

Learn IT Yourself

LERNZIELE SPIELERIESCH SELBST ERREICHEN

JONAS HILPP, ANGELIKA SUDHEIMER, MERT GÜNDÜZ, JANNIK ADAM

Agenda

- ▶ **Business**
- ▶ **Quality**
- ▶ **Technical Ability**

Business

VISION

USE CASES

PROJECT MANAGEMENT

RUP

TIME ESTIMATION

Our Vision

- ▶ **Blow up your motivation levels for reaching your goals!**
- ▶ **Turn mundane tasks such as studying into a game!**

Vision – Structured Learning

- ▶ Make progress of learning digital and competitive
- ▶ Stay as motivated as you were in the beginning
- ▶ Split your learning goal into various tasks

Vision - Motivation

Competitive

- ▶ Points for completing tasks
- ▶ Highscore system
- ▶ Group statistics

Self-reflection

- ▶ Individual rating of (completed) tasks
- ▶ Reward system outside groups
- ▶ Spend points on personal rewards

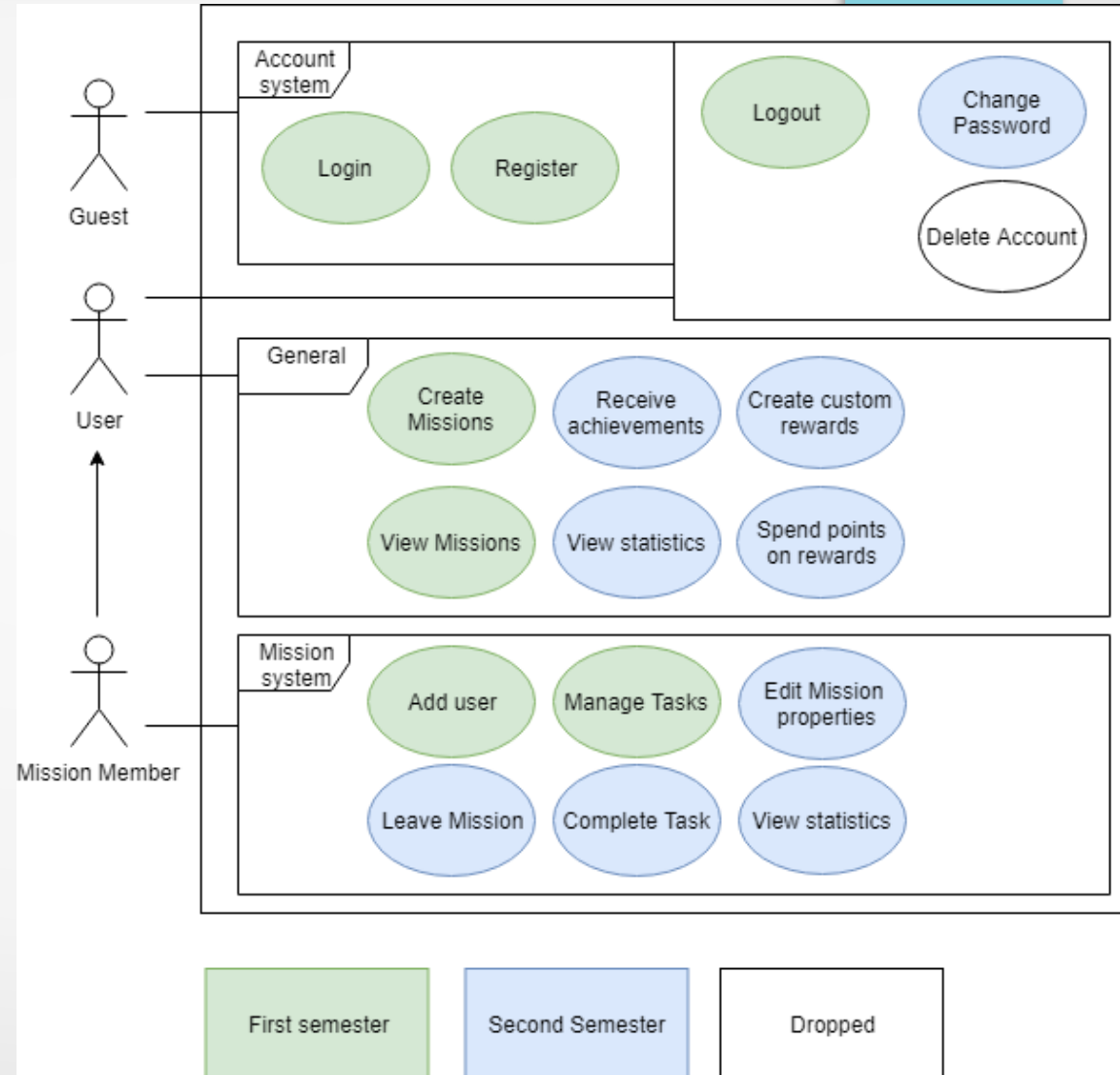
Scope – Usecases

Important Use-Cases:

- * Create Mission
- * Manage Tasks
- * Rewards
- * Achievements
- * Statistics

Dropped

- * Delete Account



Project Management

- ▶ **SCRUMMING** with project management tool „YouTrack“
- ▶ Every week new sprint planning
- ▶ Gives an overview of:
 - ▶ Spent time
 - ▶ Tasks ToDo/ in Progress/ Done
 - ▶ Work history

Youtrack

Week_21 (Transition)

11 — 17 Jun



2 days left

S



XL

TV



Open

2h

In Progress

2d1h40m

To Verify

3h30m

Done

1d

Uncategorized Cards

14 cards

LEARNIT-148 Normal Task Construction

[Doc] Edit Class Diagram



2h

LEARNIT-140 Normal Task Construction

Do User Tests



+2

1h40m

LEARNIT-176 Show-stopper Task Construction

[Back] edit completeTask.php



1h

LEARNIT-191 Normal Task Construction

Create Video



2h

LEARNIT-189 Normal Task Construction

Final Presentation



+2

4h

LEARNIT-190 Normal Task Construction

[Back][Fix] Fix deleteReward and CreateMission



2h

LEARNIT-192 Normal Task Transition

Create the CI and Tech Stack blogpost



2h

LEARNIT-157 Normal Task Construction

[Doc] Finish Testplan



2h

LEARNIT-195 Normal Task Construction

[Front] Change Frontend to work with getAchievements



30m

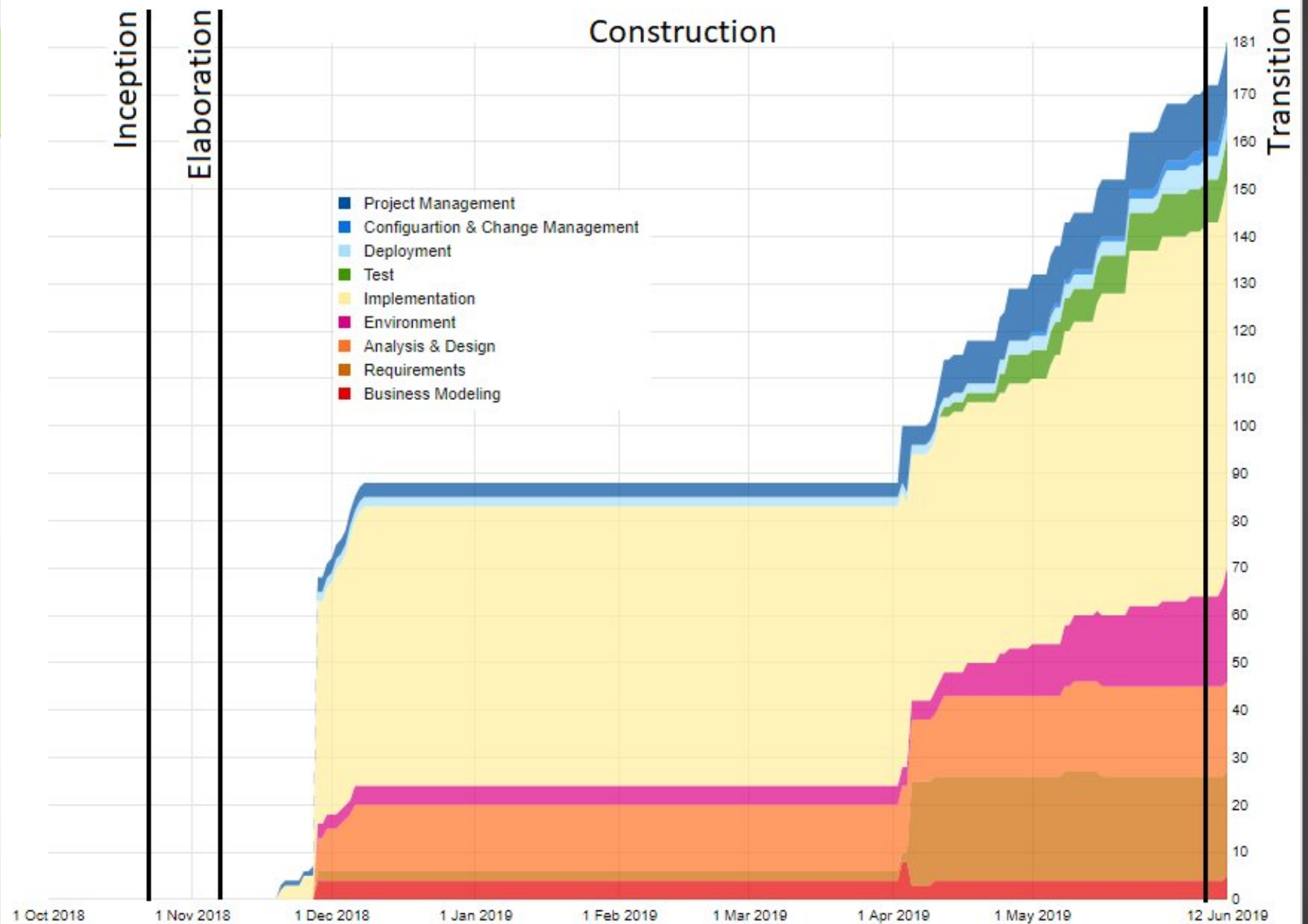
LEARNIT-164 Show-stopper Task Construction

[Back] Receive Achievements

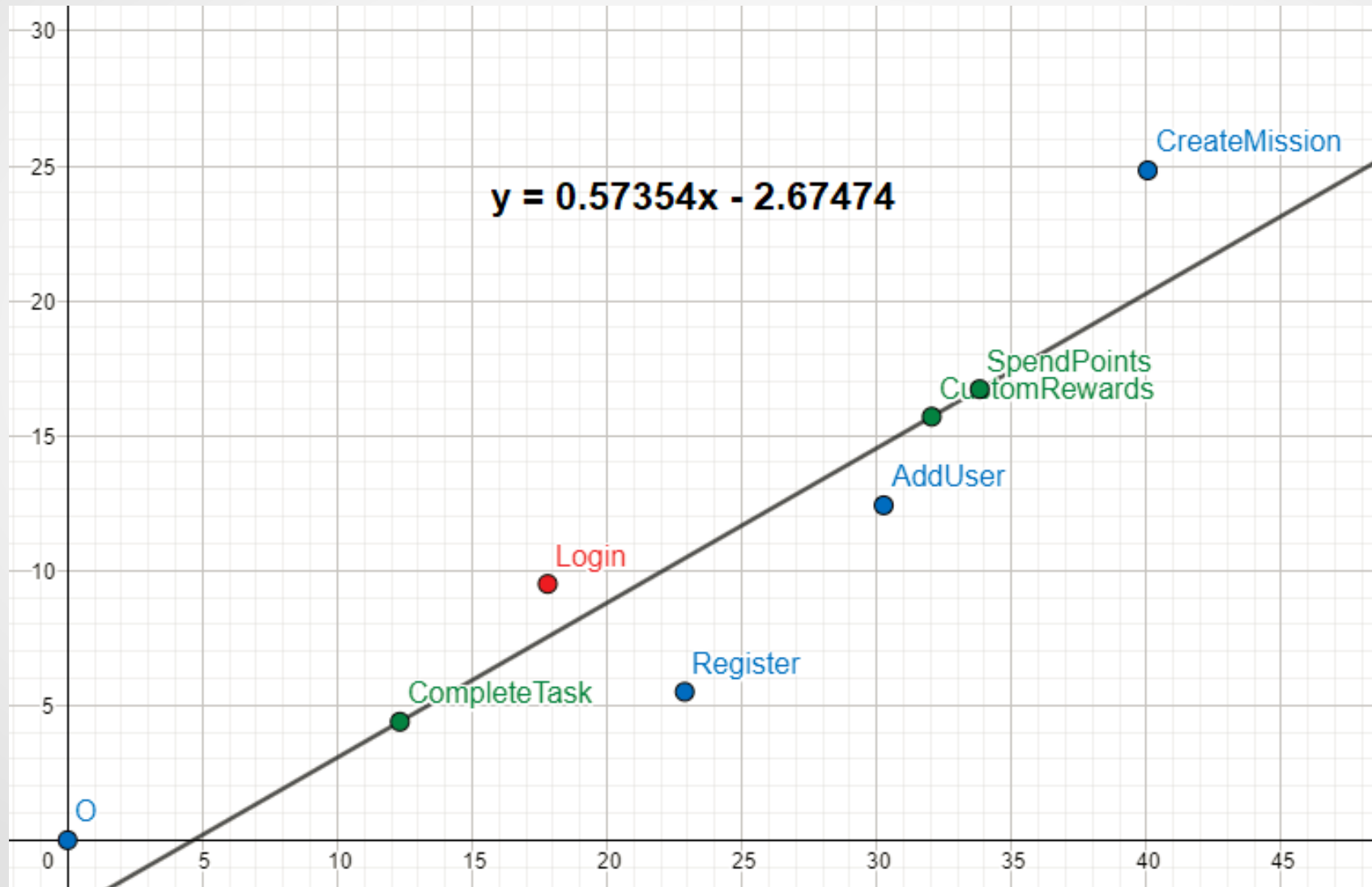


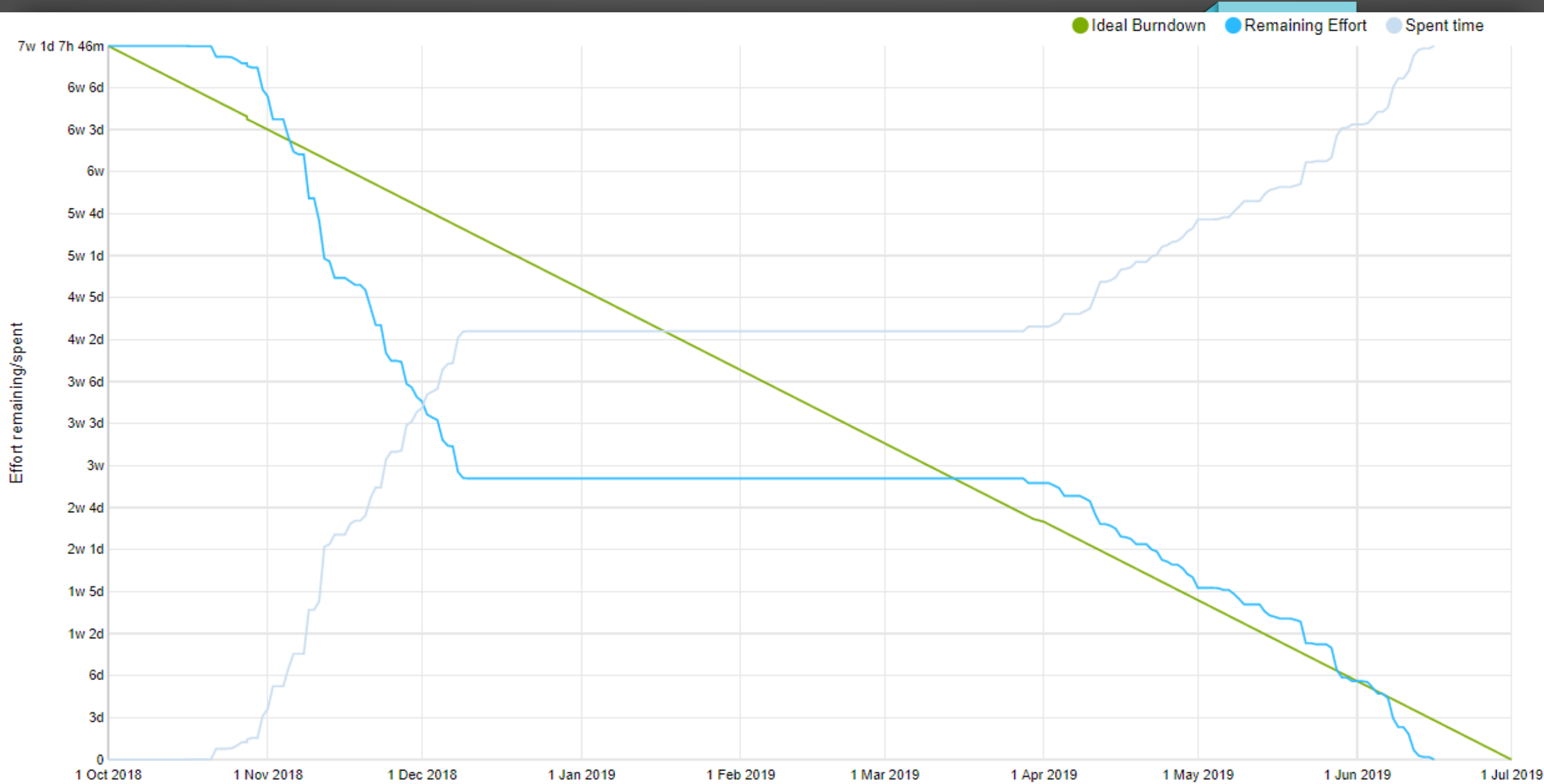
4h

RUP



FP Time Estimation





Quality

WORKFLOW

CONFIG

TESTING

AUTOMATION

ARCHITECTURE

PATTERNS

METRICS

Configuration

Testing

Unit Testing



- ▶ Testing the functionality of individual functions

User Testing

- ▶ Testing the usability

Functional Testing **cucumber**

- ▶ Testing a complete functionality of the application

Continuous Integration

Development



Version Control



Continuous Integration



Trigger

Build and
Test



cucumber



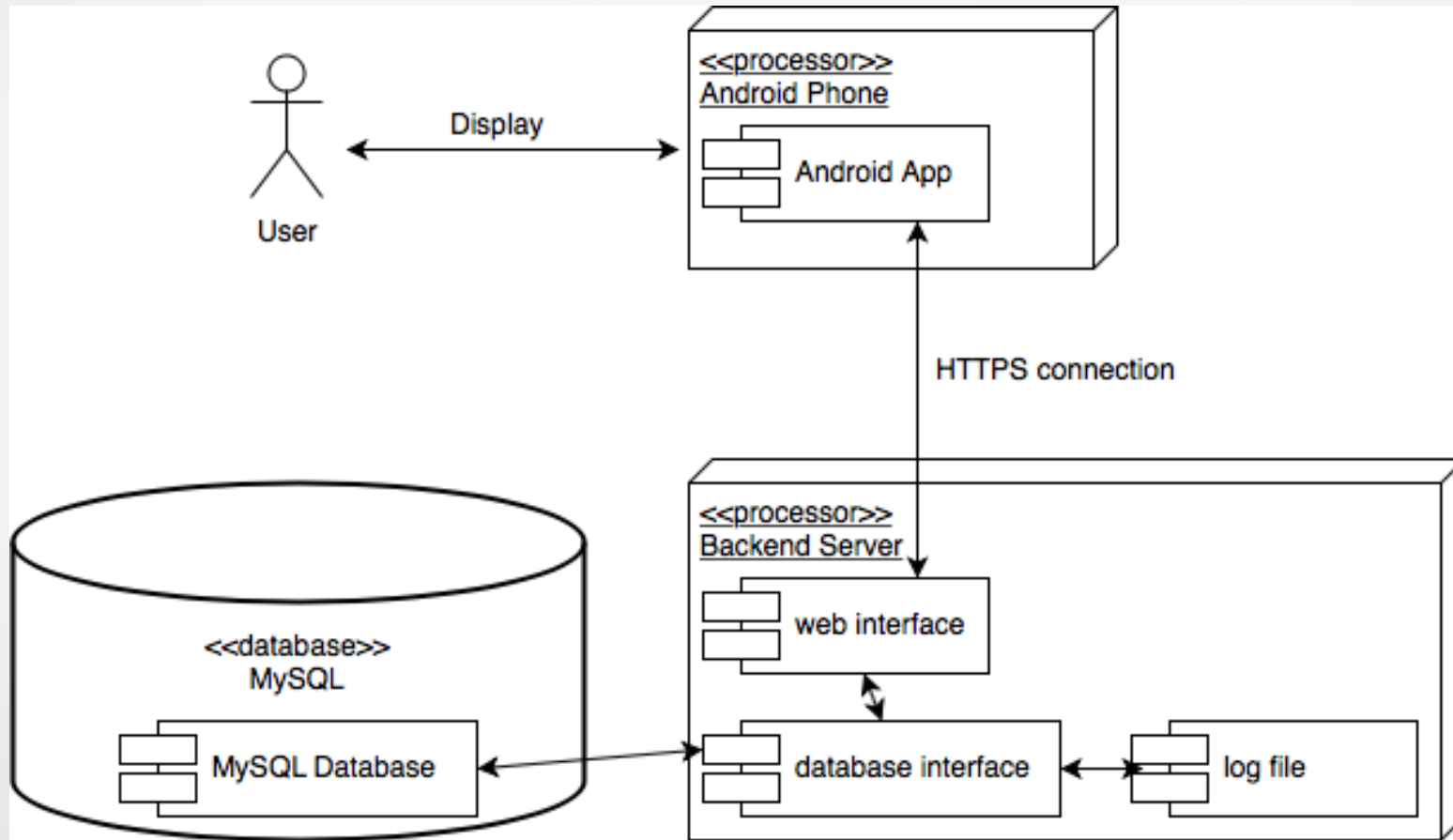
Feedback



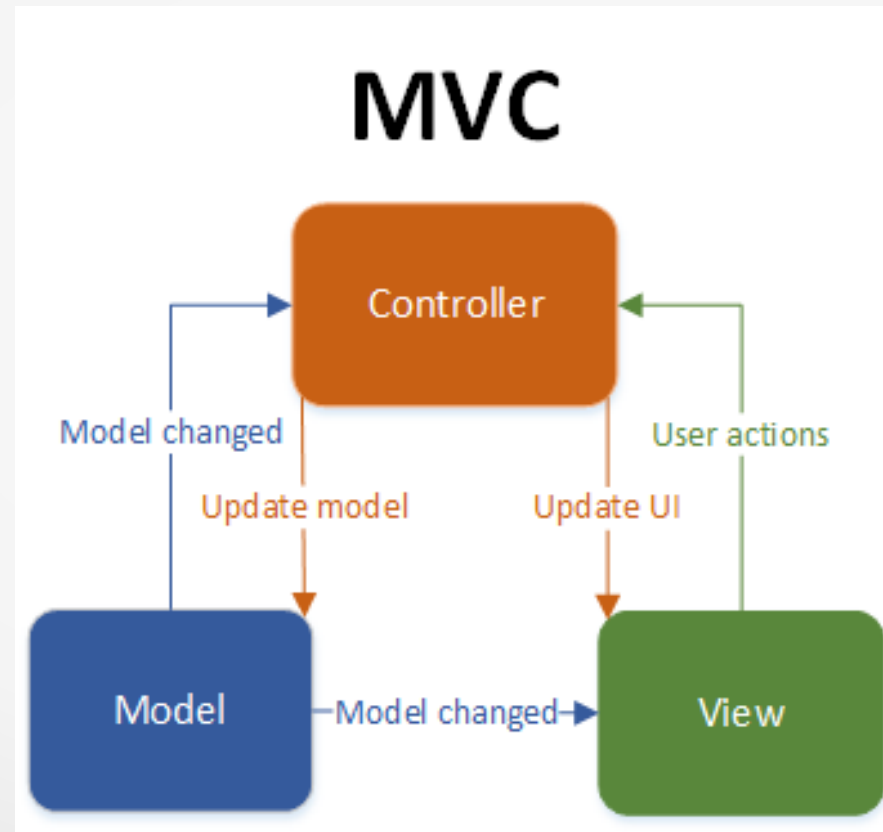
Risk Management

Risk Name	Risk Description	Risk Probability	Risk Impact	Risk Mitigation	Person in Charge	Risk Factor
Repository loss	Git Repository breaks or Github goes down	1%	10	Having local backups	Jonas	0.1
Server loss	Losing our Backend because of problems with our provider Contabo	3%	10	Backup of all the Code and Data (regularly)	Jannik and Mert	0.3
Hacker attacks	Sensible data like User Passwords are exploited (Data Loss) or Virus infection	5%	7	Implementing proper Security Measures	Everyone	0.35
Local Code loss	Losing local Code changes because of technical problems	20%	2	Frequent pushes to Git	Everyone	0.4
Member Loss	Losing a Team Member (temporarily/permanently) due to e.g. a medical condition thus falling out of schedule	1%	8	-	Everyone	0.8
Unsatisfying results	In the end the App does not fully represent the looks and features of what was initially planned	20%	9	Defining and implementing Use Cases correctly and prototyping frequently	Everyone	1.8
Unexpected Bugs	Code contains bugs which could e.g. crash the App or display wrong data in a productive scenario	30%	7	Proper and frequent testing	Everyone	2.3
Unexpected complexity of UC	UC is more complex and takes more time than expected	50%	6	Proper planning or cutting down on Features	Jonas	3
Bad Code	Bad Code makes understanding hard	50%	6	Refactoring	Everyone	3

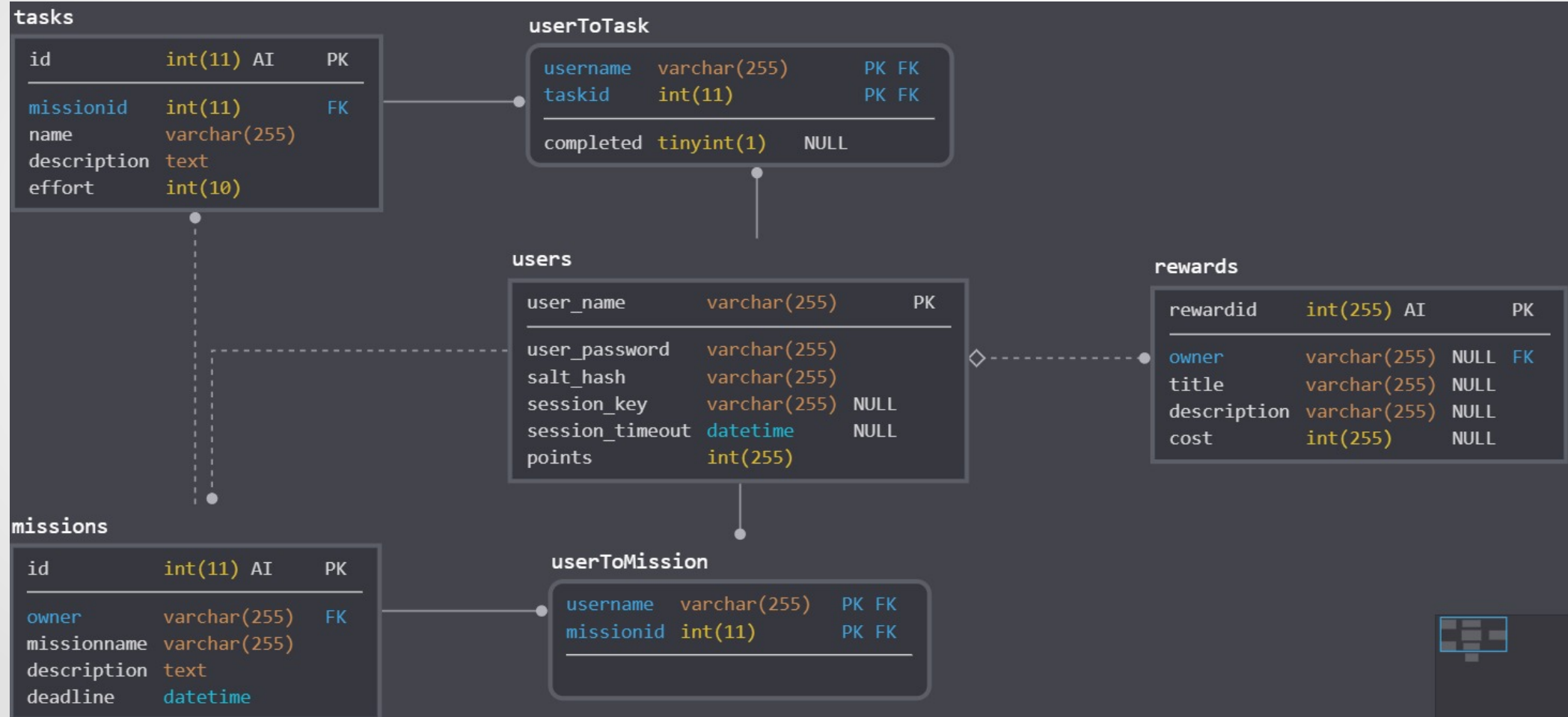
Architecture



Architecture II



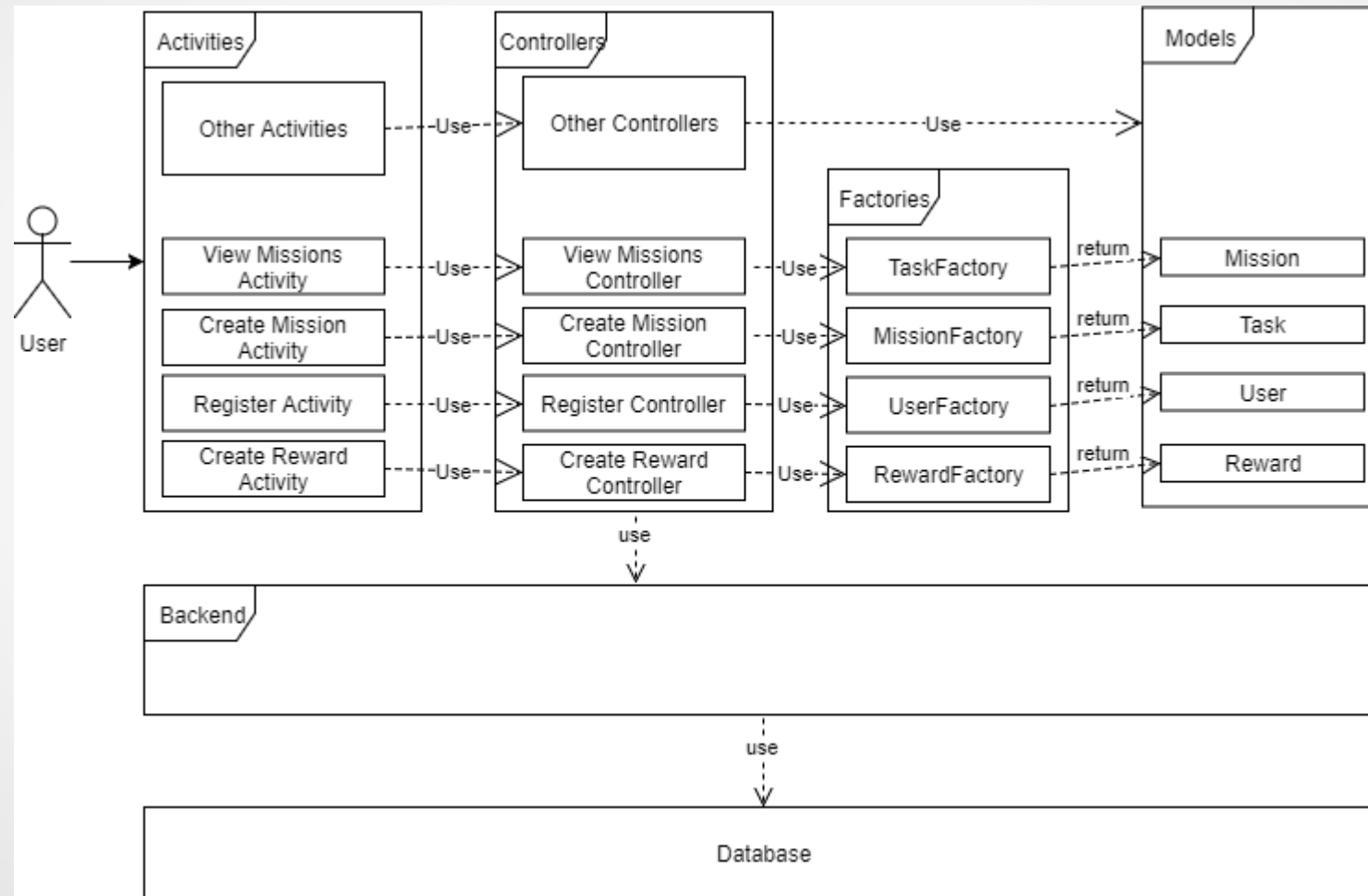
Architecture III



Design Patterns

- ▶ Factory Method Pattern
- ▶ Idea: Disguise the construction of a model with another class, the factory
- ▶ In our case: Static methods to create new model objects
- ▶ -> filled with data, then returned

Design Patterns II



Metrics

sonarcloud



My Projects

My Issues

M

Mert-Guenduez / learnityyourself



master



Overview

Issues

Measures

Code

Activity

Administration

Quality Gate



Failed

B

Security Rating on New Code is worse than A

Reliability

Measures

28

C

Bugs

started 11 hours ago

Security

Measures

65

E

Vulnerabilities

23

Security Hotspots

Maintainability

Measures

13d

A

Debt

346

Code Smells

Metrics II

Method metrics Class metrics Package metrics Module metrics Project metrics

class	OCavg	WMC
learnityourself.dhbw.learnityourself.utility.HTTPRequestHandler	3,50	7
learnityourself.dhbw.learnityourself.OptionsActivity	2,00	6
learnityourself.dhbw.learnityourself.controller.AuthorizedController	2,00	6
learnityourself.dhbw.learnityourself.RegisterActivity	2,00	6
learnityourself.dhbw.learnityourself.AddMissionMemberCreateMissionActivity	1,93	29
learnityourself.dhbw.learnityourself.CreateCustomRewardActivity	1,70	17
learnityourself.dhbw.learnityourself.CreateMissionActivity	1,69	49
learnityourself.dhbw.learnityourself.controller.OptionsController	1,67	5
learnityourself.dhbw.learnityourself.controller.LoginController	1,50	6
learnityourself.dhbw.learnityourself.controller.RegisterController	1,50	3
learnityourself.dhbw.learnityourself.AddMissionMemberActivity	1,44	13
learnityourself.dhbw.learnityourself.model.AddUserAdapter	1,43	10
learnityourself.dhbw.learnityourself.model.TaskAdapter	1,40	7
learnityourself.dhbw.learnityourself.ManageTaskActivity	1,36	15
learnityourself.dhbw.learnityourself.model.RewardAdapter	1,36	15
learnityourself.dhbw.learnityourself.ViewTaskActivity	1,25	10
learnityourself.dhbw.learnityourself.controller.MainController	1,23	16
learnityourself.dhbw.learnityourself.controller.ViewRewardsController	1,22	11
learnityourself.dhbw.learnityourself.model.UserAdapter	1,20	6
learnityourself.dhbw.learnityourself.model.MissionAdapter	1,20	6
learnityourself.dhbw.learnityourself.MainActivity	1,20	12
learnityourself.dhbw.learnityourself.ViewRewardsActivity	1,20	6
learnityourself.dhbw.learnityourself.model.MissionMemberAdapter	1,20	6
learnityourself.dhbw.learnityourself.ViewMissionsActivity	1,17	7
learnityourself.dhbw.learnityourself.ViewMissionActivity	1,17	14

Method metrics Class metrics Package metrics Module metrics Project metrics

class	OCavg	WMC
learnityourself.dhbw.learnityourself.utility.HTTPRequestHandler	2,25	9
learnityourself.dhbw.learnityourself.OptionsActivity	2,00	6

Automation

- ▶ Tests, DIE, git, YouTrack SHOW Integration

- ▶ Automated testing is important, why is it important. Are you mentioning that in your talk, are you explaining how it is integrated into your project. what does this mean for the client?

Present proof that yours are executed.

So - not only are you implementing it technically, but you are also arguing in your presentation

how it is integrated into your project management and software engineering process and methodology of running your project.

You dont need to mention it 4 times, but for me I need to see whether you cover all aspects

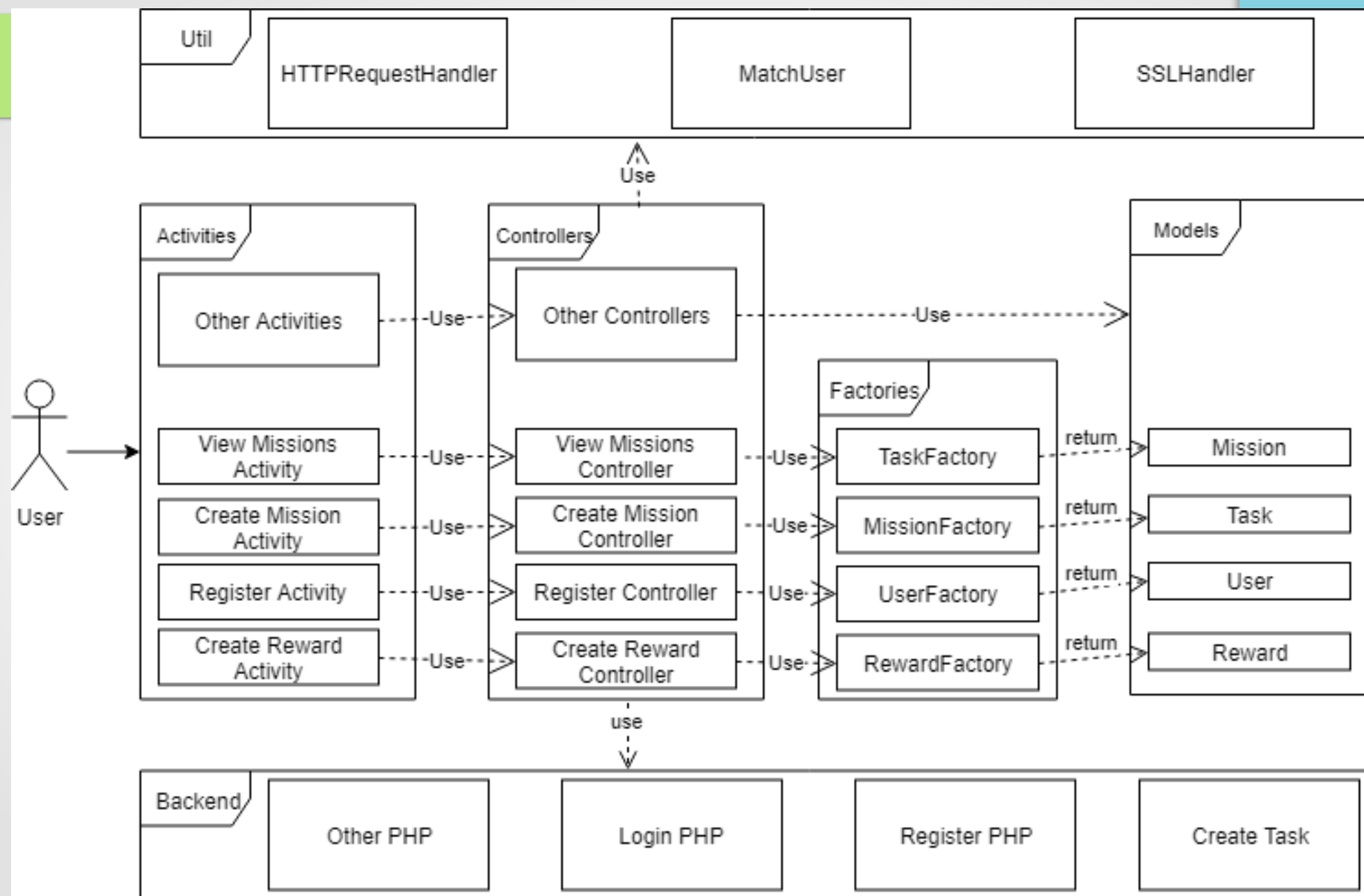
of the testing during your talk.

Technology

CLASS DIAGRAM

TECHNICAL ABILITY

LIVE DEMO



Technical Ability

- ▶ Account
- ▶ CRUD Missions
- ▶ CRUD Tasks
- ▶ CRUD Rewards
- ▶ Statistics
- ▶ Achievements



Demo