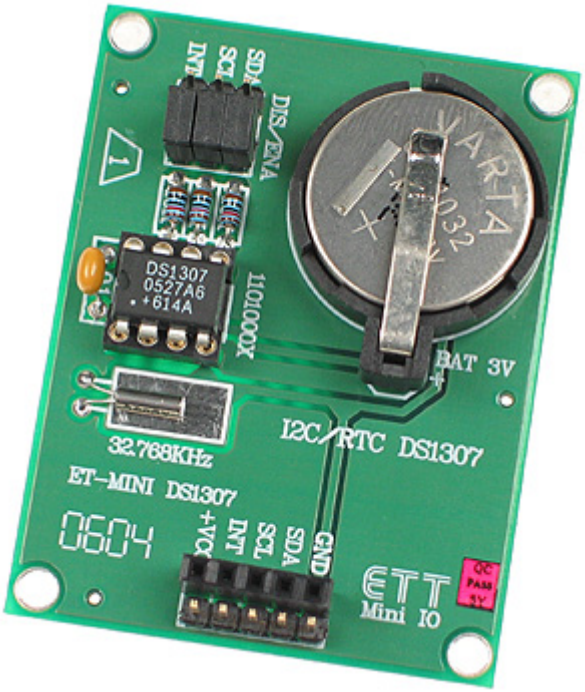
MB RTC

I started doing the MBClock for no reason but for fun, but i think it can lead to interesting usage, such as domotic.



First, i used a DS1307 I2C Clock

well, more exactly, this dev board : (USD $6.90)



http://www.futurlec.com/Mini_DS1307.shtml

This board hold a battery back-up, enabling the time to be maintained even with power disconnected from the board. The DS1307 IC stores time values in separate registers, for years, month, day, hour, minutes and seconds. I suggest to use this board, as it's cheap, it will save you time on building, and debuging :)

Connection to core

Well, that's pretty easy : connect Gnd,Vcc,Sc,Sd to Core J4. (instead of bankstick)

I did not add a pull up resistor between Vcc and Sc (well, in fact i did, but i didnt notice any difference)

The C Program

```
void GET_TIME(void){

    MIOS_IIC_Start();
    MIOS_IIC_ByteSend(0xd0); // slave address, WRITE
    MIOS_IIC_ByteSend(0x00); // set address pointer to 0
    MIOS_IIC_Stop();//???

    MIOS_IIC_Start();    // start IIC
    MIOS_IIC_ByteSend(0xD1);  // send address - READ
    b0 = MIOS_IIC_ByteReceive();  // read byte
    MIOS_IIC_AckSend();    // send acknowledge
    b1 = MIOS_IIC_ByteReceive();  // read byte
    MIOS_IIC_AckSend();    // send acknowledge
    b2 = MIOS_IIC_ByteReceive();  // read byte

    MIOS_IIC_AckSend();    // send acknowledge
    b3 = MIOS_IIC_ByteReceive();  // read byte
    MIOS_IIC_AckSend();    // send acknowledge
    b4 = MIOS_IIC_ByteReceive();  // read byte
    MIOS_IIC_AckSend();    // send acknowledge
    b5 = MIOS_IIC_ByteReceive();  // read byte
    MIOS_IIC_AckSend();    // send acknowledge
    b6 = MIOS_IIC_ByteReceive();  // read byte

    MIOS_IIC_NakSend();    // send disacknowledge!!! (end the read)
    MIOS_IIC_Stop();    // stop IIC
}
```

Demo



Video

Just for fun

I have added a 7Seg led display to show the time in that format “HH:MM:SS:ms”

To keep it simple and documented, i used the Midimon MTC Extension as is.

http://ucapps.de/midimon/mtc_extension.pdf

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