

BY ONETOUCHNEXTGEN

ONE TOUCH



AGENDA



Vision



Technologies



Project
Management



Architecture



Automation



Testing



Demo



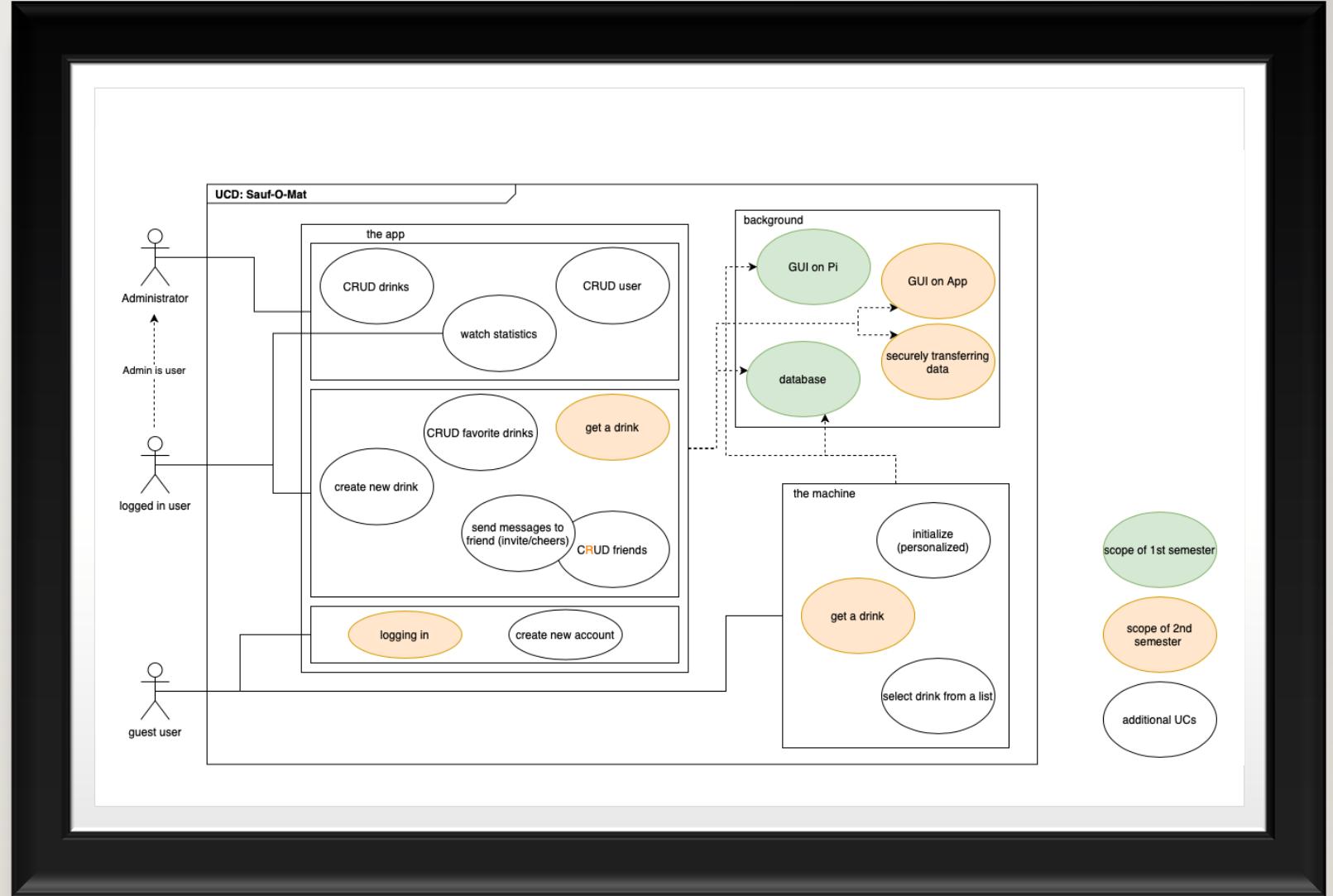
VISION



MOTIVATION

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

HOW ONE TOUCH WORKS



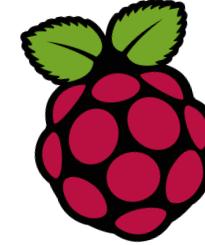
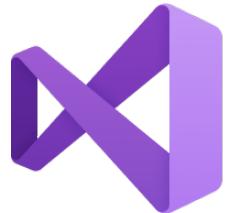
TECHNOLOGIES





APP

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



MACHINE

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





SERVER

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



TESTING

- NUnit
- Selenium & Cucumber
- Postman

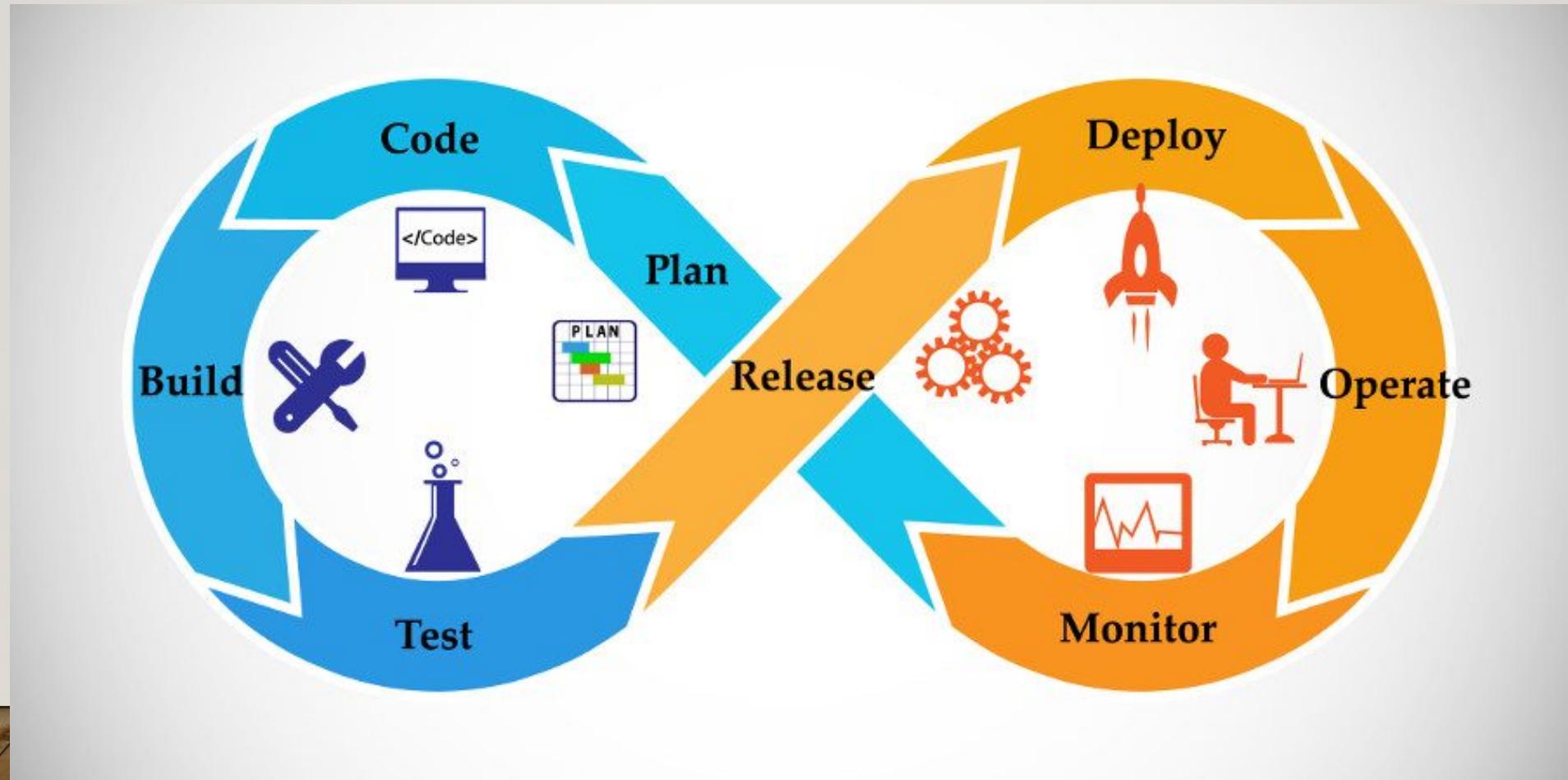


POSTMAN

PROJECT MANAGEMENT



AGILE ENGINEERING



SCRUM

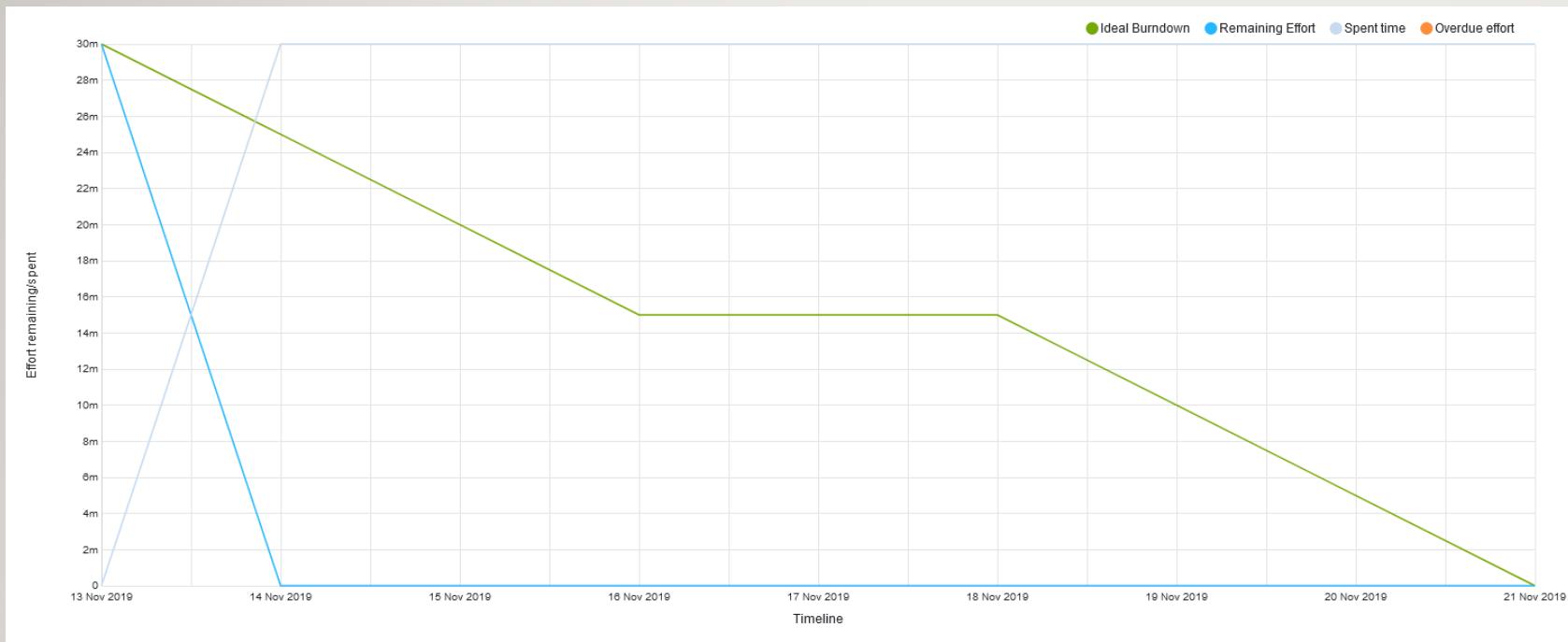
- Agile engineering
- Weekly sprints
- Using YouTrack for tracking



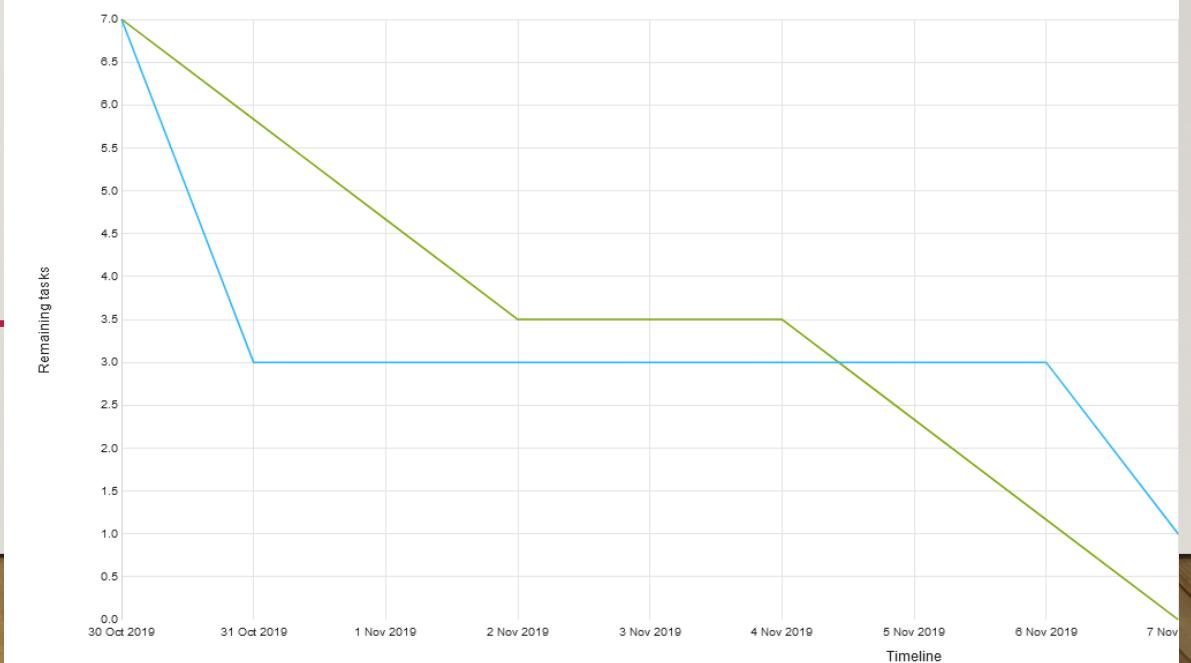
YOUTRACK

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





BURNDOWN



TIME SPENT

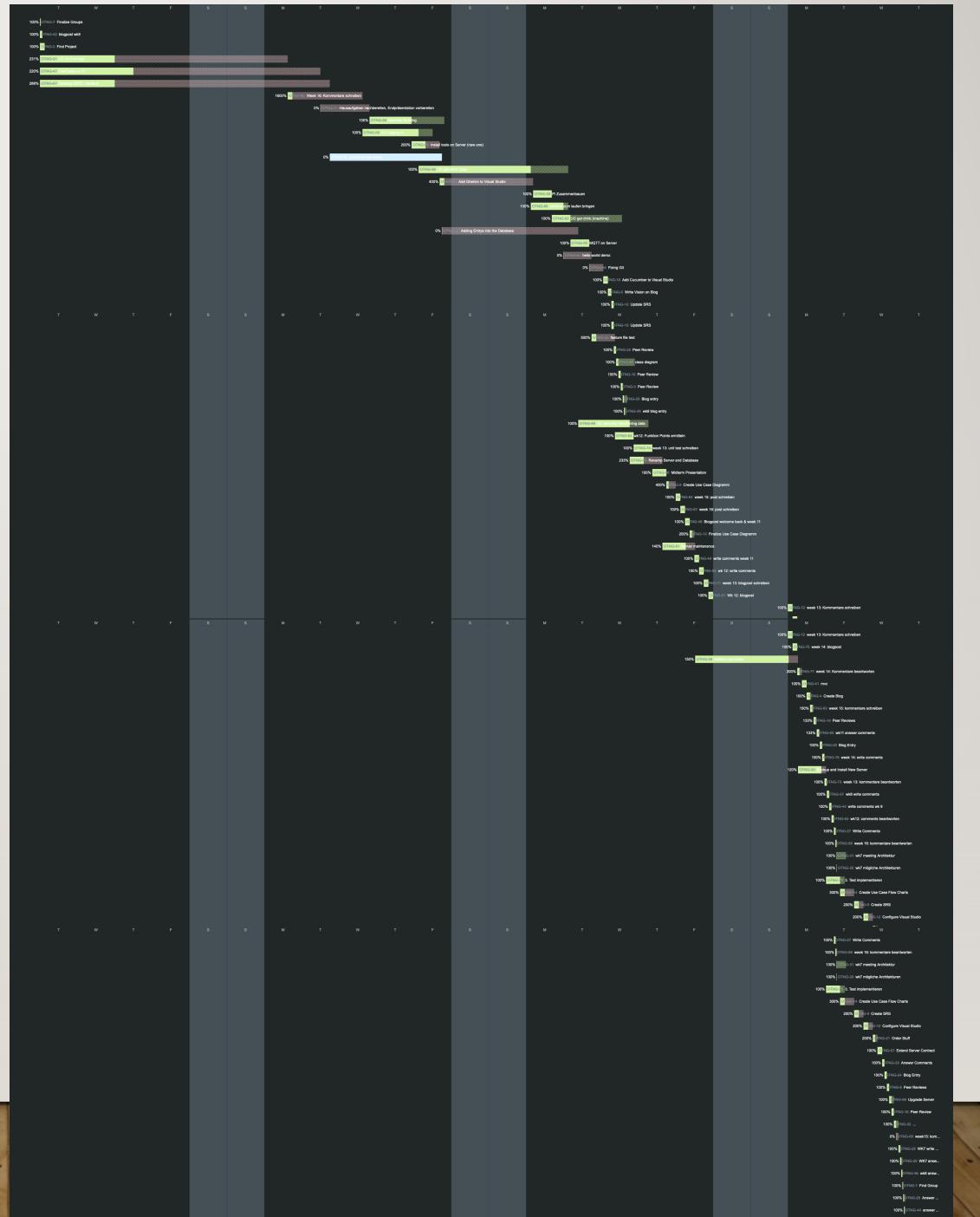
Time spent – 330h 10m
[Show details](#)

Anna null **111h 10m**

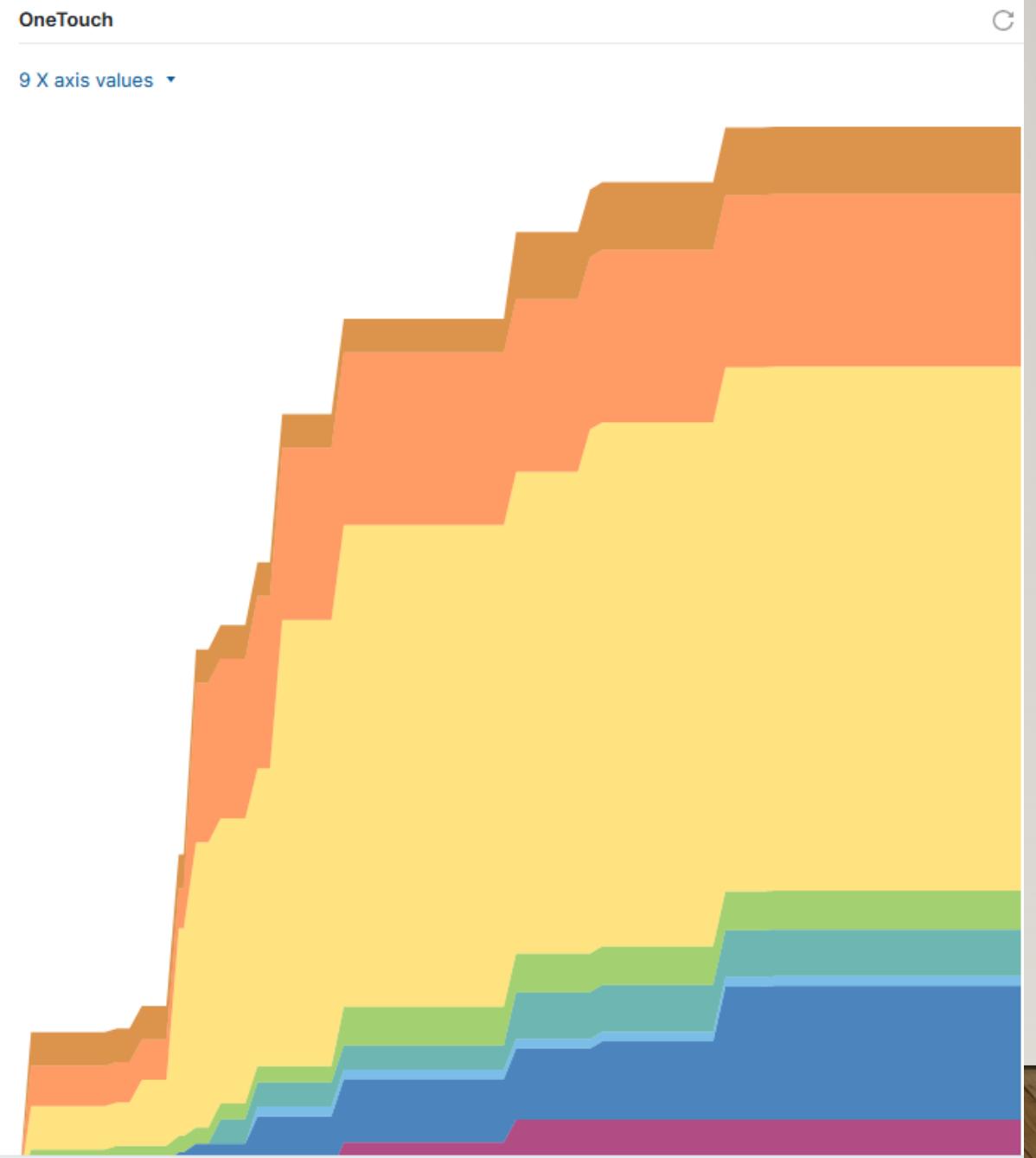
Elia null **110h 40m**

Tim null **108h 20m**

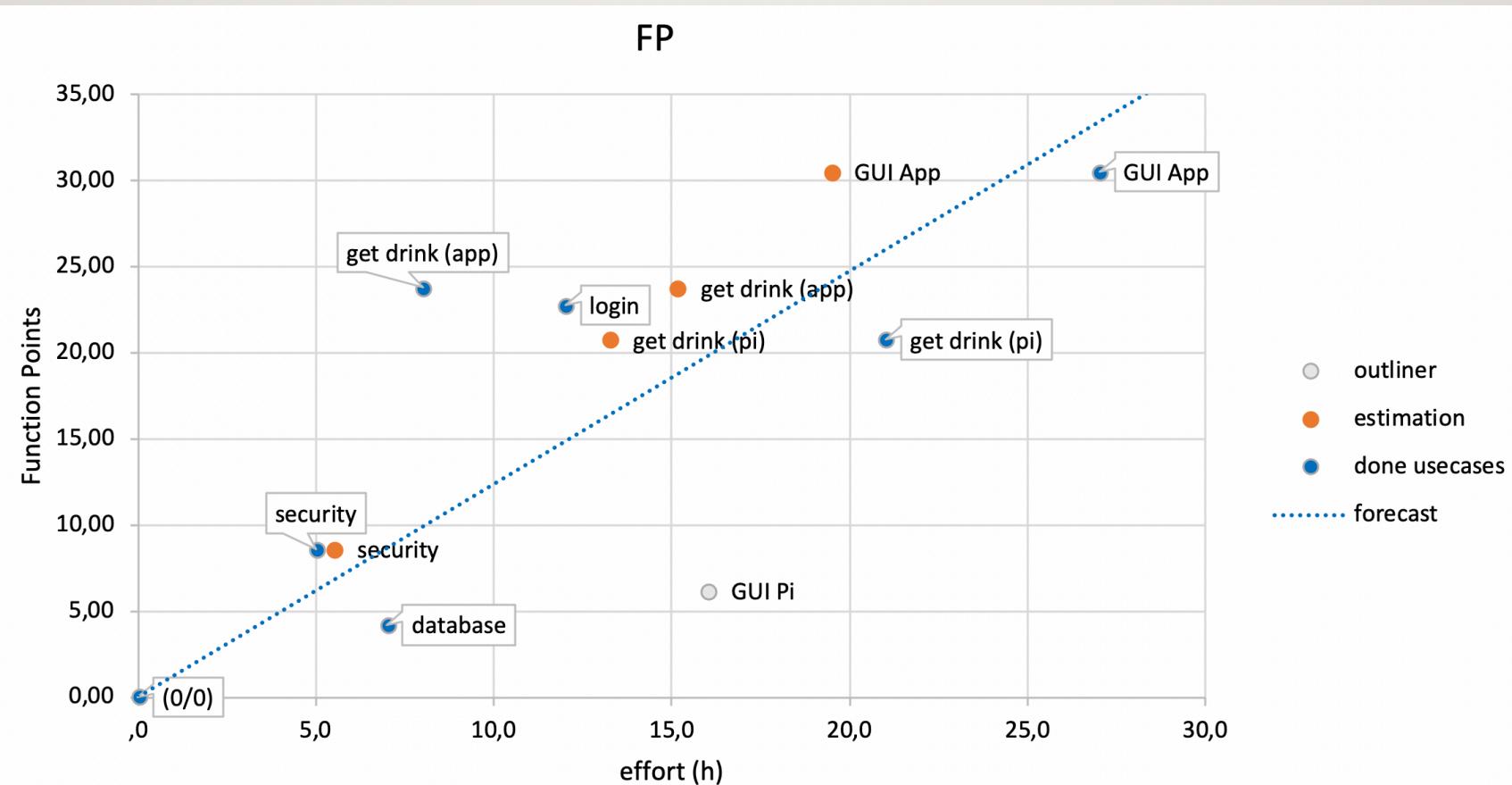
GANTT CHART



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

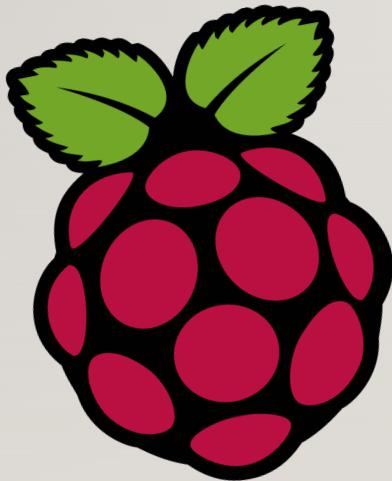
ARCHITECTURE



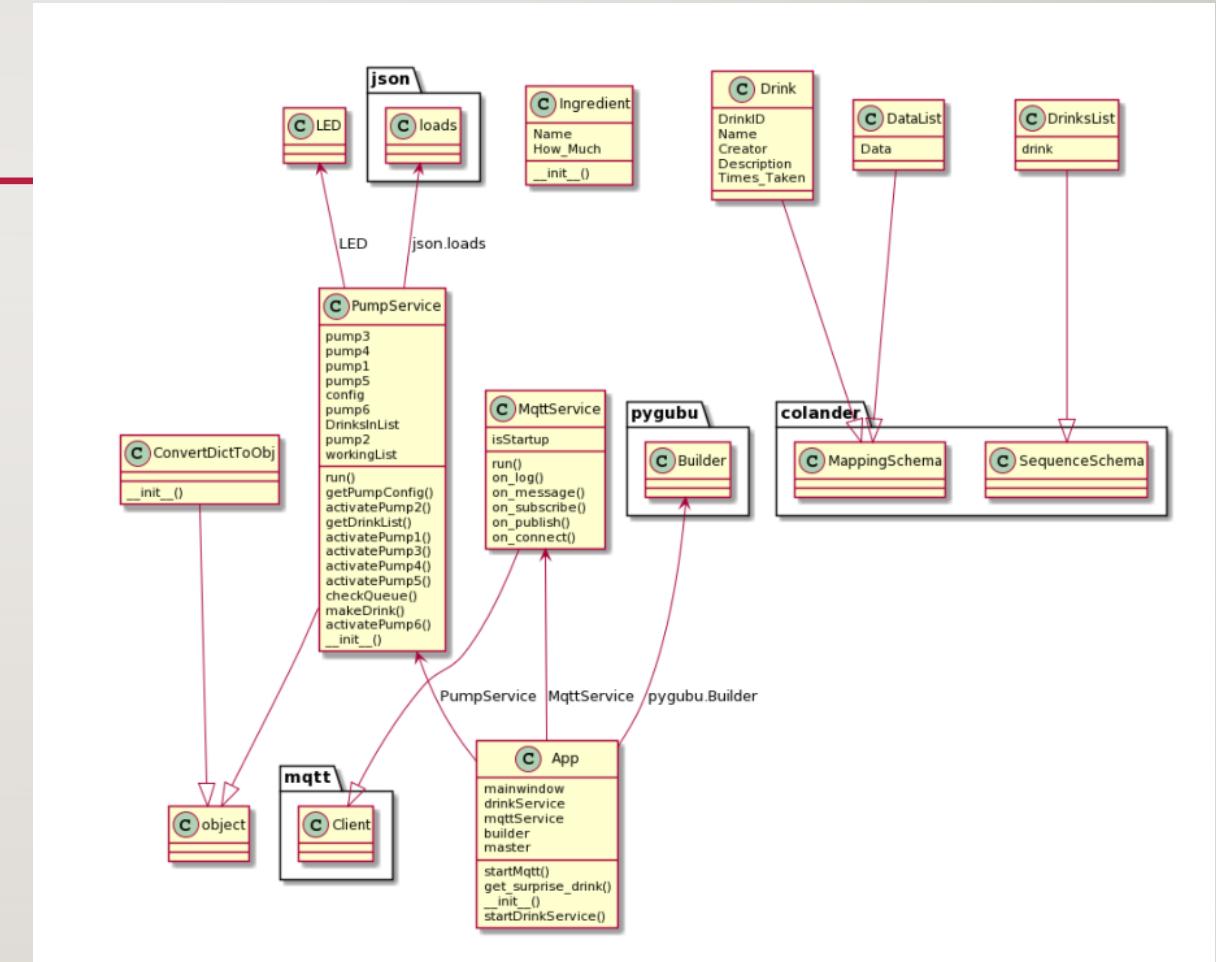
MACHINE

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



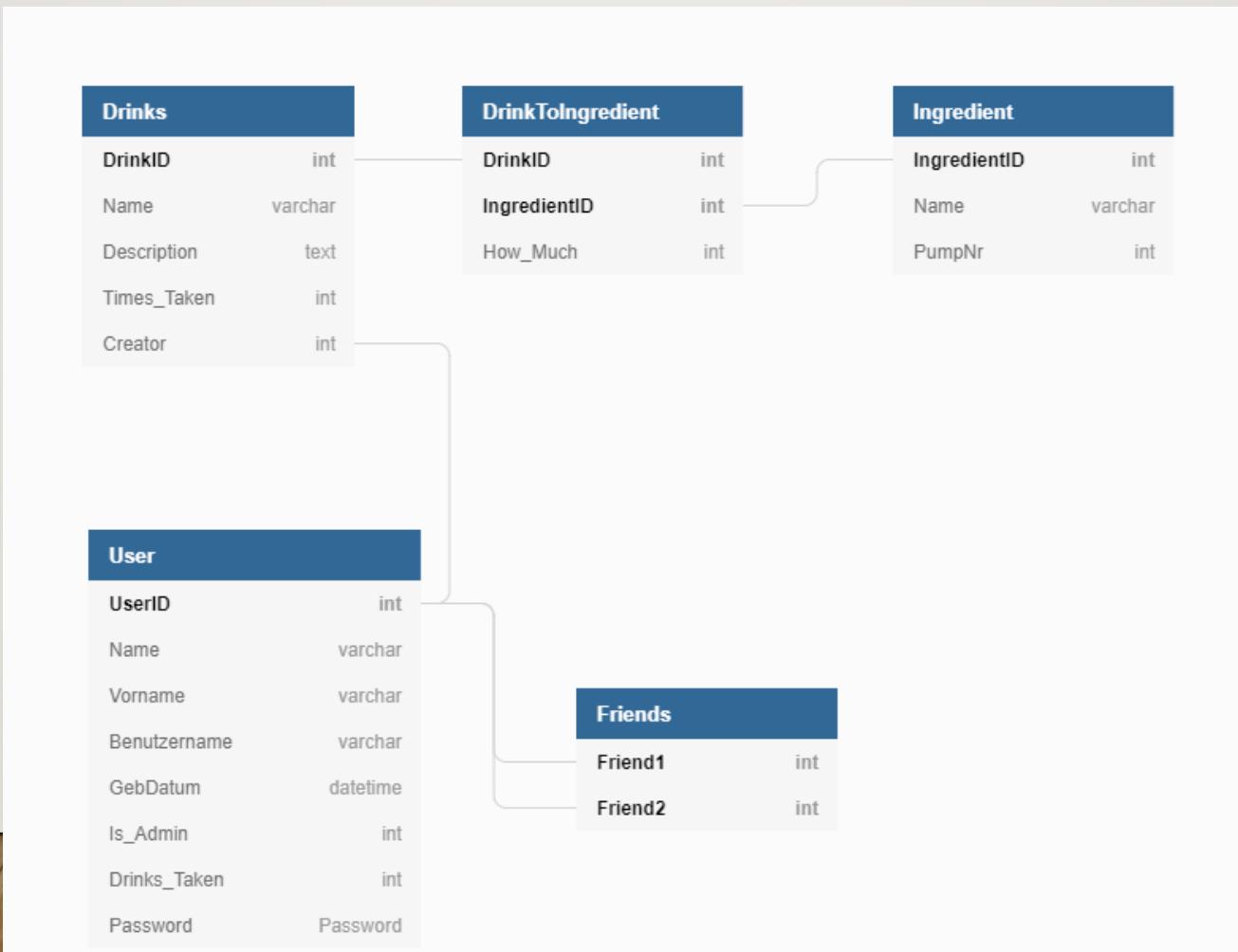
Xamarin



▼	Für mich bist du einfach kein Model
Ø	Drink.cs
Ø	Ingredient.cs
Ø	ListOfDrinks.cs
Ø	ListOfFriends.cs
Ø	ListOfIngredients.cs
Ø	MasterPageItem.cs
Ø	User.cs
▼	Services
Ø	Constants.cs
Ø	DrinkService.cs
Ø	FriendService.cs
Ø	IDialogService.cs
Ø	IDrinkService.cs
Ø	IFriendService.cs
Ø	ILoginService.cs
Ø	INavigationService.cs
Ø	Locator.cs
Ø	LoginService.cs
Ø	NavigationService.cs
▼	View
▼	AboutView.xaml
Ø	AboutView.xaml.cs
►	DrinksDetailView.xaml
►	DrinksView.xaml
▼	FriendsView.xaml
Ø	FriendsView.xaml.cs
►	LoginView.xaml
►	MasterPage.xaml
▼	UserView.xaml
Ø	UserView.xaml.cs
▼	ViewModel
Ø	DrinksDetailVM.cs
Ø	DrinksVM.cs
Ø	FriendsVM.cs
Ø	LoginVM.cs
Ø	MasterPageVM.cs

```
public LoginPageVM(IUserService userService, IDialogService dialogService)
{
    _userService = userService;
    _dialogService = dialogService;
```

DATABASE





AUTOMATION



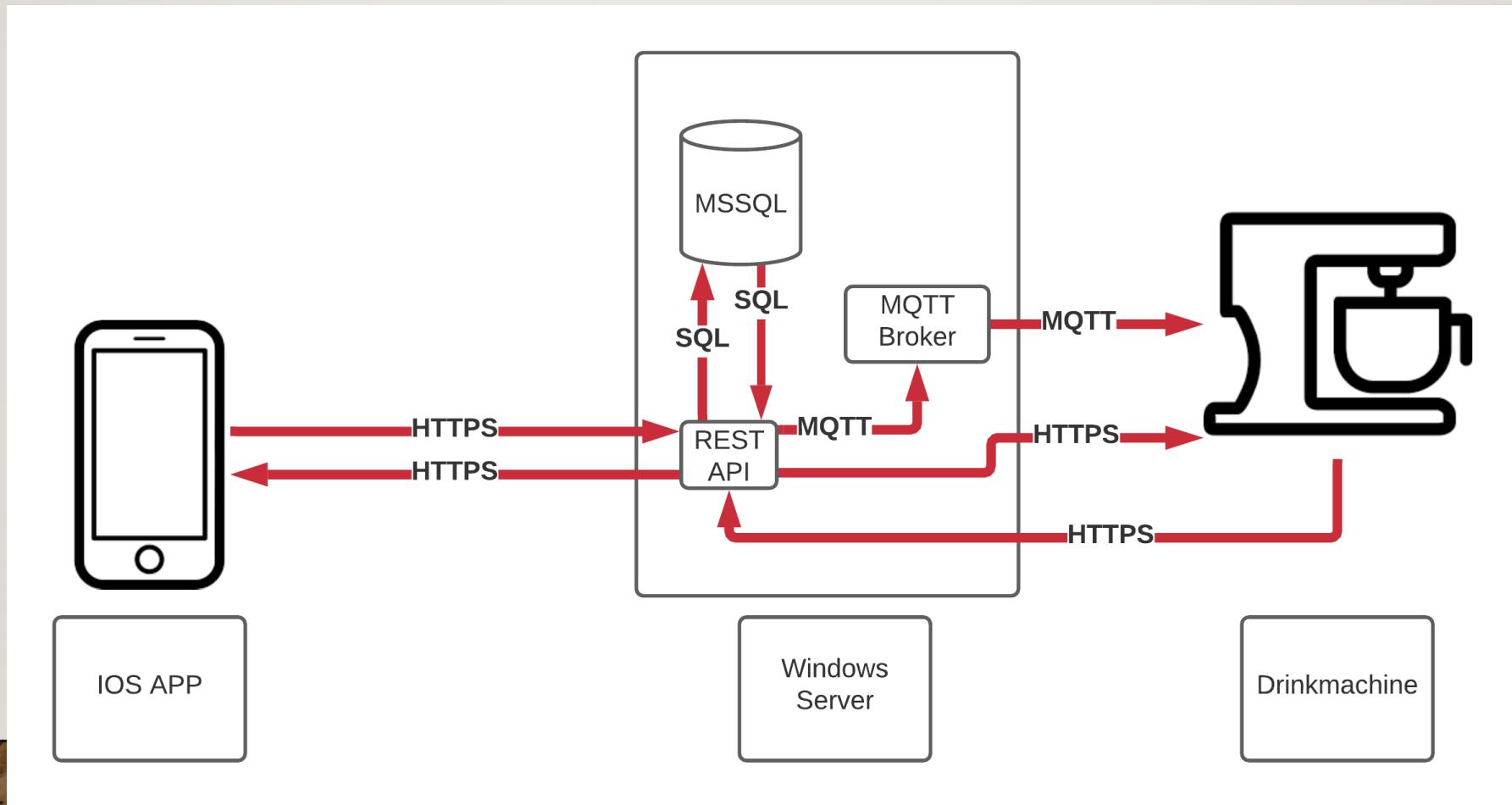
AUTOMATION



- 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();

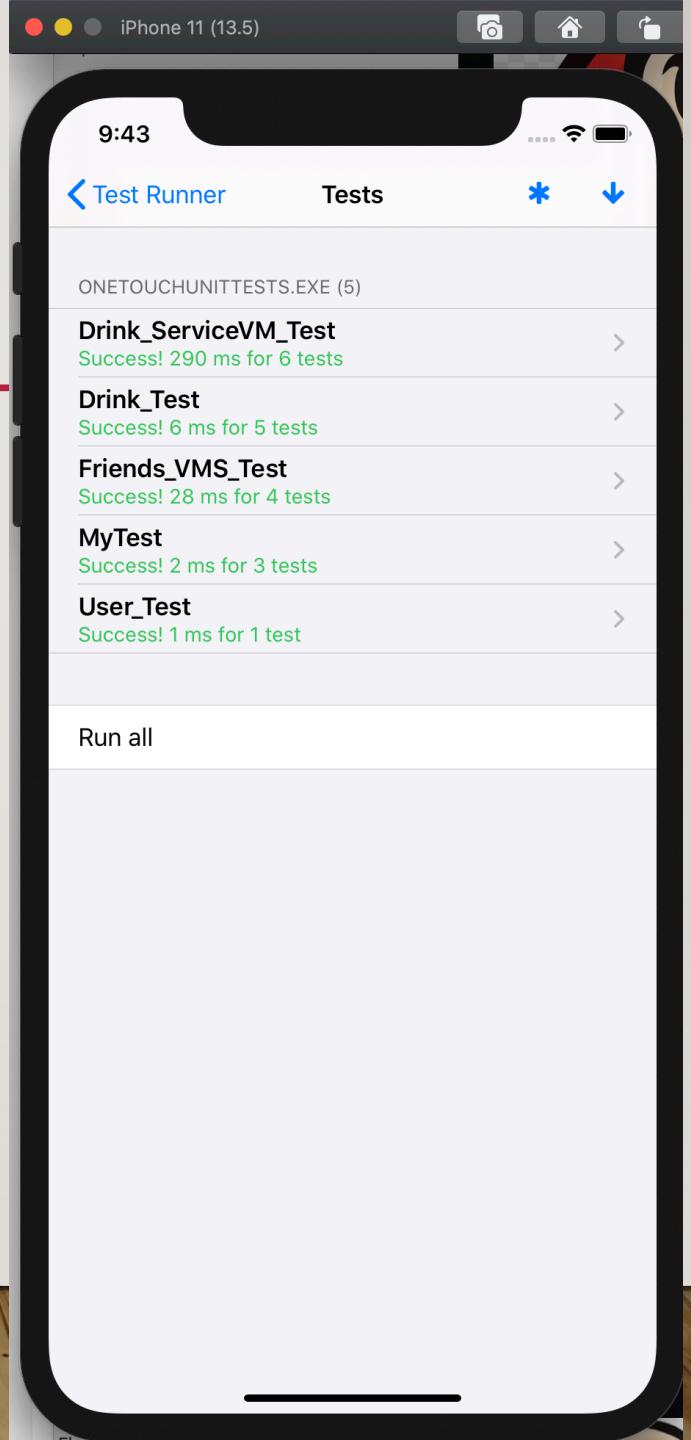
    drinksVM.RefreshCommand.Execute(null);

    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

