

Forte: Fitness Tracker Prototype

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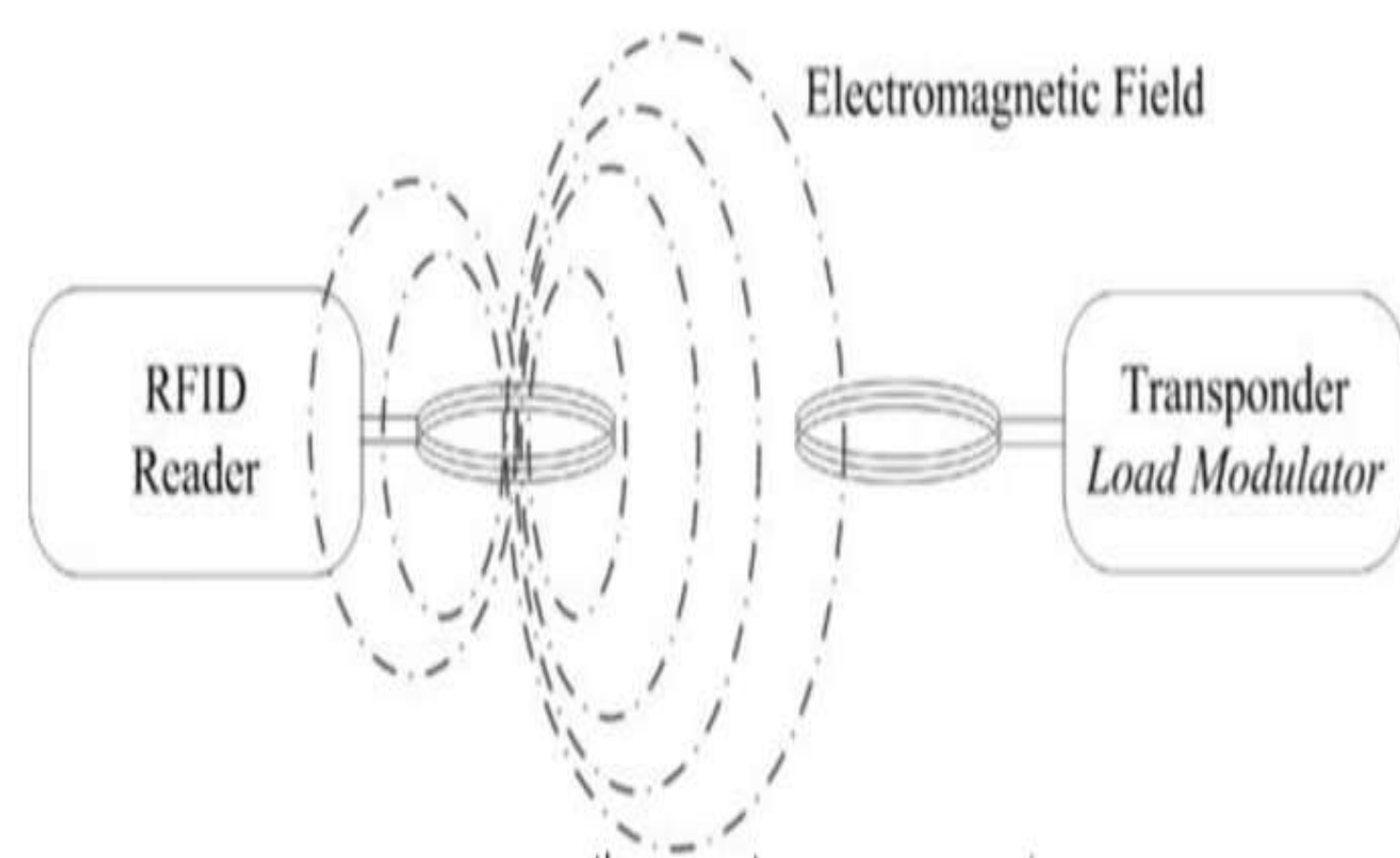
Gym Membership is Broken

- 58 million US consumers spent \$33B on gym memberships.
- They are willing to spend ~\$550 annually for fitness.
- However, 67% of people never go to the gym.

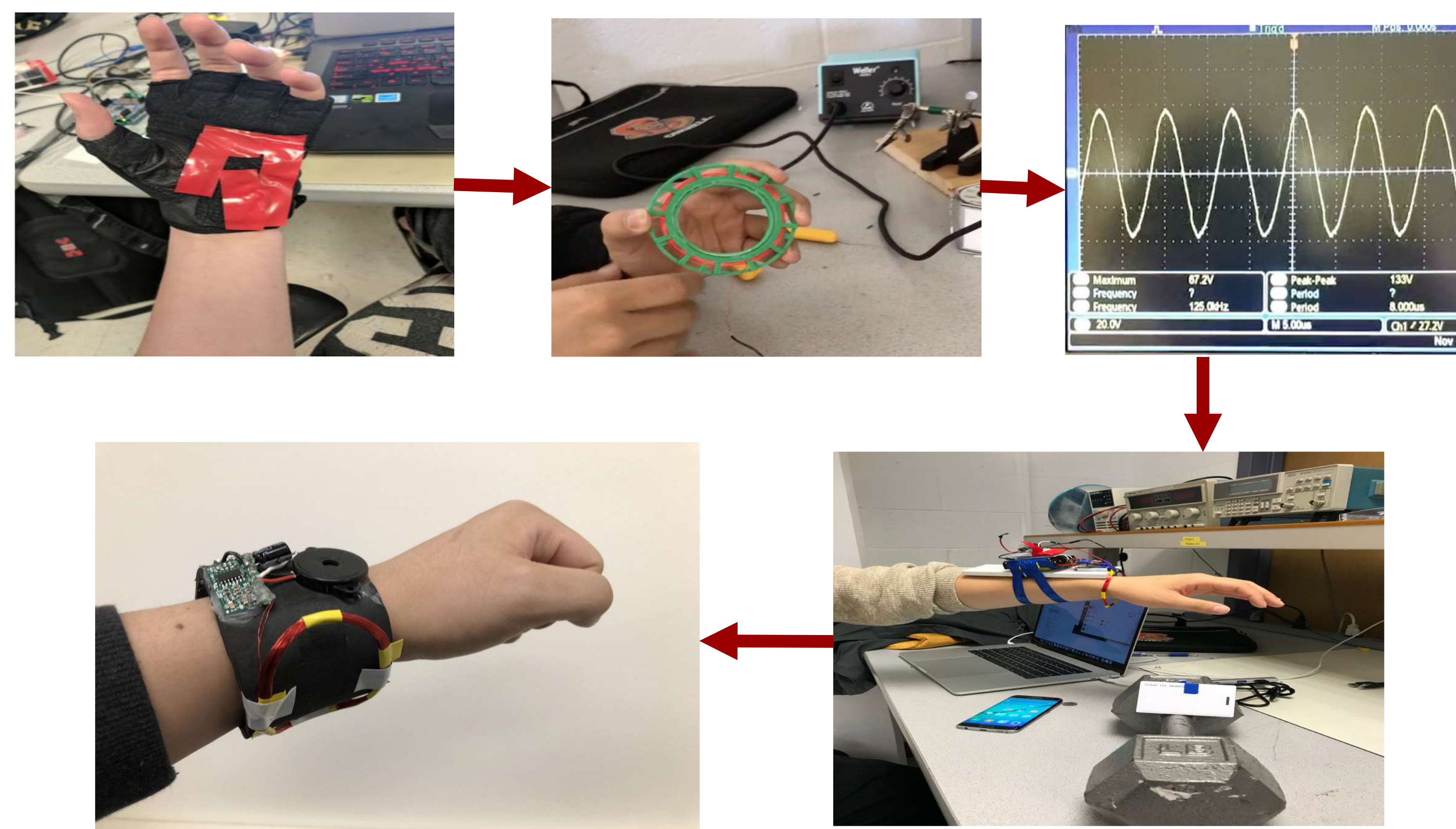
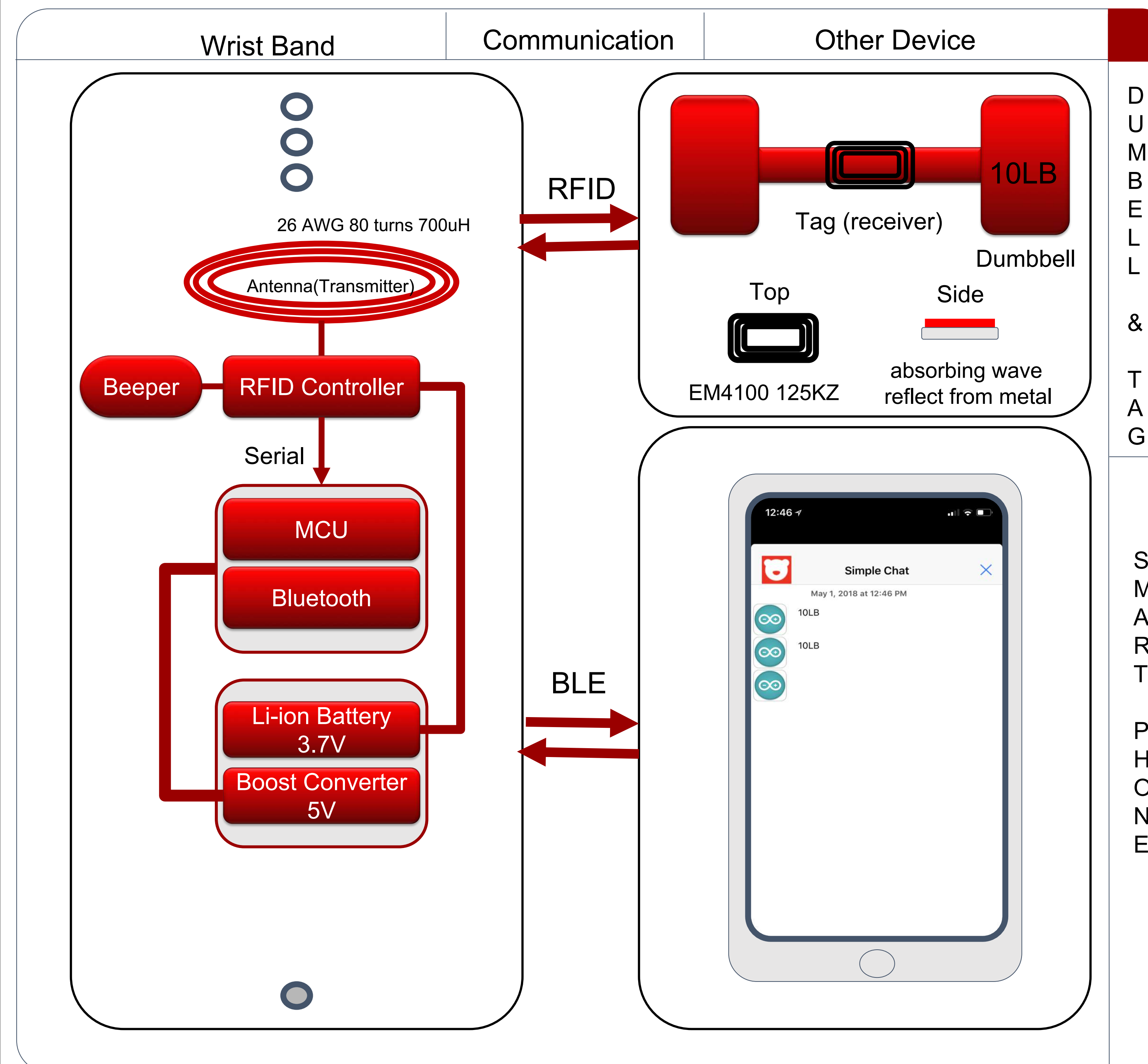
How can we bring value to the 40M who are wasting -\$20B annually?

Fixing Broken Membership

- Forte is a young startup providing users with seamless exercise tracking including easy weightlifting tracking.
- By using RFID, wireless communication, and monitoring different auxiliary movements, forte prototype effortlessly tracks workouts and motion and also maps different movements to specific exercises.



Seamless Exercise Tracking



Electronic Bracelet!



- Read distance of 25cm was achieved by using RFID module tuned to 125Khz.
- A resonance of 100V was achieved ensuring signal is stable.
- BLE device of RedBear Duo was successfully programmed to collect the recorded data remotely.
- Next step would be to implement the pilot and collect data from them which can be used to automate the process of detecting exercises using machine learning.

Conclusion

- The final product is able to collect the weight tracking information from the weights with high accuracy at a low cost.
- Implementing better antennas to increase the RFID range to make the prototype more stable.
- Adding the motion sensors and other functionality to recognize the exercises user is performing and count the reps-sets of it.

Acknowledgements

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