Tower Defense

The Next Generation

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Project Overview

The Project Vision

Define Analyse Implement Review Publish Maintain

- self-developed engine
- multiple-level support
- customization of
  - designs
  - effects

- RUP terminology used
- PM using Scrum and Jira
- technology according to current standards

- unique game-concept
- creation of a community
- potential for high user amount after months

Android Studio

XML / Java

Gimp / Photoshop Elements 2018

Scrumming on Jira

PLAN, TRACK, REPORT

Jira is one of the most often used tool for agile project-management purposes. Due to its simple way of planning, tracking and reporting, Jira provides a great scope of functions.

ITERATIVE PROCESS

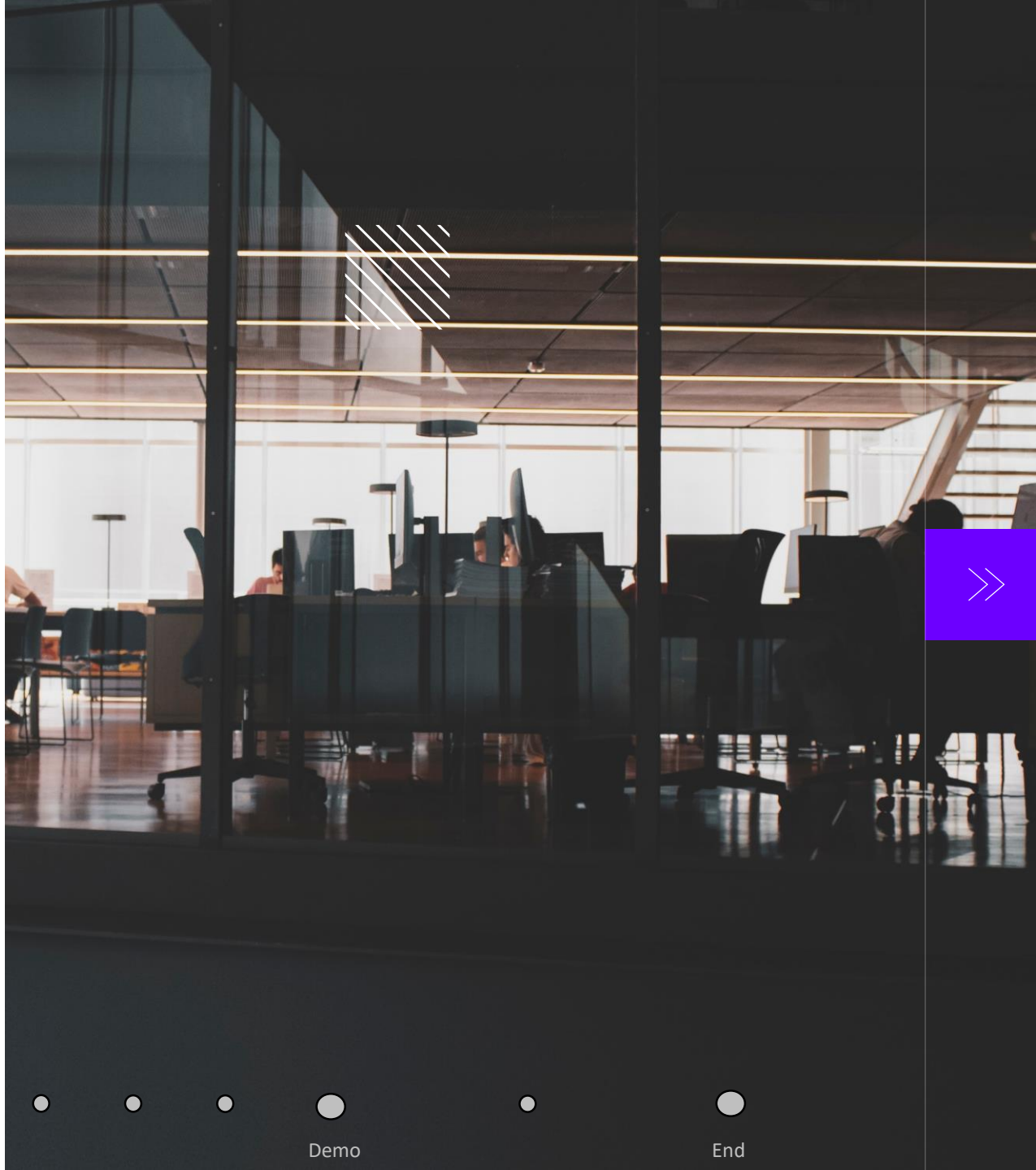
Especially, external conditions in the development-environment can change very quickly. Therefore, working iteratively is one of the most important aspects while developing.

TIME-TRACKING

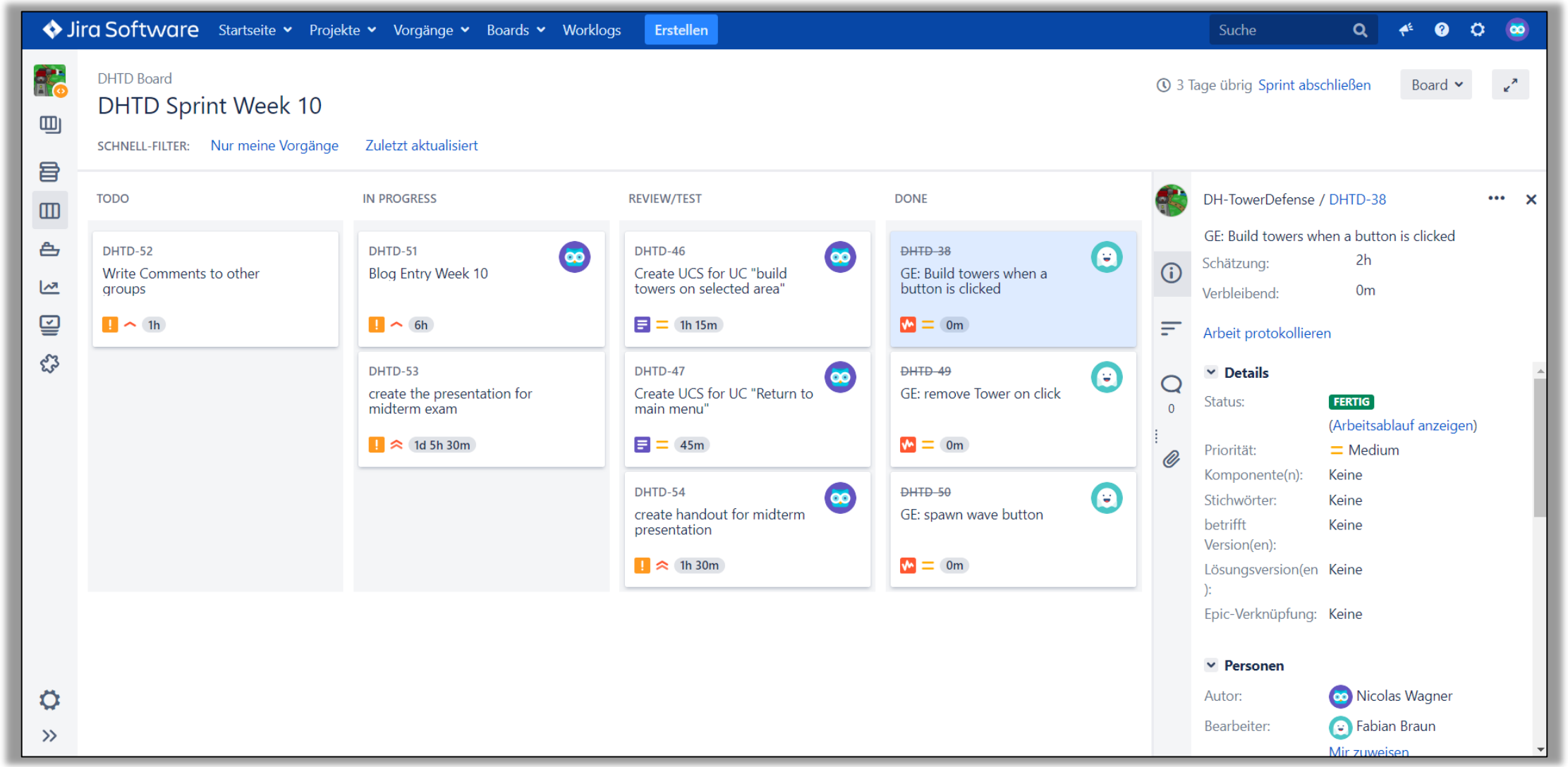
In times of efficiency, there is a need of time-tracking in order to optimize several processes.

CUSTOMIZATION

Jira supports more than 3000 additional plugins to adapt to specific needs. On top, this provides the ability to live Scrum after own adjustments.



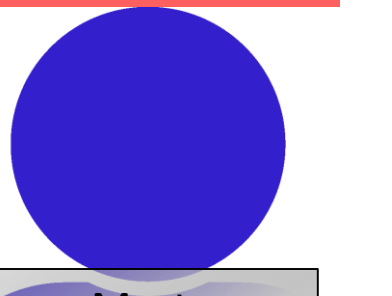
Jira



Project Overview | Architecture | Game Engine | Demo | End

OUR TEAM

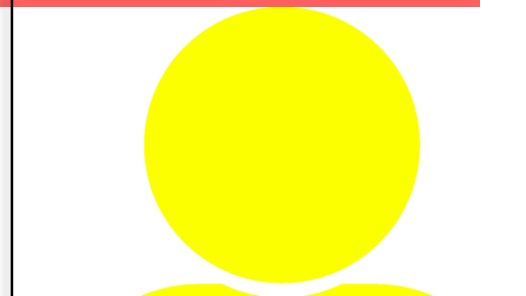
Fabian Braun



- Scrum Master
- Software Architect
- Implementer (Game Engine)

With a lot of experience in developing several applications, Fabian knows which aspects are the most important ones to focus on.

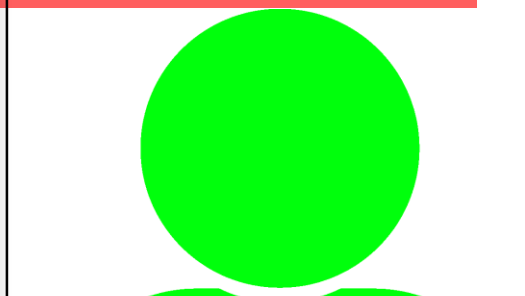
Luca Rutschmann



- Implementer (Game Engine)
- Tester/Reviewer

Testing developed code is an activity that Luca loves to do in every project.

Nicolas Wagner

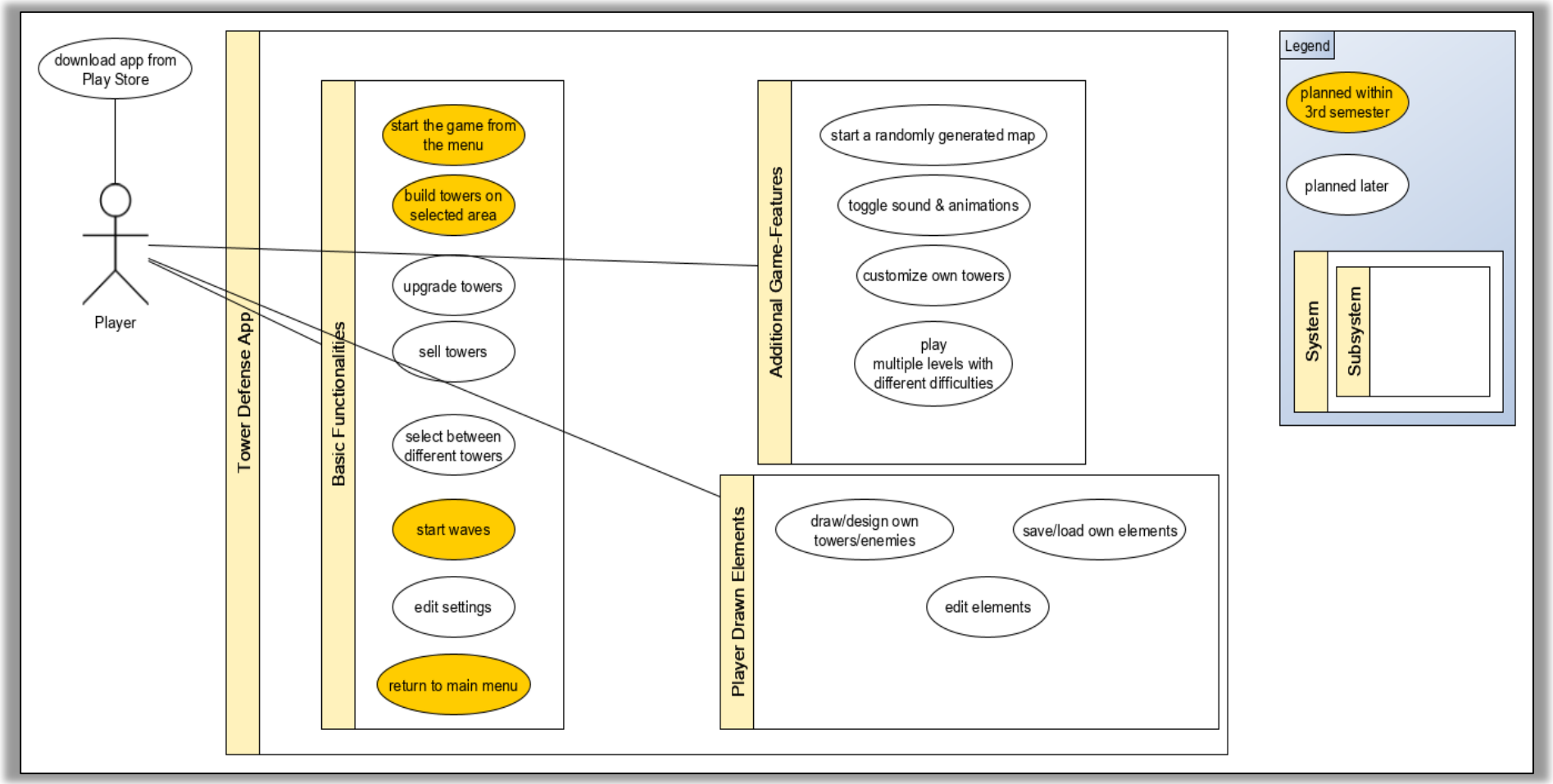


- Project Manager
- Implementer (Surface/Overlay)

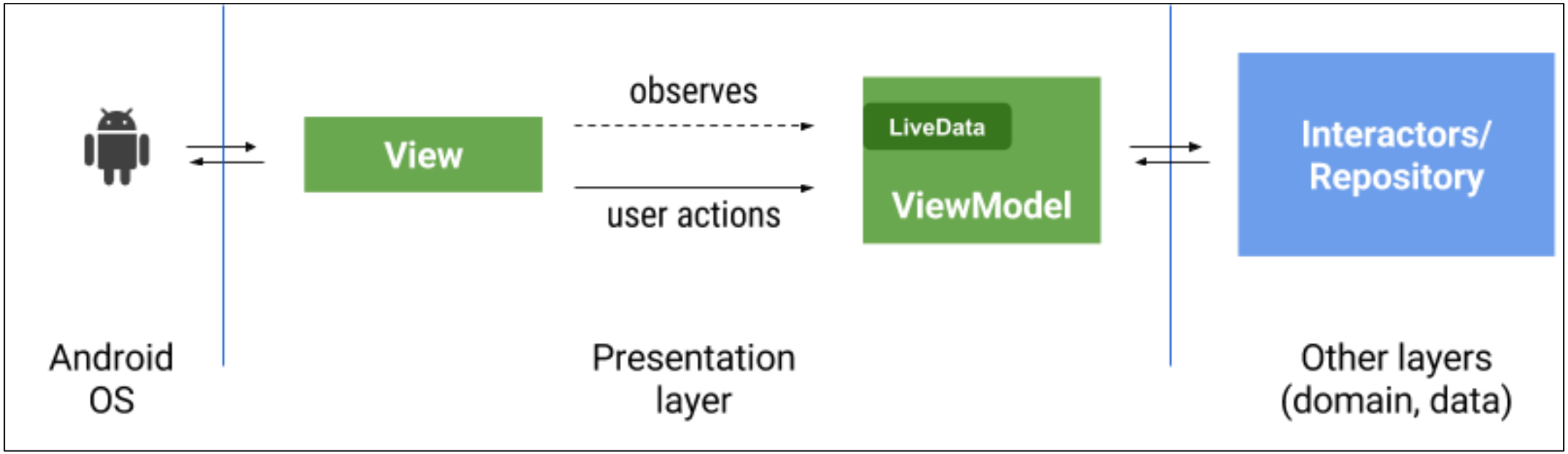
Good project-management can improve its success by a lot. Nicolas considers PM as the most significant task in a project.

Architecture

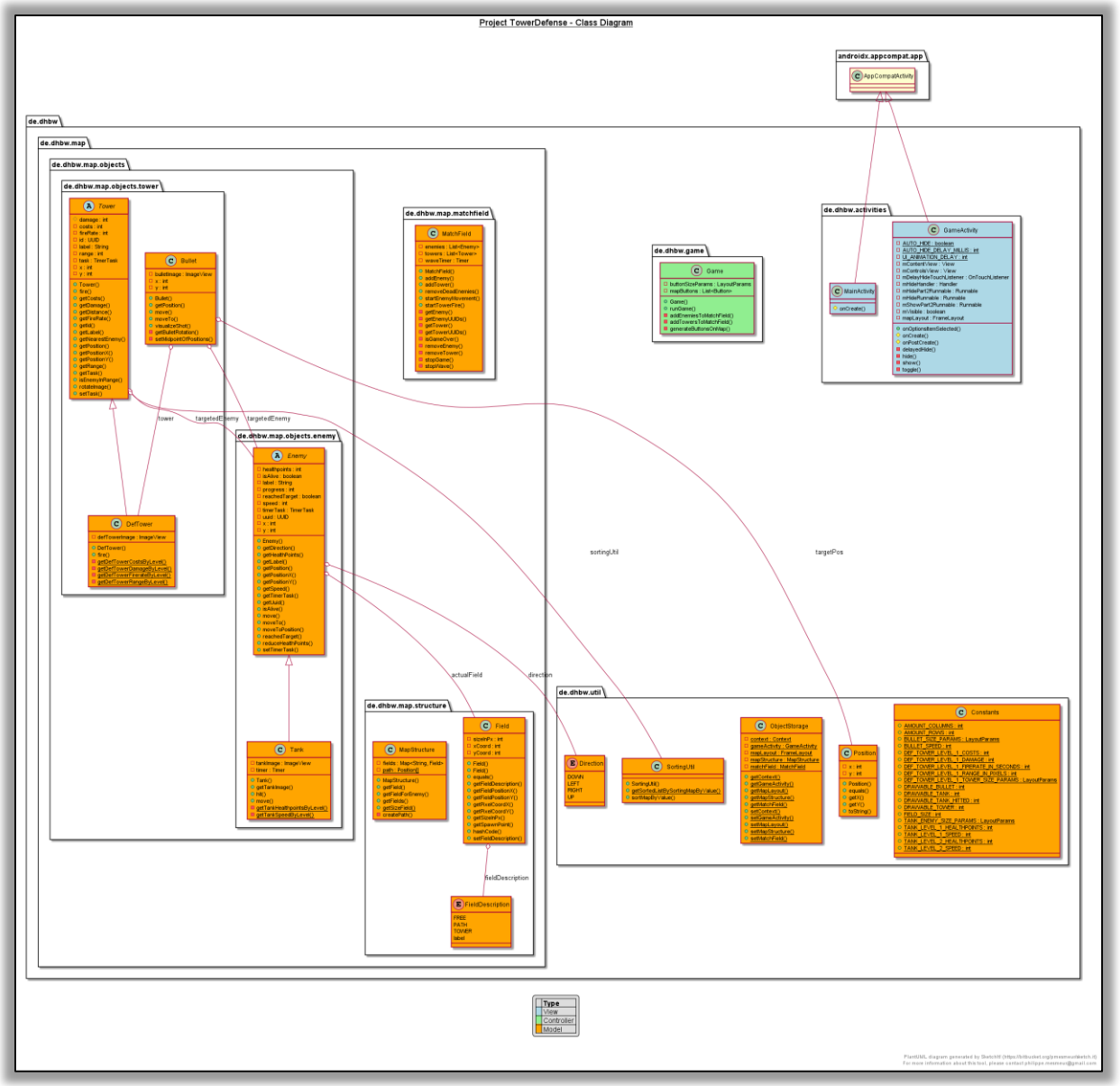
Use Case Diagram



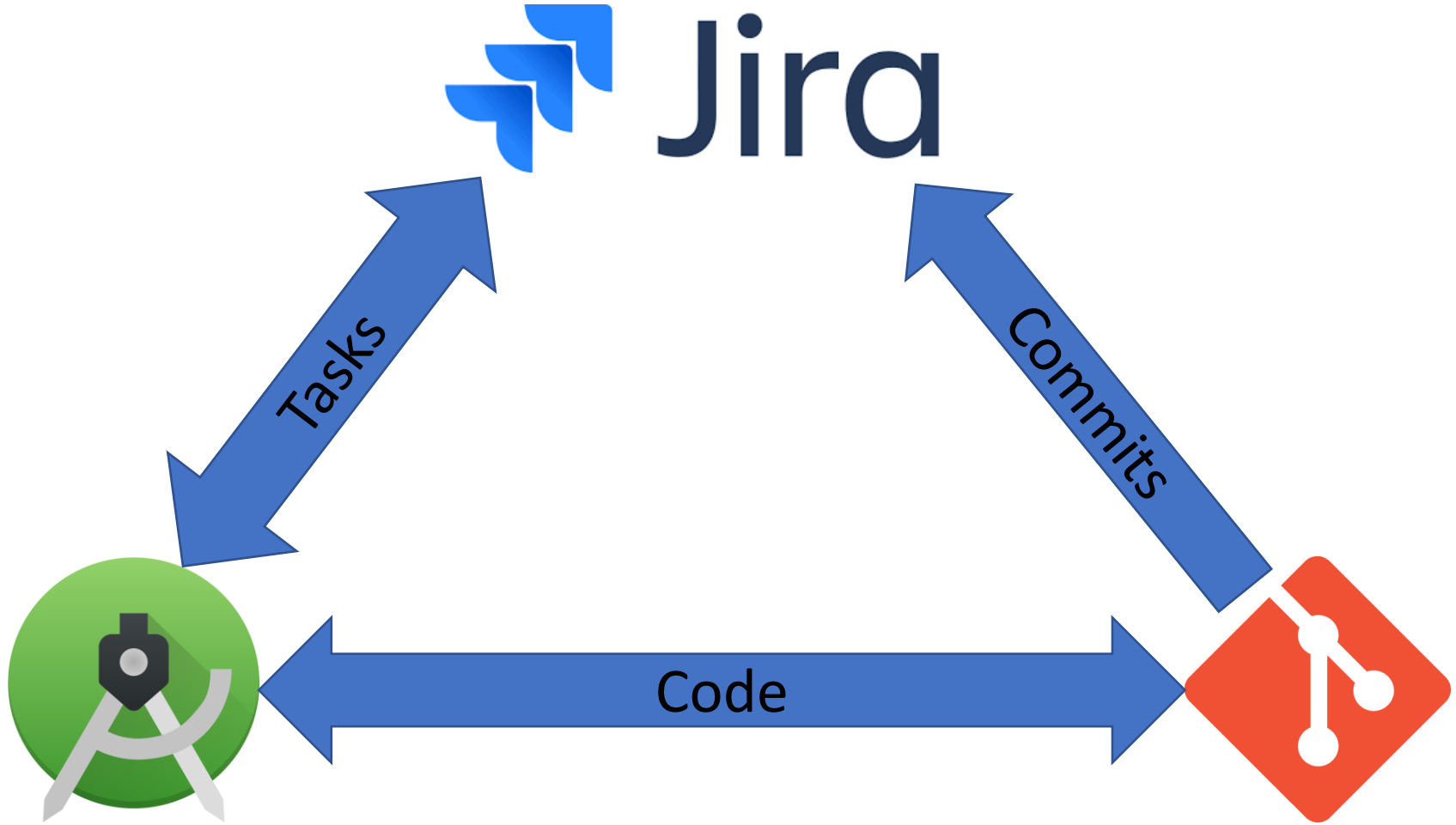
Android MVC


View
observes
user actions
LiveData
ViewModel
Interactors/
Repository
Android
OS
Presentation
layer
Other layers
(domain, data)

Project MVC

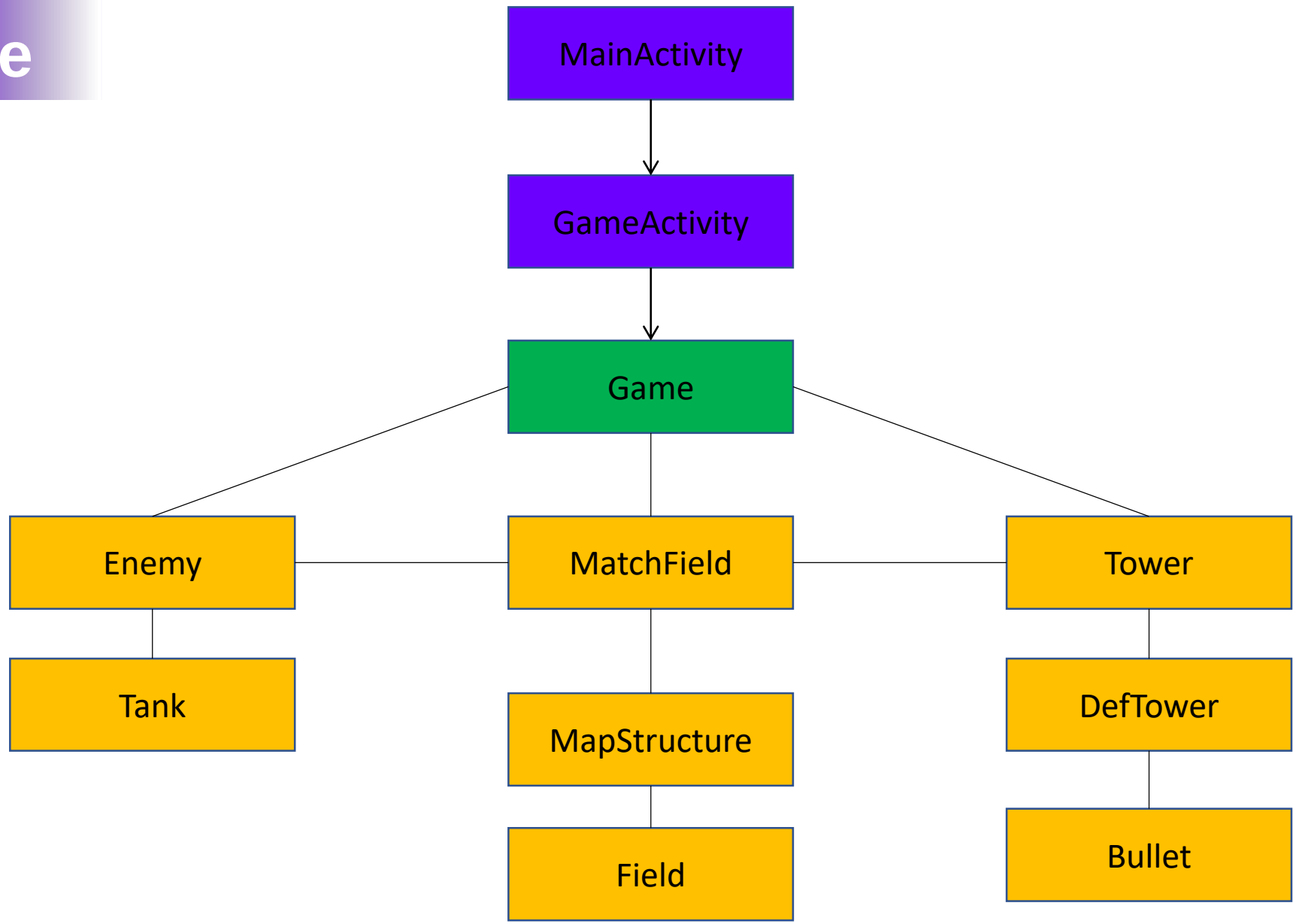

Project TowerDefense - Class Diagram
androidx.appcompat.app
AppCompatActivity
de.dhbw
de.dhbw.map
de.dhbw.map.objects
de.dhbw.map.objects.tower
Tower
Bullet
DefTower
de.dhbw.map.objects.enemy
Enemy
Tank
de.dhbw.map.matchfield
MatchField
de.dhbw.game
Game
de.dhbw.activities
MainActivity
GameActivity
de.dhbw.map.structure
MapStructure
Field
FieldDescription
de.dhbw.util
Direction
SortingUtil
ObjectStorage
Position
Constants
Type
View
Controller
Model

Automation



Game Engine

Structure


MainActivity
GameActivity
Game
Enemy
MatchField
Tower
Tank
MapStructure
DefTower
Field
Bullet

Components

User Interface	Game-Logic
Activities	Abstract Classes (attributes)
ImageViews	Controller Classes (logical actions)
Buttons	Timer/Threads, Streams

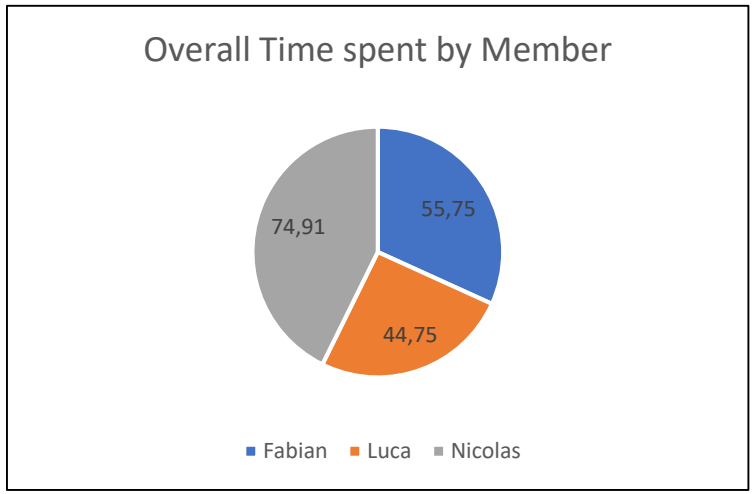
Testing

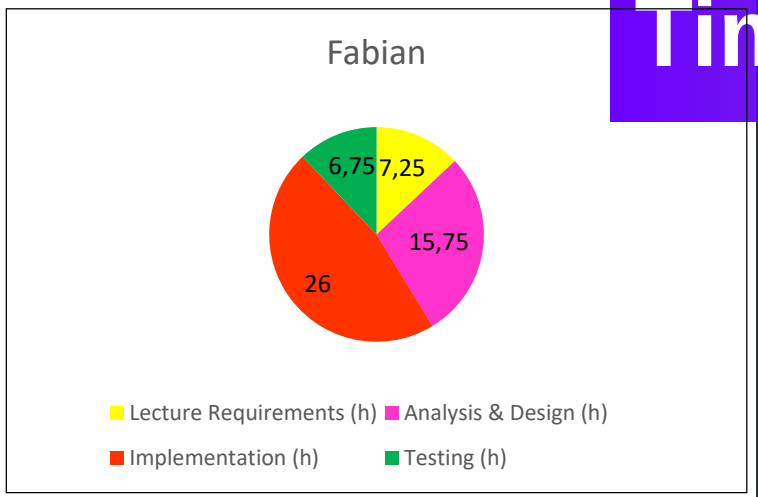
- **UI** testing with *Cucumber*
  - Feature Files executed with Espresso & GreenCoffee

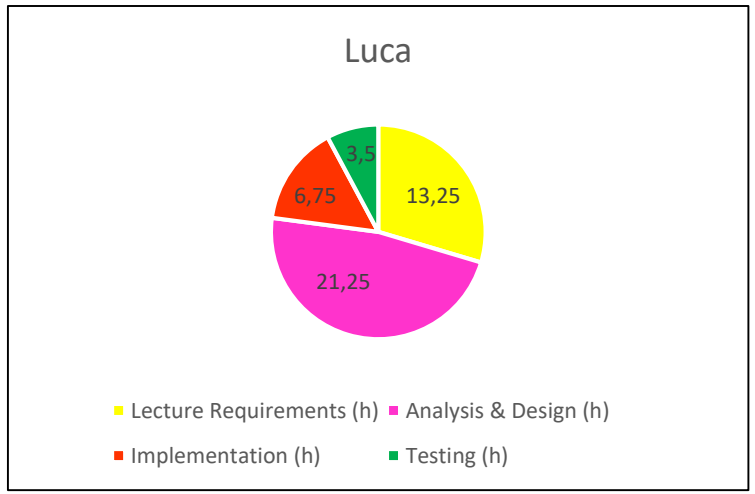
- **Logical** testing with *JUnit*
  - testing of calculations, operations and more

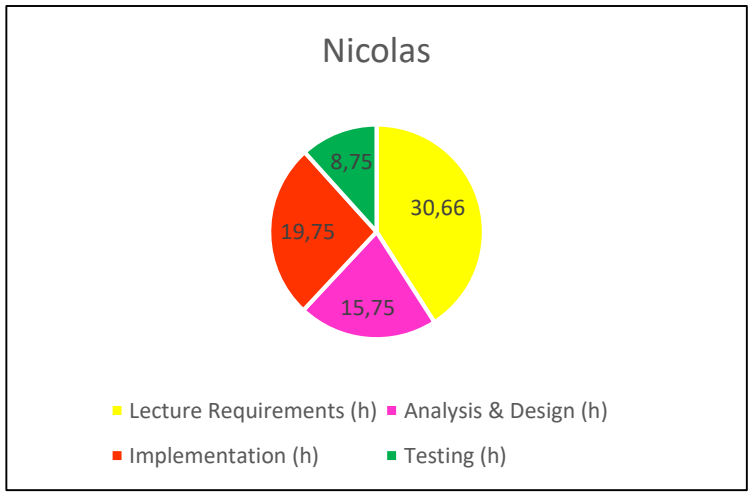
DEMO

Time Sheet



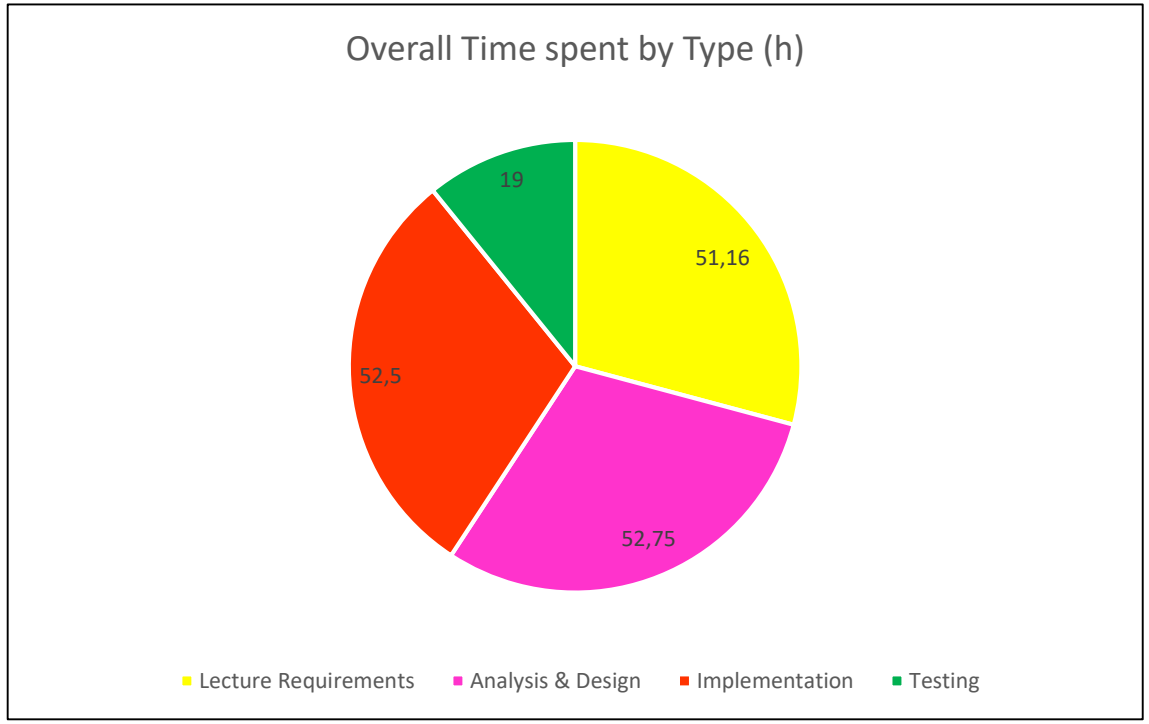






The numbers and data of the charts are automatically tracked by Jira which enables a detailed evaluation of the work done so far.

Time Sheet



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THANK YOU

If You would like to create and work with us, please contact us using the mail addresses below.

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