Bio-Sensor Wearable Development Board

Carl Demolder

Date 9/14/2020

Outline

- Schedule
  - Gantt Chart update
- Progress update
  - Current progress
  - Path forward

PROGRESS TO DATE

Georgia Tech
CREATING THE NEXT

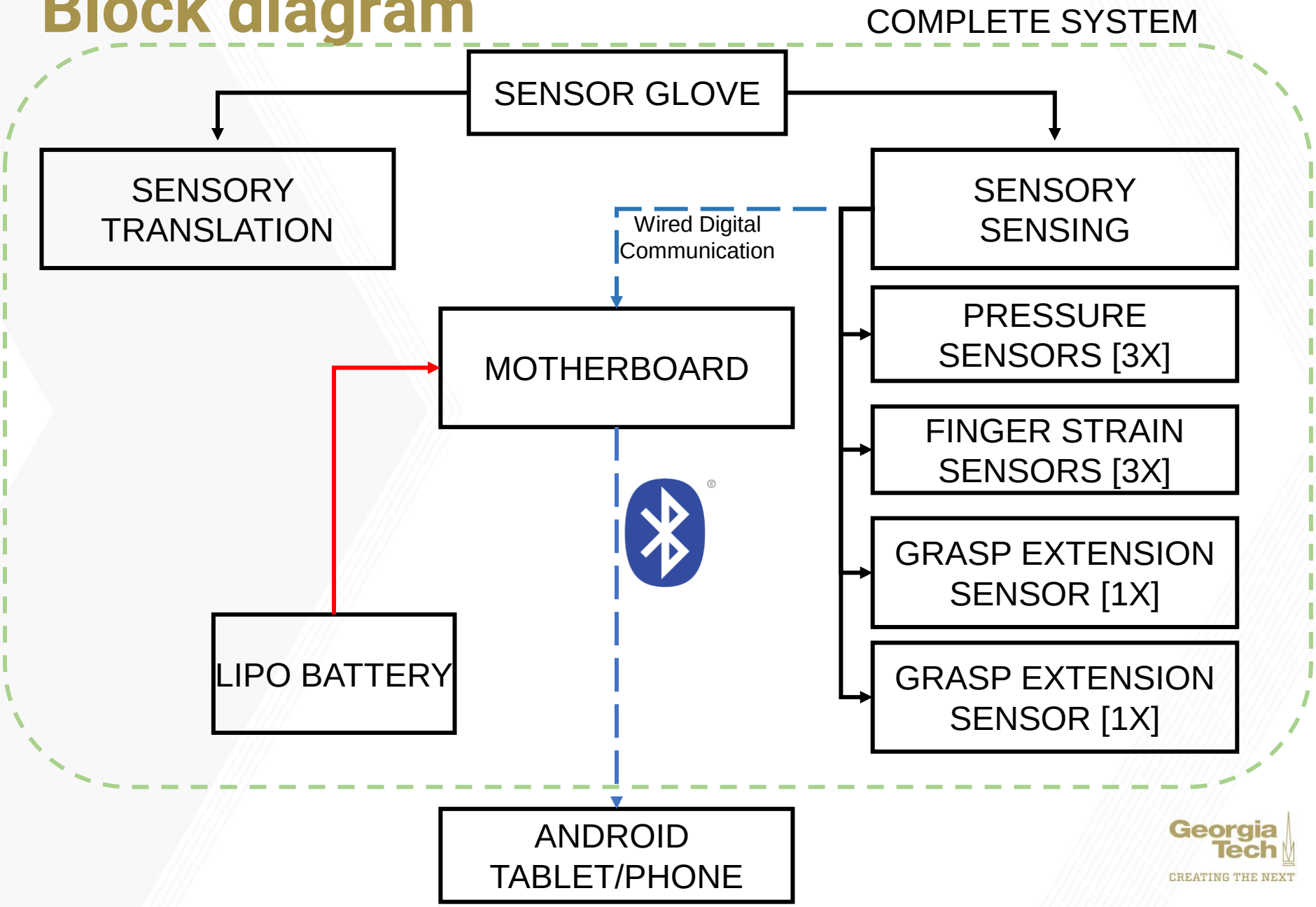
Progress from last week

- Firmware
  - DAQ Slave driver [IN PROGRESS]
- Hardware
  - Inductive charging [IN PROGRESS]
    - Trying to optimize coil size
    - Waiting for coils
  - RF wireless power harvesting
    - Waiting for ICs
- Pediatric Wearable
  - Literature review [IN PROGRESS]
  - Block diagram [IN PROGRESS]
  - Introductory lab meeting [FINISHED]

SHRINER’S PROJECT

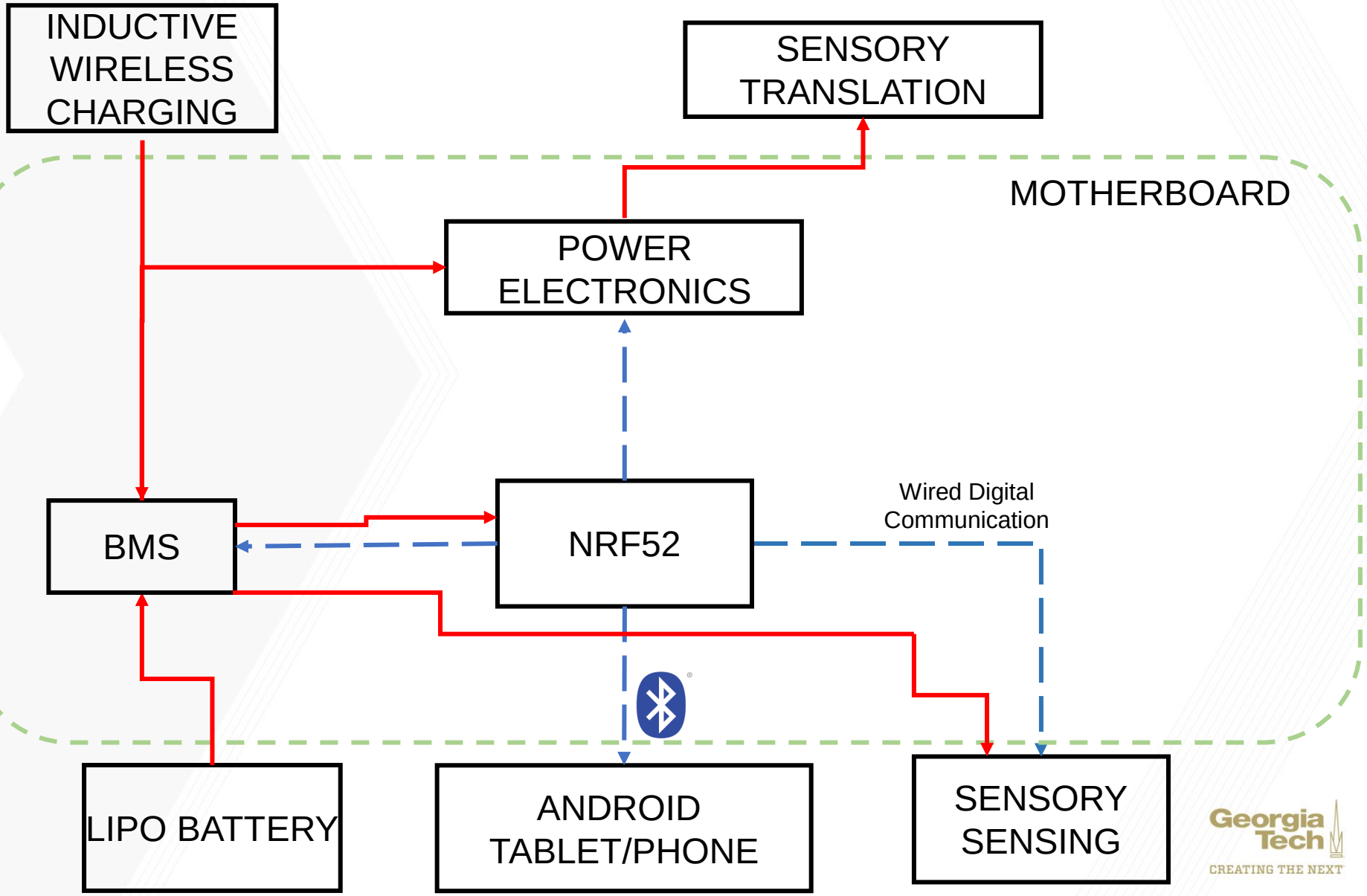
Georgia Tech
CREATING THE NEXT

Block diagram



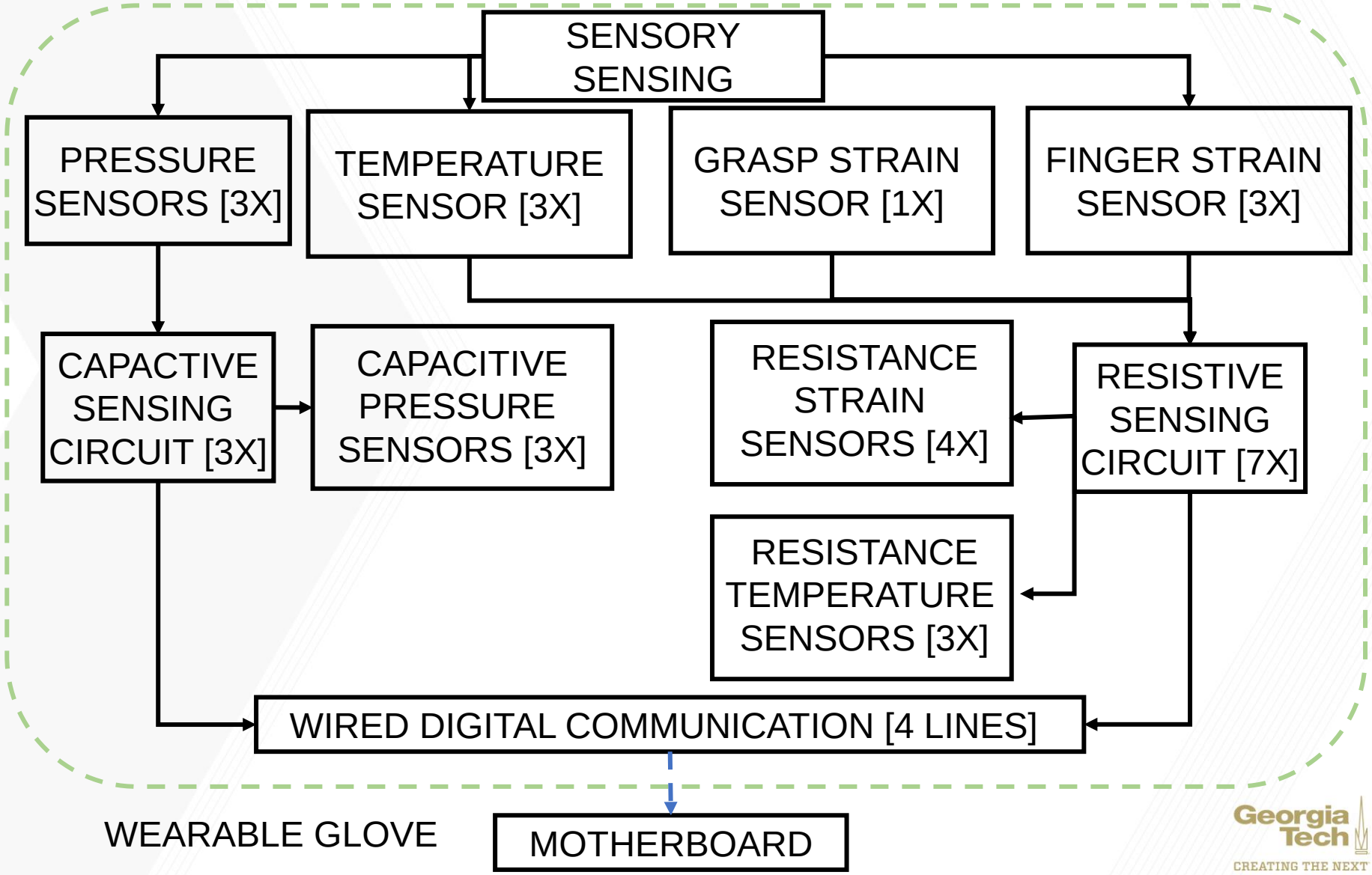
Georgia Tech
CREATING THE NEXT

Block diagram-motherboard



Georgia Tech
CREATING THE NEXT

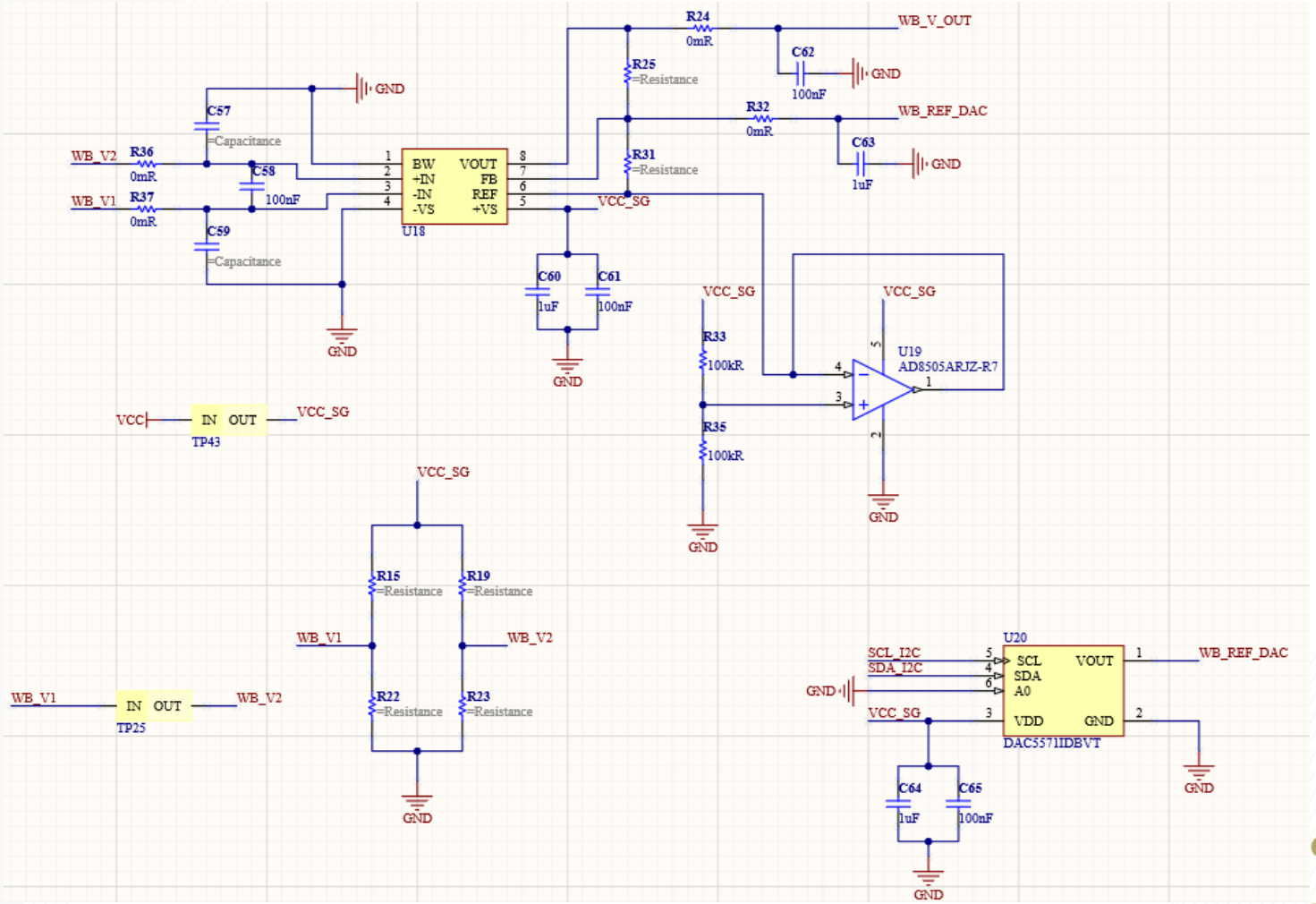
Block diagram-sensory sensing



Georgia Tech
CREATING THE NEXT

Resistive sensing circuit

- Repeat this circuit 7X



Capacitive sensing circuit

TBD

SCHEDULE

Georgia Tech
CREATING THE NEXT

Schedule Gantt chart

Task	9/6-9/13	9/13-9/20	9/20-9/27	9/27-10/4	10/4-10/11	10/11-10/18	10/18-10/25
DEVELOPMENT BOARD	✖						
-HARDWARE DEBUGGING	✖	●					
-FIRMWARE DEBUGGING	✖	●					
NEUROMOTOR PEDIATRIC WEARABLE							
-LITERATURE REVIEW	✖	●					
-DESIGN PROPOSAL	✖	●	●				
-BLOCK DIAGRAM	✖	●	●				
YEO GENERAL LAB							
-IEN TRAINING	✖						
-LOW POWER ECG	✖	●	●	●	●	●	●

LEGEND

✖ FINSHED

● TO-DO

Georgia Tech
CREATING THE NEXT

PATH FORWARD

Georgia Tech
CREATING THE NEXT

Path forward (9/14/20 – 9/21/20)

- Hardware:
  - Wireless charging
    - Inductive charging: waiting for more samples
    - RF: waiting for samples
  - Circuit design
    - Capacitance to digital converter
- Pediatrics Wearable:
  - Literature review
    - Initial draft and construction
    - Paper summaries with links
  - Block diagram
    - Finalize block diagram
    - Design proposal
  - 9/18 biweekly meeting

APPENDIX

Georgia Tech
CREATING THE NEXT