

# Team Charter

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**Team Name:** Bravo Builders

**Adviser:** Dr. Ali Gurbuz, [gurbuz@ece.msstate.edu](mailto:gurbuz@ece.msstate.edu)

**Weekly Meeting Time with Faculty Advisor:** Thursday, 3-3:30 pm

**Secondary Adviser:** Dr. John Ball, [jeball@ece.msstate.edu](mailto:jeball@ece.msstate.edu)

Team membership:

<i>Role</i>	<i>Name</i>	<i>NetID</i>	<i>Major (EE or CPE)</i>
<i>Leader</i>	Joseph Taylor	jmt842	EE
<i>Member</i>	David Lock	djl321	EE
<i>Member</i>	Logan Dubuisson	lad392	CPE
<i>Member</i>	Marlon Sims	mks494	EE
<i>Member</i>	Austin Polk	asp404	EE

**Mode & Frequency of Communication:** How do your team members plan to communicate with one another for the rest of the semester, and how frequently? What does your team consider a reasonable response time to be? What does your team consider a reasonable notice of a scheduling conflict to be? How does your team plan to communicate with your advisor and, if applicable, customer? Be specific – what apps/video conferencing will you use? Will you meet face-to-face and, if so, where? Come up with a communication plan that is a good fit for everyone on the team and that follows the University’s social-distancing guidelines. Also, be sure you have a plan in case one or more of your team must quarantine.

Our team plans to communicate using a group chat over text message for all day-to-day communication. A reasonable period to respond would be within 5-6 hours. A reasonable notice for time conflicts should be at least 3-4 days of the conflicted event. We plan to communicate with our advisor face-to-face in our advisor’s office during our weekly meeting time or to set up online Teams meetings.

**Submission Schedule:** External deadlines for the class are set by Dr. Beck and Ms. Nordin. Your team is responsible for setting your own INTERNAL deadlines. When will you submit material for internal team review? When will you expect material to be submitted for external review (e.g., final graded deliverables)? Come up with a schedule that everyone can live with—including those who work well up against deadlines and those who do not.

Our team plans to have a 48-hour notification for internal notification review deadline before the external deadline. We would also like to have a 24-hour notification as a final review deadline before we submit the final external document.

**Team Roles:** Segment your design into subsystems; for each subsystem, select one team member as the lead and at least one other teammate as a support. How will you make sure your subsystem integrates with the other components of the design?

**Fitting and wiring (Joseph Taylor) -** This subsystem will cover the retrofitting and wiring of sensors and circuit components to pre-existing equipment. This will result in a clean, sleek fitting to any equipment that a consumer may choose to retrofit with our components. The wiring and fitting designs are necessary components due to not

only their impact on the overall presentability of our prototype, but more importantly on their relevance to the safety of the product for users who will be performing potentially hazardous movements.

**Power (David Lock)** - The power system will ensure that there is a dependable supply of power to the circuit. This will also consist of voltage control and making sure the circuit is not overloaded or underloaded by the power source we choose to implement.

**Circuit design (Marlon Sims)** - Circuit design will be straight forward and will consist of designing the circuit that implements all loads necessary to collect the data we prefer. This will ensure that our product works in an efficient manner and all components are supplied with sufficient power to operate.

**Communications (Austin Polk)** - Communications will handle the connectivity of all circuit components and translation of data to the user's device. This will involve work with wireless connection, data collection and delivery. Communications is a necessary subsystem to ensure all our sensors work together to collect data and transport that data to a remote device.

**App development (Logan Dubuisson)** – The application implementation will consist of a smartphone and/or online interface for users to seamlessly synchronize the data collected by our equipment sensors with their workout plan, which can also be created in the application and tailored to each user's prior experience, body type, and long-term goals.

**Potential Obstacles:** What do you see as the biggest technical and/or logistical challenges of completing your prototype subsystems by the end of the semester? How will you address those challenges? Consider challenges that may arise if some or all of your team must quarantine.

Wireless communication between the sensor data and the app/website. We plan to do extensive research with the AERL to determine the types of sensors that we would use and the best method of wireless communication (I.e., Bluetooth, RFID). Another challenge would be localizing the sensors between reps/sets. The way we plan to face this challenge would be after a set would be to put the bar back on the bar rest so after the set the sensors could reset localization.

**Conflict Resolution:** What is your plan for dealing with team problems (e.g., one team member is not participating as he or she should, misses class meetings virtually/F2F/etc. other than for reasons of extreme illness, misses team meetings or internal deadlines, submits subpar work, and so forth)? What if your team does not agree on certain aspects of the design—what will you do?

We would do a wellness check for example to make sure the team member is not struggling with their portion. If the team member has not done the portion and refuses to do their part. Inform the teachers and advisors and then conduct an internal vote to kick/replace team members.

**Additional Comments or Concerns:**

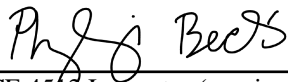
No Additional Comments

**[Signatures on the Next Page.]**

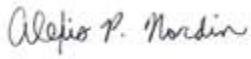
## Signatures

Team – Name and NetID

Joseph Taylor (jmt842)  
Marlon Sims (mks494)  
David Lock (djl321)  
Ausitn Polk (asp404)  
Logan Dubuisson (lad392)



ECE 4512 Instructor (required)



GE 3513 Instructor (required)



Faculty Advisor (required)



External Advisor (if applicable)

External Party (if applicable)