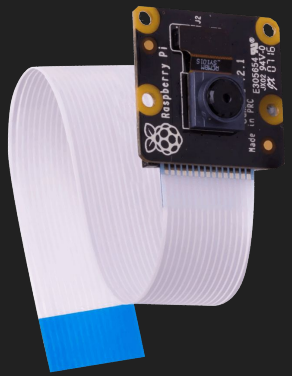
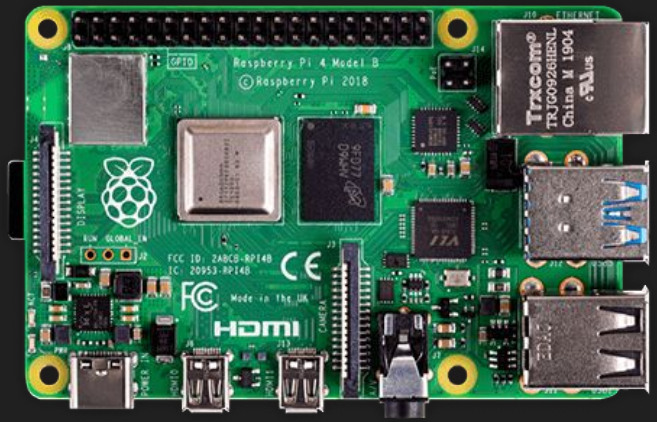
Visitor-Counter



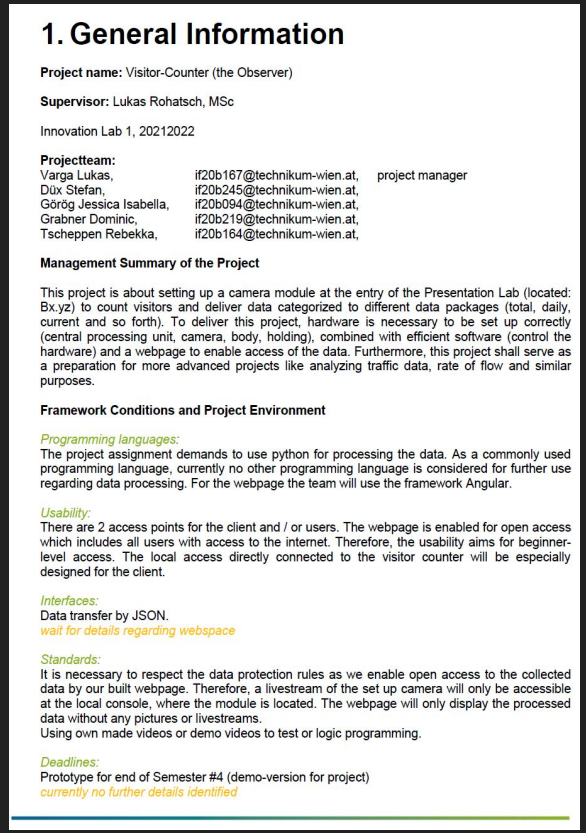


Stefan Düx | Jessica Isabella Görög | Dominic Grabner | Rebekka Tscheppen | Lukas Varga

Visitor-Counter | Gruppe 29 | BIF3 | Innovation Lab 1 | “the Observer”

Description

- data recording + analysis via raspberry pi 4 + camera module
- person recognition to count visitors at Presentation Lab (FH Technikum)
- adapted with interface, web-application and further data processing



1. General Information

Project name: Visitor-Counter (the Observer)

Supervisor: Lukas Rohatsch, MSc

Innovation Lab 1, 20212022

Projectteam:

Varga Lukas,	if20b167@technikum-wien.at,	project manager
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Grabner Dominic,	if20b219@technikum-wien.at,	
Tscheppen Rebekka,	if20b164@technikum-wien.at,	

Management Summary of the Project

This project is about setting up a camera module at the entry of the Presentation Lab (located: Bx.yz) to count visitors and deliver data categorized to different data packages (total, daily, current and so forth). To deliver this project, hardware is necessary to be set up correctly (central processing unit, camera, body, holding), combined with efficient software (control the hardware) and a webpage to enable access of the data. Furthermore, this project shall serve as a preparation for more advanced projects like analyzing traffic data, rate of flow and similar purposes.

Framework Conditions and Project Environment

Programming languages:
The project assignment demands to use python for processing the data. As a commonly used programming language, currently no other programming language is considered for further use regarding data processing. For the webpage the team will use the framework Angular.

Usability:
There are 2 access points for the client and / or users. The webpage is enabled for open access which includes all users with access to the internet. Therefore, the usability aims for beginner-level access. The local access directly connected to the visitor counter will be especially designed for the client.

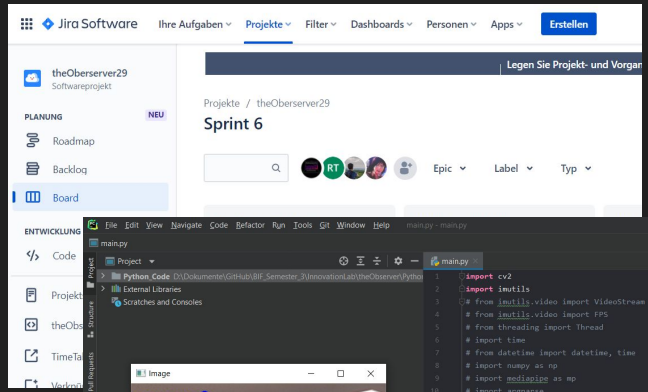
Interfaces:
Data transfer by JSON.
wait for details regarding webspace

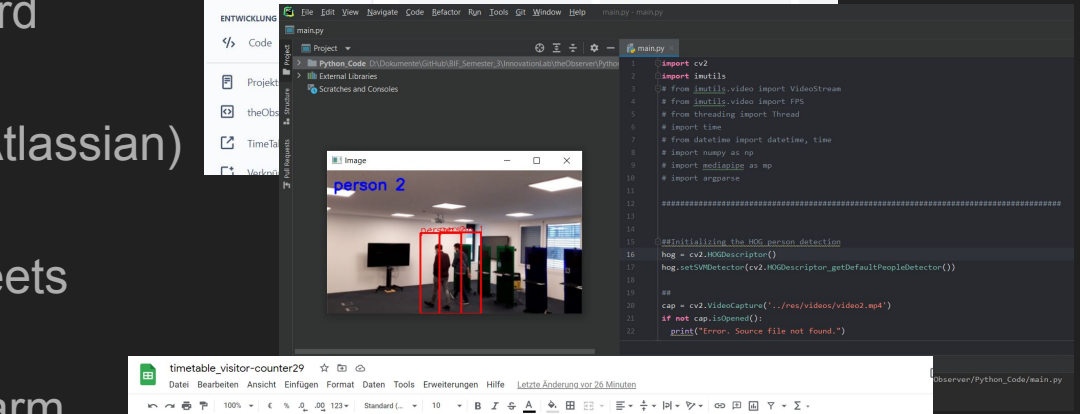
Standards:
It is necessary to respect the data protection rules as we enable open access to the collected data by our built webpage. Therefore, a livestream of the set up camera will only be accessible at the local console, where the module is located. The webpage will only display the processed data without any pictures or livestreams.
Using own made videos or demo videos to test or logic programming.

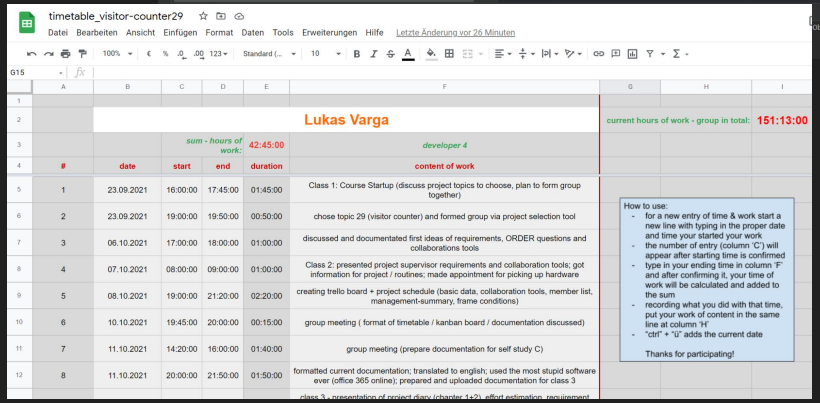
Deadlines:
Prototype for end of Semester #4 (demo-version for project)
currently no further details identified

Collaboration Tools

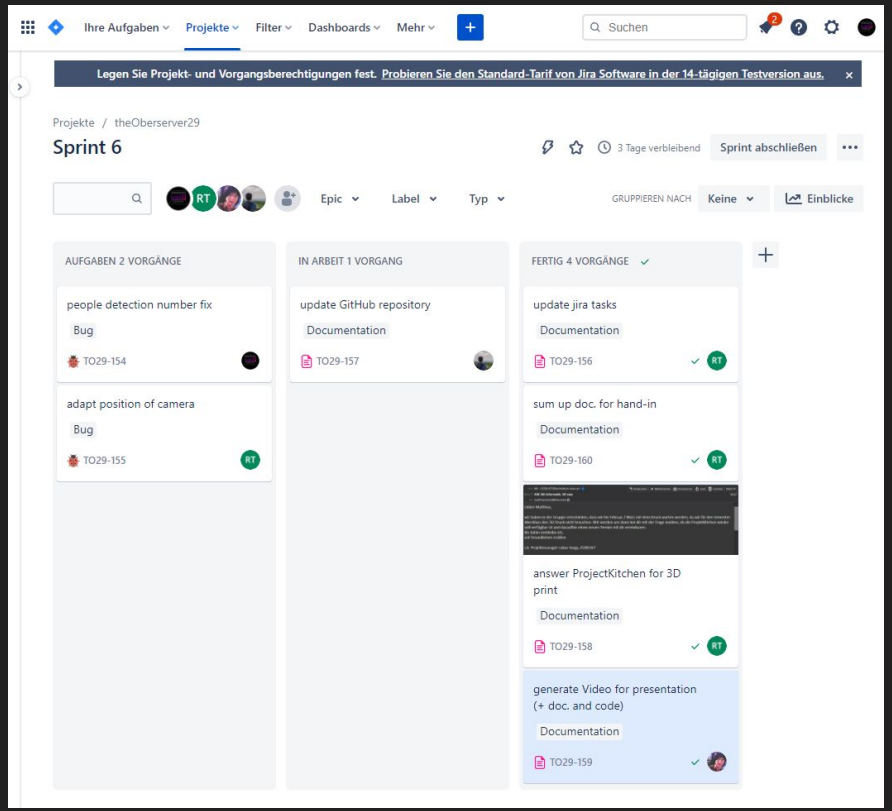
- Communication: Discord
- Documentation: Jira (Atlassian)
- Timetable: Google Sheets
- IDE: JetBrains - PyCharm
- Source Code: GitHub

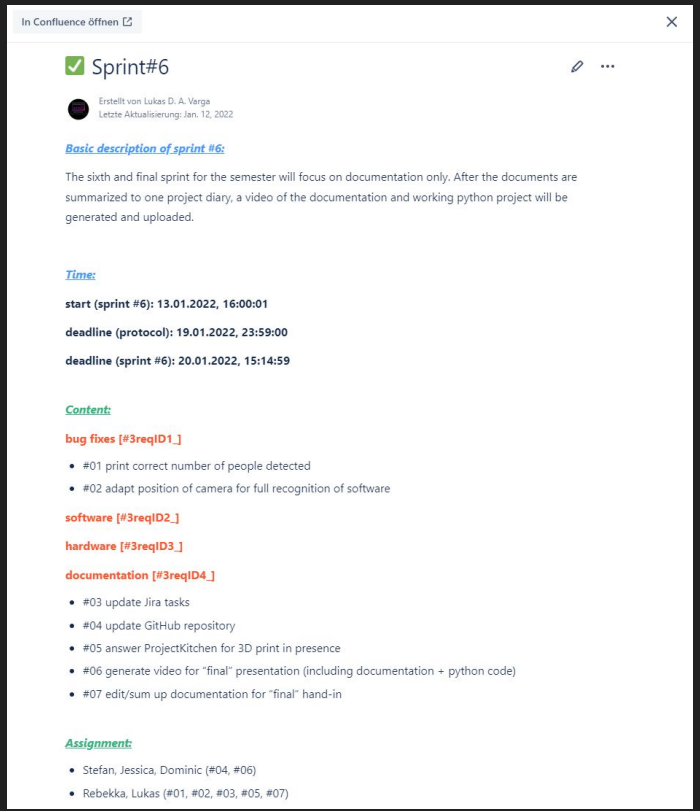




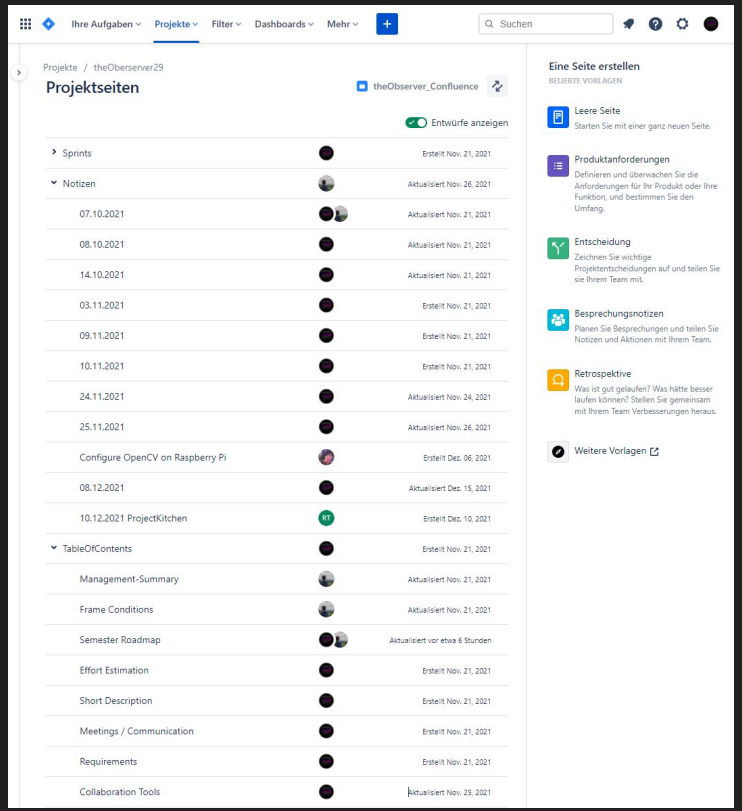


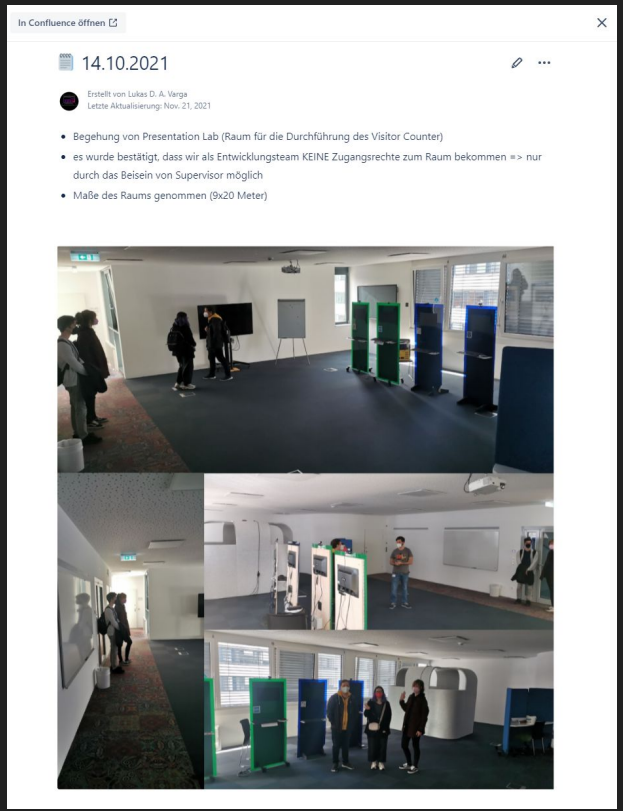
Jira - tracking work (1)





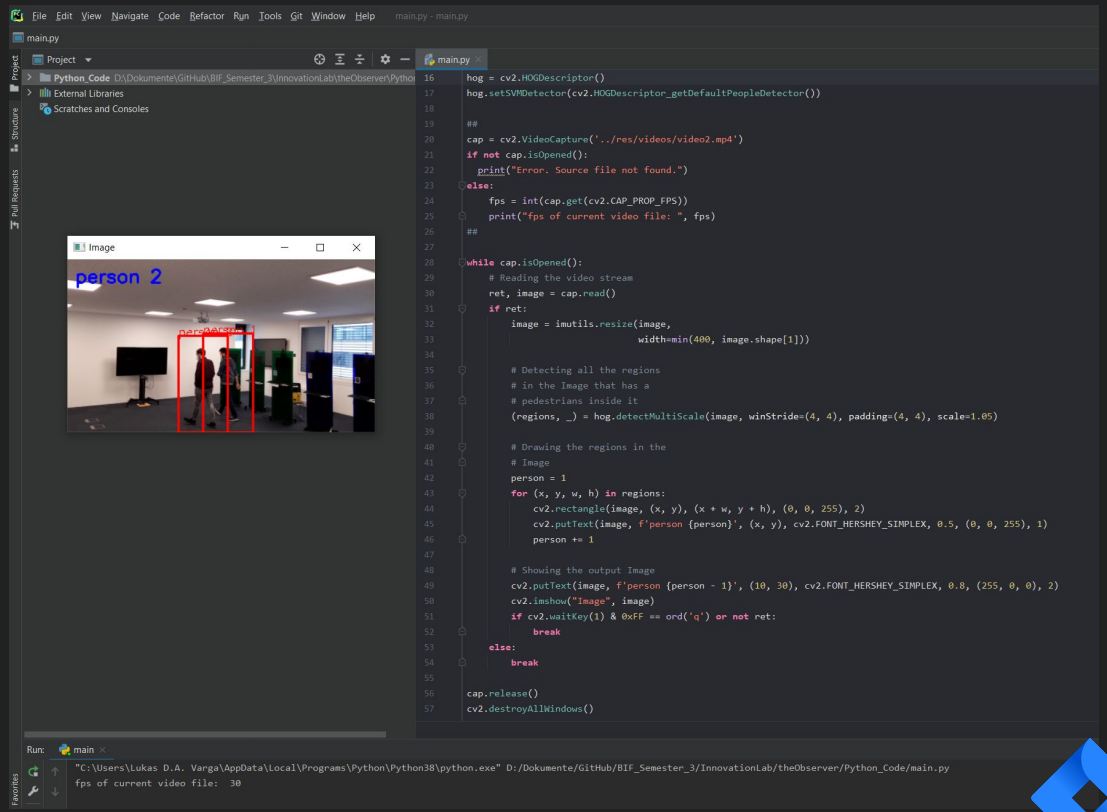
Jira - tracking work (2)





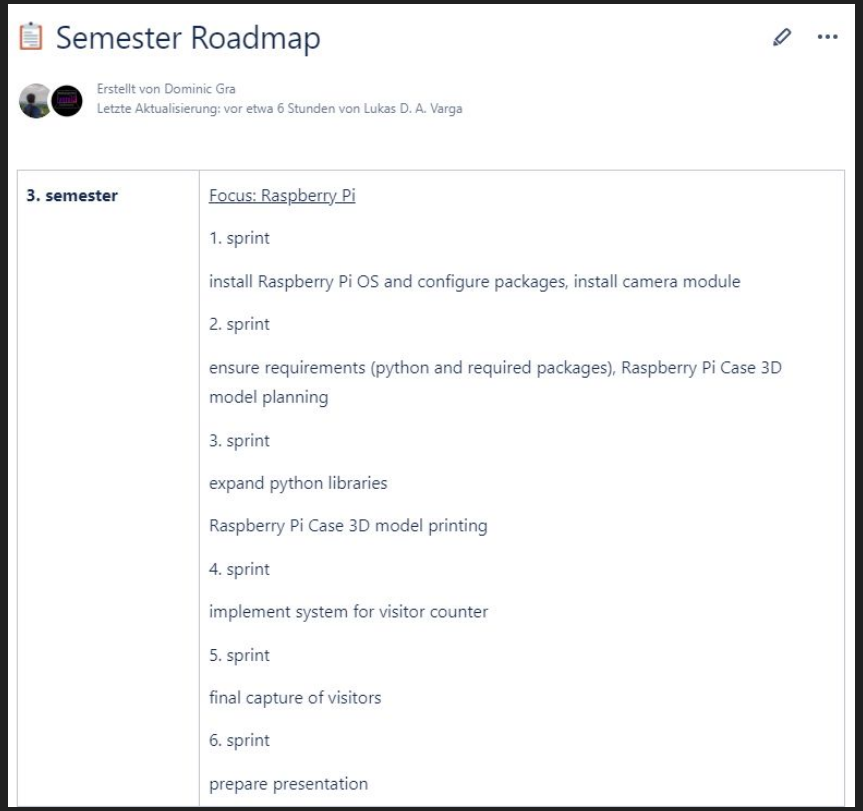
Python - processing person recognition

- using pre-trained library for recognition
- currently only detects fully scaled people
- can process video or livestream



Status

- raspberry pi 4 + camera module working well
- additional element (PoE - Power over Ethernet) defect and will be replaced
- software & packages installed
- system for recognition implemented (first version)
- 3D case planned but print delayed due to Covid-19



Semester Roadmap

Erstellt von Dominic Gra
Letzte Aktualisierung: vor etwa 6 Stunden von Lukas D. A. Varga

3. semester	Focus: Raspberry Pi 1. sprint install Raspberry Pi OS and configure packages, install camera module 2. sprint ensure requirements (python and required packages), Raspberry Pi Case 3D model planning 3. sprint expand python libraries Raspberry Pi Case 3D model printing 4. sprint implement system for visitor counter 5. sprint final capture of visitors 6. sprint prepare presentation

End of current phase

- 1 of 3 semesters done
- start of upcoming phase #2 in late february 2022
- same team, more quality