DHBWieWarsEssen

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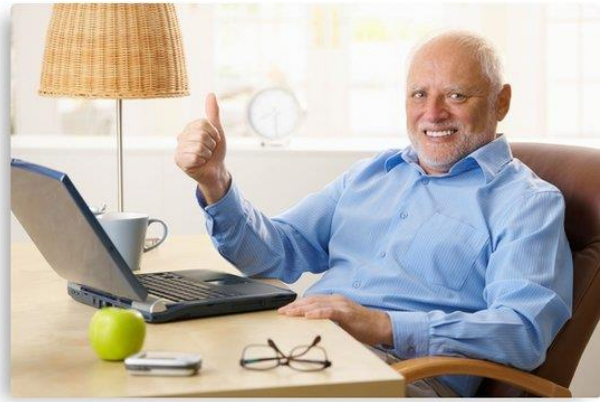
Vision

- Rating with stars (0 - 5)
- Comments (always keep the price in mind!)
- Correcting or deleting?
- What happens when you‘re not logged in?



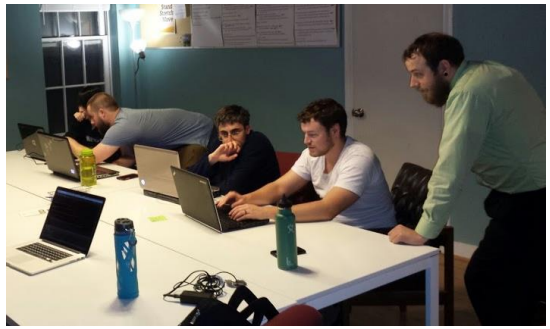
Project Methodology

Scrum

- Agile
- Break down project into Usecases
- Iterative Process
- Our Tool: YouTrack
  - Transparency
  - Time Tracking

Projektmanagement

- Clear who does what
- Time tracking in Android Studio
- Version control with github



- Discord combines everything and enables better communication

Scrumming

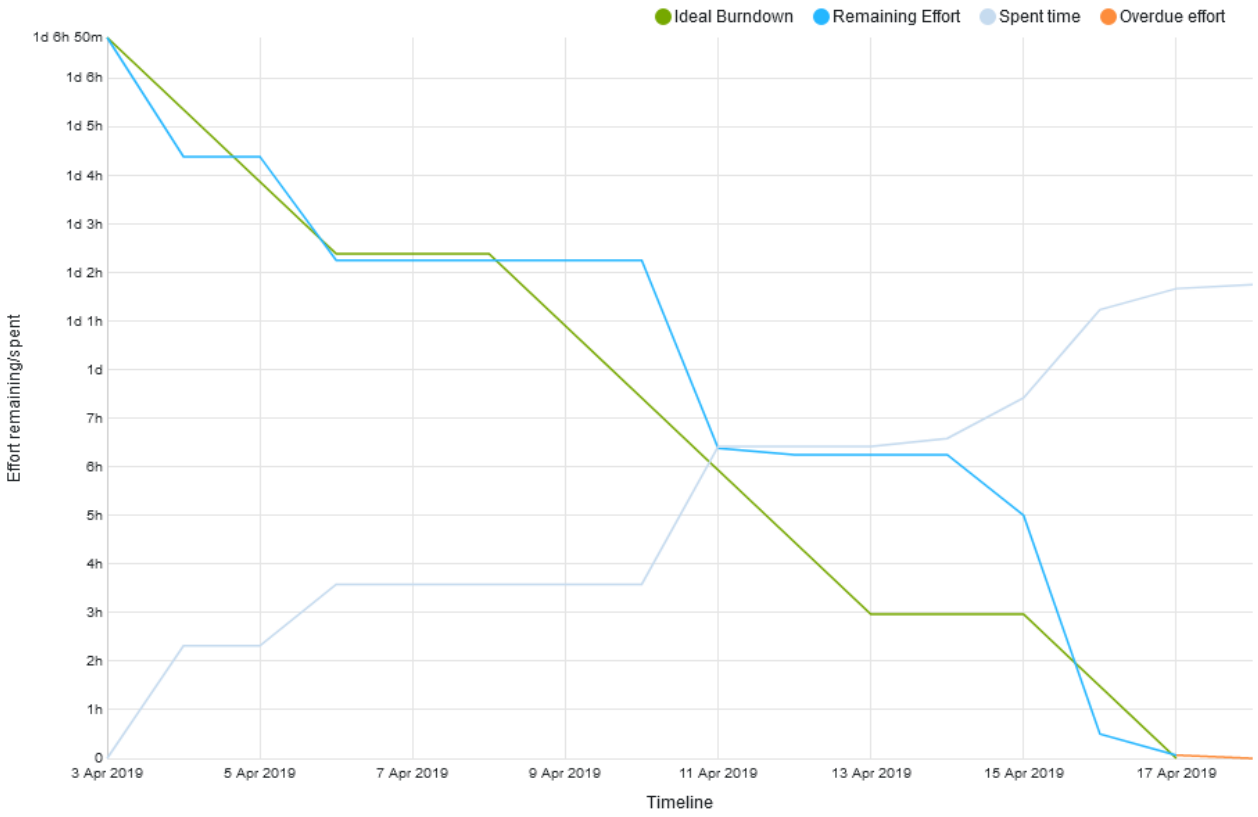
Former Problems (First Retro)

- Time distribution
- Unstable Server
- Dividing Task was unclear

Current Situation (Second Retro)

- Better time distribution through YouTrack
- Team roles are better organized
- Changed Server
- Communication with other groups

Iterative Process



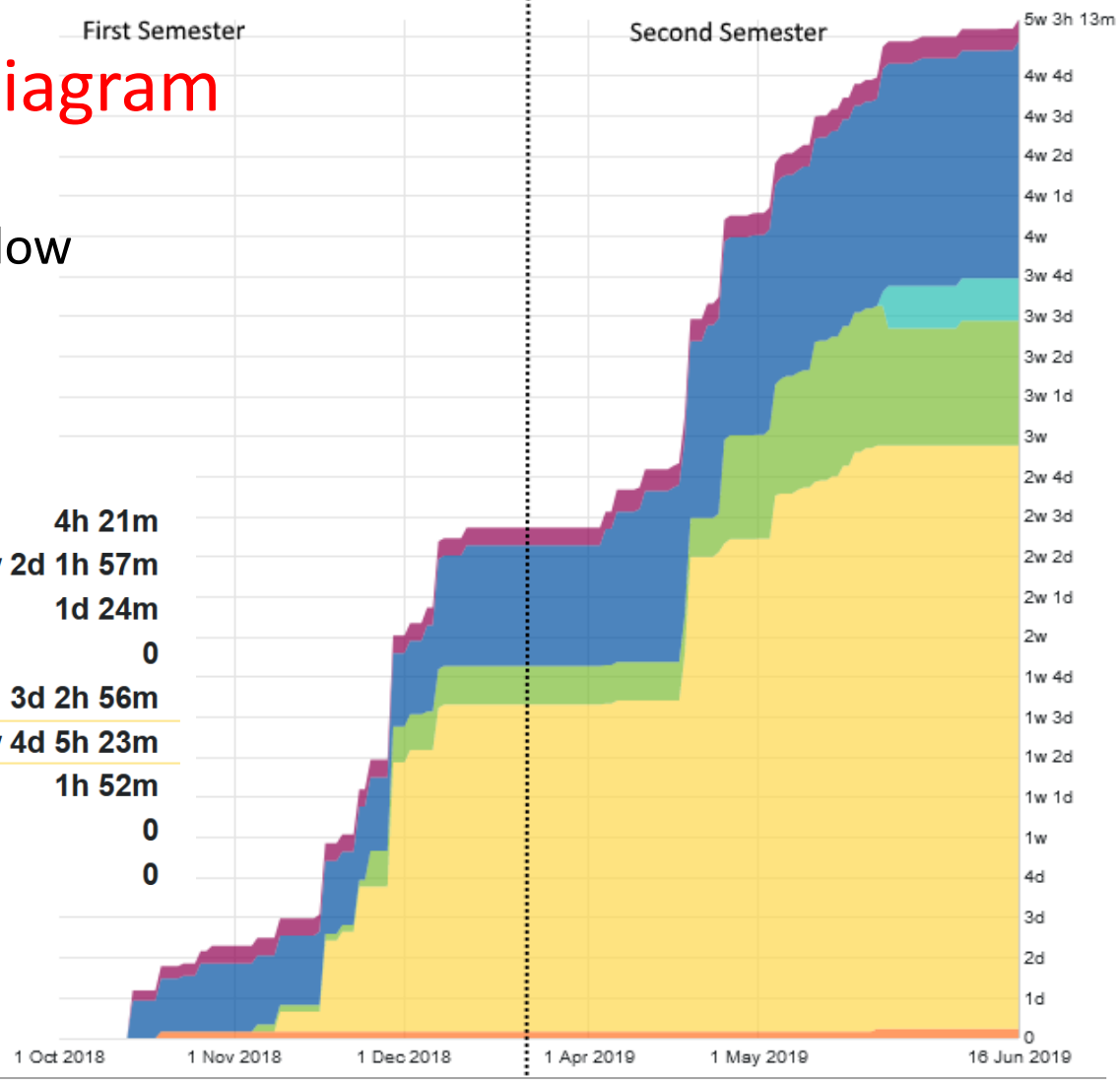
- Working in sprints consisting of tasks
- Scrum tasks work towards sprint goal
- Burndown-Diagram shows progress in current sprint

Cumulative Flow Diagram

- Time spent on each Workflow

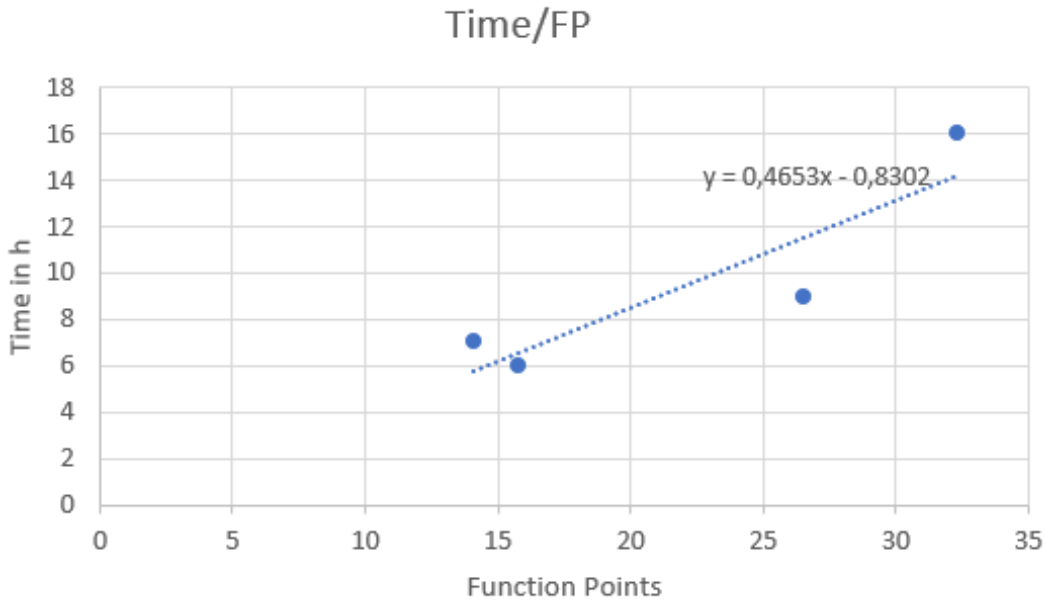
19 Jun 2019

Environment	**4h 21m**
Project Management	**1w 2d 1h 57m**
Deployment	**1d 24m**
Configuration & Change Management	**0**
Test	**3d 2h 56m**
Implementation	**2w 4d 5h 23m**
Requirements	**1h 52m**
Business Modelling	**0**
Analysis & Design	**0**



Cost-Estimation

- Function Points calculated for each UC
- Time-Estimation based on time spent in previous Semester



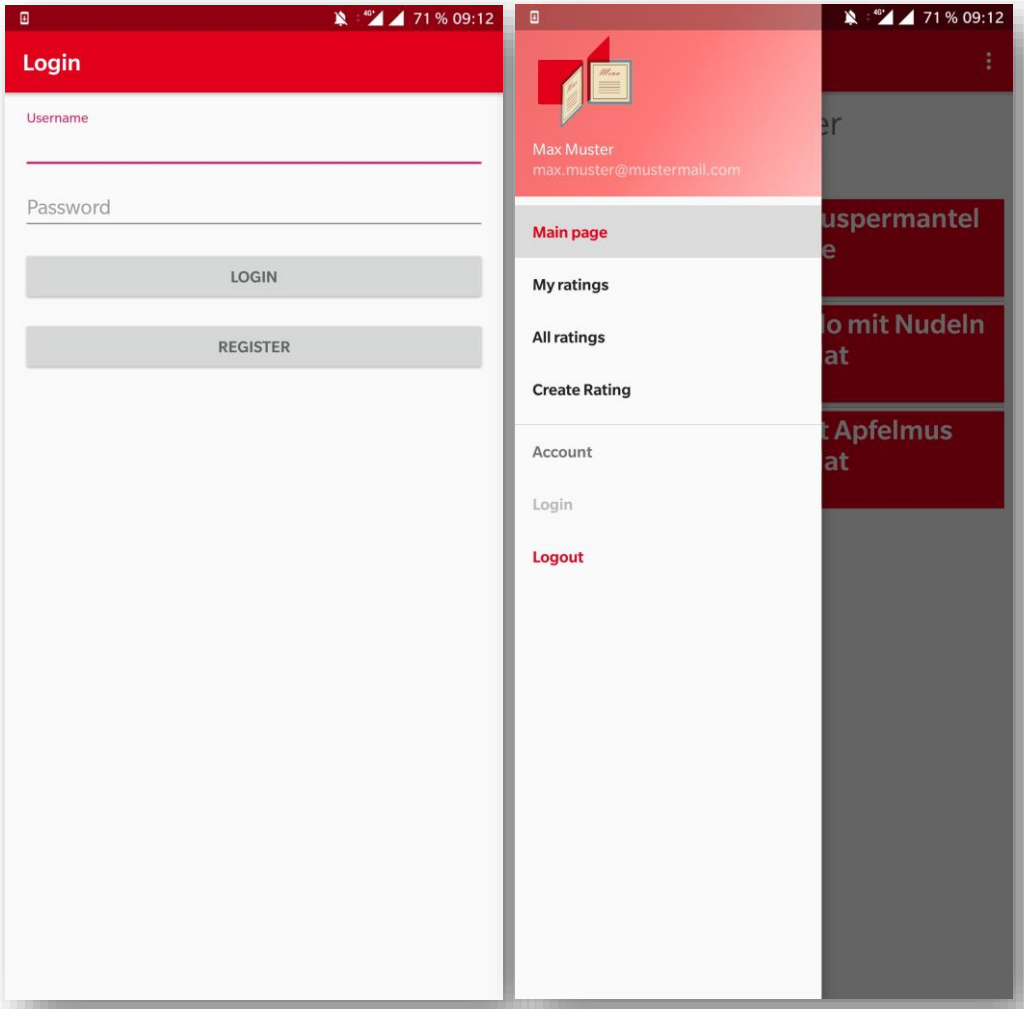
Cost-Estimation

- FP-Estimation based on Calculator
- Time-Estimation based on time spent in previous Semester

Estimation	FP	Time (estimated)	time spent
Get Ratings from Server (App)	10,79	4,190387	3,61
Provide Ratings of all users (Server)	10,79	4,190387	2,88
Sort Rating (App)	29,88	13,072964	5,2

Extend of functionality

- Register, Login, Logout

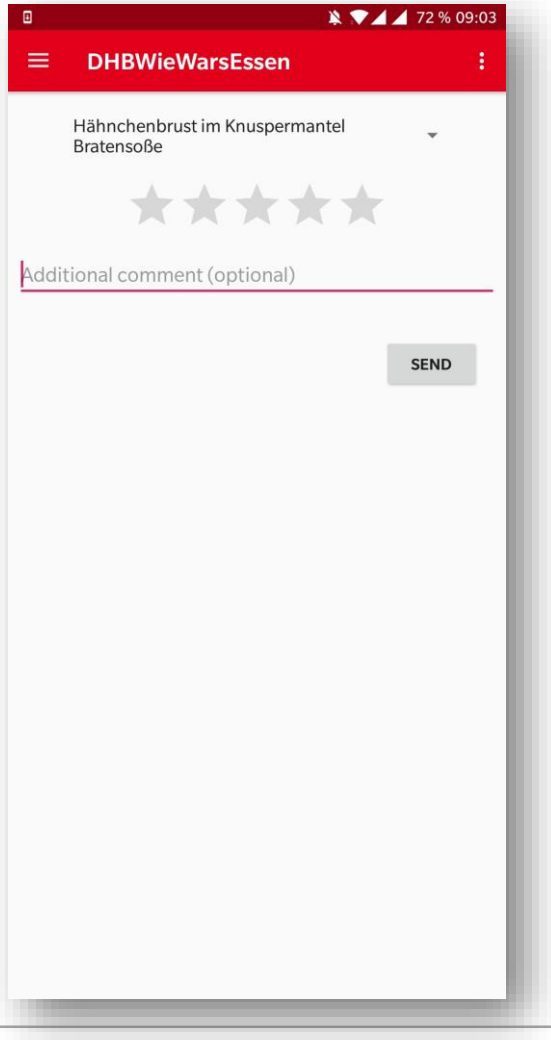


Extend of functionality

- Register, Login, Logout
- Show meals for current day

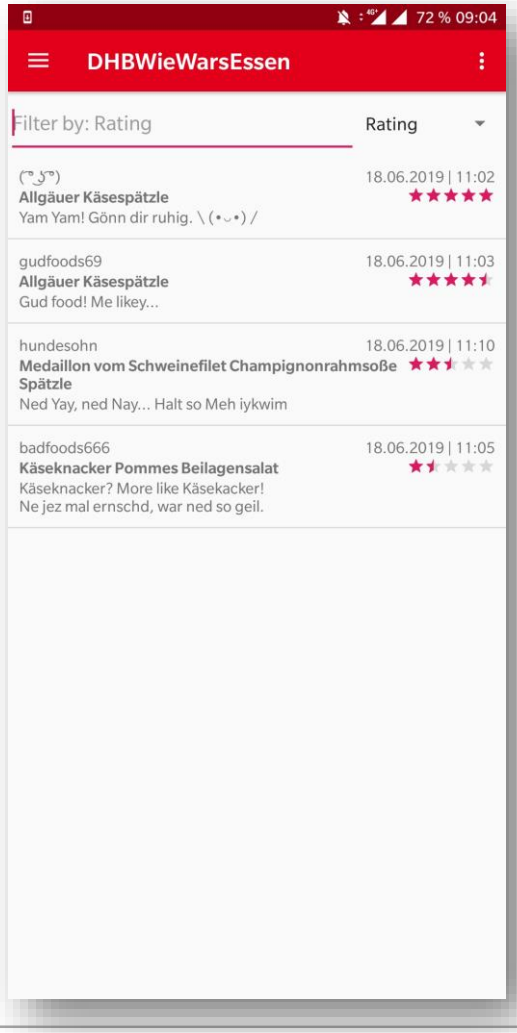
Extend of functionality

- Register, Login, Logout
- Show meals for current day
- Create rating



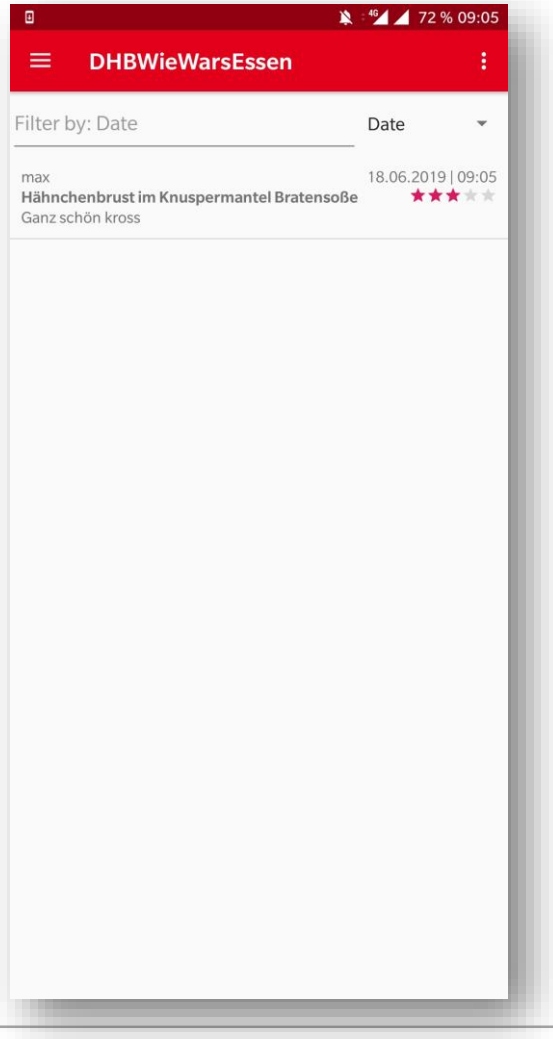
Extend of functionality

- Register, Login, Logout
- Show meals for current day
- Create rating
- Show all ratings



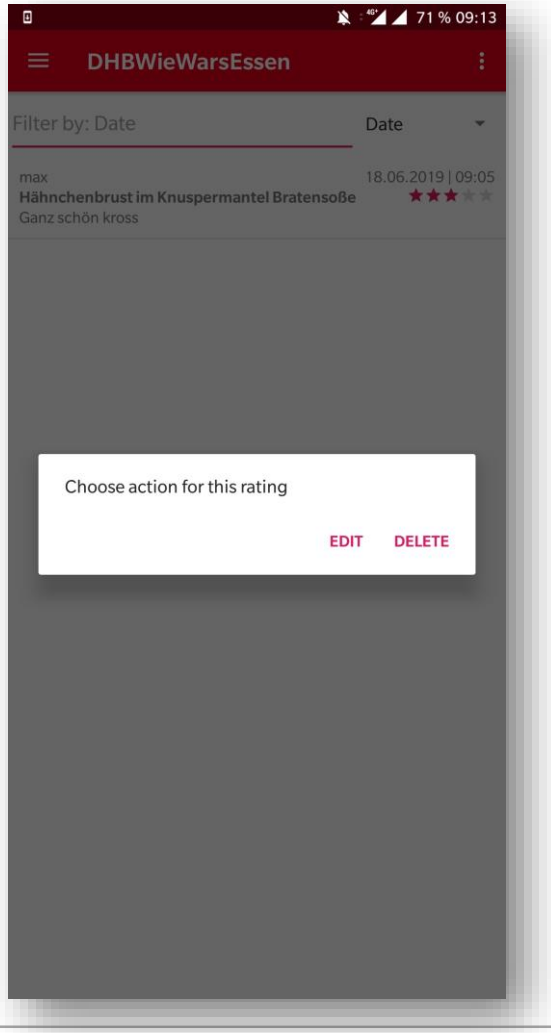
Extend of functionality

- Register, Login, Logout
- Show meals for current day
- Create rating
- Show all ratings
- Show own ratings



Extend of functionality

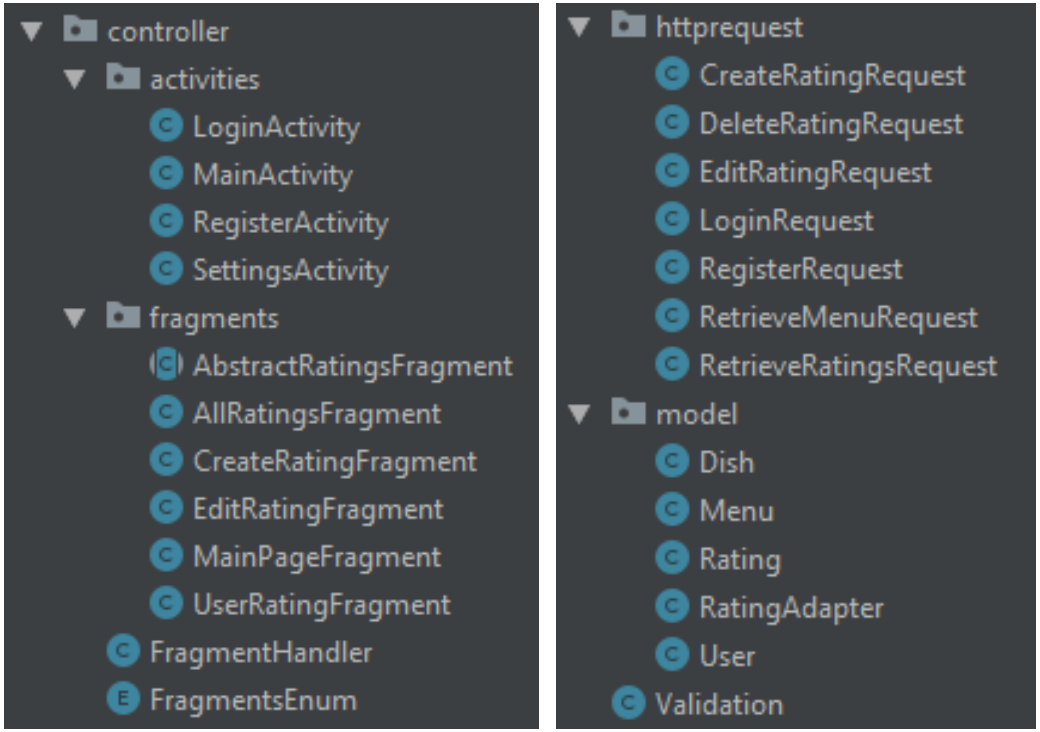
- Register, Login, Logout
- Show meals for current day
- Create rating
- Show all ratings
- Show own ratings
- Edit/Delete ratings



DEMO

Architecture

- Model-View-Controller
- View is in the layout package



Architecture

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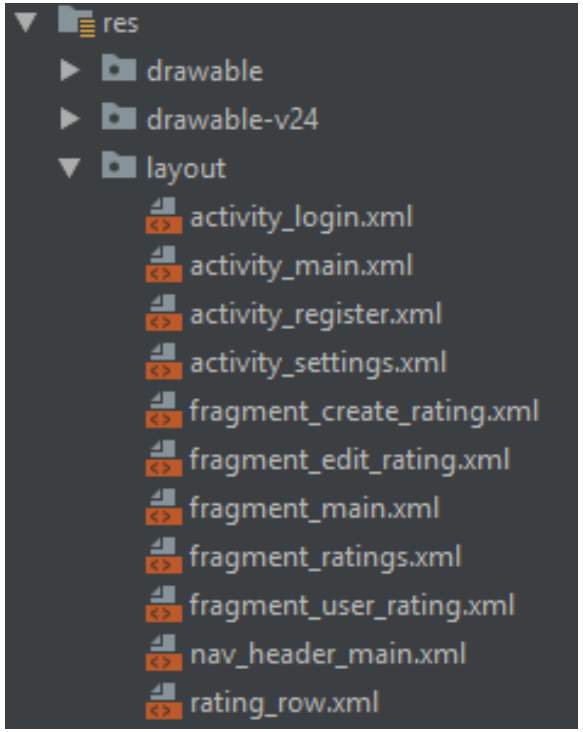
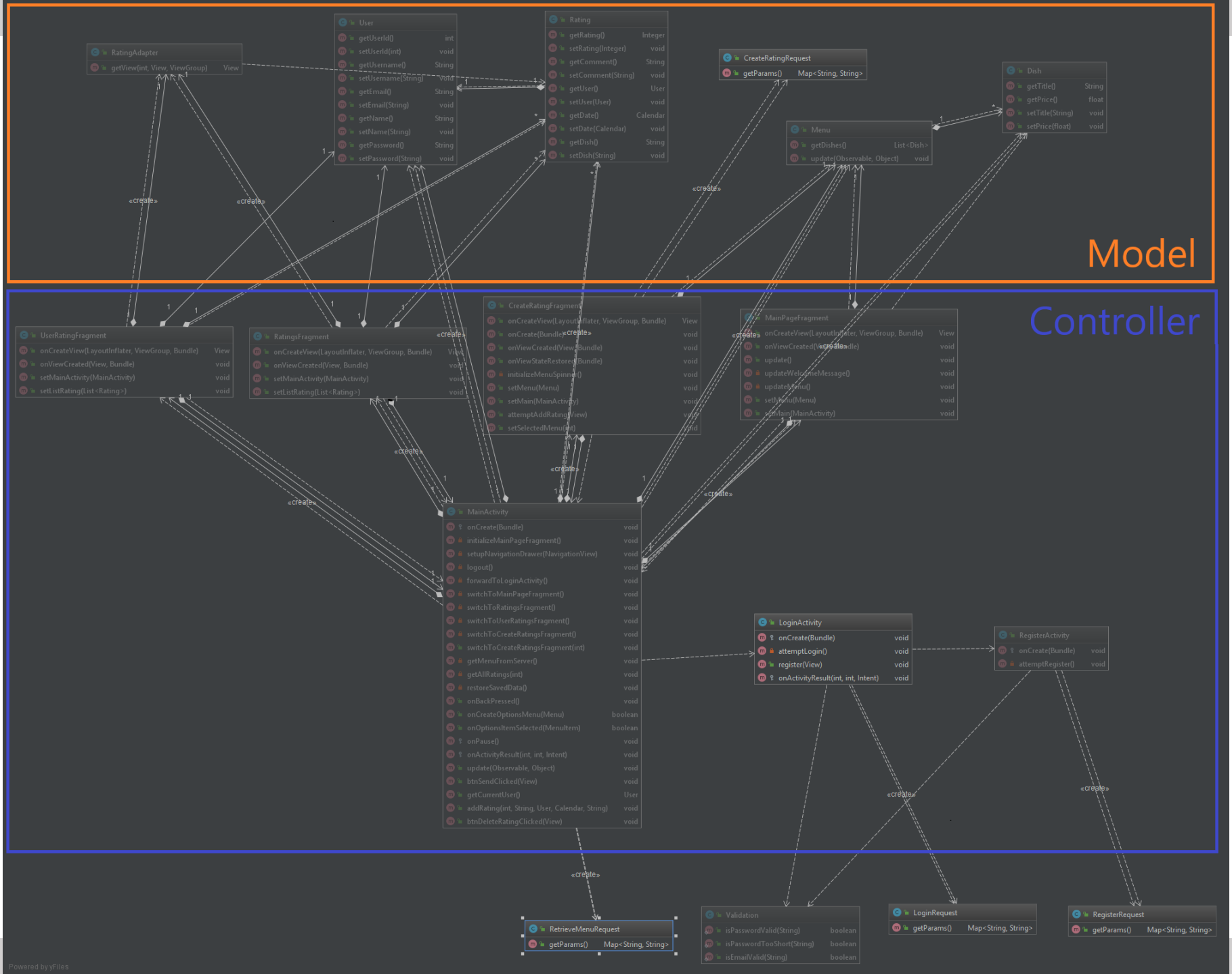
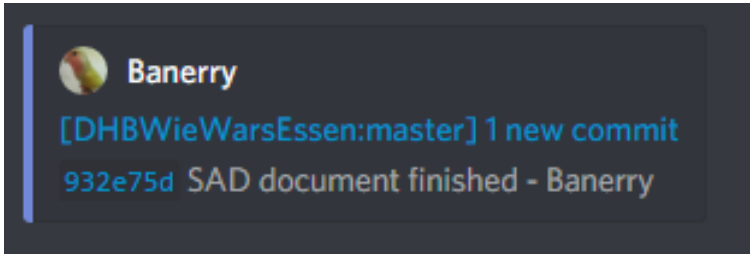
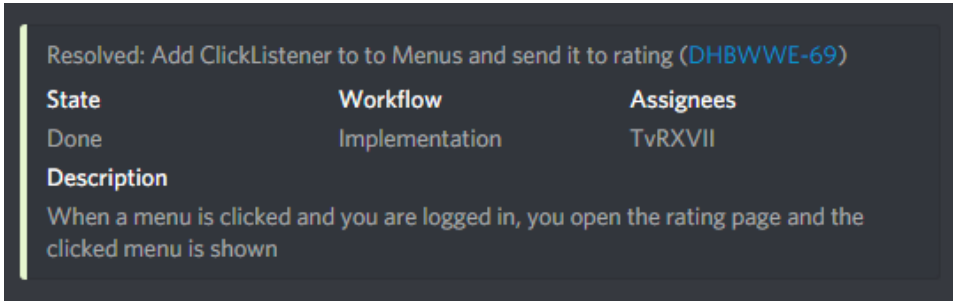



Model
Controller
RatingAdapter
getView(int, View, ViewGroup) View
User
getUserId() int
setUserId(int) void
getUsername() String
setUsername(String) void
getEmail() String
setEmail(String) void
getName() String
setName(String) void
getPassword() String
setPassword(String) void
Rating
getRating() Integer
setRating(Integer) void
getComment() String
setComment(String) void
getUser() User
setUser(User) void
getDate() Calendar
setDate(Calendar) void
getDish() String
setDish(String) void
CreateRatingRequest
getParams() Map<String, String>
Dish
getTitle() String
getPrice() float
setTitle(String) void
setPrice(float) void
Menu
getDishes() List<Dish>
update(Observable, Object) void
«create»
UserRatingFragment
onCreateView(LayoutInflater, ViewGroup, Bundle) View
onViewCreated(View, Bundle) void
setMainActivity(MainActivity) void
setListRating(List<Rating>) void
RatingsFragment
onCreateView(LayoutInflater, ViewGroup, Bundle) View
onViewCreated(View, Bundle) void
setMainActivity(MainActivity) void
setListRating(List<Rating>) void
CreateRatingFragment
onCreateView(LayoutInflater, ViewGroup, Bundle) View
onCreate(Bundle) void
onViewCreated(View, Bundle) void
onViewStateRestored(Bundle) void
initializeMenuSpinner() void
setMenu(Menu) void
setMain(MainActivity) void
attemptAddRating(View) void
setSelectedMenu(int) void
MainPageFragment
onCreateView(LayoutInflater, ViewGroup, Bundle) View
onViewCreated(Bundle) void
update() void
updateWelcomeMessage() void
updateMenu() void
setMenu(Menu) void
setMain(MainActivity) void
MainActivity
onCreate(Bundle) void
initializeMainPageFragment() void
setupNavigationDrawer(NavigationView) void
logout() void
forwardToLoginActivity() void
switchToMainPageFragment() void
switchToRatingsFragment() void
switchToUserRatingsFragment() void
switchToCreateRatingsFragment() void
switchToCreateRatingsFragment(int) void
getMenuFromServer() void
getAllRatings(int) void
restoreSavedData() void
onBackPressed() void
onCreateOptionsMenu(Menu) boolean
onOptionsItemSelected(MenuItem) boolean
onPause() void
onActivityResult(int, int, Intent) void
update(Observable, Object) void
btnSendClicked(View) void
getCurrentUser() User
addRating(int, String, User, Calendar, String) void
btnDeleteRatingClicked(View) void
LoginActivity
onCreate(Bundle) void
attemptLogin() void
register(View) void
onActivityResult(int, int, Intent) void
RegisterActivity
onCreate(Bundle) void
attemptRegister() void
RetrieveMenuRequest
getParams() Map<String, String>
Validation
isPasswordValid(String) boolean
isPasswordTooShort(String) boolean
isEmailValid(String) boolean
LoginRequest
getParams() Map<String, String>
RegisterRequest
getParams() Map<String, String>
Powered by yFiles

Automation

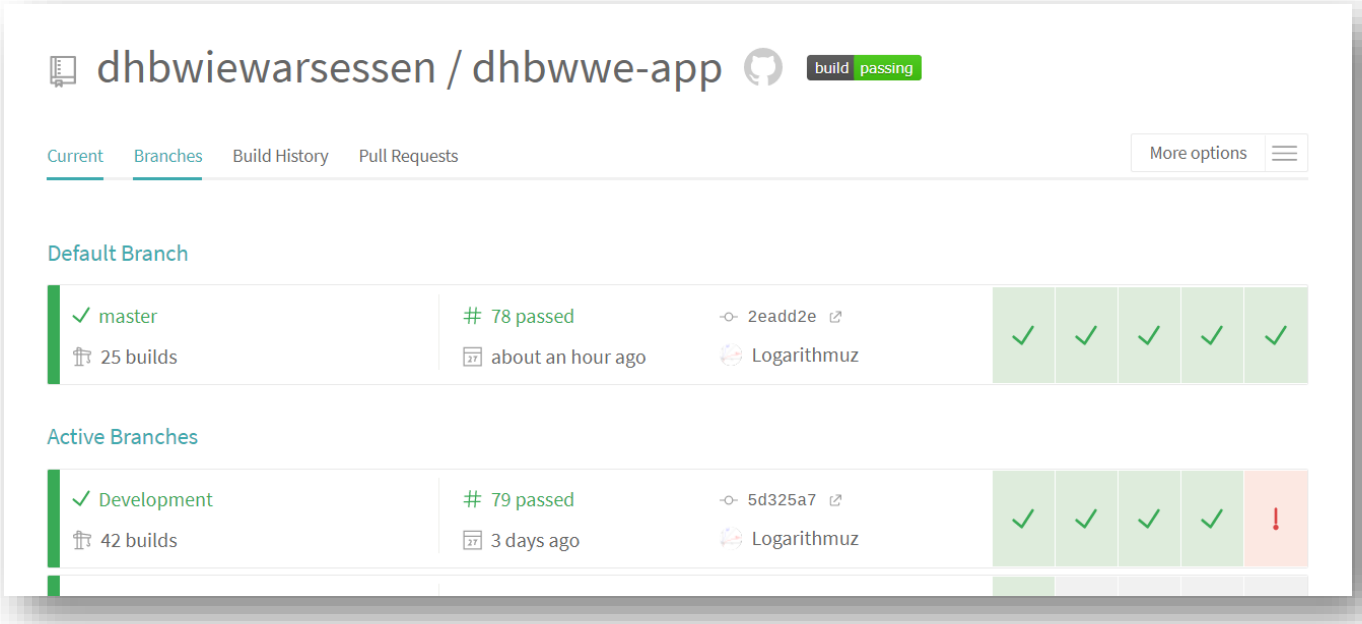
- Discord
  - Used as Communication
  - Automation by Discord-Bots:
    - Github push-notifications
    - Youtrack push-notifications



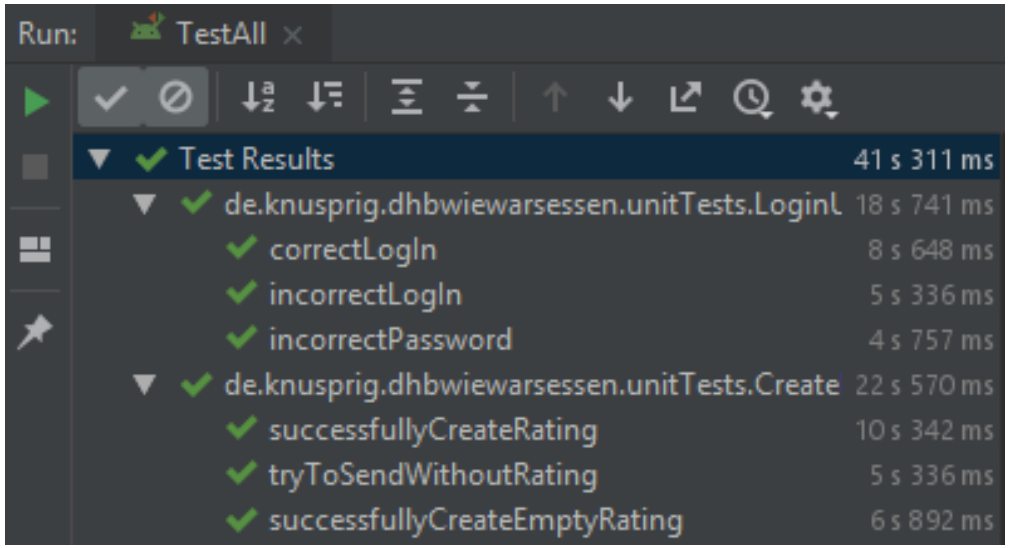


- Continuous Integration

Travis CI



- Automated Unit Tests



- Cucumber Tests

We had to remove the video from the presentation for git, you can find it here:

https://youtu.be/86zfUB4FoFc

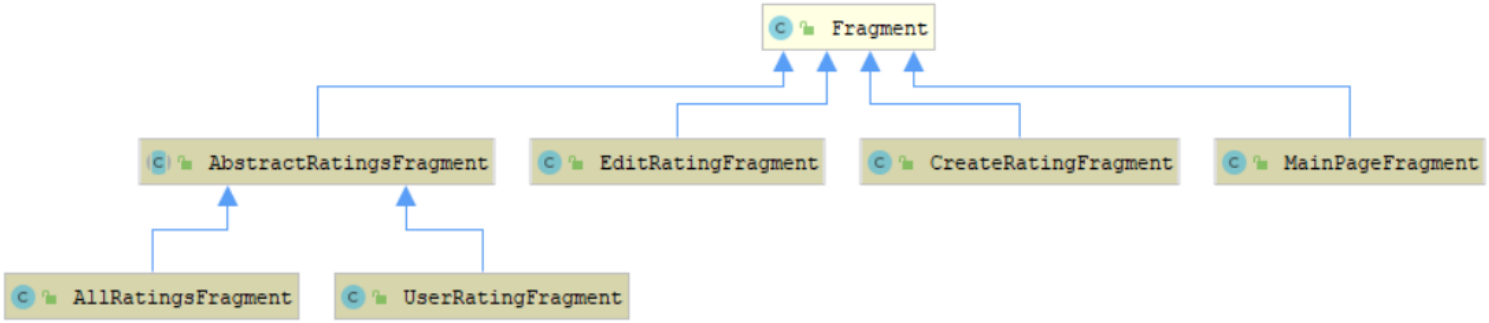
Risk Management

- Listed possible Risks
- Calculated Risk factor (Prob. Of occurrence * Damage)
- Planned a mitigation strategy
- Assigned a person in charge

Risk	Description	Prob. Of occurrence in %	Damag	Mitigation startegy	Person in charge	Risk factor (sort
Server problems	Our Servers wont respond	85%	9	Use multiple Servers	Luis	765
User incompatability	Our App could be	50%	7	Asking people what the want	Thimo	350
No motivation	Motivation is low and team members are	60%	3	Divide tasks equally and work in a group at the same time.	Luis	180
Communication problems	Misunderstandings or working on	25%	4	Ask questions and make things clear before starting to work.	Marcel	100
Bad time management	Time is wasted or inefficiently used so that sprint or semester goals	15%	5	Use YouTrack efficiently to manage time and devide tasks between team members	Marcel	75
Security issues	Sensitive user data like passwords and/or email adresses are not protected	5%	7	Protect data base with good passwords and only use tools from reliable sources.	Hasan	35
Loss of workers	A team member is ill, exmatriculated or leaves the team.	8%	4	Communicate with team members and help each other to keep the mood up.	Thimo	32
Hardware problems	Development PC fails or malfunctions which will	2%	6	Maintain hardware and always do backups.	Hasan	12

Patterns

- Used "template" pattern
- Avoids duplicate code
- Easy code maintenance



Metrics

- SonarQube for Metrics
- Android Studio plugin "Metrics Reloaded"
- Shows problematic methods with numbers
  - The higher the number bigger the problem
- RFC: class has high responsibility
- WMC: the contained methods are complex

Metrics - Before & After

Class metrics

class	CBO	DIT	LCOM	NOC	RFC	WMC
de.knusprig.dhbwiewarsessen.controller.activities.LoginActivity	8	8	1	0	52	15
de.knusprig.dhbwiewarsessen.controller.activities.MainActivity	24	8	1	0	154	75
de.knusprig.dhbwiewarsessen.controller.activities.RegisterActivity	8	8	1	0	42	16
de.knusprig.dhbwiewarsessen.controller.activities.SettingsActivity	4	8	1	0	15	2
de.knusprig.dhbwiewarsessen.controller.fragments.AbstractRatingsFragment	8	2	2	2	51	35

Class metrics

class	CBO	DIT	LCOM	NOC	RFC	WMC
de.knusprig.dhbwiewarsessen.controller.activities.LoginActivity	8	8	1	0	52	15
de.knusprig.dhbwiewarsessen.controller.activities.MainActivity	25	8	1	0	134	64
de.knusprig.dhbwiewarsessen.controller.activities.RegisterActivity	8	8	1	0	42	16
de.knusprig.dhbwiewarsessen.controller.activities.SettingsActivity	4	8	1	0	15	2
de.knusprig.dhbwiewarsessen.controller.FragmentHandler	13	1	1	0	40	25
de.knusprig.dhbwiewarsessen.controller.fragments.AbstractRatingsFragment	9	2	2	2	51	35

Any questions?

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https://youtu.be/Sf5BmsZEIxA