**WHOAMI**

**What type of programming experience?**

Java, C++, C#, tiny bit of Assembler

**What have you done with micro controllers, which ones have you used? (Like Arduino, ESP8266, Particle/Photon)**

ARM Microcontroller (MSP432P401R) during “Hardwarenahe Programmierung” last semester

**Which single board computers do you know/have you used (Raspberry Pi, Orange Pi, Beaglebone, Labrador)?**

very limited Raspberry Pi experience (just for fun)

**Who is a maker or part of a maker community?**

maker communities are made up of makers, they are communities that engages with IoT devices and projects; hold meetings and conferences, invent new stuff, share knowledge and equipment, connect and collaborate globally, also try to educate people unfamiliar with IoT

**What do you like, would you like about it? How could it relate to this class?**

**What do you already know about IoT? – What are your expectations from this class?**

usual stuff, mainly in regards to home automation (voice control, Alexa and Google Home), smart home devices like refrigerators, washing machines, security systems

not a user myself, very skeptical

**Definition:**

IoT refers to physical objects that feature an IP address for internet connectivity, as well as the resulting communication network between these objects and other Internet-enabled devices and systems

**Domains:**

security systems, thermostat, cars, home automation, health care, commercial environments, alarm clocks, speaker systems, vending machines

**Protocols:**

MQTT, a subscribe / publish protocol that runs with TCP, which means it supports even-driven message exchange through wireless networks

BLE / Bluetooth Low-Energy protocol

CoAP (Constrained Application Protocol), an internet productivity and utility protocol, mainly for restricted smart gadgets

**Typical devices:**

Fitbit smart watch, Samsung smart refrigerator (Family Hub), 3D-Printer, tado° smart thermostat

Smart Mobiles, Smart Refrigerators, Smart Watches, Smart Fire Alarm, Smart Door Lock, Smart Bicycle, Medical Sensors, Fitness Trackers, Smart Security System

**Benefits:**

Saves time, saves money, improves and speeds up communication, “live” monitoring of data, Energy management, Resource management

**Challenges:**

Security, privacy, connectivity, compatibility, longevity