

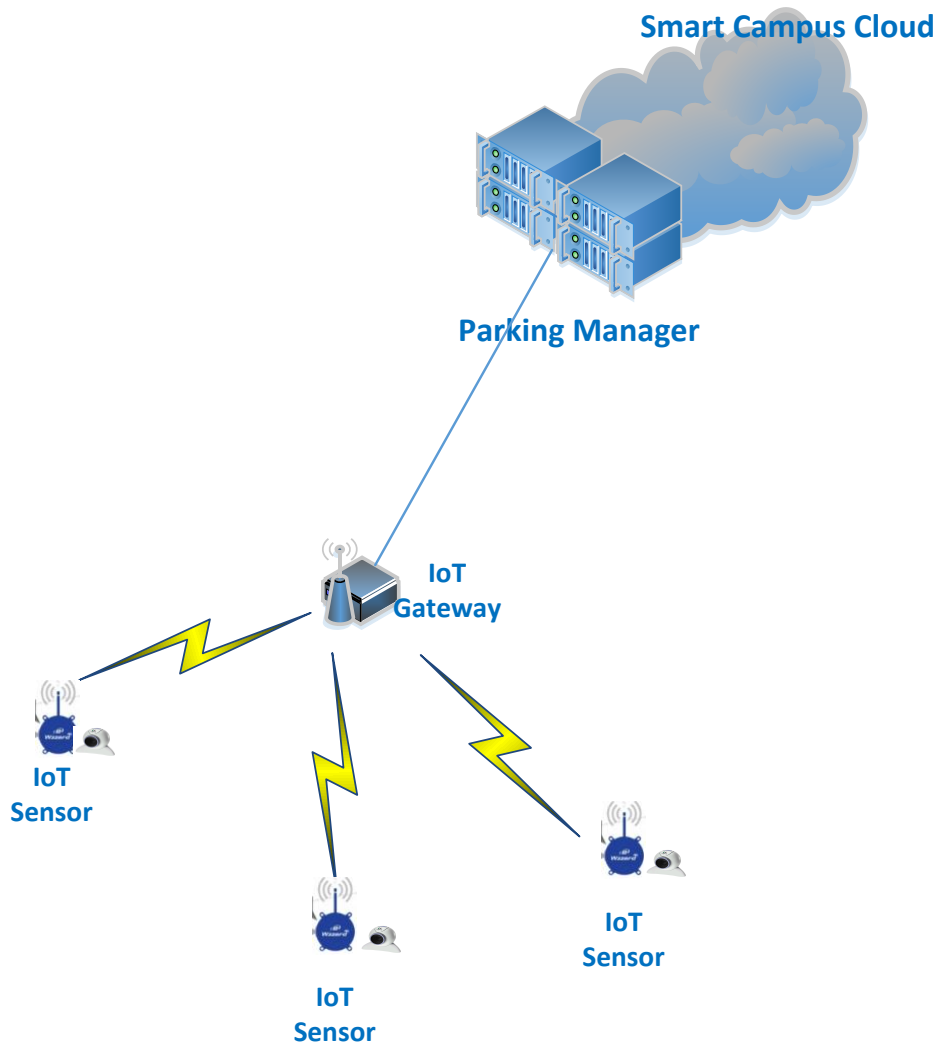


Internet-of-Things (IoT) Gateway with Network Address Translation (NAT) support - For Smart Campus Project

Abstract:

One of the fundamental requirements from a Smart Campus Transportation implementation and deployment is the ability of the campus to take responsibility and globally manage the traffic as whole inside the campus physical boundaries. This management should then serve both campus applications (such as events organizations or security needs) as well as guests that enters or plans to arrive. This can be achieved by improved monitoring and ability to supply on-line valuable information gathered from private mobile platforms like Waze, Moovit , Hoover and more, as well as from web cams and Internet-of-Things (IoT) sensors that are installed all over the campus area.

The target of an IoT Gateway is to collect all information arrives from the IoT sensors as well from the Web cams, and transfer this data up to the application manager that resides in the cloud. In certain cases the gateway should be able also to support down-stream traffic to the sensors and to other peripheral devices.



Goals:

- Implement on Arduino an IoT Gateway based Wifi communication - with NAT support
- Design and Implement a proprietary protocol based HTTP between the gateway and the parking manager
- Be part of the Smart Campus cross-labs project

Requirements:

Arduino, Basic Networking Course