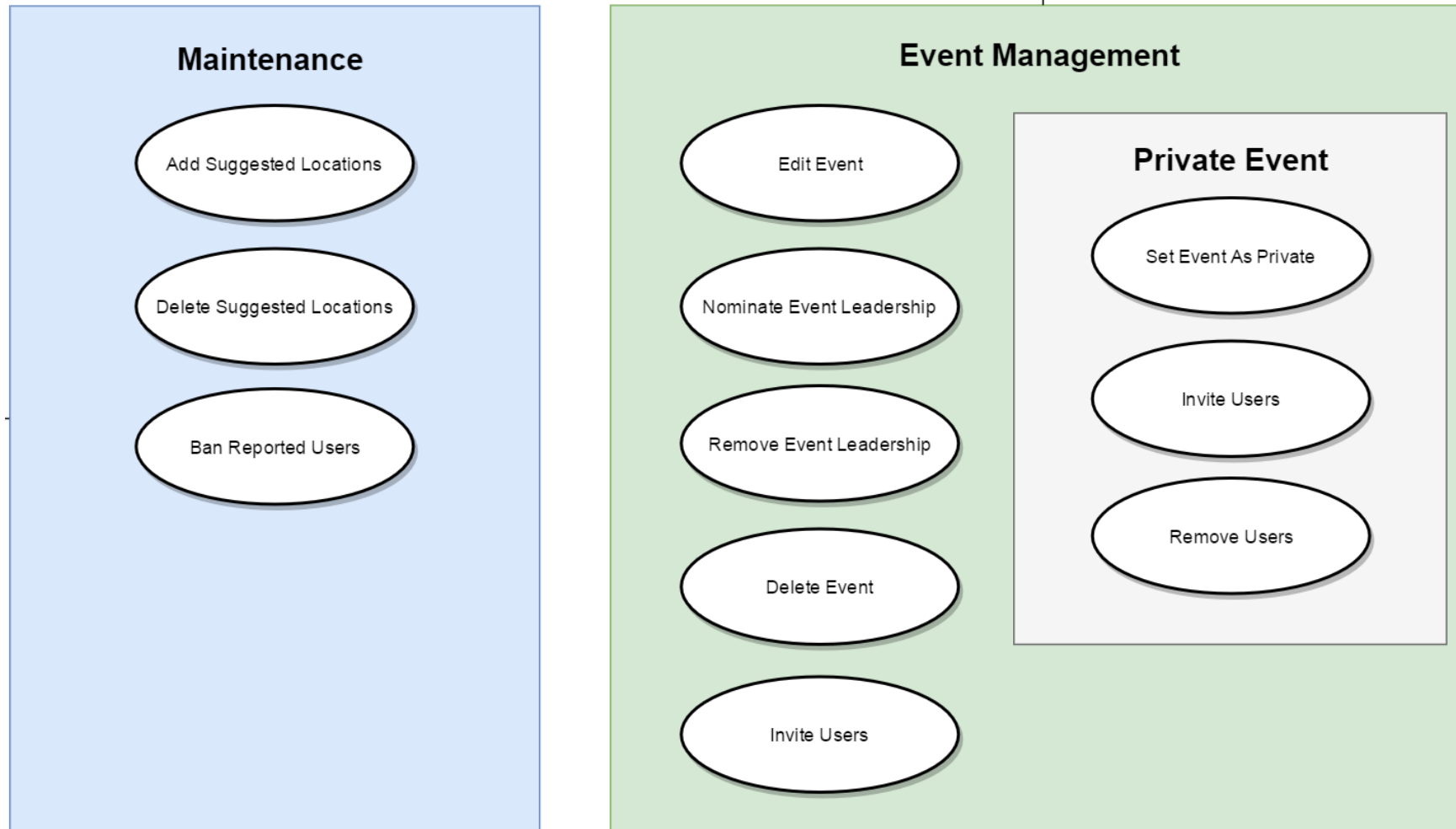
# Softwarearchitektur

## ► UC Diagramm



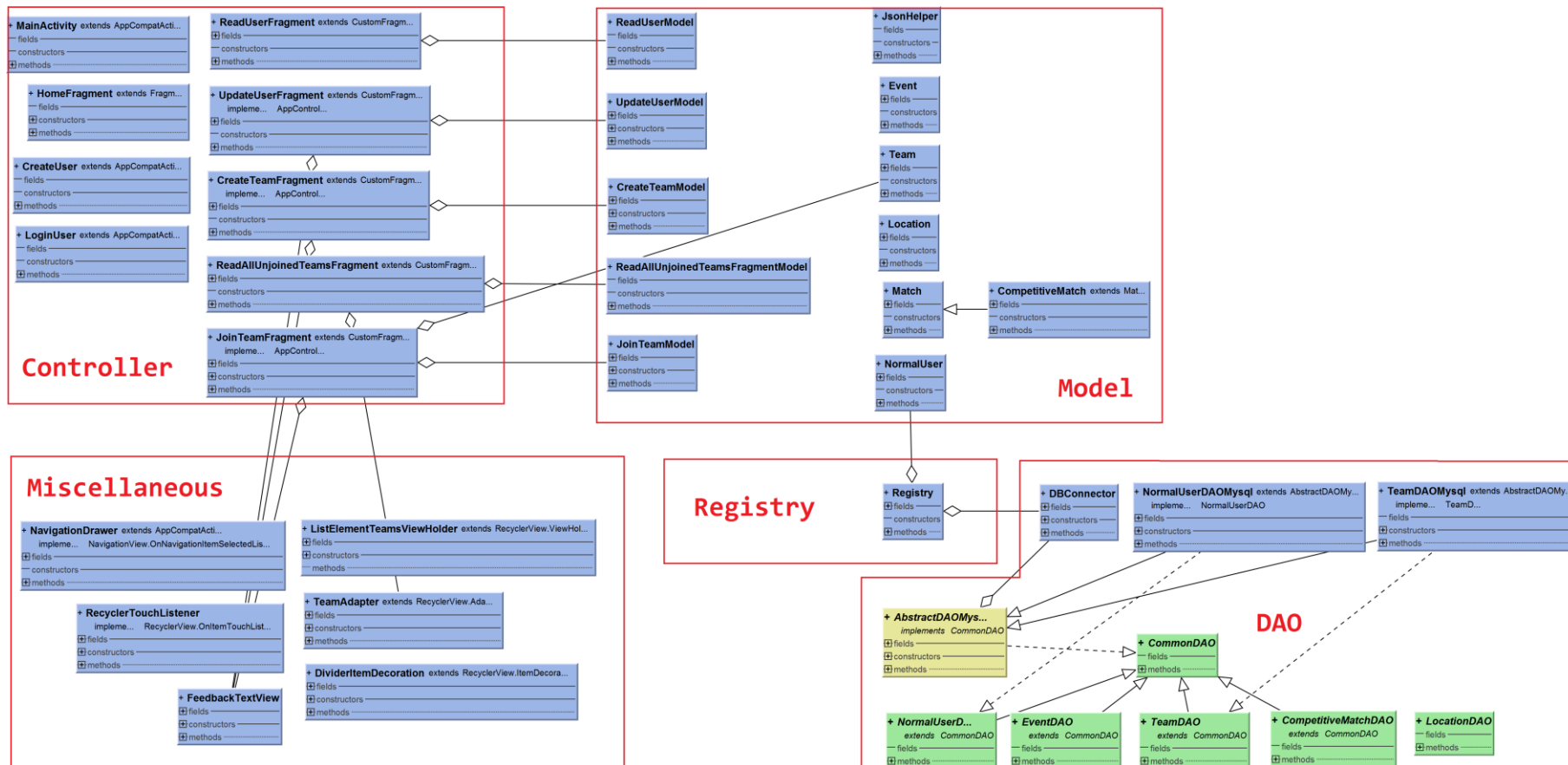
# Softwarearchitektur

## ► UC Diagramm



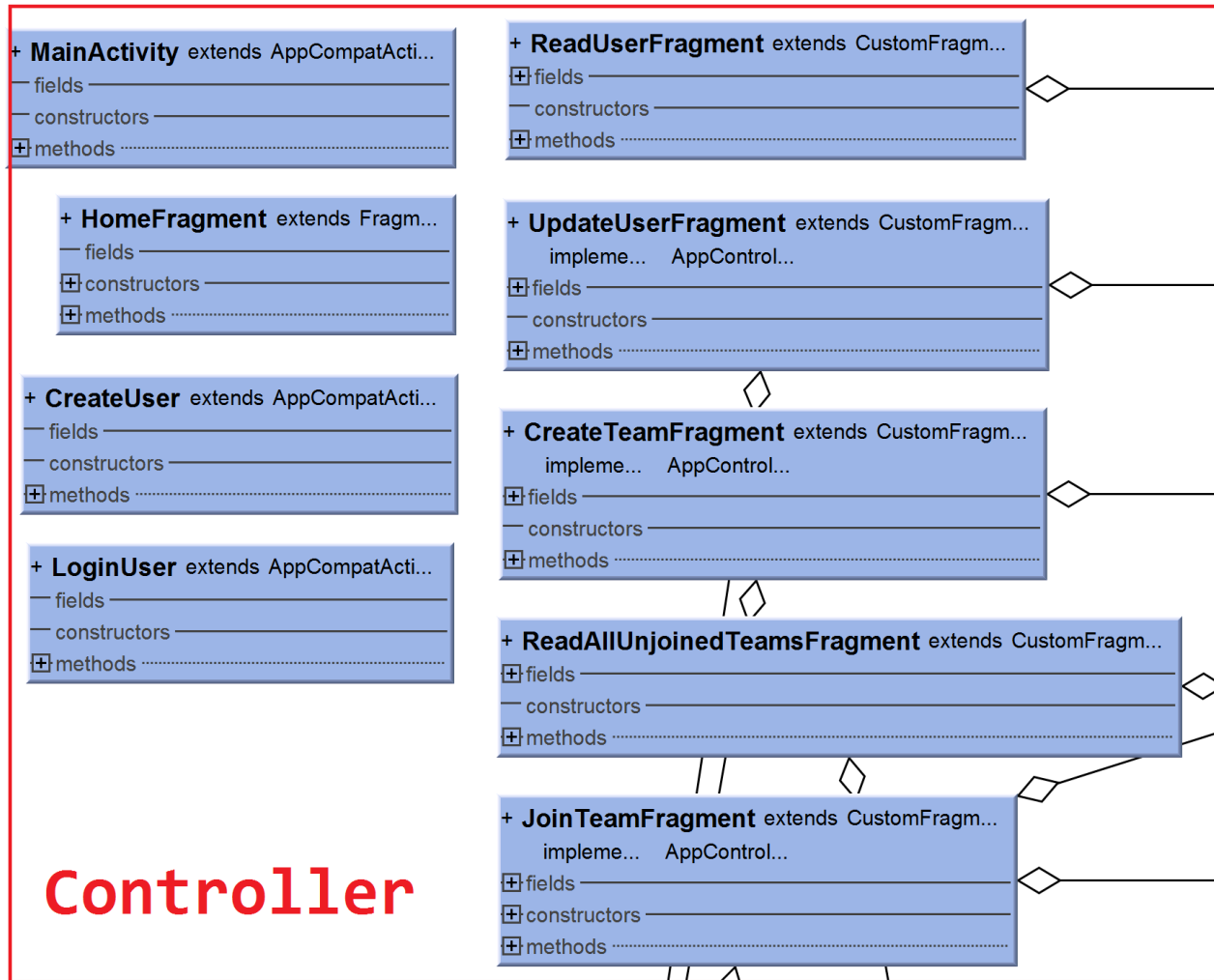
# Softwarearchitektur

## ► Klassen-Diagramm (UML)



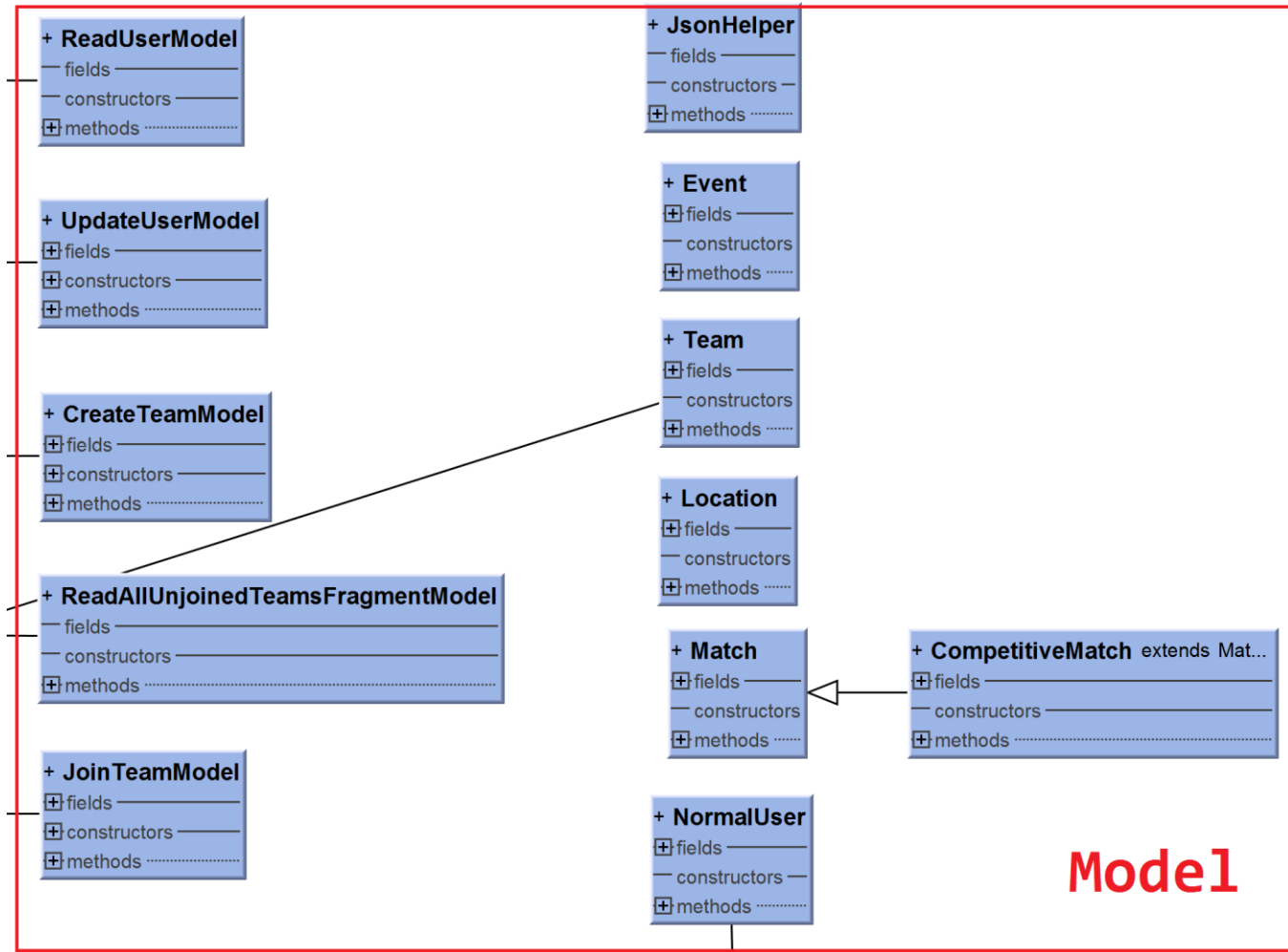
# Softwarearchitektur

## ► Klassen-Diagramm (UML)



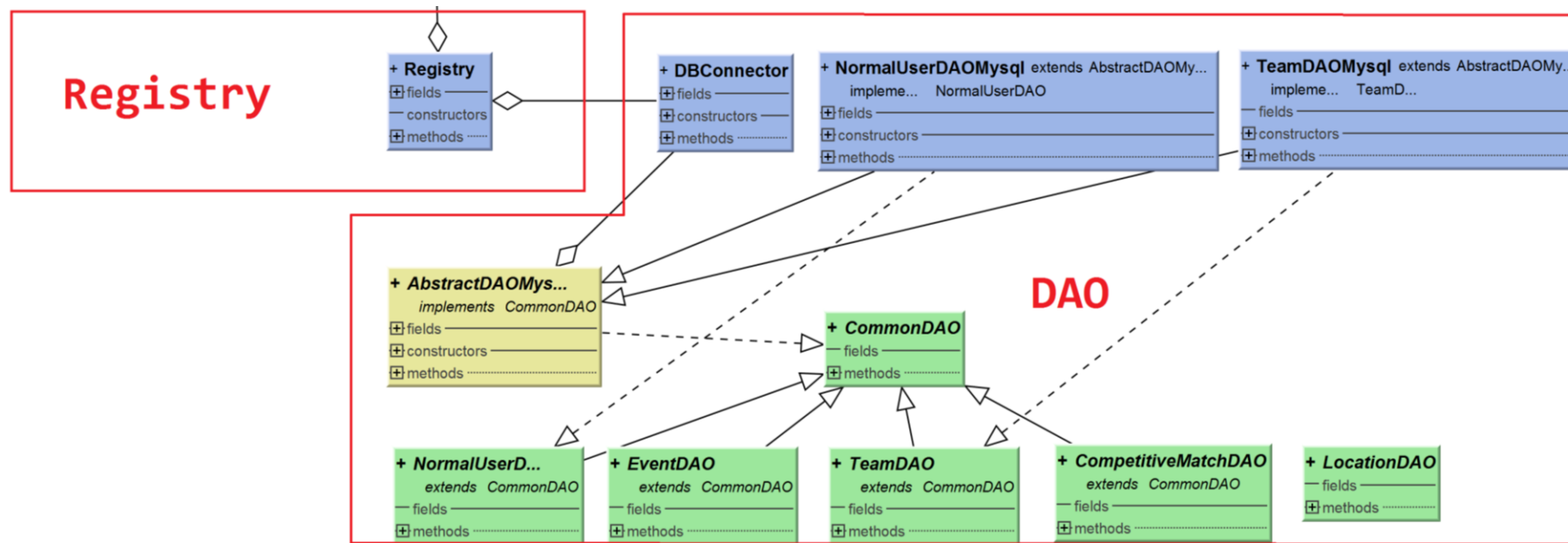
# Softwarearchitektur

## ► Klassen-Diagramm (UML)



# Softwarearchitektur

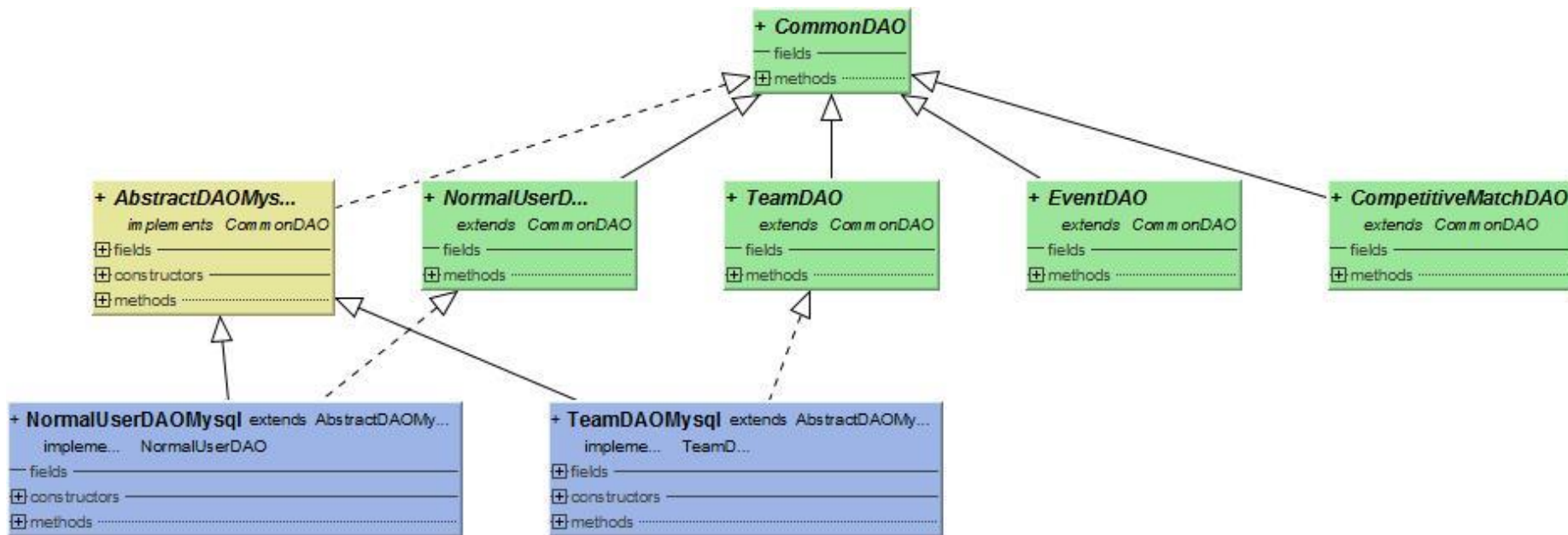
## ► Klassen-Diagramm (UML)





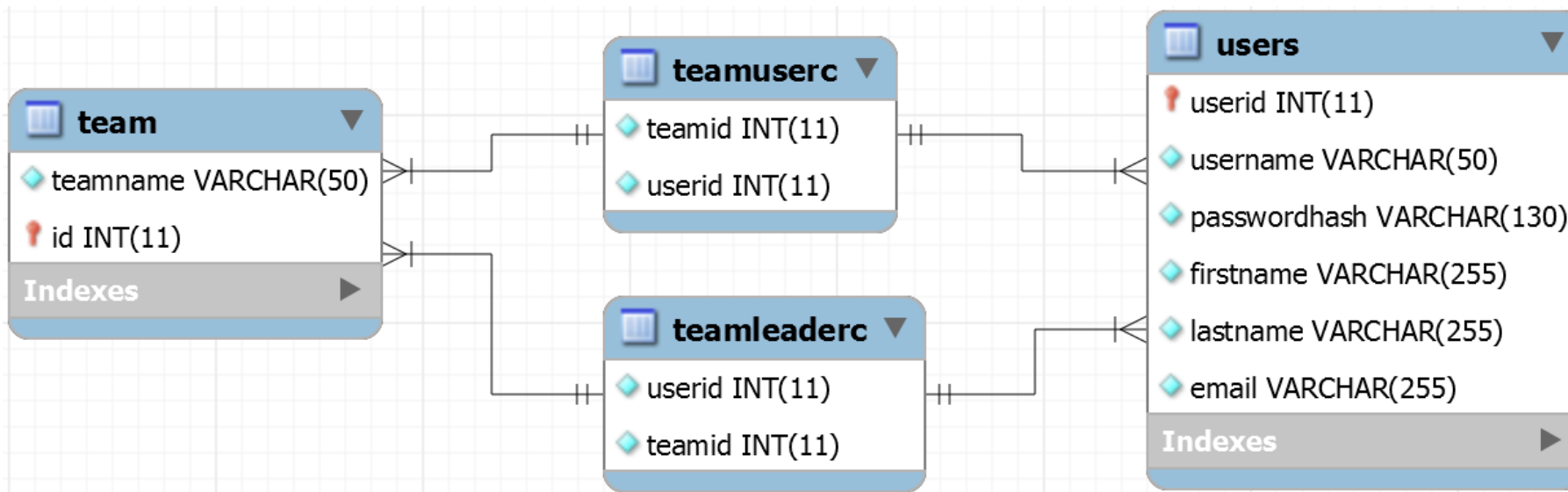
# Patterns

## ► DAO (Data Access Object)



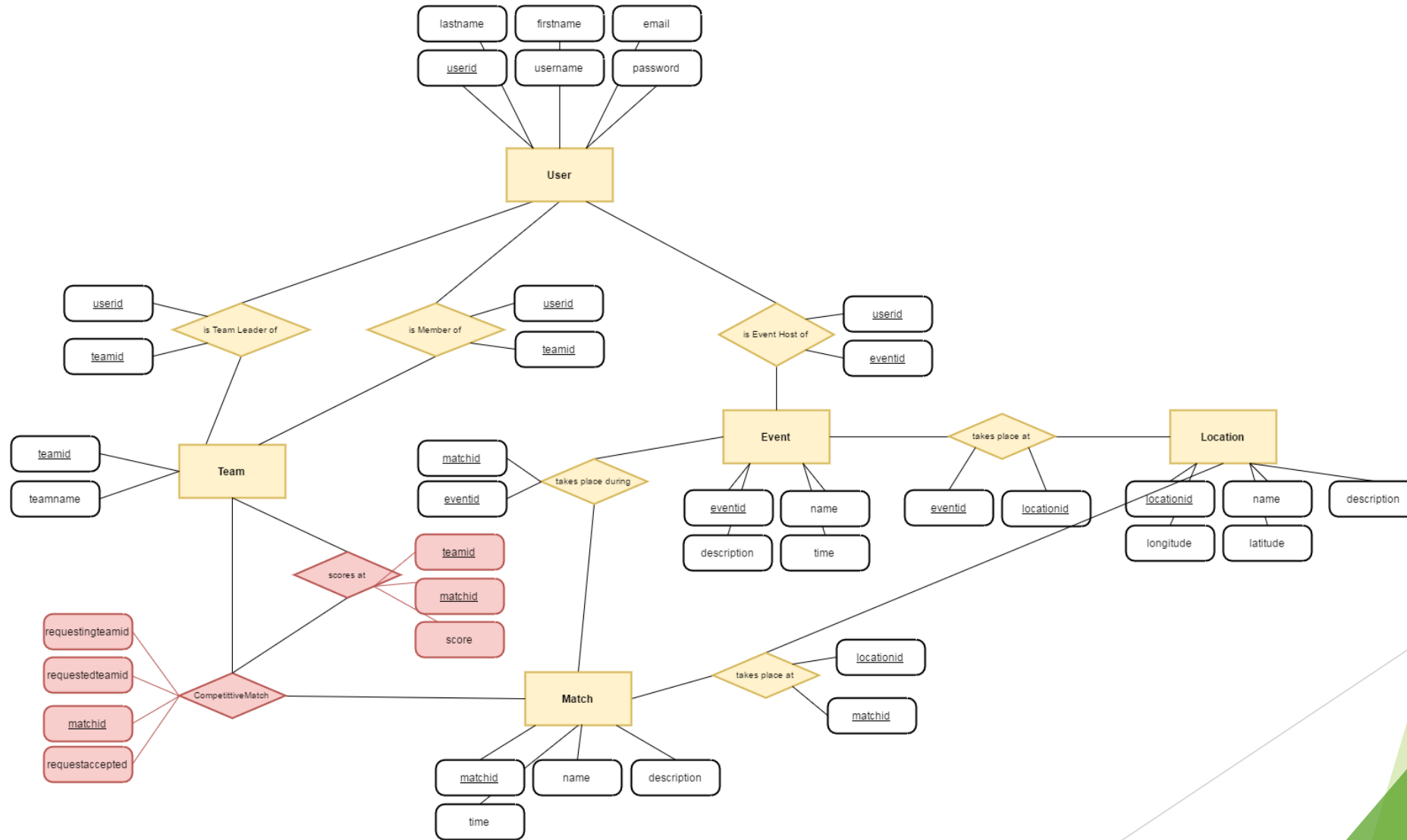
# Softwarearchitektur

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



# Softwarearchitektur

## ► Entity-Relationship-Modell (ERM)



# 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)

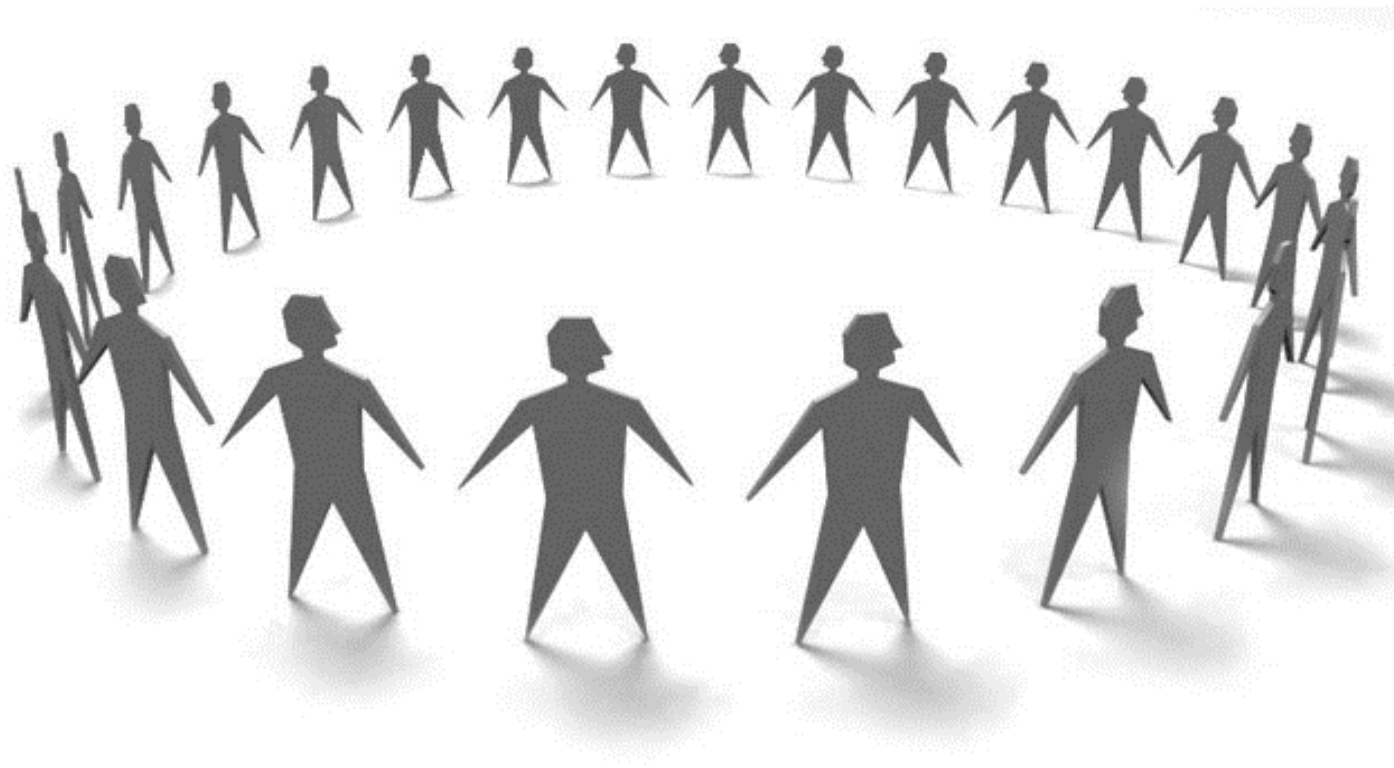
- ▶ TravisCI
- ▶ Möglichkeit App automatisch in den Google Play Store zu stellen

# Live Demo





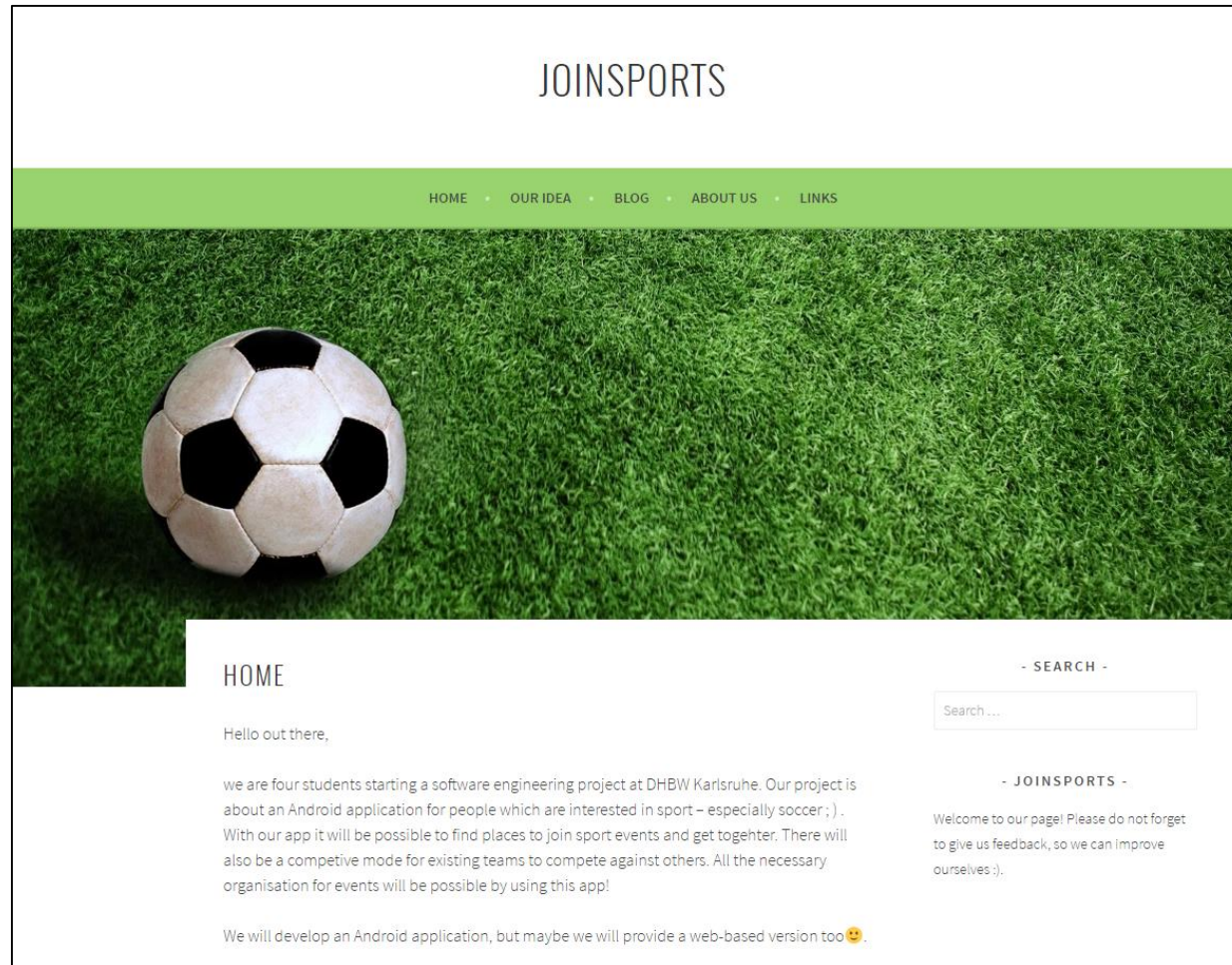
# Warum wir ?



# Blog-Site

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

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





Vielen Dank für Ihre  
Aufmerksamkeit!