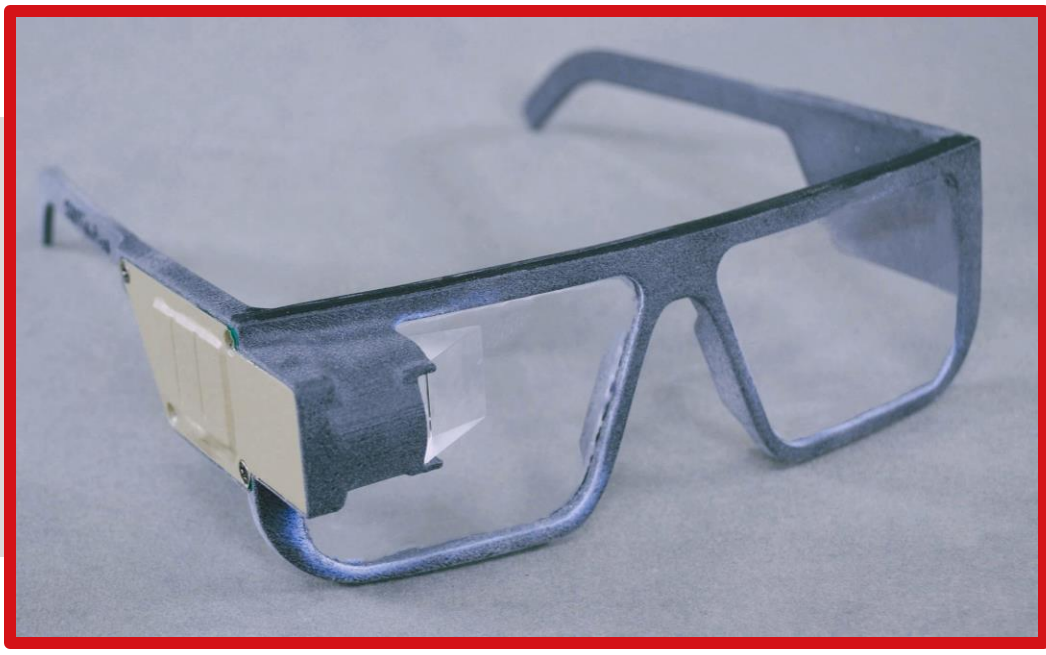
Systems Engineering
Project year 2021/22

KÄRNTEN University of Applied Sciences

Smart Glasses

Smart Glasses for daily use which display information from Smartphones



Motivation & Project Goals

- Creation of smart glasses for everyday use
- Make affordable glasses for everyone
- Construction of smart glasses with of the shelf material
- Usage of consumer grade electronics for price reduction
- Design the smart glasses to look like normal sunglasses
- Build an energy efficient circuit to provide long lasting enjoyment

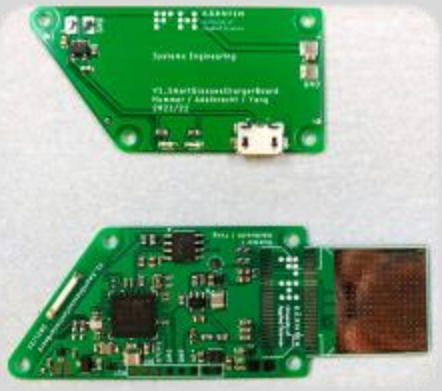
Implementation and Methods

Mechanic

AUTODESK® INVENTOR®

Electronic

AUTODESK® EAGLE



Firmware

µVision®5 Integrated Development Environment

```
void thread_touchdetection(void* arg){

  if(EventFlagSub == 1){
    int8_t page_marker = page;
    uint8_t cs_marker = 0;
    cs_value = CAP1203_Get_CS_State() & 7;

    for(int i = filterwert -1 ; i > 0; i--){
      cs_val[i] = cs_val[i-1];
    }
    cs_val[0] = cs_value;

    for(int i = 0; i <= filterwert; i++){
        cs_marker += cs_val[i];
    }
    if(cs_marker == (cs_value * filterwert)){
        EventFlagSub = 4;
    }

    if (cs_value != 0) cs_oldvalue = cs_value;
```

Software

Android Studio

Prospects and Benefits

- Make Smart Glasses more accessible
- Promotion for FH
- Further improvements can be made in following areas:
  - Display
  - Antenna
  - Android App

Result

• We managed to build a prototype that is able to display data receiving from a smartphone

Scan me

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https://www.hackster.io/team-smart-glasses/smart-glasses-20a2bf