Nappy, the Ingenious

NAPPYDEVELOPMENT

VON MANUEL BOTHNER, MARC MAHLER,
MARVIN ZERULLA UND MEHMET ALI INCEKARA

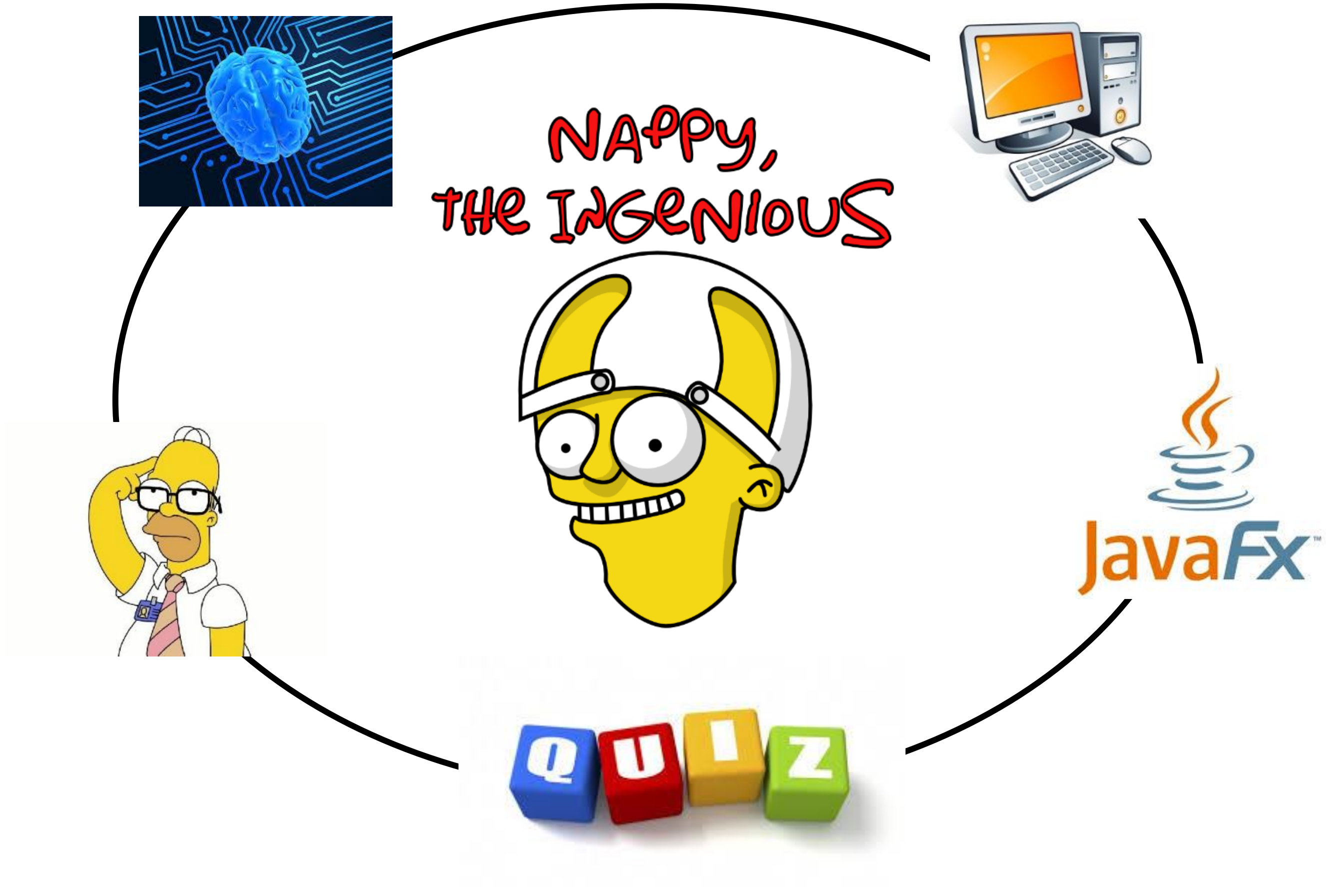
AGENDA

1. Wer ist nappydevelopment
2. Vision & Scope
3. Software Requirements Specification
   1. Use Case‘s
   2. Non-functional Requirements
4. Project Management
   1. RUP
   2. Function Points
   3. Scrum
5. Quality Assurance
   1. Environment, Integration andAutomation
   2. Riskmanagement
   3. Testing
   4. Metrics
6. Technical Ability
   1. Architecture
   2. Class Diagram
   3. Patterns
   4. Demo

WER IST NAPPYDEVELOPMENT?

Discipline	Team member
Business Modeling	Marc Mahler and Manuel Bothner
Requirements	Mehmet Ali Incekara
Analysis and Design	Marvin Zerulla and Manuel Bothner
Implementation	nappydevelopment
Test	nappydevelopment
Deployment	Marvin Zerulla and Mehmet Ali Incekara
Project Management	Mehmet Ali Incekara
Environment	Marc Mahler and Manuel Bothner
Configuration and Change Managment	Marvin Zerulla and Mehmet Ali Incekara

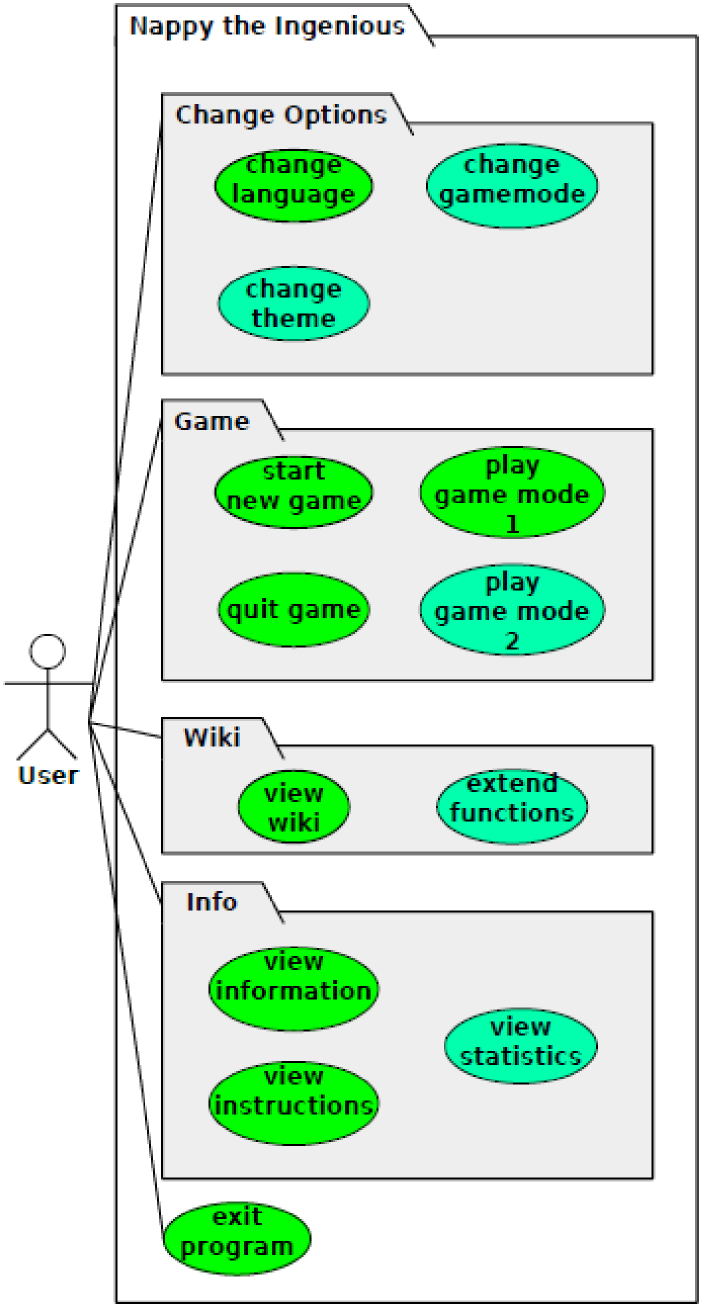
VISION & SCOPE



Software Requirements Specification

USECASE DIAGRAM & USECASE'S

1. UseCase: Gamemode 1
2. UseCase: View Wiki
3. UseCase: View Instruction
4. UseCase: Change Settings
5. UseCase: View Info
6. UseCase: Gamemode 2
7. UseCase: Extend Wiki
8. UseCase: View Statistic
9. UseCase: Extend Settings

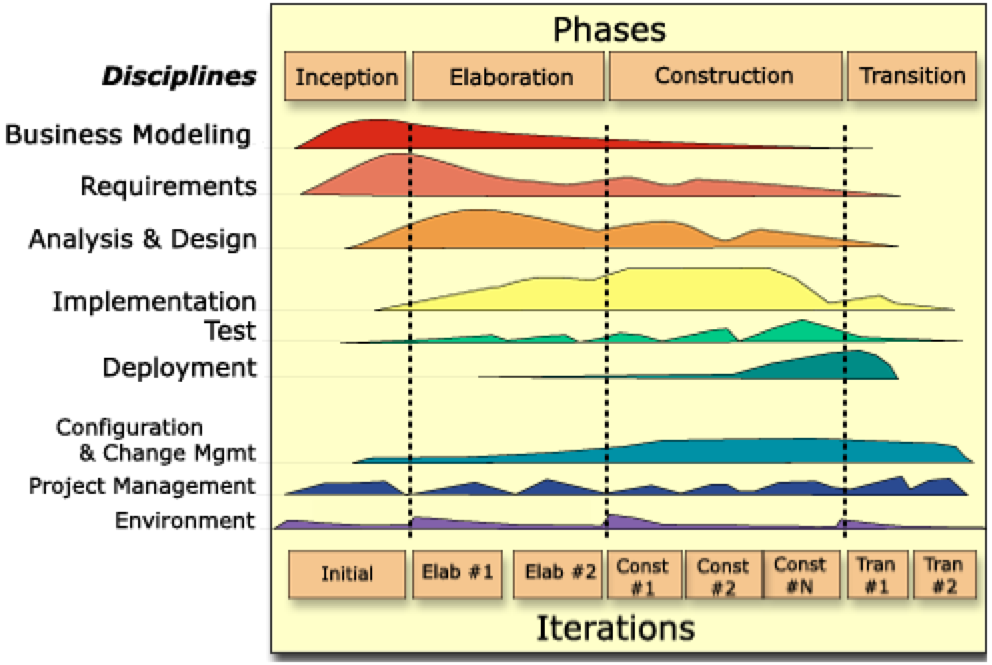


NON-FUNCTIONAL REQUIREMENTS

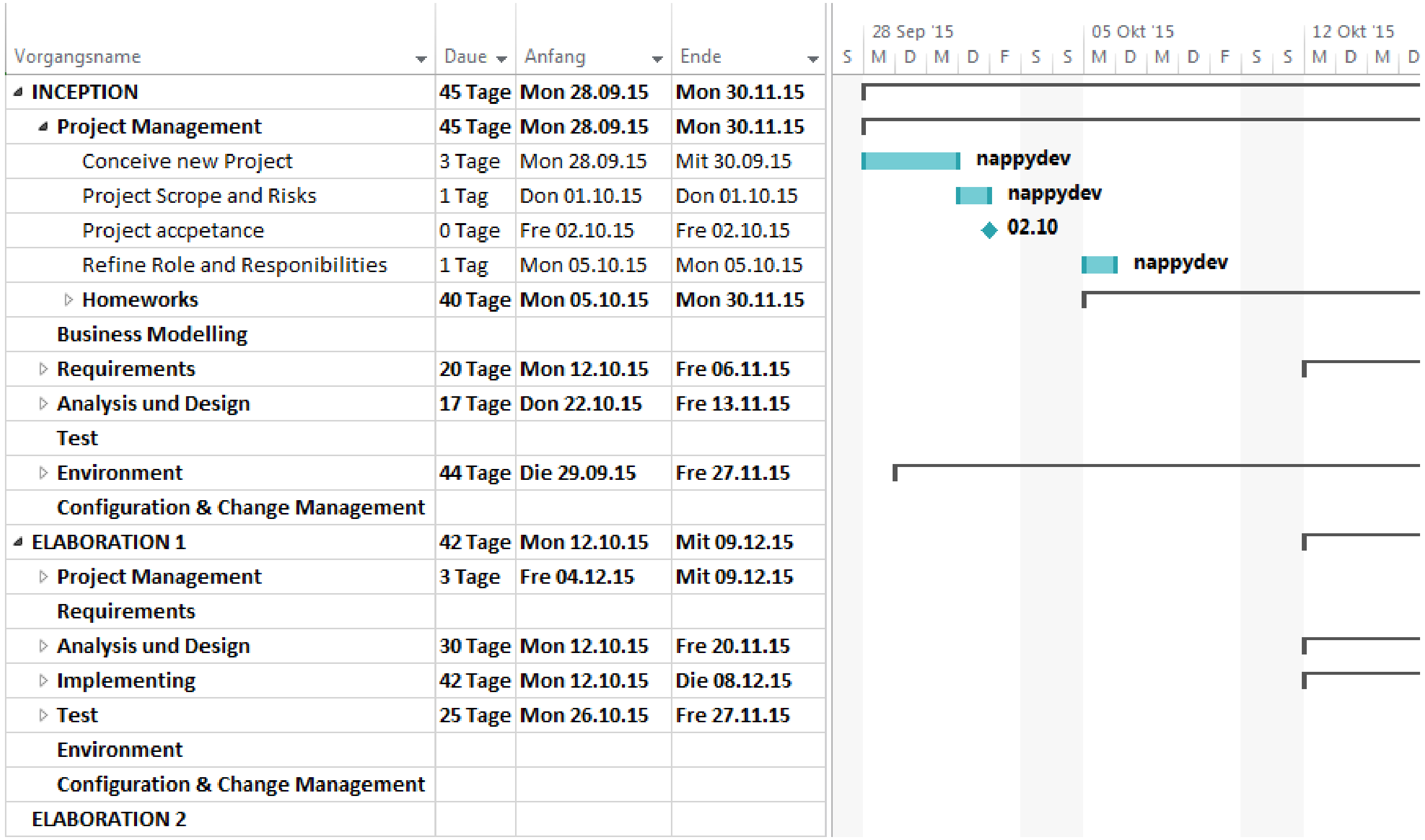
- Plattformunabhängigkeit
- vollständig Offline lauffähig
- Antwortzeiten
  - Startzeit: ~5 Sekunden
  - Nach Start: ~0,5 Sekunden
- Testabdeckung
  - Insgesamt > 50%
- 100 spielbare Figuren

PROJECT MANAGEMENT

RUP

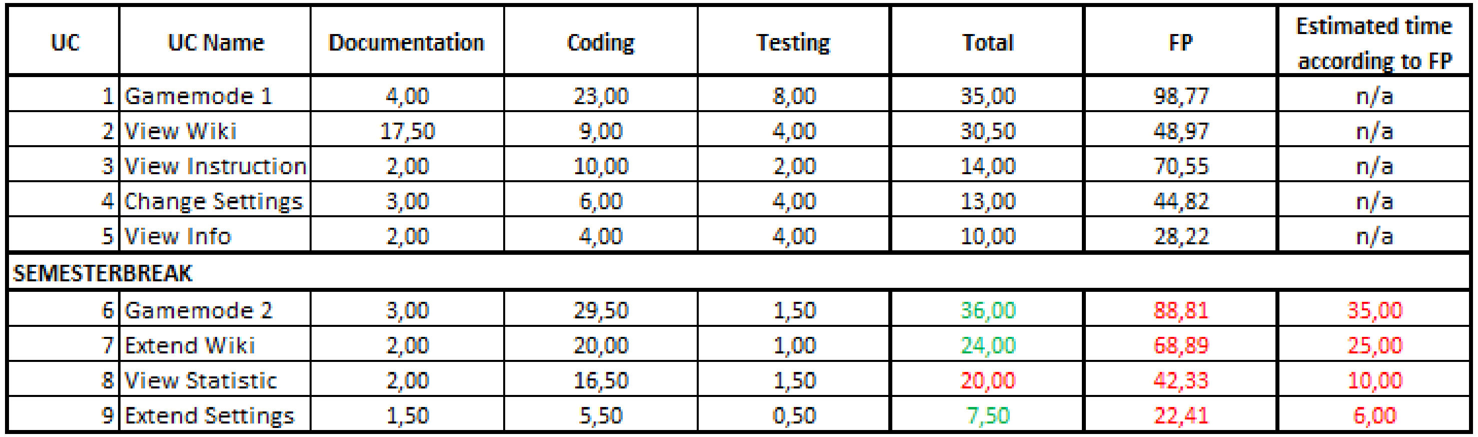

Phases
Disciplines
Inception
Elaboration
Construction
Transition
Business Modeling
Requirements
Analysis & Design
Implementation
Test
Deployment
Configuration & Change Mgmt
Project Management
Environment
Initial
Elab #1
Elab #2
Const #1
Const #2
Const #N
Tran #1
Tran #2
Iterations

GANTT-CHART

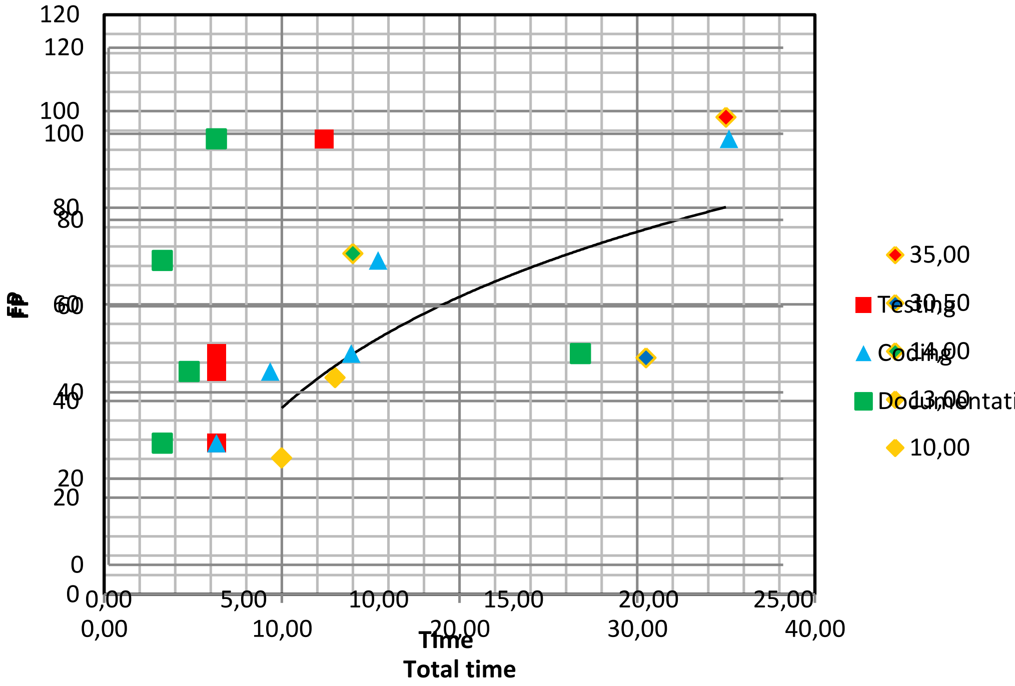


Vorgangsname	Daue	Anfang	Ende
INCEPTION	**45 Tage**	**Mon 28.09.15**	**Mon 30.11.15**
Project Management	**45 Tage**	**Mon 28.09.15**	**Mon 30.11.15**
Conceive new Project	3 Tage	Mon 28.09.15	Mit 30.09.15
Project Scrope and Risks	1 Tag	Don 01.10.15	Don 01.10.15
Project accpetance	0 Tage	Fre 02.10.15	Fre 02.10.15
Refine Role and Responibilities	1 Tag	Mon 05.10.15	Mon 05.10.15
Homeworks	**40 Tage**	**Mon 05.10.15**	**Mon 30.11.15**
Business Modelling			
Requirements	**20 Tage**	**Mon 12.10.15**	**Fre 06.11.15**
Analysis und Design	**17 Tage**	**Don 22.10.15**	**Fre 13.11.15**
Test			
Environment	**44 Tage**	**Die 29.09.15**	**Fre 27.11.15**
Configuration & Change Management			
ELABORATION 1	**42 Tage**	**Mon 12.10.15**	**Mit 09.12.15**
Project Management	**3 Tage**	**Fre 04.12.15**	**Mit 09.12.15**
Requirements			
Analysis und Design	**30 Tage**	**Mon 12.10.15**	**Fre 20.11.15**
Implementing	**42 Tage**	**Mon 12.10.15**	**Die 08.12.15**
Test	**25 Tage**	**Mon 26.10.15**	**Fre 27.11.15**
Environment			
Configuration & Change Management			
ELABORATION 2			

FUNCTION POINTS

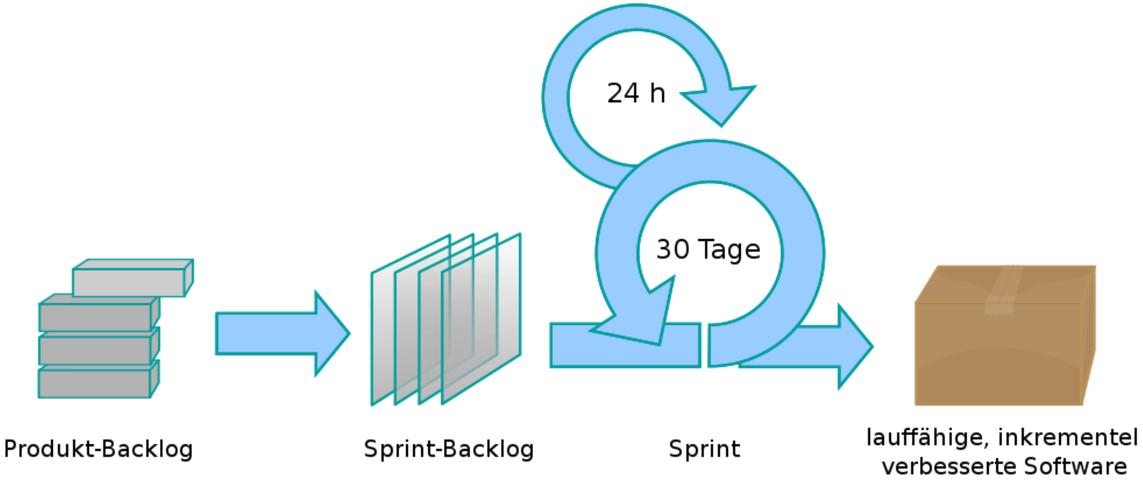


UC	UC Name	Documentation	Coding	Testing	Total	FP	Estimated time according to FP
1	Gamemode 1	4,00	23,00	8,00	35,00	98,77	n/a
2	View Wiki	17,50	9,00	4,00	30,50	48,97	n/a
3	View Instruction	2,00	10,00	2,00	14,00	70,55	n/a
4	Change Settings	3,00	6,00	4,00	13,00	44,82	n/a
5	View Info	2,00	4,00	4,00	10,00	28,22	n/a
SEMESTERBREAK							
6	Gamemode 2	3,00	29,50	1,50	36,00	88,81	35,00
7	Extend Wiki	2,00	20,00	1,00	24,00	68,89	25,00
8	View Statistic	2,00	16,50	1,50	20,00	42,33	10,00
9	Extend Settings	1,50	5,50	0,50	7,50	22,41	6,00

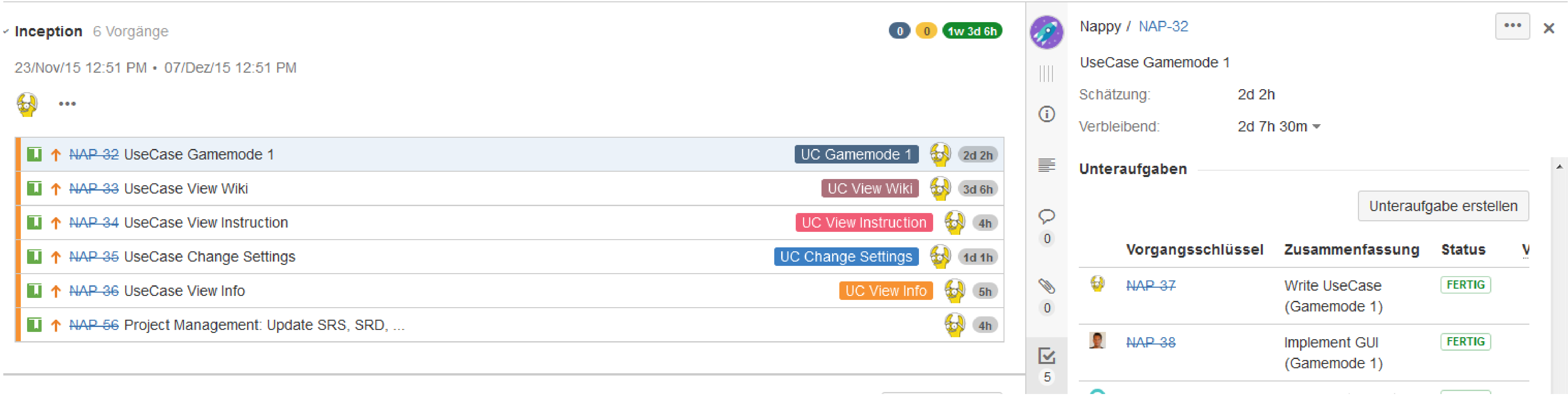


SCRUM

- Vorgehensmodell in der agilen Softwareentwicklung



JIRA



Inception 6 Vorgänge

0 0 1w 3d 6h

23/Nov/15 12:51 PM • 07/Dez/15 12:51 PM

~~NAP-32~~ UseCase Gamemode 1	UC Gamemode 1		2d 2h
~~NAP-33~~ UseCase View Wiki	UC View Wiki		3d 6h
~~NAP-34~~ UseCase View Instruction	UC View Instruction		4h
~~NAP-35~~ UseCase Change Settings	UC Change Settings		1d 1h
~~NAP-36~~ UseCase View Info	UC View Info		5h
~~NAP-56~~ Project Management: Update SRS, SRD, ...			4h

Nappy / NAP-32

UseCase Gamemode 1

Schätzung: 2d 2h

Verbleibend: 2d 7h 30m

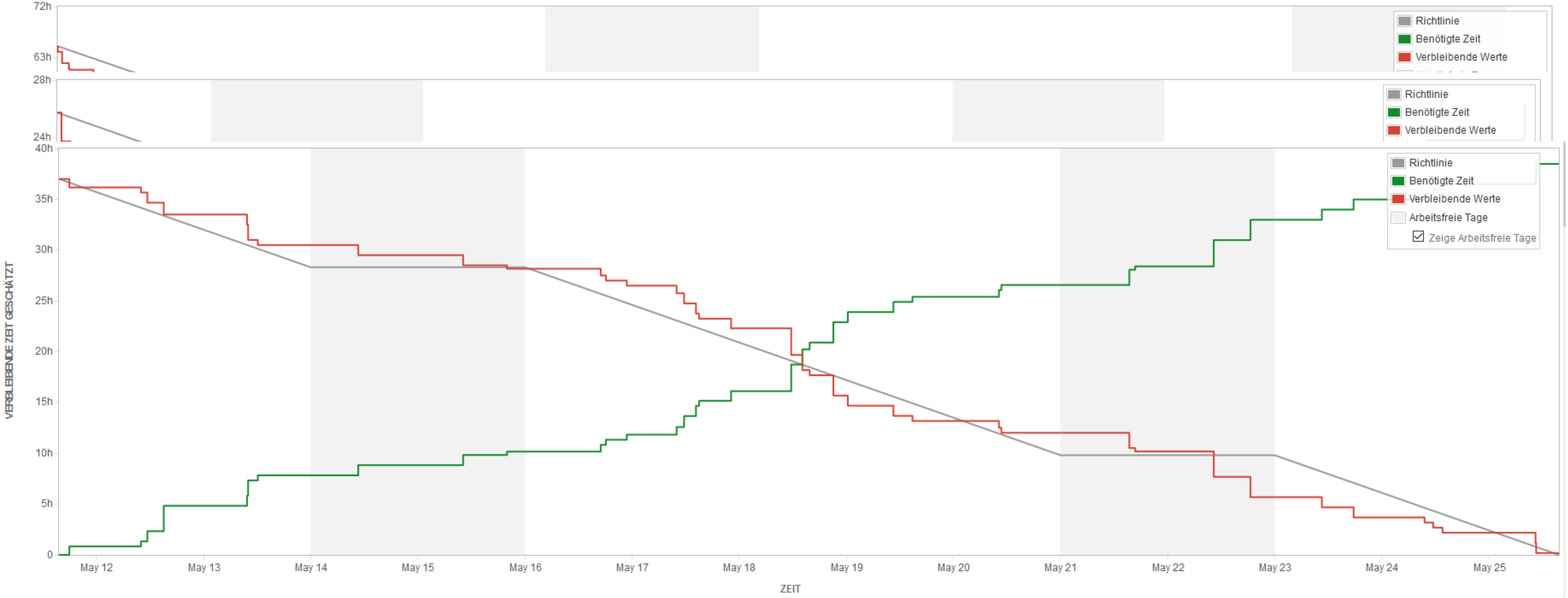
Unteraufgaben

Unteraufgabe erstellen

	Vorgangsschlüssel	Zusammenfassung	Status
	~~NAP-37~~	Write UseCase (Gamemode 1)	FERTIG
	~~NAP-38~~	Implement GUI (Gamemode 1)	FERTIG

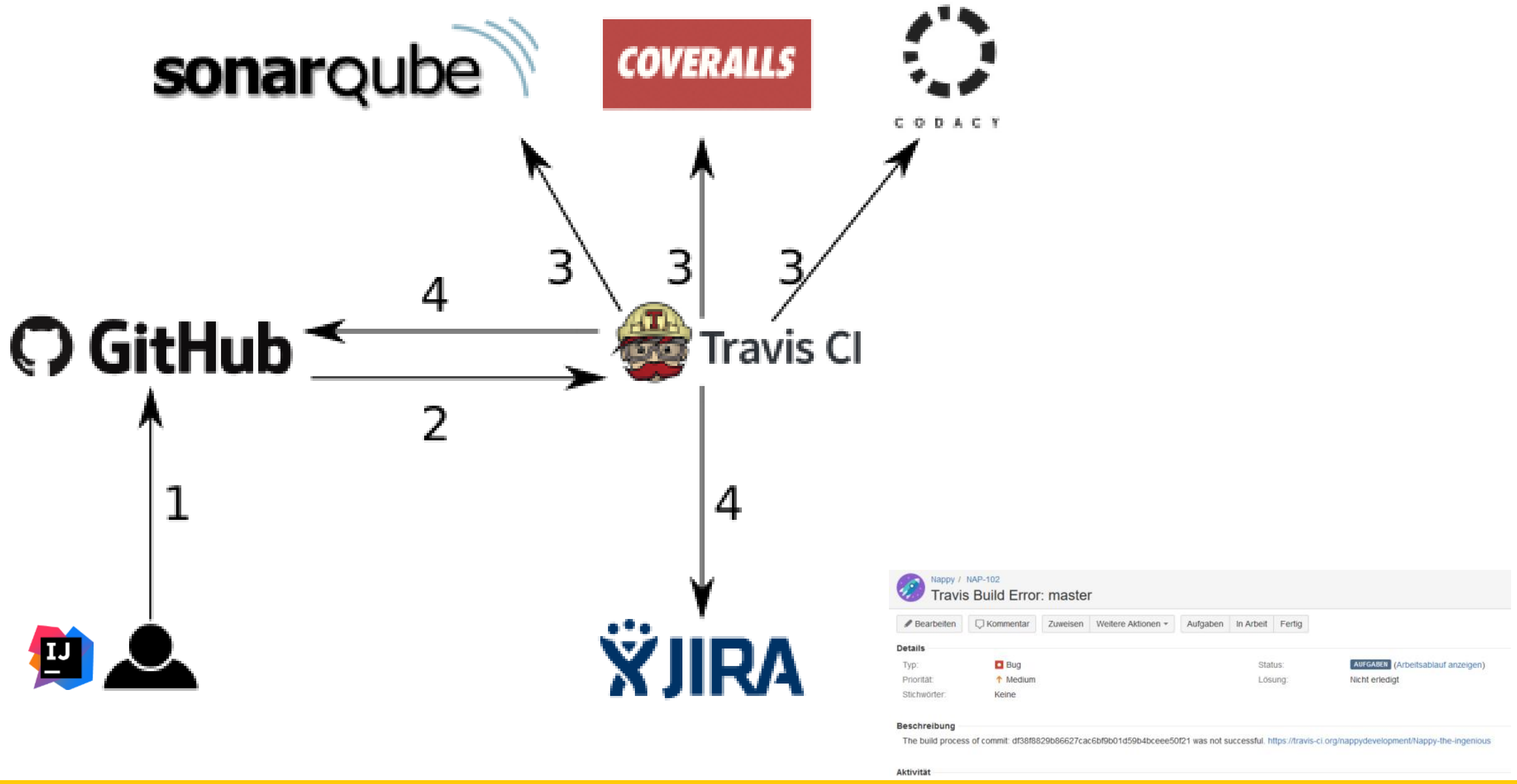
http://193.196.7.27:8080/secure/RapidBoard.jspa?rapidView=8&projectKey=NAP&view=planning.nodetail

BURNDOWN-DIAGRAMM



QUALTIY ASSURANCE

ENVIRONMENT, INTEGRATION AND AUTOMATION



Nappy / NAP-102

Travis Build Error: master

Details

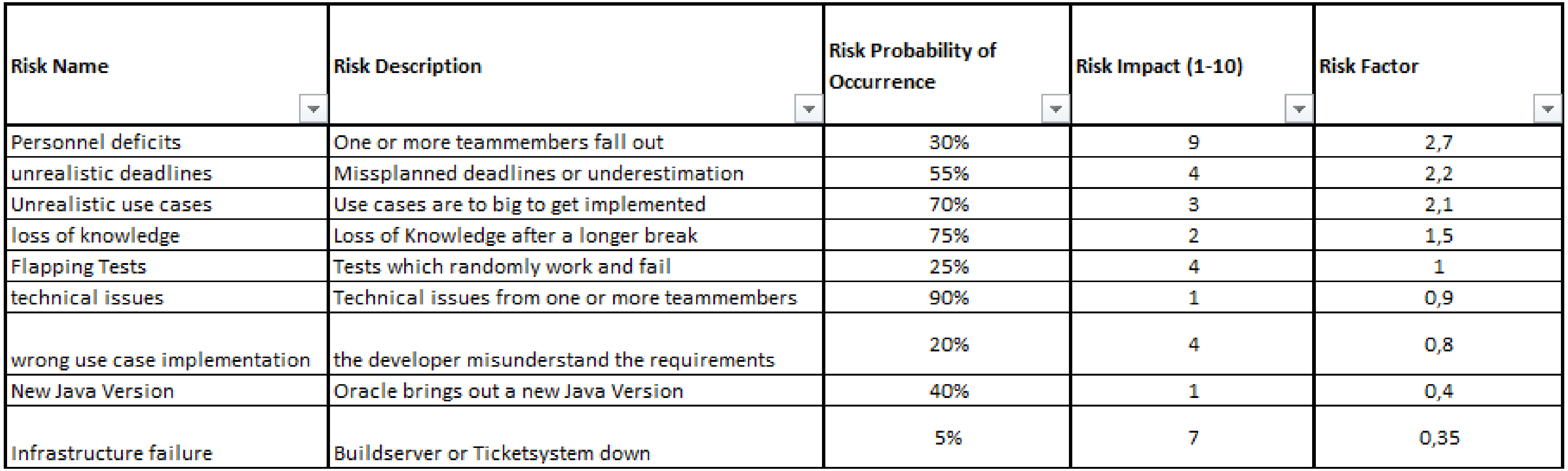
Typ:	Bug	Status:	AUFGABEN (Arbeitsablauf anzeigen)
Priorität:	Medium	Lösung:	Nicht erledigt
Stichwörter:	Keine		

Beschreibung

The build process of commit: df38f8829b86627cac6bf9b01d59b4bceee50f21 was not successful. https://travis-ci.org/nappydevelopment/Nappy-the-ingenious

Aktivität

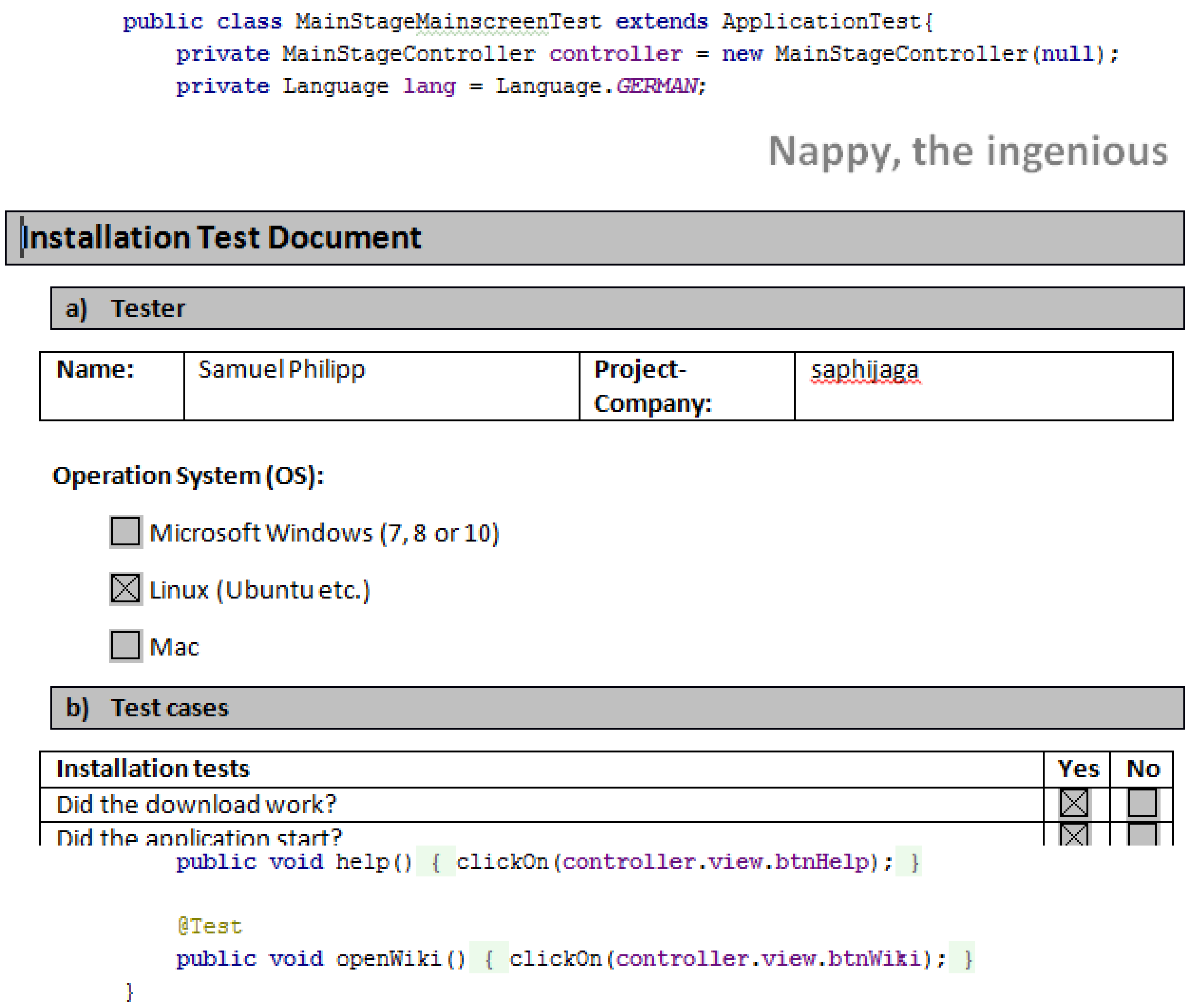
RISKMANAGEMENT



Risk Name	Risk Description	Risk Probability of Occurrence	Risk Impact (1-10)	Risk Factor
Personnel deficits	One or more teammembers fall out	30%	9	2,7
unrealistic deadlines	Missplanned deadlines or underestimation	55%	4	2,2
Unrealistic use cases	Use cases are to big to get implemented	70%	3	2,1
loss of knowledge	Loss of Knowledge after a longer break	75%	2	1,5
Flapping Tests	Tests which randomly work and fail	25%	4	1
technical issues	Technical issues from one or more teammembers	90%	1	0,9
wrong use case implementation	the developer misunderstand the requirements	20%	4	0,8
New Java Version	Oracle brings out a new Java Version	40%	1	0,4
Infrastructure failure	Buildserver or Ticketsystem down	5%	7	0,35

TESTING

- ○ SikuliX
- ○ JUnit + TestFX
- ○ Installation Tests



```
public class MainStageMainscreenTest extends ApplicationTest{
    private MainStageController controller = new MainStageController(null);
    private Language lang = Language.GERMAN;
```

Nappy, the ingenious

Installation Test Document

a) Tester

Name:	Samuel Philipp	**Project-Company:**	saphijaga

Operation System (OS):

□ Microsoft Windows (7, 8 or 10)

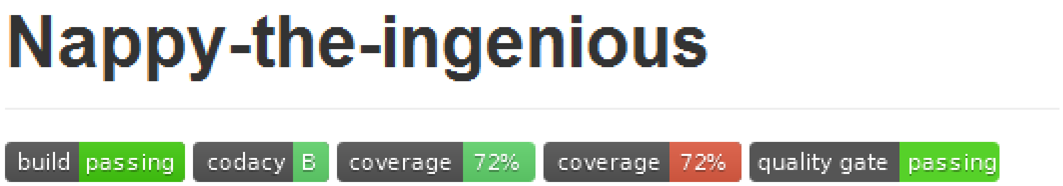
☒ Linux (Ubuntu etc.)

□ Mac

b) Test cases

Installation tests	**Yes**	**No**
Did the download work?	☒	□
Did the application start?	☒	□

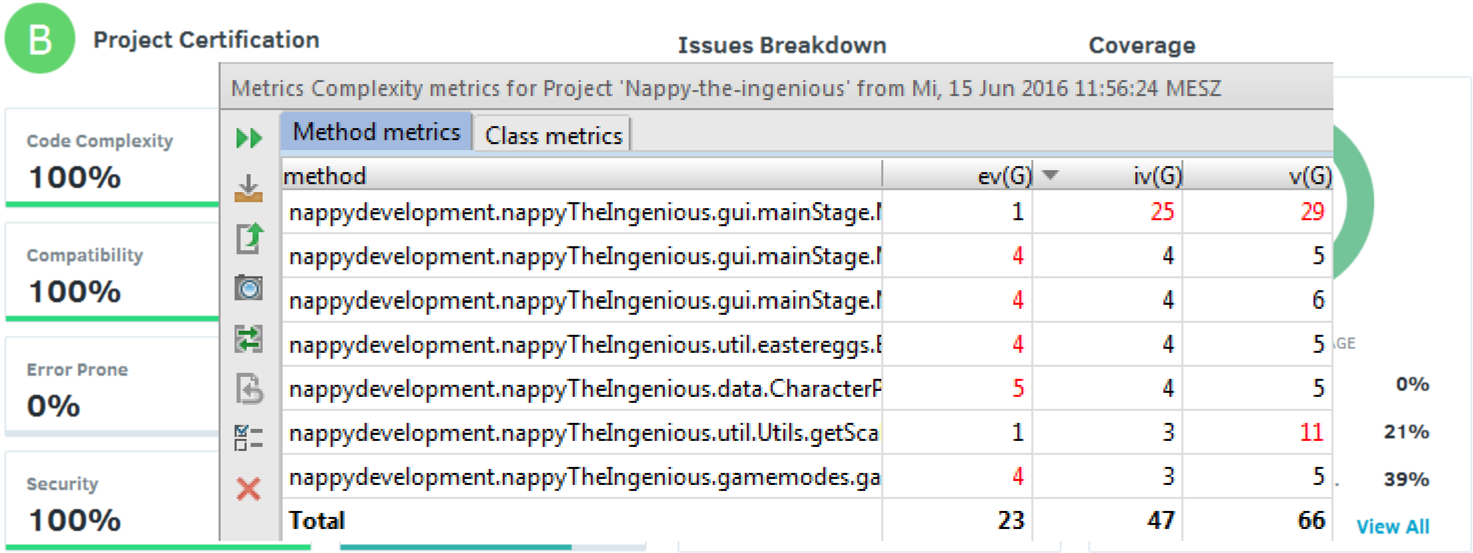
```
    public void help() { clickOn(controller.view.btnHelp); }

    @Test
    public void openWiki() { clickOn(controller.view.btnWiki); }
}
```



Nappy-the-ingenious

METRICS

- Tools
  - MetricsReloaded
  - Codacy
- Metric Profile
  - Abhängigkeiten
  - zyklomaitsche Komplexität



B Project Certification

Issues Breakdown

Coverage

Code Complexity
100%

Compatibility
100%

Error Prone
0%

Security
100%

0%

21%

39%

View All

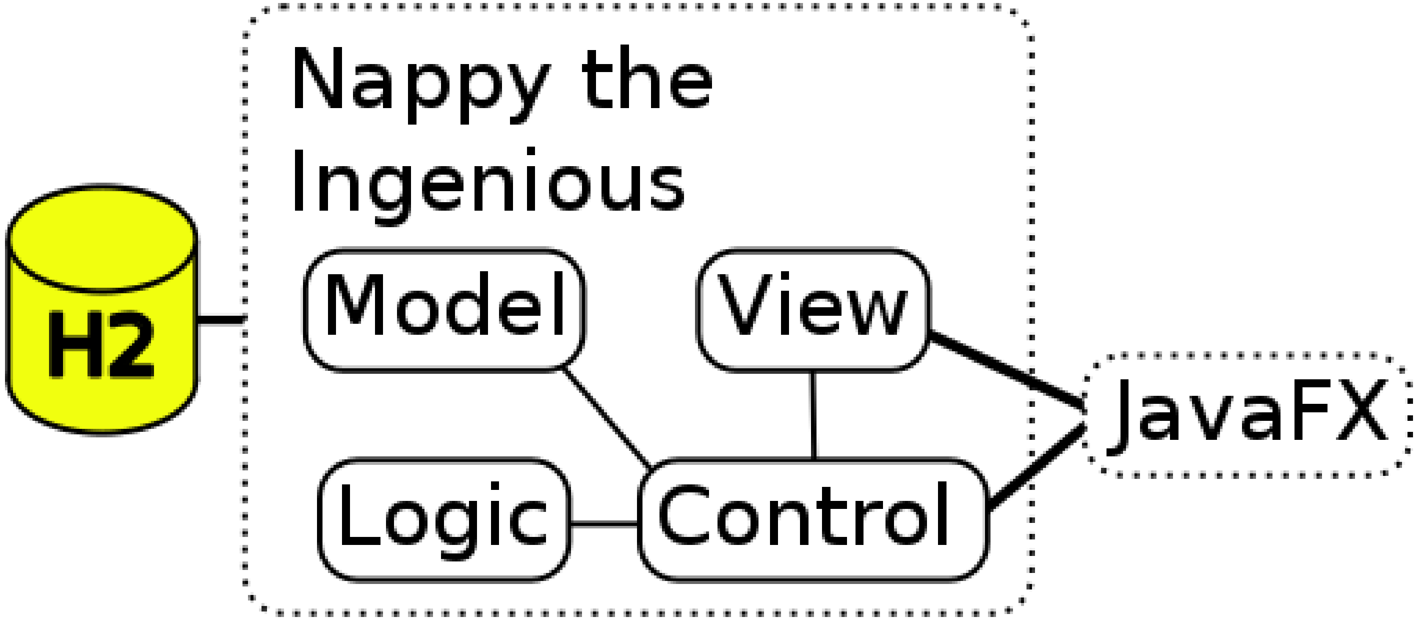
Metrics Complexity metrics for Project 'Nappy-the-ingenious' from Mi, 15 Jun 2016 11:56:24 MESZ

Method metrics | Class metrics

method	ev(G)	iv(G)	v(G)
nappydevelopment.nappyTheIngenious.gui.mainStage.I	1	25	29
nappydevelopment.nappyTheIngenious.gui.mainStage.I	4	4	5
nappydevelopment.nappyTheIngenious.gui.mainStage.I	4	4	6
nappydevelopment.nappyTheIngenious.util.eastereggs.E	4	4	5
nappydevelopment.nappyTheIngenious.data.CharacterP	5	4	5
nappydevelopment.nappyTheIngenious.util.Utils.getSca	1	3	11
nappydevelopment.nappyTheIngenious.gamemodes.ga	4	3	5
Total	23	47	66

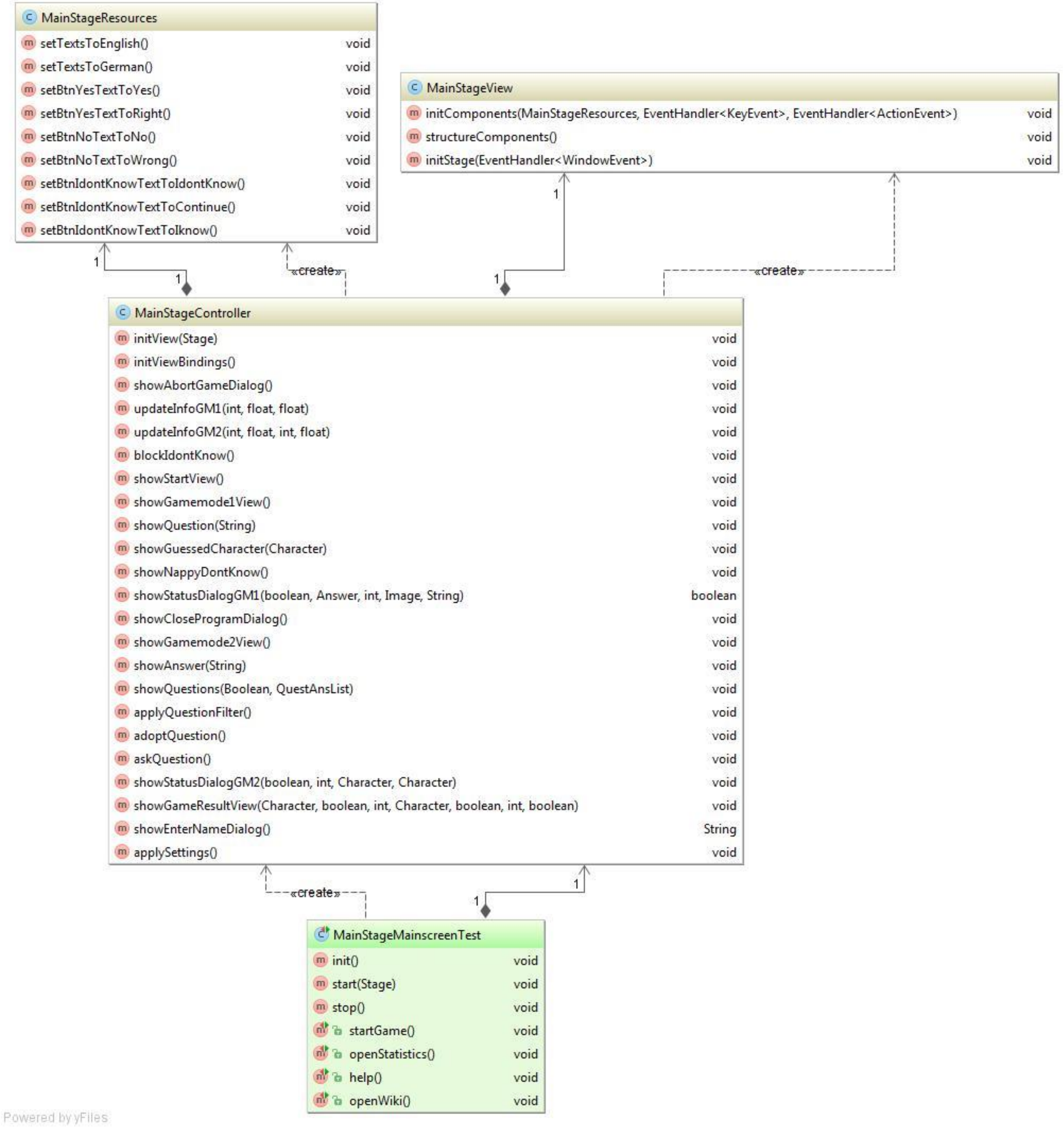
TECHNICAL ABILITY

ARCHITECTURE



CLASS DIAGRAM

- Abgeschlossenheit
- Austauschbar und feste Schnittstellen zur Logik



MainStageResources	
setTextsToEnglish()	void
setTextsToGerman()	void
setBtnYesTextToYes()	void
setBtnYesTextToRight()	void
setBtnNoTextToNo()	void
setBtnNoTextToWrong()	void
setBtnIdontKnowTextToIdontKnow()	void
setBtnIdontKnowTextToContinue()	void
setBtnIdontKnowTextToIknow()	void

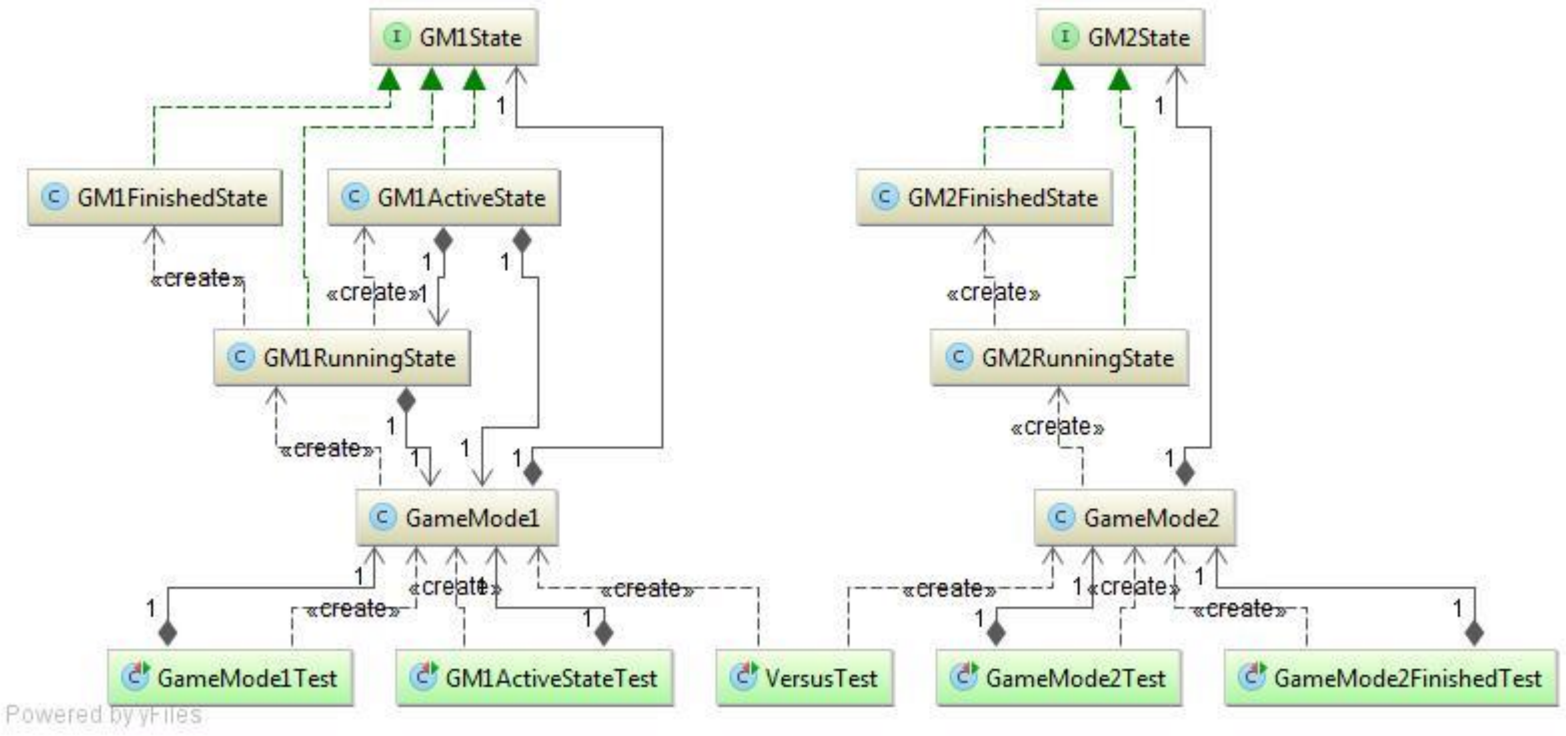
MainStageView	
initComponents(MainStageResources, EventHandler<KeyEvent>, EventHandler<ActionEvent>)	void
structureComponents()	void
initStage(EventHandler<WindowEvent>)	void

MainStageController	
initView(Stage)	void
initViewBindings()	void
showAbortGameDialog()	void
updateInfoGM1(int, float, float)	void
updateInfoGM2(int, float, int, float)	void
blockIdontKnow()	void
showStartView()	void
showGamemode1View()	void
showQuestion(String)	void
showGuessedCharacter(Character)	void
showNappyDontKnow()	void
showStatusDialogGM1(boolean, Answer, int, Image, String)	boolean
showCloseProgramDialog()	void
showGamemode2View()	void
showAnswer(String)	void
showQuestions(Boolean, QuestAnsList)	void
applyQuestionFilter()	void
adoptQuestion()	void
askQuestion()	void
showStatusDialogGM2(boolean, int, Character, Character)	void
showGameResultView(Character, boolean, int, Character, boolean, int, boolean)	void
showEnterNameDialog()	String
applySettings()	void

MainStageMainscreenTest	
init()	void
start(Stage)	void
stop()	void
startGame()	void
openStatistics()	void
help()	void
openWiki()	void

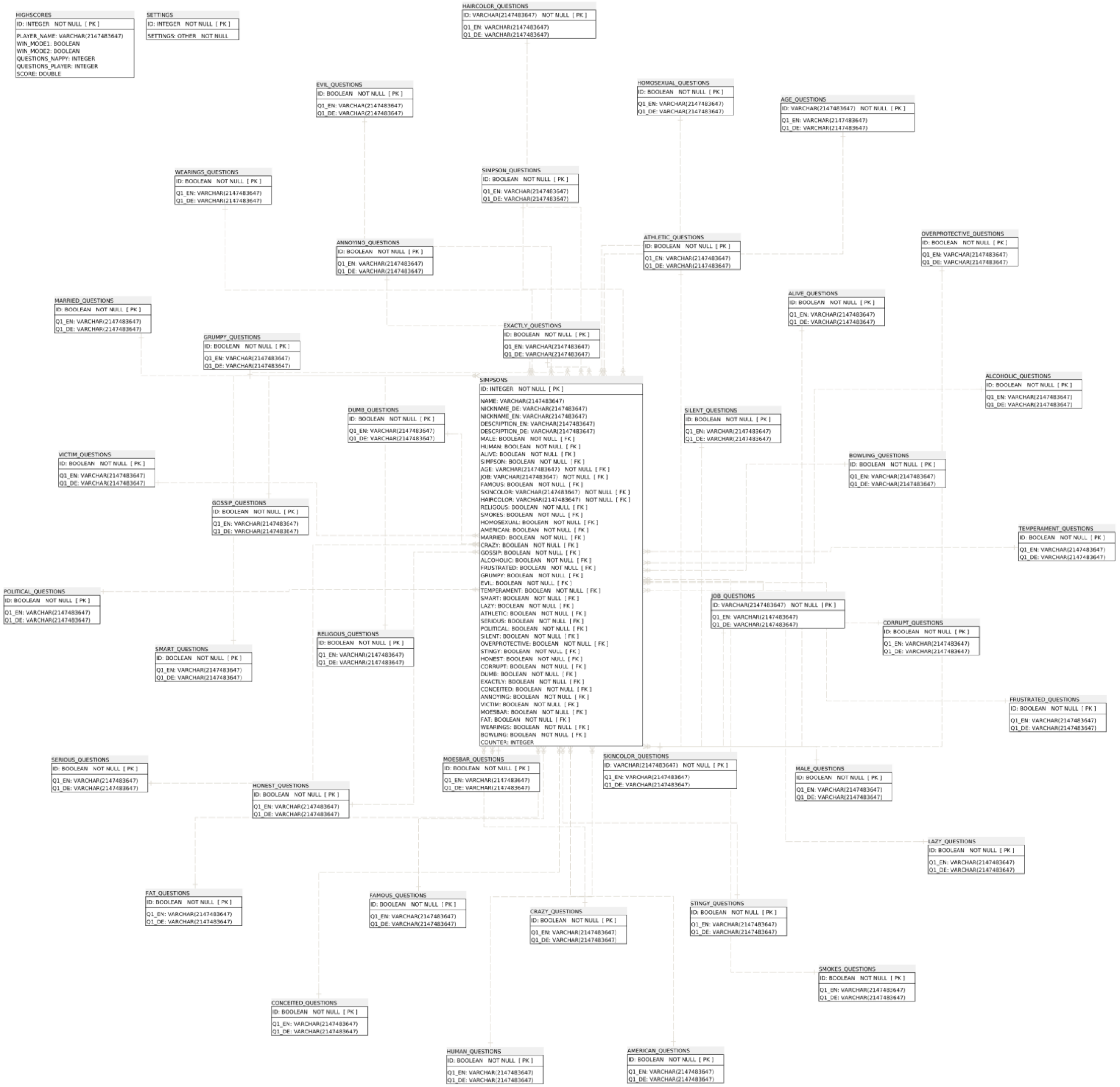
PATTERNS

- State Pattern
- UC: Gamemode 1 und 2



DATABASE ARCHITEKTUR

- H2 embedded &
  in-momory database
- Stern-Schema



```
HIGHSCORES
ID: INTEGER   NOT NULL  [ PK ]
PLAYER_NAME: VARCHAR(2147483647)
WIN_MODE1: BOOLEAN
WIN_MODE2: BOOLEAN
QUESTIONS_NAPPY: INTEGER
QUESTIONS_PLAYER: INTEGER
SCORE: DOUBLE

SETTINGS
ID: INTEGER   NOT NULL  [ PK ]
SETTINGS: OTHER   NOT NULL

HAIRCOLOR_QUESTIONS
ID: VARCHAR(2147483647)   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

EVIL_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

HOMOSEXUAL_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

AGE_QUESTIONS
ID: VARCHAR(2147483647)   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

WEARINGS_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

SIMPSON_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

ANNOYING_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

ATHLETIC_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

OVERPROTECTIVE_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

MARRIED_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

ALIVE_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

EXACTLY_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

GRUMPY_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

ALCOHOLIC_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

SIMPSONS
ID: INTEGER   NOT NULL  [ PK ]
NAME: VARCHAR(2147483647)
NICKNAME_DE: VARCHAR(2147483647)
NICKNAME_EN: VARCHAR(2147483647)
DESCRIPTION_EN: VARCHAR(2147483647)
DESCRIPTION_DE: VARCHAR(2147483647)
MALE: BOOLEAN   NOT NULL  [ FK ]
HUMAN: BOOLEAN   NOT NULL  [ FK ]
ALIVE: BOOLEAN   NOT NULL  [ FK ]
SIMPSON: BOOLEAN   NOT NULL  [ FK ]
AGE: VARCHAR(2147483647)   NOT NULL  [ FK ]
JOB: VARCHAR(2147483647)   NOT NULL  [ FK ]
FAMOUS: BOOLEAN   NOT NULL  [ FK ]
SKINCOLOR: VARCHAR(2147483647)   NOT NULL  [ FK ]
HAIRCOLOR: VARCHAR(2147483647)   NOT NULL  [ FK ]
RELIGOUS: BOOLEAN   NOT NULL  [ FK ]
SMOKES: BOOLEAN   NOT NULL  [ FK ]
HOMOSEXUAL: BOOLEAN   NOT NULL  [ FK ]
AMERICAN: BOOLEAN   NOT NULL  [ FK ]
MARRIED: BOOLEAN   NOT NULL  [ FK ]
CRAZY: BOOLEAN   NOT NULL  [ FK ]
GOSSIP: BOOLEAN   NOT NULL  [ FK ]
ALCOHOLIC: BOOLEAN   NOT NULL  [ FK ]
FRUSTRATED: BOOLEAN   NOT NULL  [ FK ]
GRUMPY: BOOLEAN   NOT NULL  [ FK ]
EVIL: BOOLEAN   NOT NULL  [ FK ]
TEMPERAMENT: BOOLEAN   NOT NULL  [ FK ]
SMART: BOOLEAN   NOT NULL  [ FK ]
LAZY: BOOLEAN   NOT NULL  [ FK ]
ATHLETIC: BOOLEAN   NOT NULL  [ FK ]
SERIOUS: BOOLEAN   NOT NULL  [ FK ]
POLITICAL: BOOLEAN   NOT NULL  [ FK ]
SILENT: BOOLEAN   NOT NULL  [ FK ]
OVERPROTECTIVE: BOOLEAN   NOT NULL  [ FK ]
STINGY: BOOLEAN   NOT NULL  [ FK ]
HONEST: BOOLEAN   NOT NULL  [ FK ]
CORRUPT: BOOLEAN   NOT NULL  [ FK ]
DUMB: BOOLEAN   NOT NULL  [ FK ]
EXACTLY: BOOLEAN   NOT NULL  [ FK ]
CONCEITED: BOOLEAN   NOT NULL  [ FK ]
ANNOYING: BOOLEAN   NOT NULL  [ FK ]
VICTIM: BOOLEAN   NOT NULL  [ FK ]
MOESBAR: BOOLEAN   NOT NULL  [ FK ]
FAT: BOOLEAN   NOT NULL  [ FK ]
WEARINGS: BOOLEAN   NOT NULL  [ FK ]
BOWLING: BOOLEAN   NOT NULL  [ FK ]
COUNTER: INTEGER

DUMB_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

SILENT_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

VICTIM_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

BOWLING_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

GOSSIP_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

TEMPERAMENT_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

POLITICAL_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

JOB_QUESTIONS
ID: VARCHAR(2147483647)   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

CORRUPT_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

RELIGOUS_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

SMART_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

FRUSTRATED_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

SERIOUS_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

MOESBAR_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

SKINCOLOR_QUESTIONS
ID: VARCHAR(2147483647)   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

MALE_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

HONEST_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

LAZY_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

FAT_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

FAMOUS_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

STINGY_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

CRAZY_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

SMOKES_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

CONCEITED_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

HUMAN_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)

AMERICAN_QUESTIONS
ID: BOOLEAN   NOT NULL  [ PK ]
Q1_EN: VARCHAR(2147483647)
Q1_DE: VARCHAR(2147483647)
```

DEMO – ENJOY ☺

Executable Jar: https://github.com/nappydevelopment/Nappy-the-ingenious/raw/master/jar/nappy-the-ingenious-1.0.0.jar

AUSBLICK?

Fragen?

Vielen Dank für

eure

Aufmerksamkeit

LINKS

JIRA - http://193.196.7.27:8080/secure/RapidBoard.jspa?rapidView=8&projectKey=NAP&view=planning

Code - https://github.com/nappydevelopment/Nappy-the-ingenious

Download - https://github.com/nappydevelopment/Nappy-the-ingenious/blob/master/README.md

Coveralls - https://coveralls.io/github/nappydevelopment/Nappy-the-ingenious?branch=master

Codacy - https://www.codacy.com/app/NappyDevelopment/Nappy-the-ingenious/dashboard

SonarQube - http://193.196.7.25/overview?id=5235

Blog - https://nappydevelopment.wordpress.com/

Blog as PDF - https://github.com/nappydevelopment/docs/blob/master/pdfs/Blog%20As%20Book.pdf

Docs - https://github.com/nappydevelopment/docs/

SRS - https://github.com/nappydevelopment/docs/blob/master/pdfs/Software%20Requirements%20Specification.pdf

SAD - https://github.com/nappydevelopment/docs/blob/master/pdfs/Software%20Architecture%20Document.pdf

Testplan - https://github.com/nappydevelopment/docs/blob/master/pdfs/Test%20Plan.pdf

Riskmanagement - https://github.com/nappydevelopment/docs/blob/master/pdfs/Riskmanagment.pdf

Function Points - https://github.com/nappydevelopment/docs/blob/master/pdfs/Usecase%20doc.pdf