

ECGR 6185 - Extra Notes - 1/20/10

Task → Use a Renesas & make a "Ultrasonic Ruler"

Requirement

- 1) Use Renesas Board
- 2) Use an Ultrasonic transducer to measure distance
- 3) Run with 9V battery
- 4) Display distance on LCD
- 5) Accurate within $\pm 1\text{cm}$
- 6) Range ~~1~~ to 10m
- 7) ~~Power consumption~~ Press SW1, the unit will measure the distance & display in M.

WBS

- 1) Identify component that meet Req, purchase
- 2) Design ~~the~~ voltage circuit (9V → 5.0V)
- 3) Test voltage circuit separately
- 4) ~~Design~~ Test voltage circuit with Renesas Board
- 5) Design Ultrasonic circuit
- 6) Test Ultrasonic on Renesas Board (Hdwr-level)
- 7) Design Sw architecture & algorithms
- 8) Unit test software
- 9) System integration & test
- 10) Verify Req are met / Calibrate
- 11) Write report

13

Identify
comp
interface
Des.
Power

Des
ultra

sfwr
Design

Test
Power

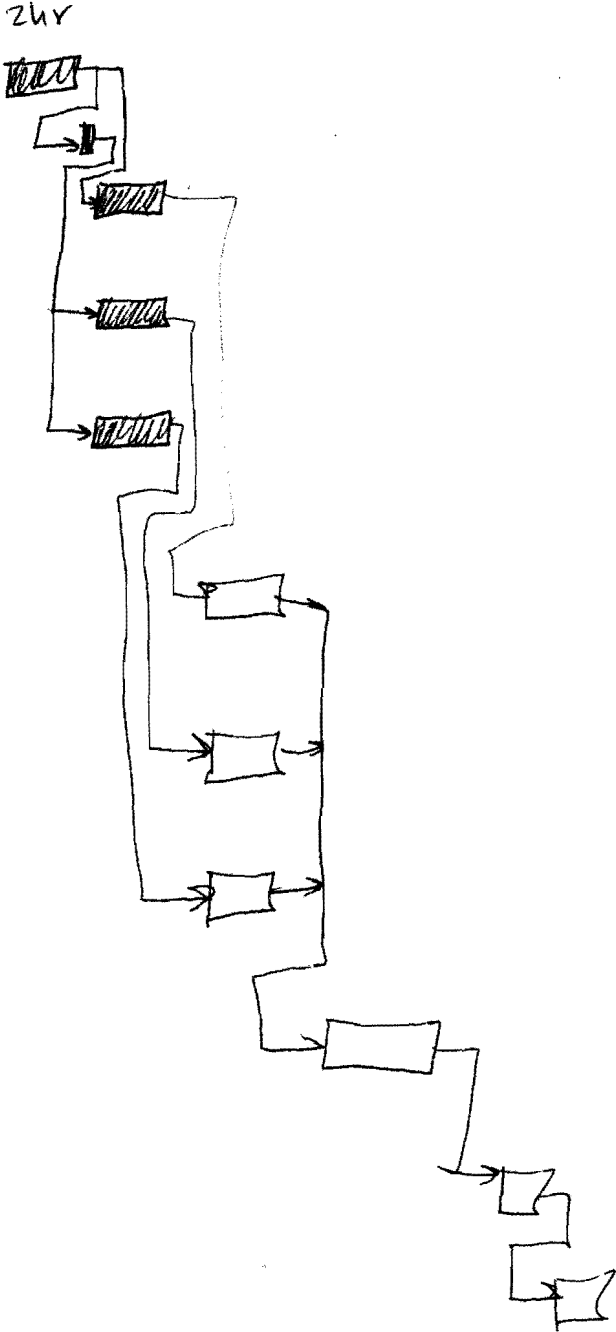
Test
Usound

Test
sfwr

Syst
Int

Verify
Req

Report



1/20/10

Extra Notes

ECGR 6185 -