



BY ONETOUCHNEXTGEN

ONE TOUCH





AGENDA



Vision



Technologies



Project
Management



Architecture



Automation



Testing



Demo



VISION



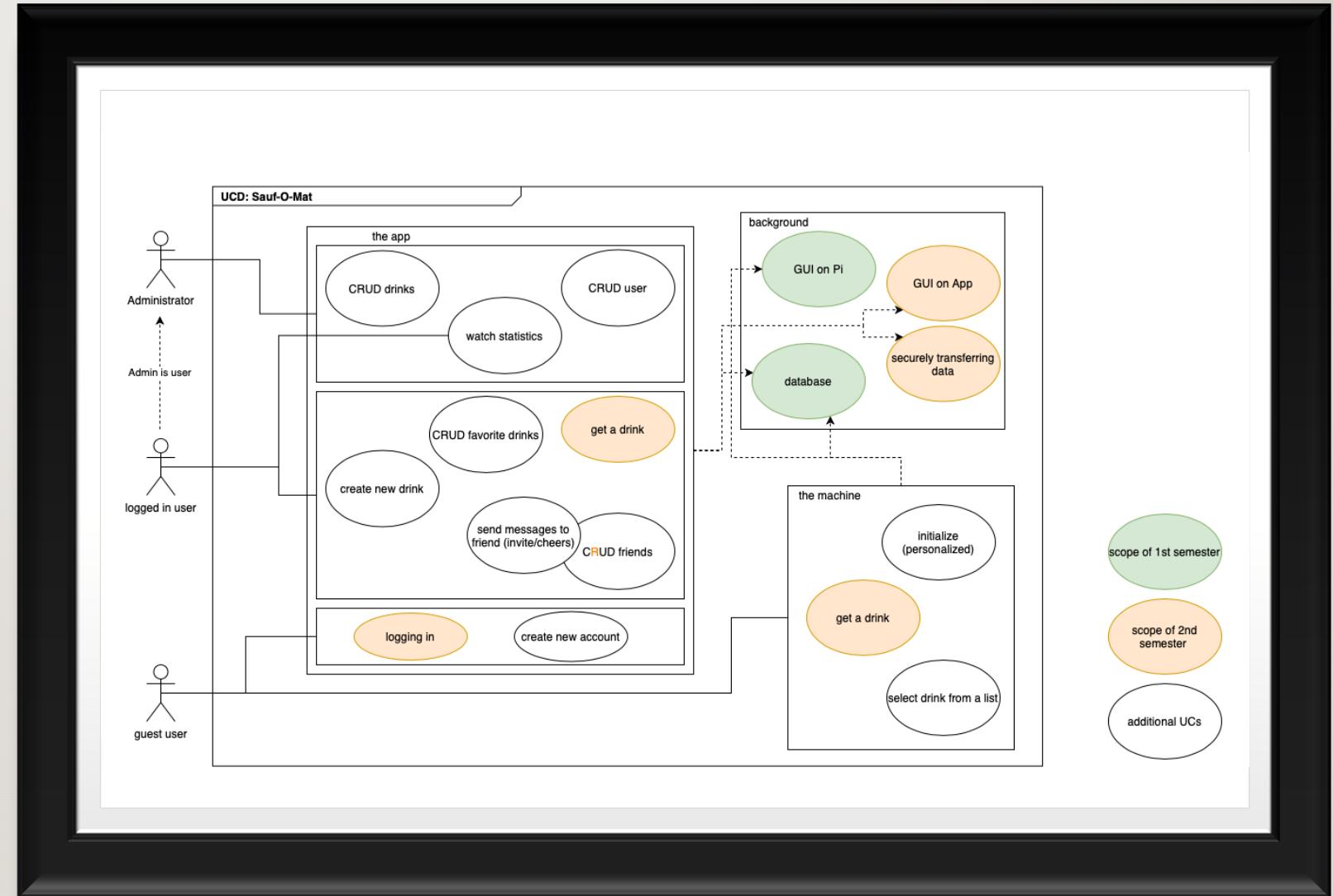


MOTIVATION

- Get cocktail by one touch (or click)
- Get people together
- Get customized drinks
- See friends activities



HOW ONE TOUCH WORKS





TECHNOLOGIES





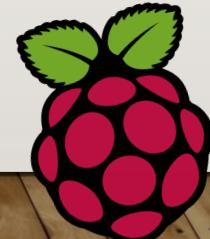
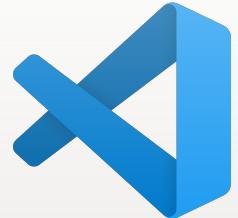
APP

- Visual Studio for Mac
- Xamarin → iOS
- C#



MACHINE

- Wooden case
- Pumps via GPIO
- RaspberryPi 4
- Visual Studio Code
- Python





Express JS

SERVER

- Windows Server
- SQL database
- REST API with Node.js & Express
- MQTT via Mosquito & paho



TESTING

- NUnit
- Selenium & Cucumber
- Postman



POSTMAN

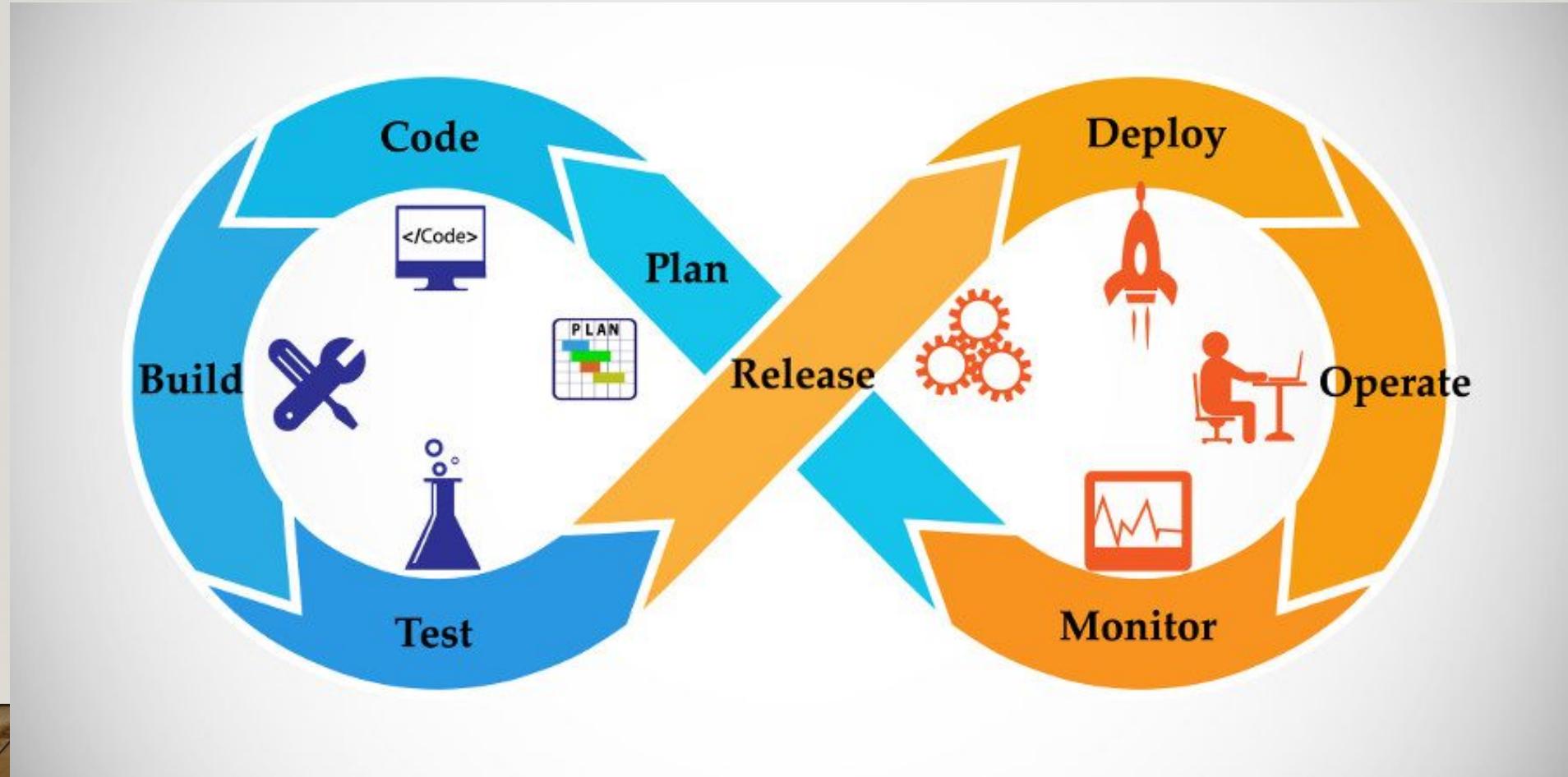


PROJECT MANAGEMENT





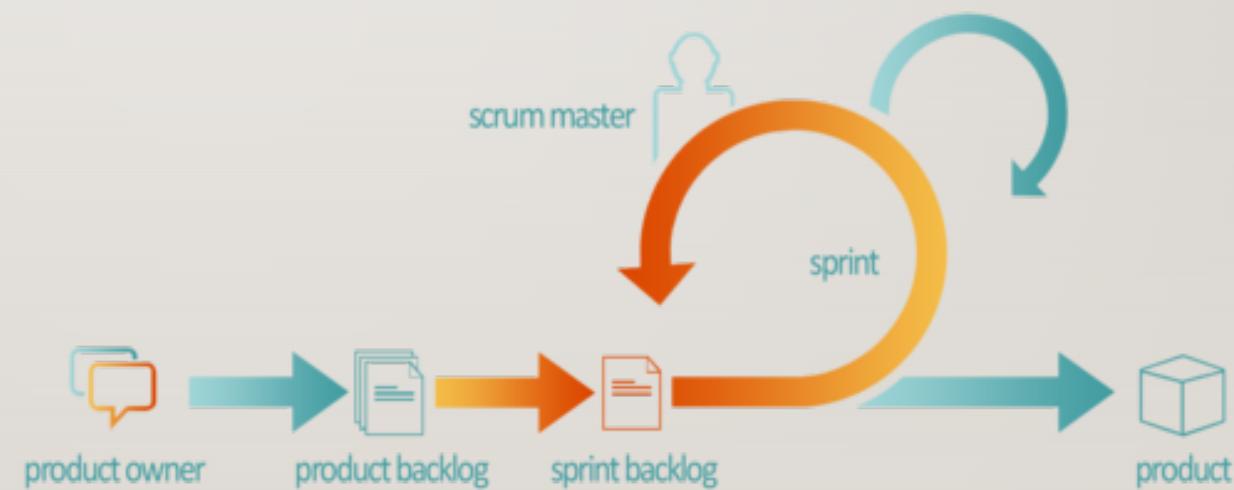
AGILE ENGINEERING





SCRUM

- Agile engineering
- Weekly sprints
- Using YouTrack for tracking

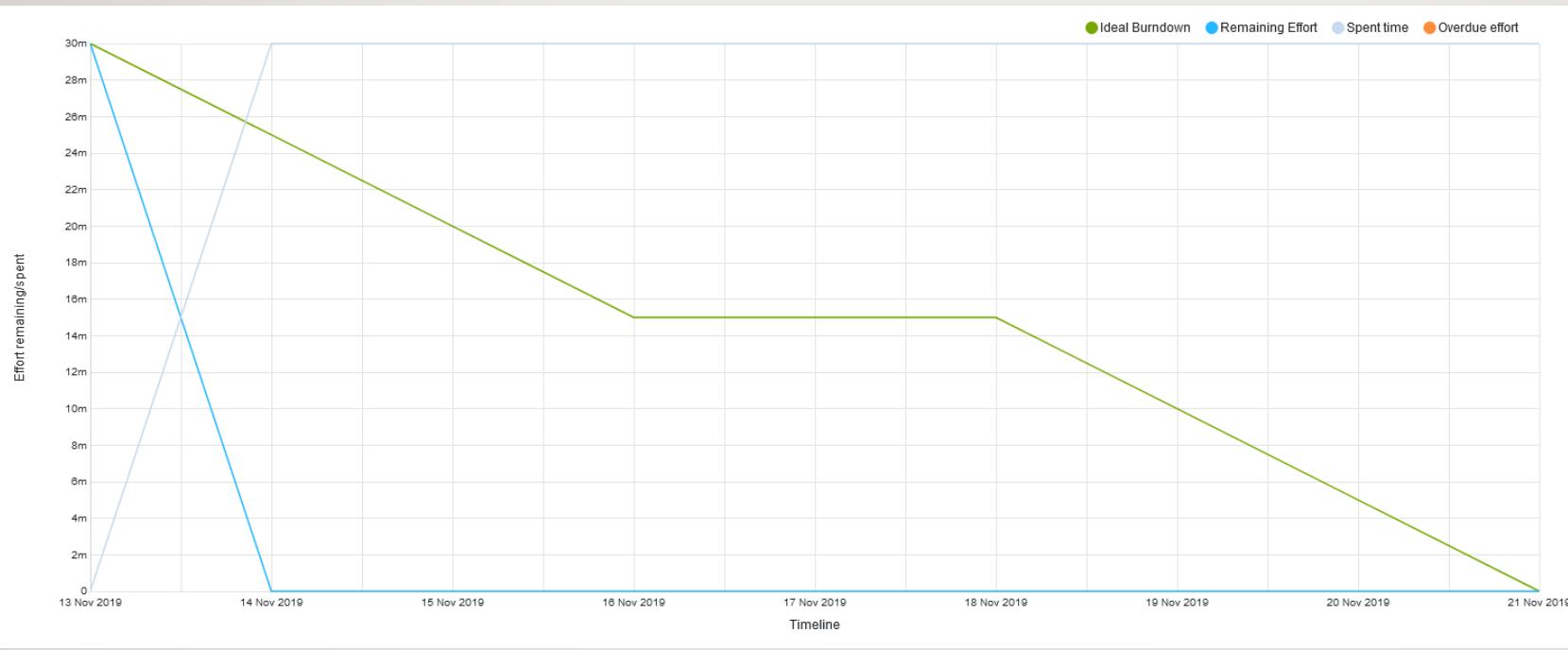




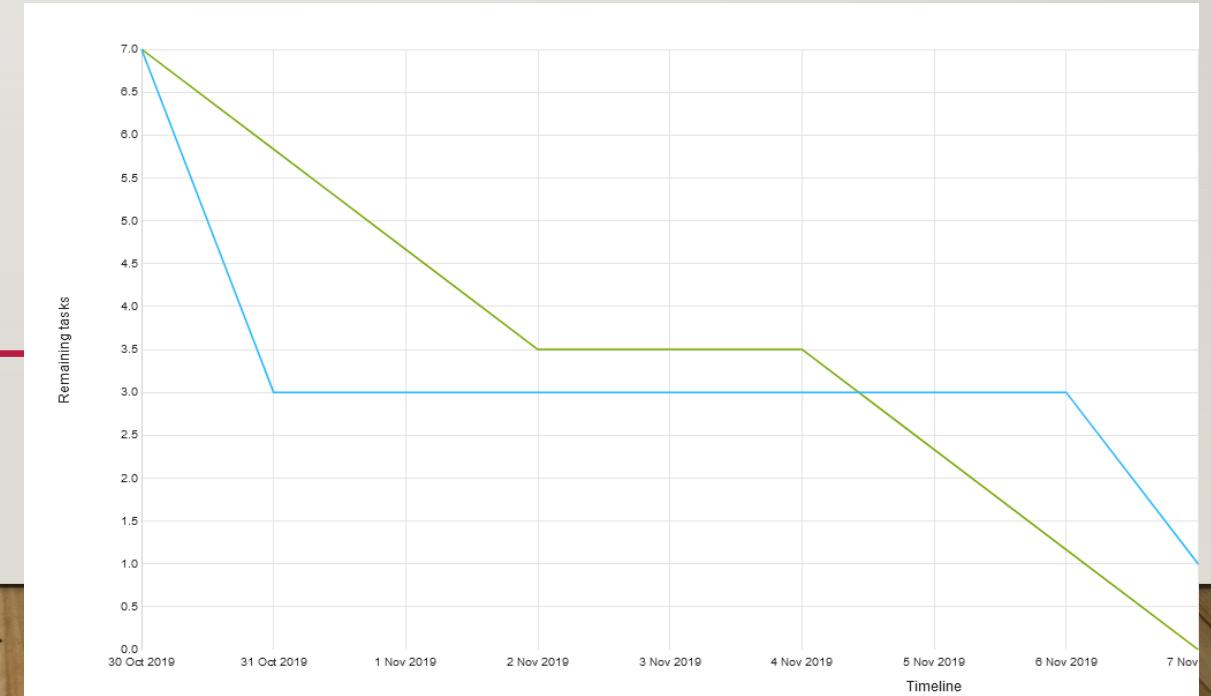
YOUTRACK

- Issue tracking system
- Project management software
- Time tracking
- Assign to workflow, sprint and teammember





BURNDOWN





TIME SPENT

Time spent – 330h 10m
[Show details](#)

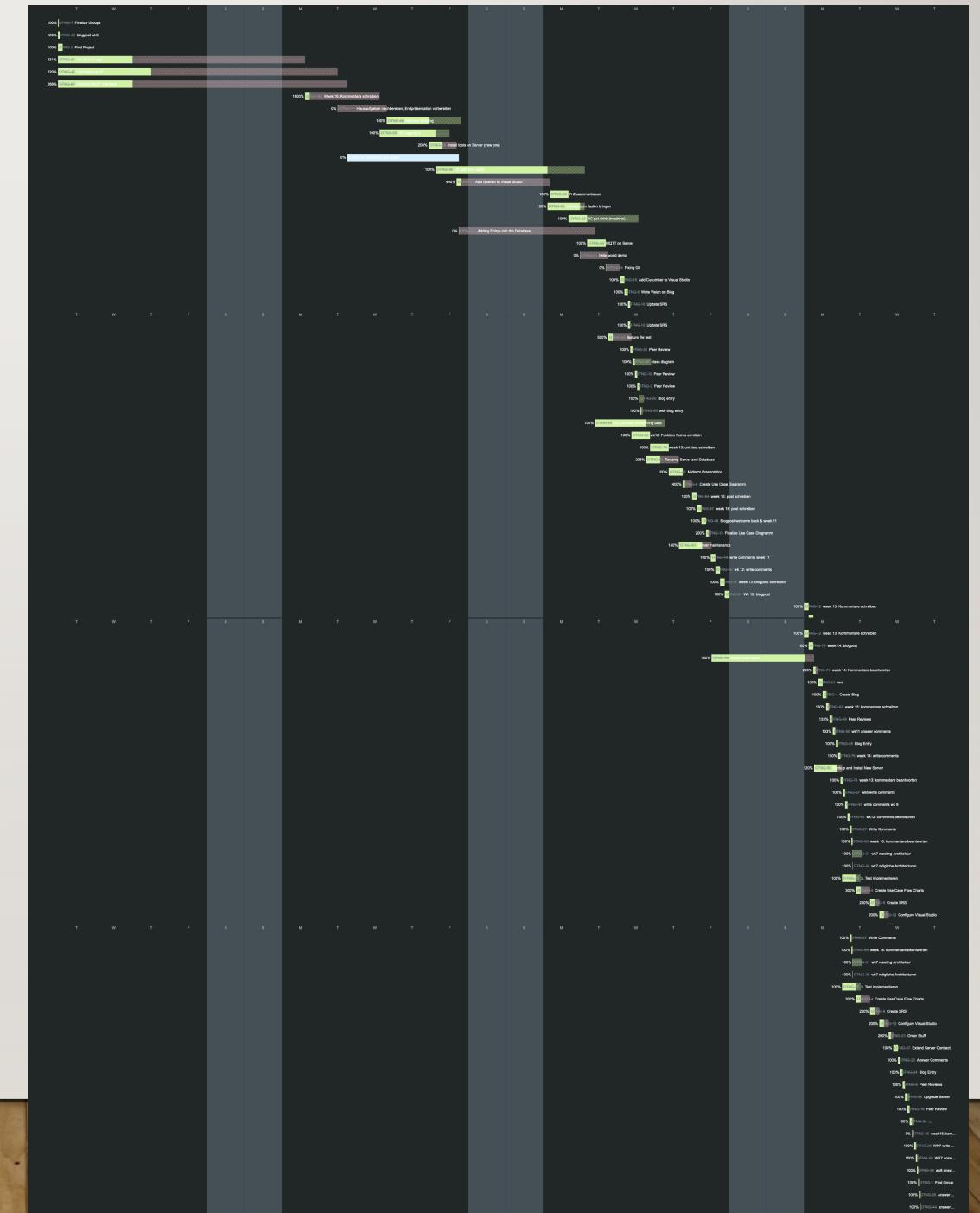
Anna null **111h 10m**

Elia null **110h 40m**

Tim null **108h 20m**

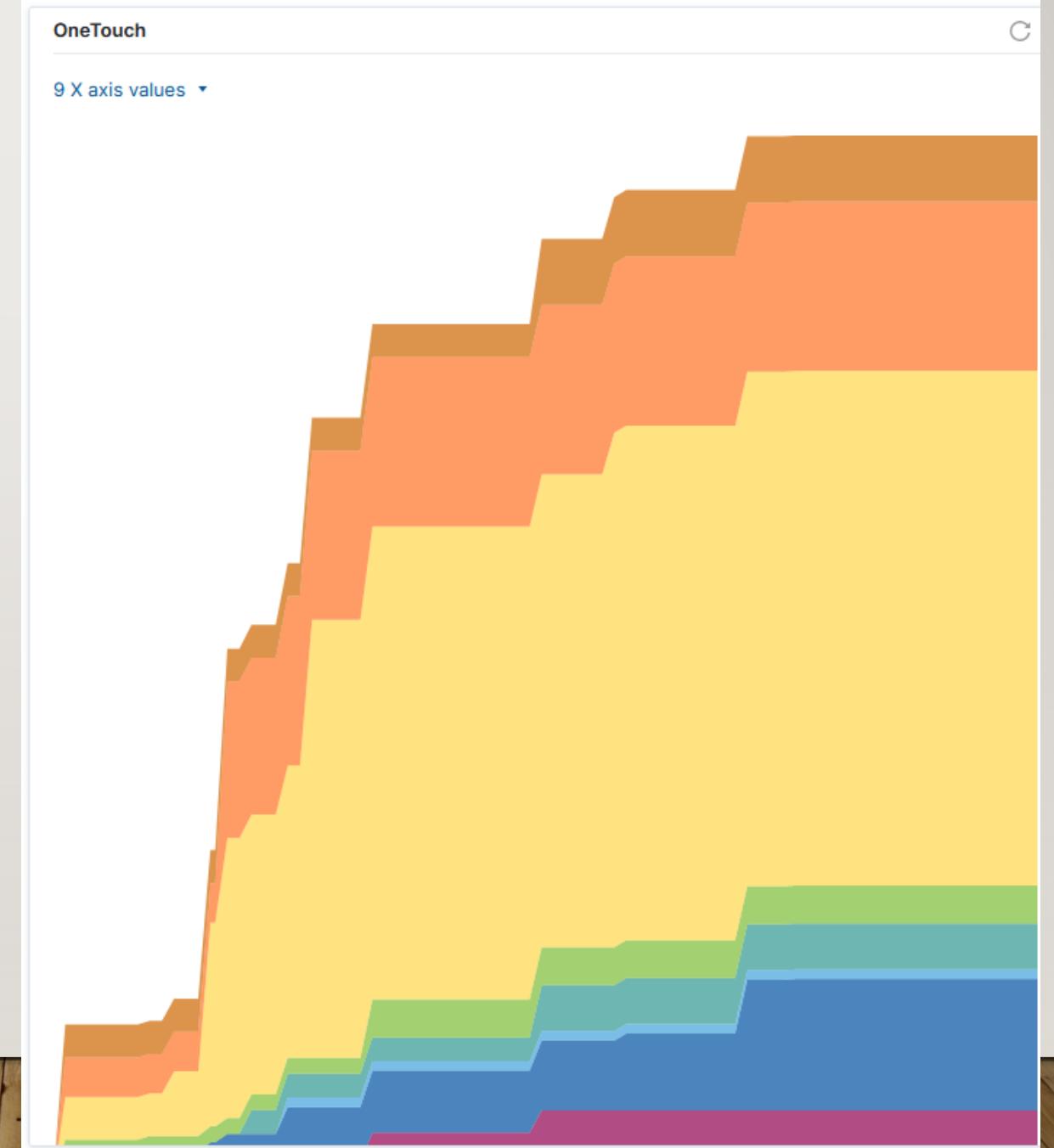


GANTT CHART



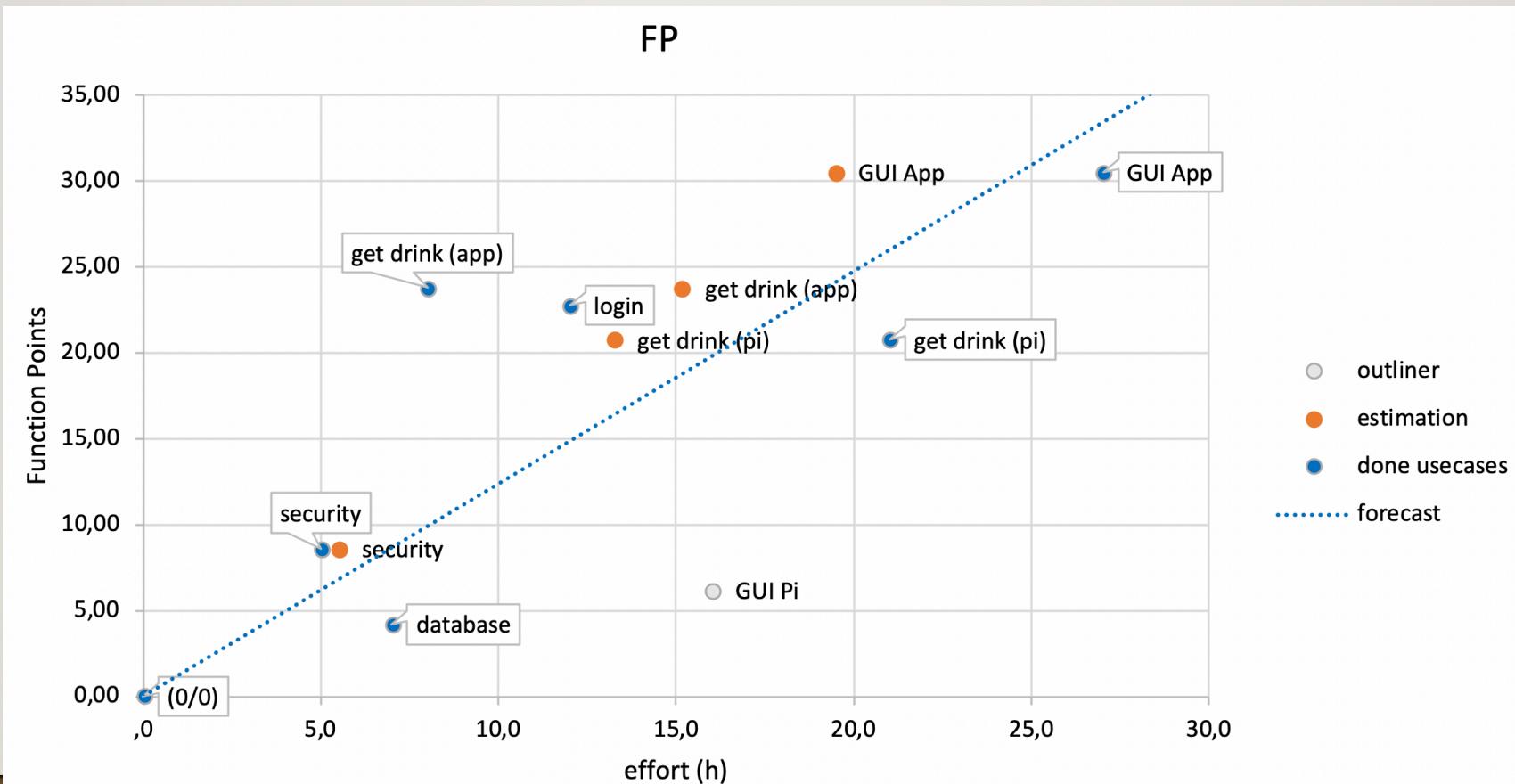


CUMMULATIVE





COST ESTIMATION





RISK MANAGEMENT

Lp.	The Main of Risk	Reason/cause	Probability in %	Impact from 1- 10	Level of Risk	Risk response Strategy	Person in Charge
Designing Risk							
1	Time is running short	Scope is to large for the given time	25,00%	8	2	Working on it early, clearing To-Dos	Elia
2	Wrong focus	Focusing to much on details than the whole picture	25,00%	5	1,25	Time tracking of the issues	Elia
3	Delay of Parts for the Machine	Delays in Delivery or a spontaneous pandemic in the whole world	0,00%	8	0	Reorder it!	Anna
4	Server failure	Servercontract can't get extended till after june / Serverbackup isn't working on new server	20,00%	7	1,4	Verify asap	Tim
5	Hardware failure	Pi isn't working with the rest of the machine / Pumps are not proper managable	15,00%	10	1,5	Tests with the Hard-and Software	Elia
6	Server hardware to weak	We unterestimated the performance needed for the database	10,00%	2	0,2	Get replacement or upgrade as fast as possible	Tim
7	Private Issues	Peronal circumstances / A member gets sick or is not fully available for the project	10,00%	6	0,6	Nothing we can really do	Everyone
8	University Dropout	Someone of the team gets deregistered	2,00%	8	0,16	Lerning, in case of dropout decrease scope	Everyone
9	Data loss	Data gets lost due to bugs or Servererrors	1,00%	10	0,1	Git and Server backups	Everyone
10	Logo	Logo won't be finished in time	80,00%	5	4	Using old Logo	Everyone



ARCHITECTURE

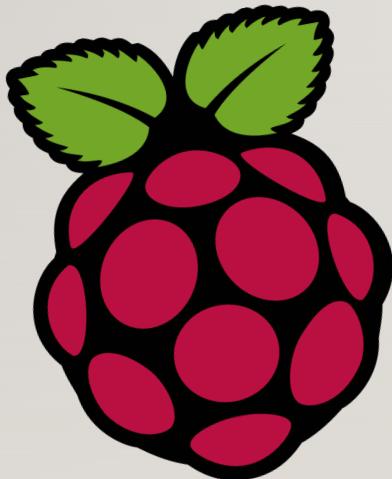




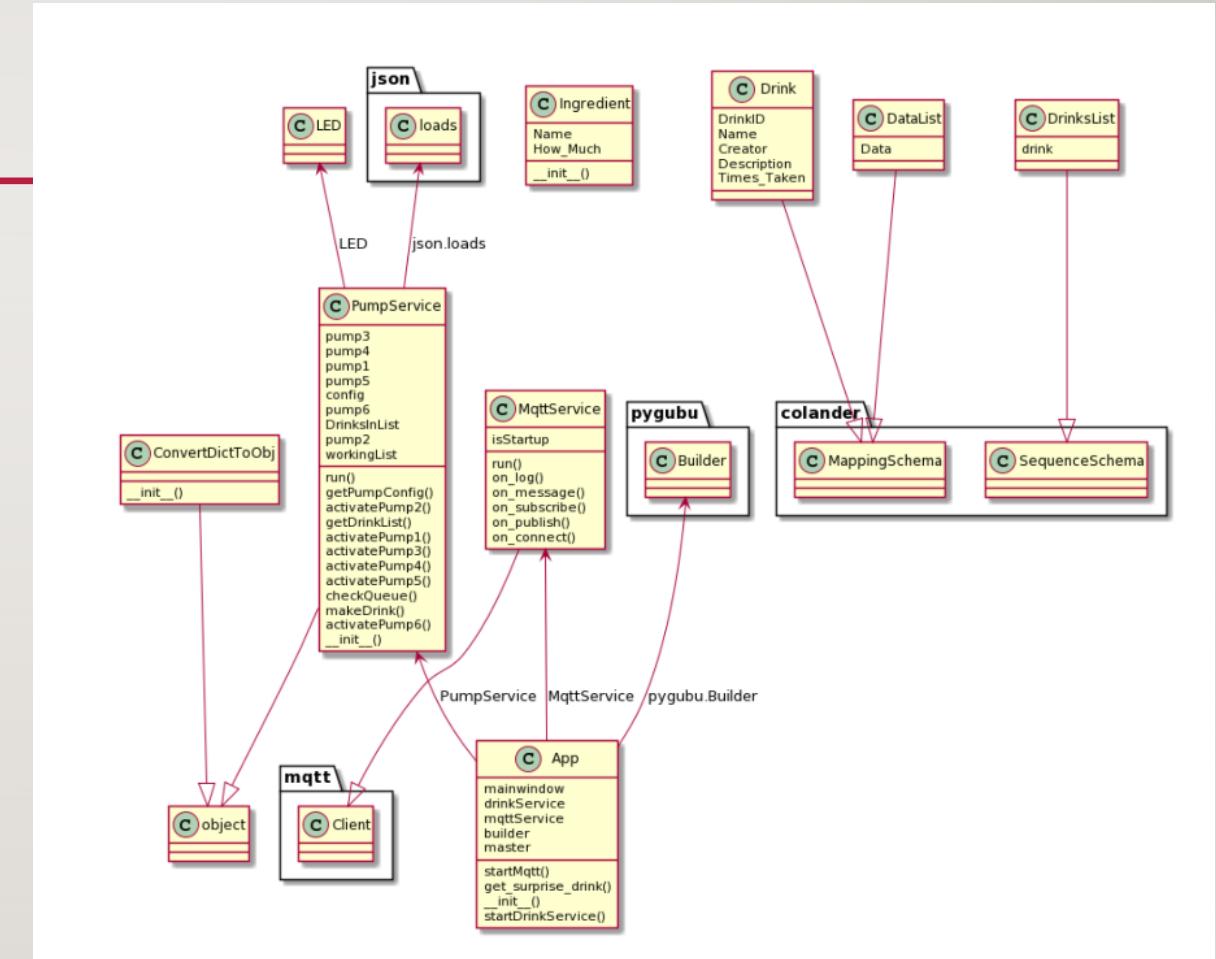
MACHINE

Python on RaspberryPi

Pumps via GPIO → Relais board etc.



 python™





APP

Implemented in C# with Xamarin

- Mvvm-architecture
- Metrics: cyclometric complexity & duplication
- Pattern: dependency injection



Xamarin



```
public LoginPageVM(ILoginService loginService, IDialogService dialogService)
{
    _loginService = loginService;
    _dialogService = dialogService;
```

A Repository certification

Quality evolution

Last 7 days Last 31 days



Für mich bist du einfach kein Model

- Drink.cs
- Ingredient.cs
- ListOfDrinks.cs
- ListOfFriends.cs
- ListOfIngredients.cs
- MasterPageItem.cs
- User.cs

Services

- Constants.cs
- DrinkService.cs
- FriendService.cs
- IDialogService.cs
- IDrinkService.cs
- IFriendService.cs
- ILoginService.cs
- INavigationService.cs
- Locator.cs
- LoginService.cs
- NavigationService.cs

View

- AboutView.xaml
 - AboutView.xaml.cs
- DrinksDetailView.xaml
- DrinksView.xaml
- FriendsView.xaml
 - FriendsView.xaml.cs
- LoginView.xaml
- MasterPage.xaml
- UserView.xaml
 - UserView.xaml.cs

ViewModel

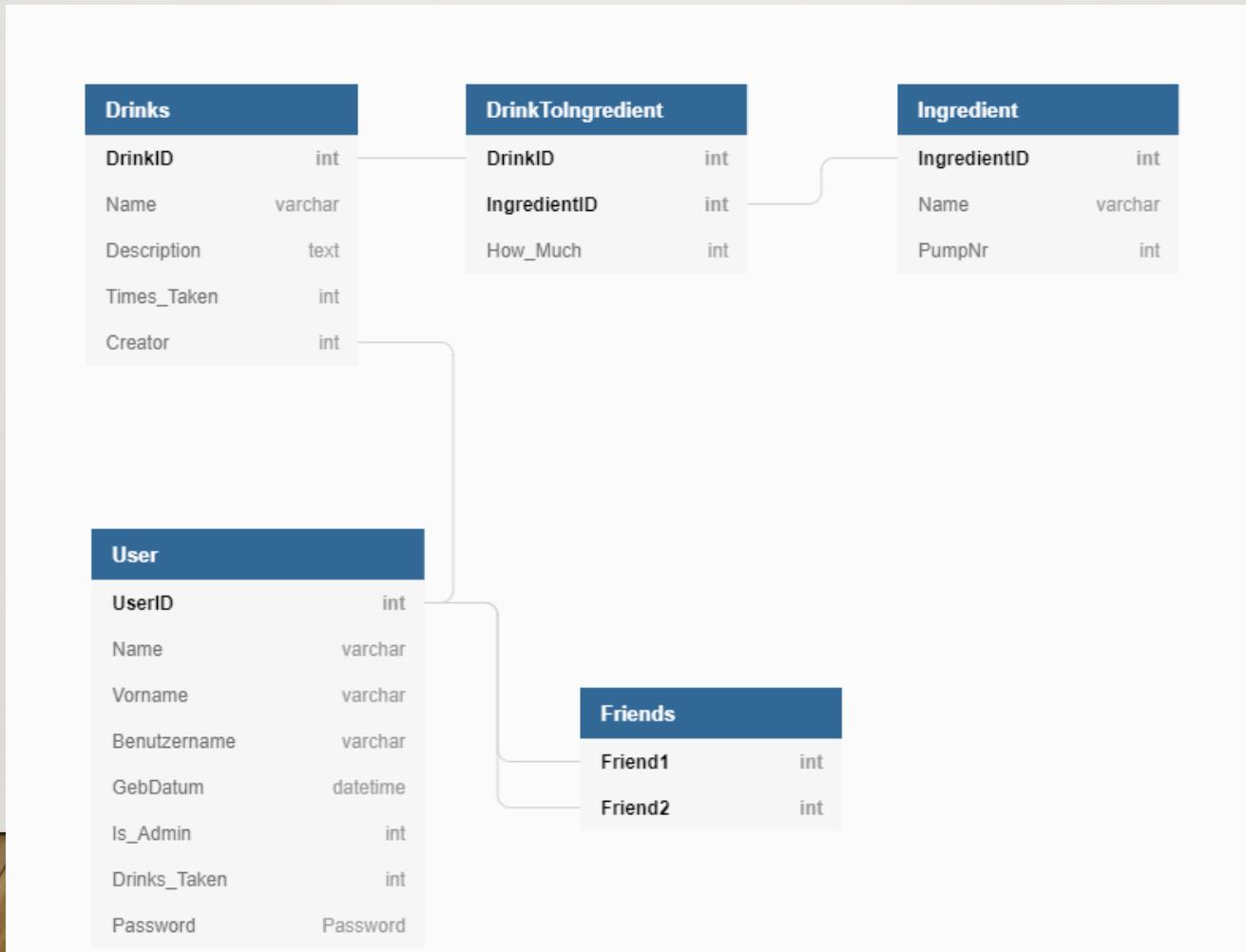
- DrinksDetailVM.cs
- DrinksVM.cs
- FriendsVM.cs
- LoginVM.cs
- MasterPageVM.cs



DATABASE



Microsoft®
SQL Server®





AUTOMATION





AUTOMATION

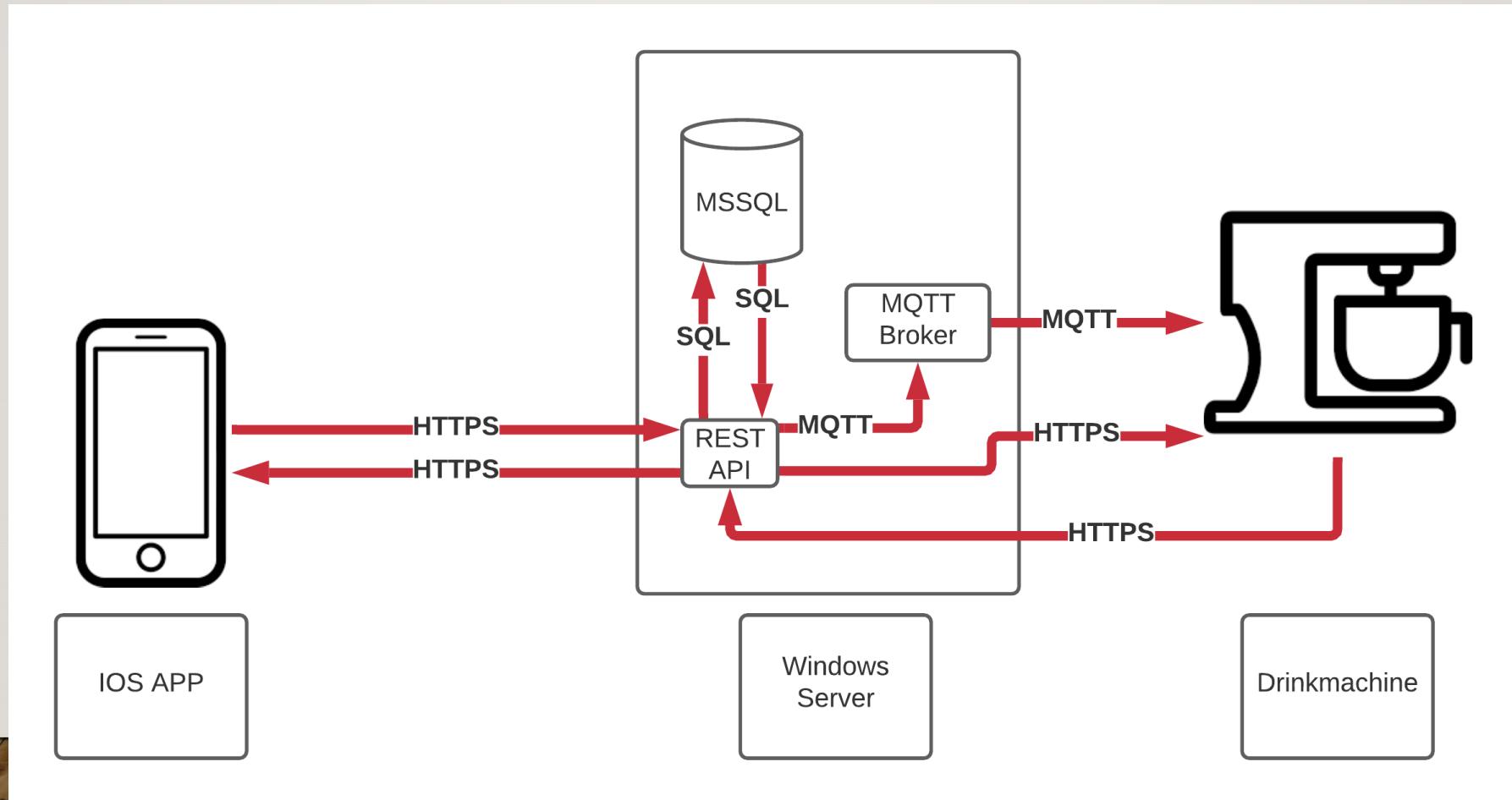


- Designing a GUI with Drag&Drop with Pygubu and tkinter for Python
- Testing with feature files, unit tests, postman
- Reports with YouTrack
- IDE connected to GitHub
- CI with Jenkins
- Metrics Analysis with Codacy





DEPLOYMENT VIEW





TESTING





TESTING WITH FEATURE-FILES



```
1 Feature: testFeature
2
3
4 @mytag
5   Scenario: Links
6     Given the OneTouchNextGen blog site is open
7     When I click on the custom link labeled "Blog Feed"
8     Then the page title should contain "Week"
```





UNIT TESTING WITH NUNIT

```
[Test]
public void Refresh_Drinks_notEmpty()
{
    var drinksVM = new DrinksVM();

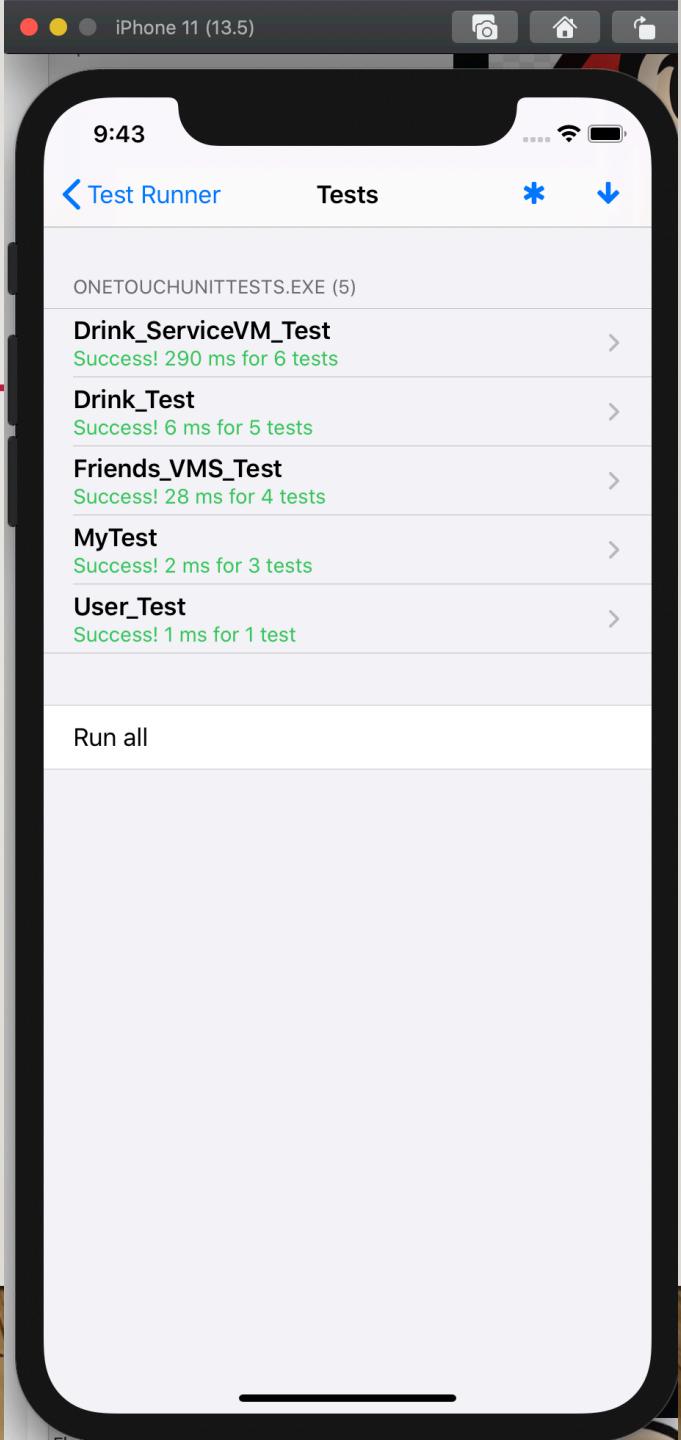
    drinksVM.RefreshCommand.Execute(null);

    Assert.IsNotNull(drinksVM.Drinks);
}

[Test]
public void Refresh_Drinks_Drink()
{
    var drinksVM = new DrinksVM();

    drinksVM.RefreshCommand.Execute(null);

    Assert.IsInstanceOfType(typeof(ObservableCollection<Drink>), drinksVM.Drinks);
}
```





API TESTING WITH POSTMAN

Test Results		Console Log	Need help debugging?
	GET	All Drinks https://onetouchnextgen.tech:5000/api/drinks	200 OK 612 ms 4353 B
	PASS	Status code is 200	
	GET	1 Drink https://onetouchnextgen.tech:5000/api/drinks/1	200 OK 125 ms 11 B
	PASS	Status code is 200	
	PUT	Take One Drink https://onetouchnextgen.tech:5000/api/takedrink/drinkid=1&user=LordTedXII	200 OK 132 ms 24 B
	PASS	Status code is 200	
	GET	Itemslist 1 Drink https://onetouchnextgen.tech:5000/api/ingredientlist/3	200 OK 123 ms 76 B
	PASS	Status code is 200	
	GET	Get All Users https://onetouchnextgen.tech:5000/api/user	200 OK 129 ms 821 B
	PASS	Status code is 200	
	GET	Login User https://onetouchnextgen.tech:5000/api/user/login/username=LordTedXII&password=lol123	200 OK 125 ms 29 B
	PASS	Status code is 200	
	GET	Tier List Drinks https://onetouchnextgen.tech:5000/api/drink/bestdrinks	200 OK 206 ms 557 B
	PASS	Status code is 200	
	POST	New User https://onetouchnextgen.tech:5000/api/newuser/username=Test1&password=lol123&name=...	200 OK 151 ms 24 B
	PASS	Status code is 200	
	GET	Tier List Drinkers https://onetouchnextgen.tech:5000/api/drink/bestdrinkers	200 OK 124 ms 275 B
	PASS	Status code is 200	



TIME FOR A DEMO





FUTURE

- more functionalities in app
- more beautiful GUI on machine with QT
- DIY instructions
- Android support
- event scheduling in app -> 3 machines have virtual party with webcam streaming



THANK YOU FOR
YOUR ATTENTION!

ANY QUESTIONS?



BACKUP VIDEO

