RoboLock is a keyless entry system managed completely through your smartphone.
Many of our favorite concepts from classes have been combined into one design.
Demonstration
Enter code

***5
Delete Code

Do you want to delete "3207"?

Delete  Cancel
Someone is at your door!

UNLOCK  DECLINE

SET GREETING

MANAGE ROBOLOCK
Someone is at your door!

Set Text Greeting

Please leave packages next door!

Send  Cancel

UNLOCK DECLINE
Physical Link
Network
Transport
Application

Actual Data (Commands, Photos)
IP (μIP)
TCP (μIP)
Integrated in CPU
Additional Hardware

Additional Hardware integrated in CPU
TCP (μIP)
IP (μIP)
Integrated in CPU
Actual Data (Commands, Photos)
var net = require('net');

var tcp_server = net.createServer( function(c) {
    c.on('data', function(data) {
        c.write("Hello RoboLock");
    });
});

tcp_server.listen(1234);
void setExpireTime(Code* a, BYTE expire)
{
    RICTime currTime = RTCGetTime();
    switch (expire) {
        case EXPIRE_ONE_MINUTE:
            currTime.RTC_Min++;
            if (currTime.RTC_Min > 60) {
                currTime.RTC_Min = 0;
                currTime.RTC_Hour++;
                if (currTime.RTC_Hour > 24) {
                    currTime.RTC_Hour = 0;
                    currTime.RTC_Yday++;
                    if (currTime.RTC_Yday > 365) {
                        currTime.RTC_Yday = 0;
                        currTime.RTC_Year++;
                    }
                }
            }
            break;
        case EXPIRE_ONE_DAY:
            currTime.RTC_Yday += 1;
            if (currTime.RTC_Yday > 365) {
                currTime.RTC_Yday = 365 - (currTime.RTC_Yday);
                currTime.RTC_Year++;
            }
            break;
        case EXPIRE_THREE_DAYS:
            currTime.RTC_Yday += 3;
            if (currTime.RTC_Yday > 365) {
                currTime.RTC_Yday = 365 - (currTime.RTC_Yday);
                currTime.RTC_Year++;
            }
            break;
        case EXPIRE_ONE_WEEK:
            currTime.RTC_Yday += 7;
    }
}
Embedded Systems
Networking
Digital Logic
Data Structures and Algorithms
Multimedia
Discrete Logic
Smartphones
Peripherals and Devices
And more...
Encryption (e.g. HTTPS)
Words of Advice

Divide and conquer
Use your resources
Enjoy the sunrise
Words of Advice

Divide and conquer
Use your resources
Enjoy the sunrise
RTFM
Thank You

Professor Butner
Ryan Pakbaz
ECE Shop
Physics Machine Shop
ECE Department
ECE and CS Faculty
Adam Dunkels
Our Sponsors
Questions?