Project Name: Navigation Walking Stick

Level: 3 Term:1

Group No: C11

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Description:

Blind stick is an innovative stick designed for visually disabled people for improved navigation. We here propose an advanced blind stick that allows visually challenged people to navigate with ease using advanced technology. The blind stick is integrated with ultrasonic sensor along with fire and water sensing. Our proposed project first uses ultrasonic sensors to detect obstacles ahead using ultrasonic waves. On sensing obstacles the sensor passes this data to the microcontroller. The microcontroller then processes this data and calculates if the obstacle is close enough. If the obstacle is not that close the circuit does nothing. If the obstacle is close the microcontroller sends a signal to sound a buzzer. It also detects and sounds a different buzzer if it detects water and alerts the blind. One more feature is that it allows the blind to detect if there is fire near. Thus this system allows obstacle as well as fire, water detection for visually disabled people.

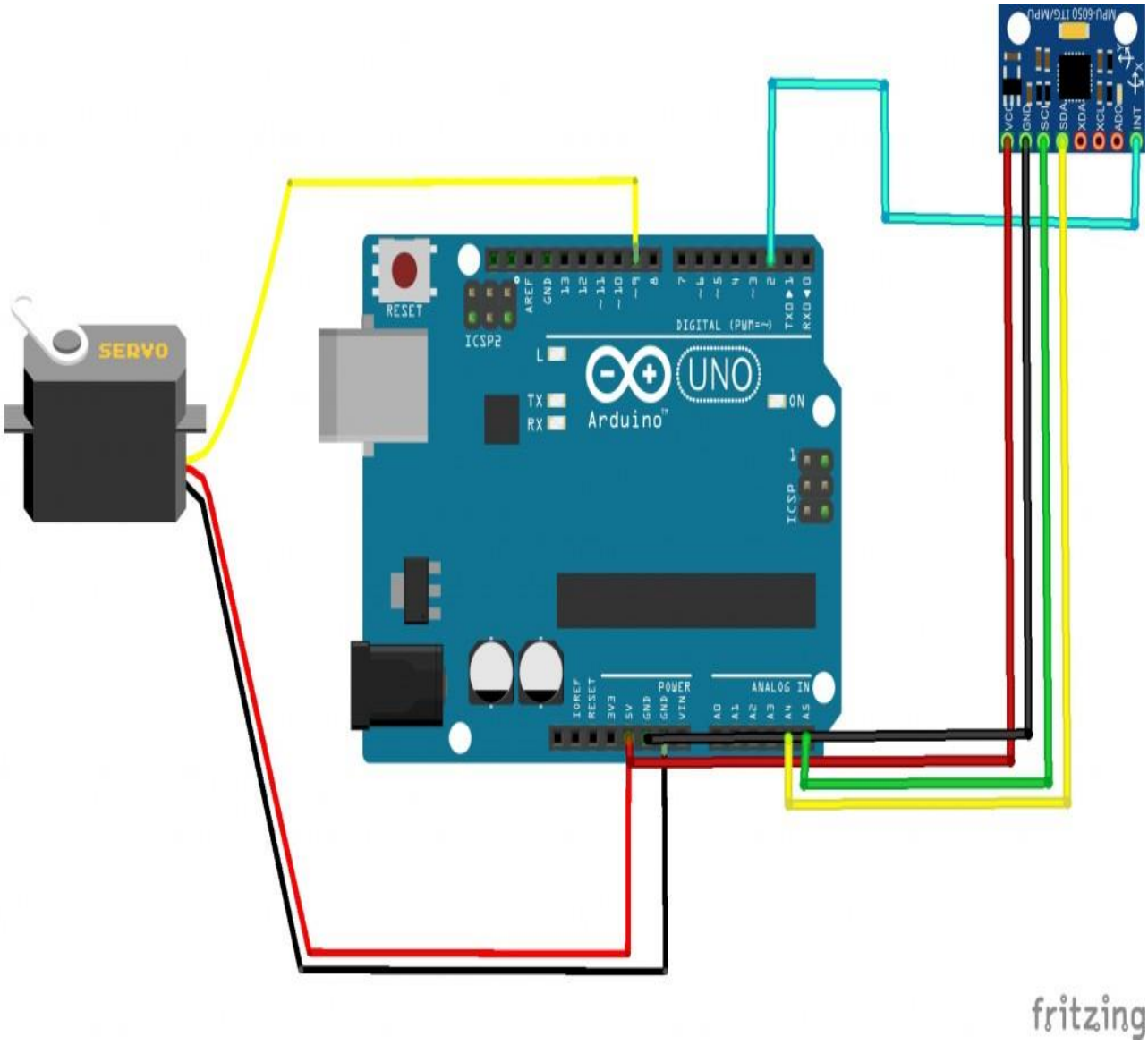
Hard-wares Needed:

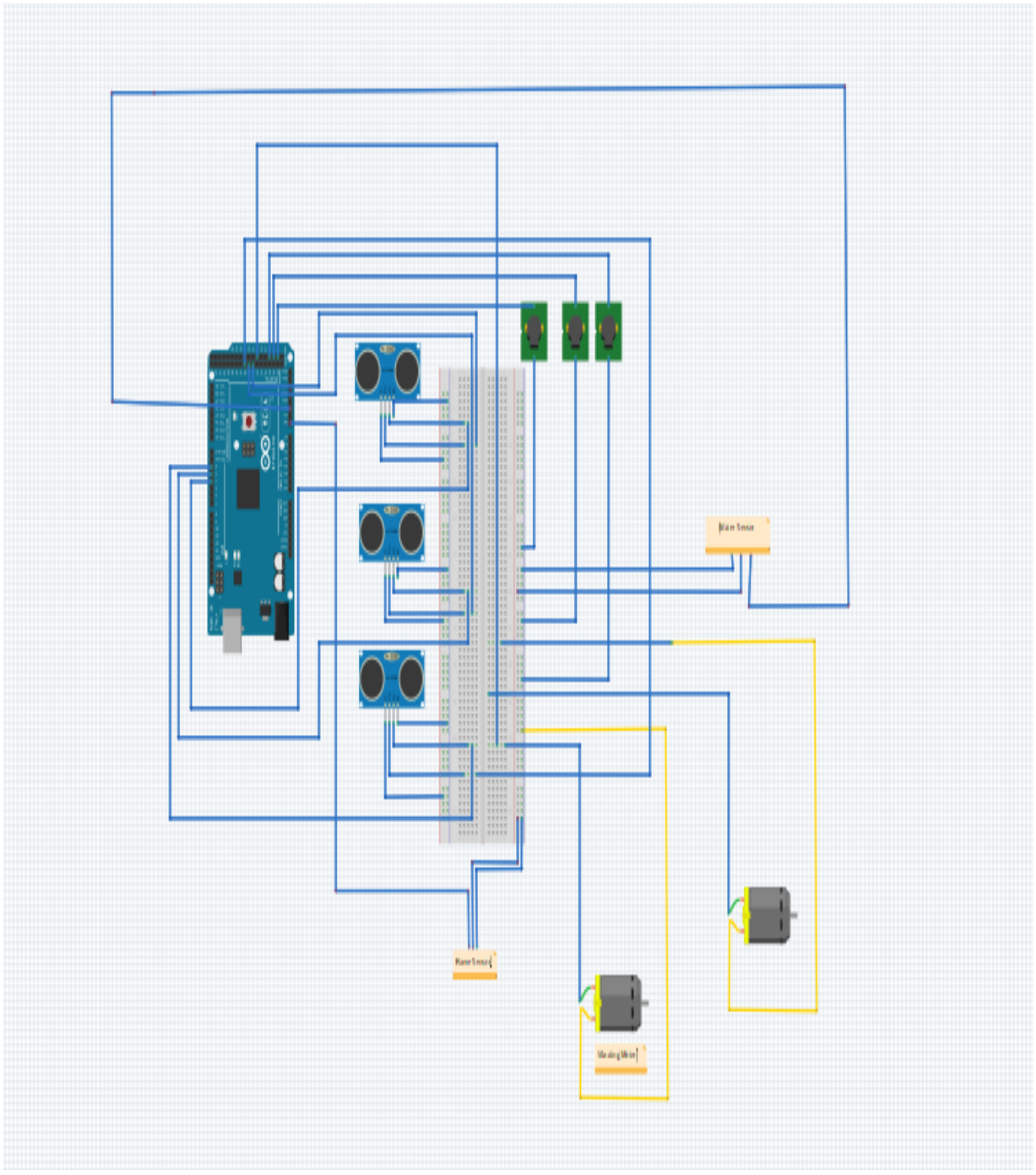
- Ultrasonic sensor(HC-SR04)
- Flame Sensor(HUB-360)
- Buzzer
- Diodes
- Resistors (10kilo-ohm)
- Buck Module (LM-2596 DC-DC buck converter)
- Water Sensor
- Gyro Sensor(MPU-6050)
- Servo Motor(SG-5010)
- Vibrating Motor(Silv- N4X0)
- Arduino Mega 2560-ADK
- Arduino Uno R3
- PVC pipe
- Ball Caster

Soft-wares needed:

Arduino Compiler

Schematic Diagram:





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