CARPET

Automatic House Security Guard

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AGENDA

- Introduction
- Demo
- Structure
- Software & Technology
- Investigation & Development
- Conclusion
- Questions

Problem

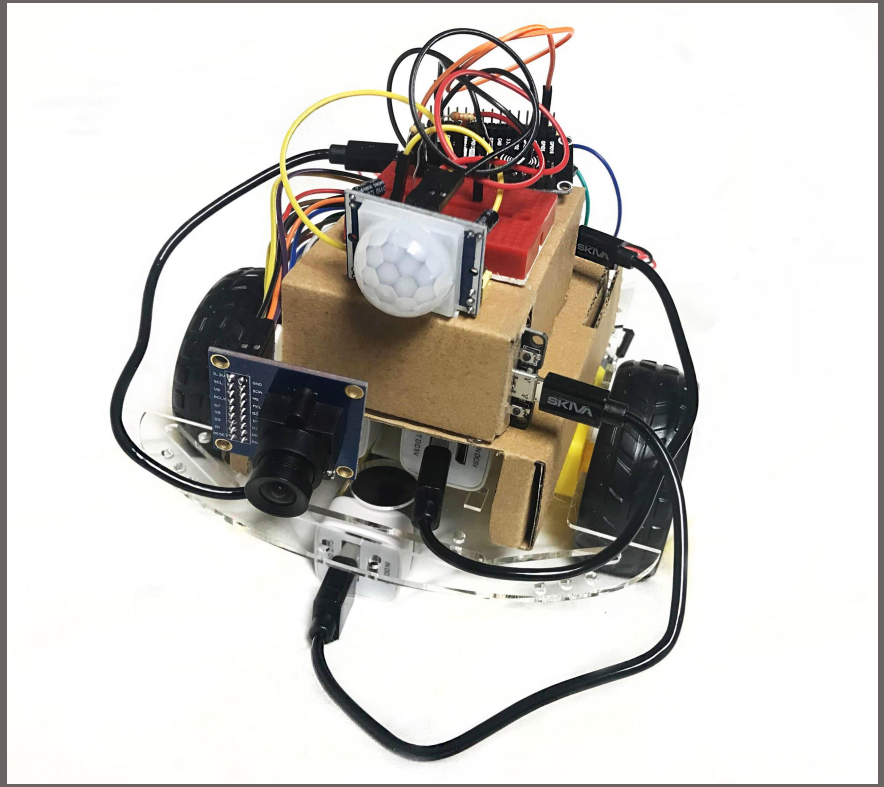
- Want to monitoring your home when you are at work or vacation?
- Feel an installed wall security camera is not enough?
- Want to have more control and flexibility to secure your home?

Solution ---> CarPet

- A security camera that can guard your entire house
- Easily control though your phone or web application
- Alert unusual activity
- Live video

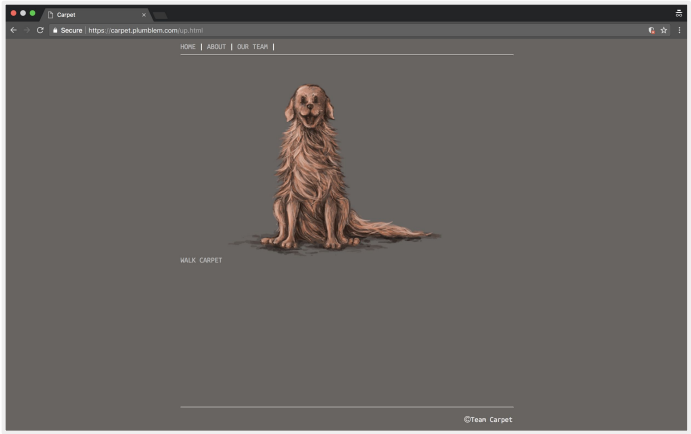
DEMO

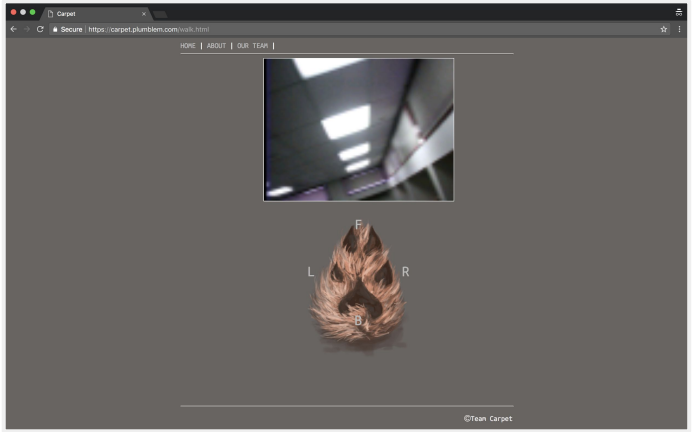
- https://carpet.plumblem.com/

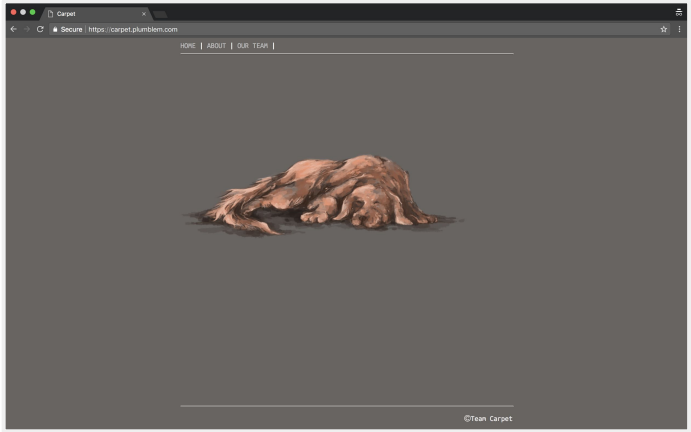


Web Site

- https://carpet.plumblem.com/



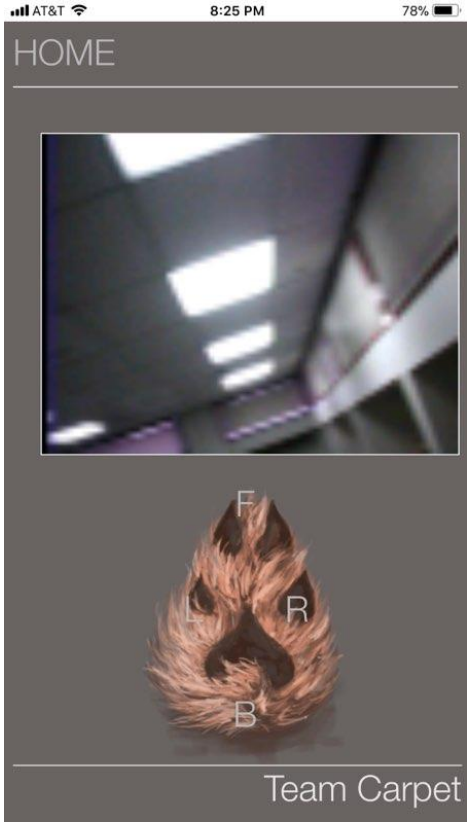




Mobile App


AT&T
8:25 PM
78%
HOME
Team Carpet


AT&T
8:25 PM
78%
HOME
WALK CARPET
Team Carpet


AT&T
8:25 PM
78%
HOME
F
L
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Team Carpet

Video

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Structure

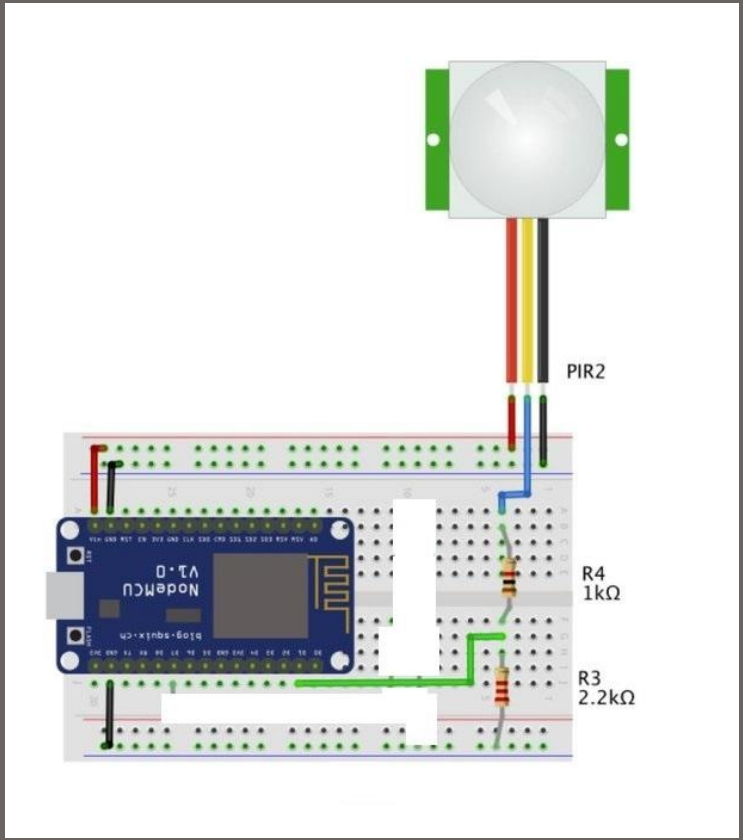
Software & Technology

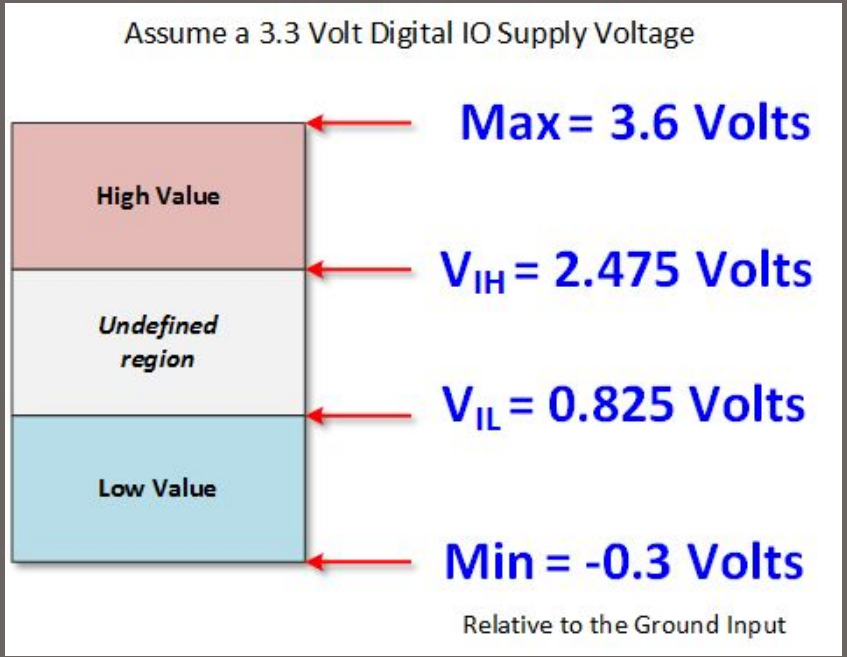
- Web app: HTML, Javascript, CSS, jQuery
- Mobile app: PhoneGap
- Amazon EC2 Instance: Apache2, Node.js
- Camera: OV7670 without FIFO
- Motion Sensor: HC-SR501
- Car: 2WD Motor Smart Robot Car

Troubleshooting

- Slow video
- Motion Sensor voltage problem

Motion Sensor





What we learned

- Time management during a short-term project
- Product Development Process
- How to integrate ESP8266 with other hardware devices.
- Design and Implement RESTful API and applications
- Research and problem solving in embedded systems and Web Applications

Thank You!

- Any question?

Resources

- Application:
  - https://www.w3schools.com/
  - https://nodejs.org/en/
- Motion Sensor
  - http://www.instructables.com/id/IoT-Motion-Detector-With-NodeMCU-and-BLYNK/
- Camera
  - https://github.com/igrr/esp32-cam-demo
- Smart Robot Car
  - http://mertarduinotutorial.blogspot.com.tr/2017/05/nodemcu-esp8266-wifi-robot-car.html