



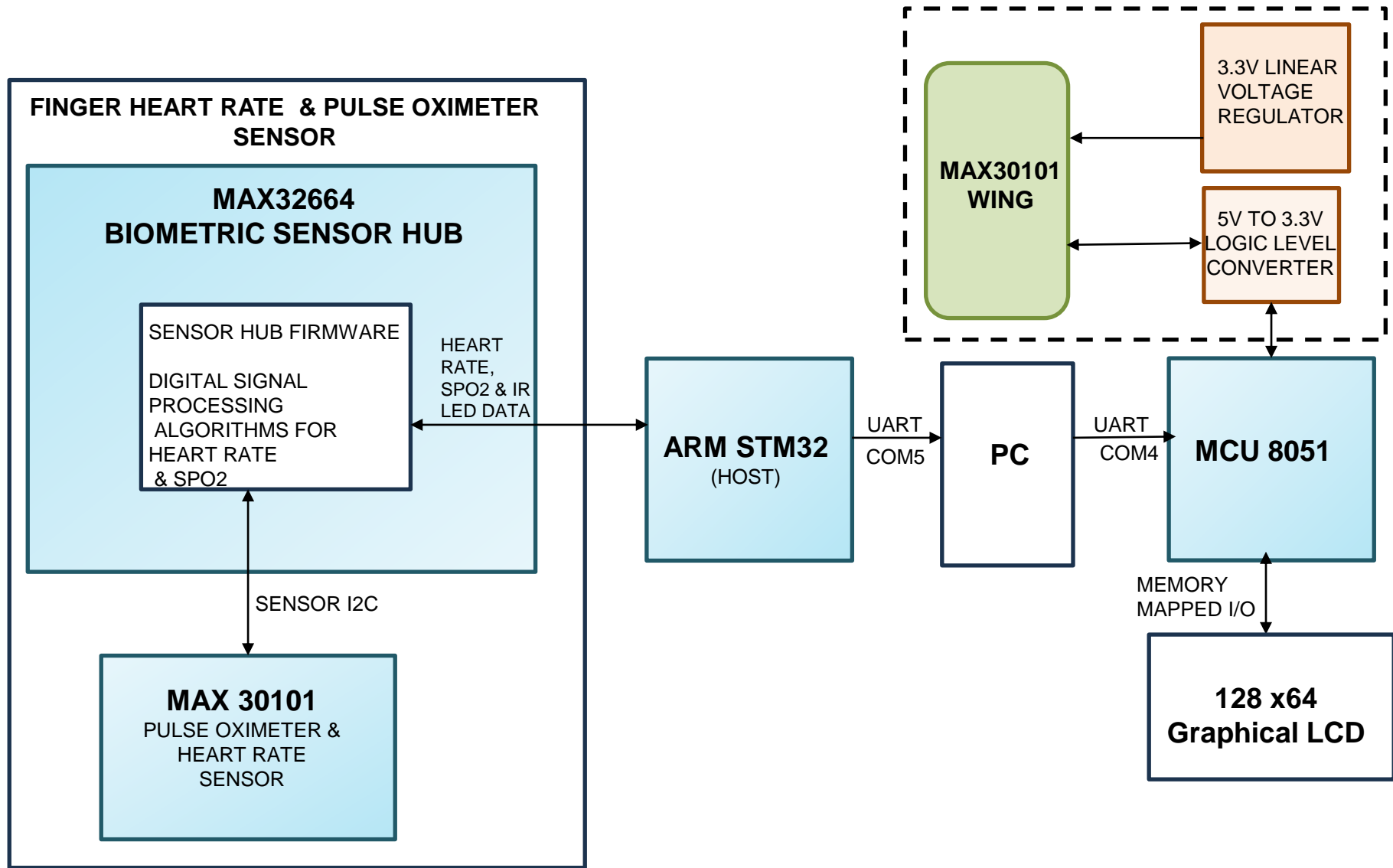
HEALTH MONITORING SYSTEM

Final Project | ECEN 5613
Author: Venetia Furtado
Spring 2024

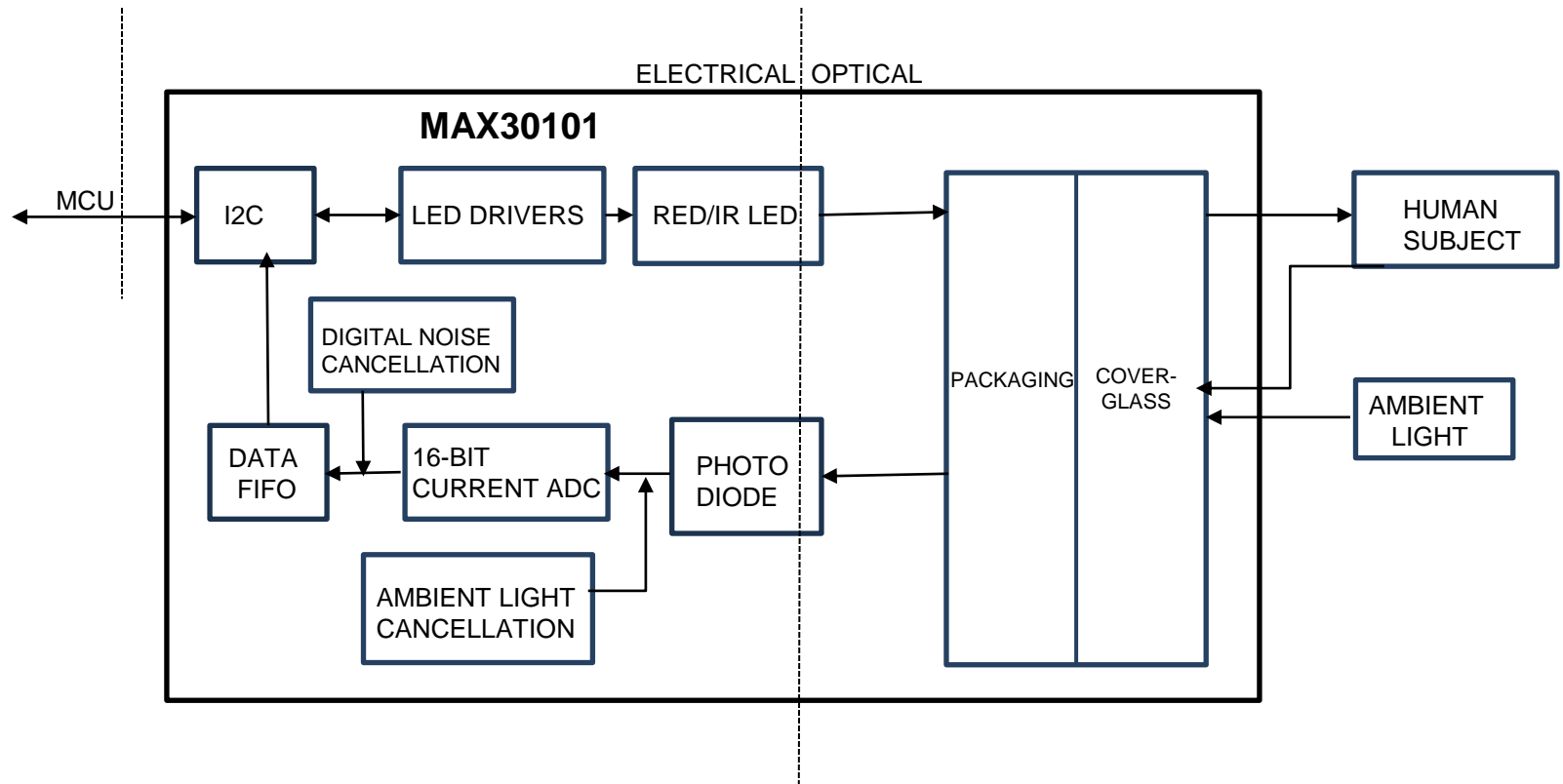


University of Colorado
Boulder

IMPLEMENTATION BLOCK DIAGRAM



MAX30101 SYSTEM DIAGRAM

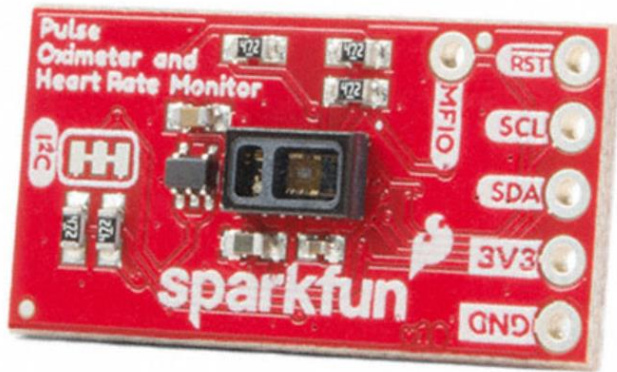


Reference : MAX30101 Datasheet

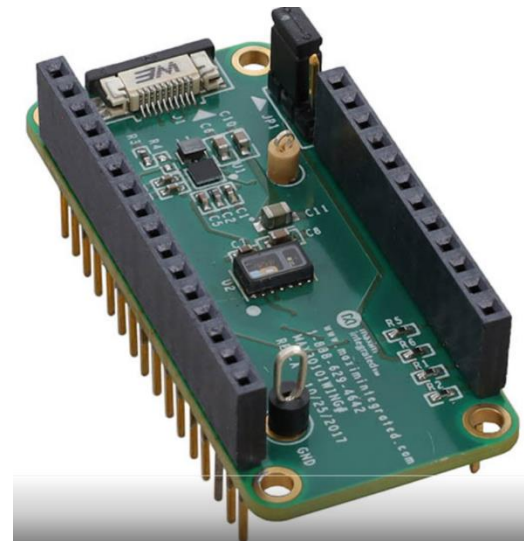


CHALLENGES, WORKAROUNDS & LEARNINGS

- Integrating the MAX30101WING with 8051
- Integrating the Sparkfun breakout board with 8051
- GLCD datasheet was very confusing
- Understanding the Bresenham's Line Algorithm



Sparkfun breakout board (MAX30101 & MAX32664)
Source:
<https://www.digikey.com/en/products/detail/sparkfun-electronics/SEN-15219/10483252>



MAX30101WING
Source:
<https://www.digikey.com/en/products/detail/analog-devices-inc-maxim-integrated/MAX30101WING/11485848>



RESULT

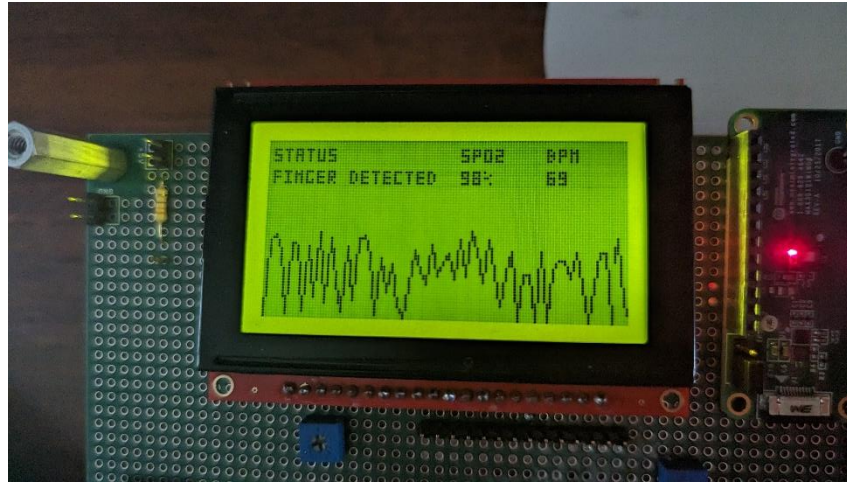


Image: Infrared LED plot on GLCD

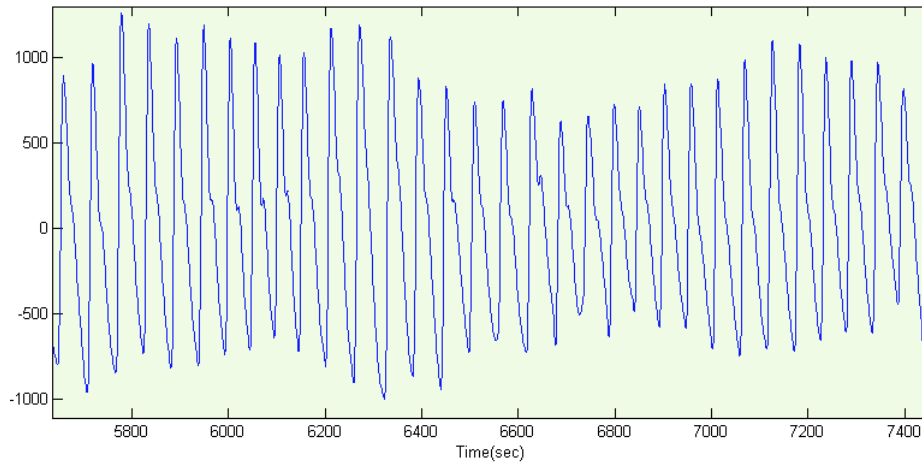


Image: Plethysmography tracings which is a measure of volumetric changes associated with pulsatile arterial blood flow.

Source: <https://medicine.uiowa.edu/iowaprotocols/pulse-oximetry-basic-principles-and-interpretation>

