VR for Elderly people

- Our PPT
- Circuit scheme at this link
- Case design here
- Servo arms design here
- Gyroscope support design here
- Libraries for the software at this link
- Code at this link (2 software: one with OLED and one without it)
- PDF of first software (with OLED WIP)
- PDF of second software (without OLED)
- Link to the Software used for Virtual reality: Kuula
- Link to the photos

Components List:

- Arduino MKR1000 / Arduino Nano
- 2 x Servo MG995
- MPU 6050
- Switch
- 2 x Resistors 1 kΩ
- Half Breadboard
- Power Supply 50W 230 V AC to 5 V DC
- VR Headset
- Wires
- Screws
- 2 x Spray bottles
- OLED screen (wip)
- Wire with a plug to connect to the socket
- 2 different scents

Building steps:

1. 3D print the case and servo arms
2. Strip the power cable exposing the wires and pass it through the bigger hole on the left (pic1)
3. Place the power supply inside the case and connect the leads of the cable to it
4. Move the power supply on the left and place the breadboard inside on the right
5. Put the servos in their slots and screw them in (pic2)
6. Mount the 3D printed arms to the servo (pic2)
7. Pass the servo cable to the rectangular lot in the case (pic3)
8. Place the arduino board on top of the breadboard
9. Mount the MPU 6050 to the 3D printed support
10. Connect to the MPU pins 4 one meter cables (pic4)

11. Pass those cables to the hole on the right (pic5)
12. Mount the gyro to the VR headset and tie down the cables to the straps (we put the pins towards the back of the headset)(pic6)
13. Connect the cables to the switch mount it in the recess between the the servos and pass the cables through the slot (pic7 / pic8)
14. Following the circuit scheme connect all the cable to the arduino board
15. WIP Mount the OLED screen in the slot in the front pass the cables in the rectangular slot

Kuula preparation:

1. Create on Canva a 3840 px x 2160 px photos split in two halves with the picture of two objects/settings related to the scents and export it as png image (pic9)
2. Create a new tour in Kuula and upload the image and save it
3. download google services for VR

How to use it:

1. Prepare the spray bottle with the scents and dilute them with water and place them in the holes in the front
2. Upload the code in the arduino board
3. Connect the power supply to the wall socket
4. Place the vr headset on the table and let the gyro calibrate
5. Open Kuula on the phone while facing left
6. Place the phone inside the VR headset and check the alignment
7. After placing the VR headset on the head of the person, flip the switch
8. Enjoy the immersive experience