# Boating Collision Warning and Identification

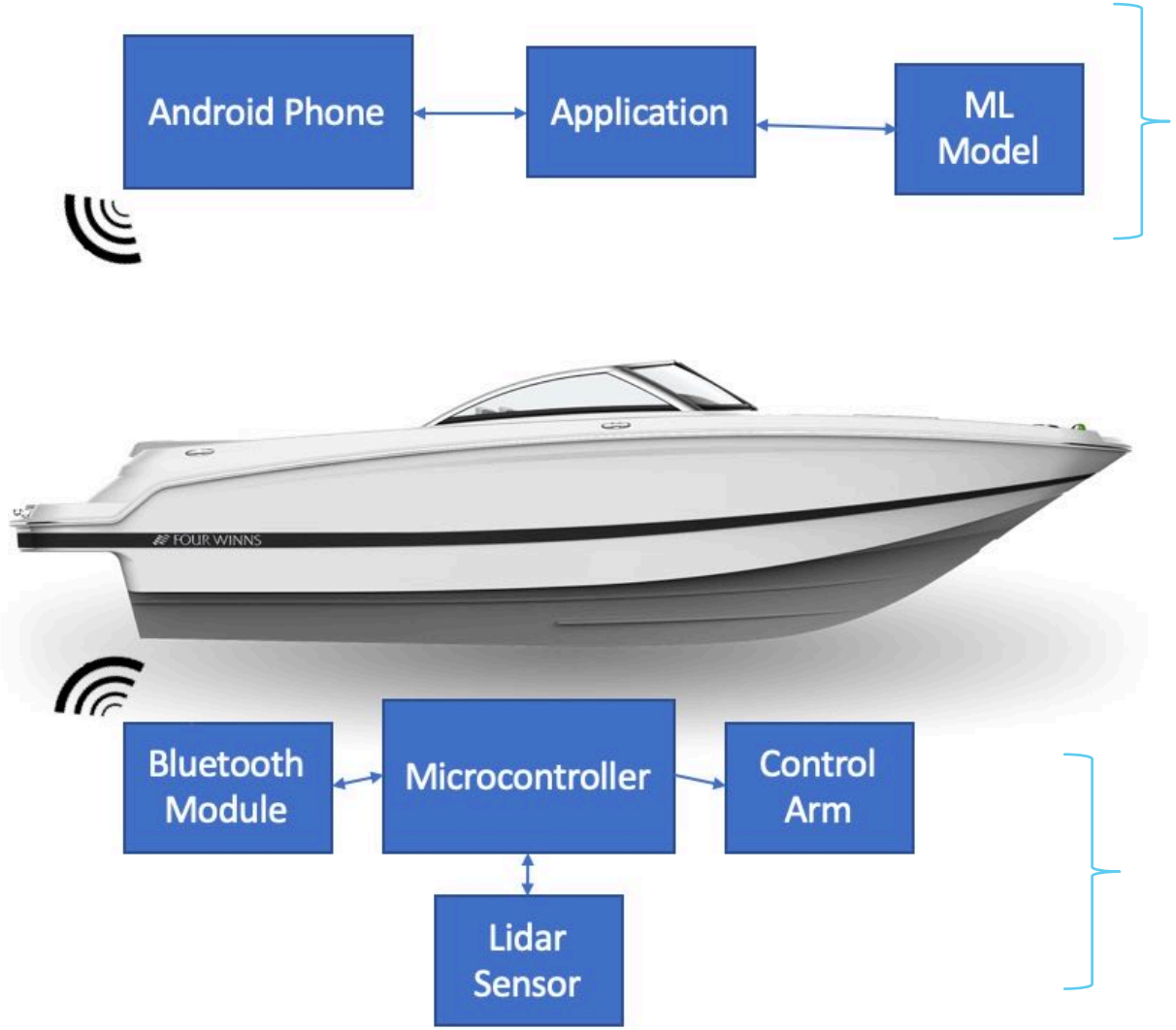
4th Year Project 2020

Daniel Ellingwood, Jonathan Lunn, Sean Sullivan, Joseph Amiah, Jennifer Tryon, Farhan Chowdhury

# Project Summary

The Boating Collision Warning and Identification System will be capable of detecting and identifying a range of different objects underwater that could pose danger while boating. Such objects include rocks, logs, and weeds. The system would be able to distinguish between these objects and give warning to the boater before the collision occurs. A combination of hardware, software and AI would be needed to create these results. Bathymetric LIDAR technology would be used to give improved imagining results underwater.

# General System Diagram




Jennifer,
Farhan,
Sean

Daniel,
Jonathan,
Kingsley

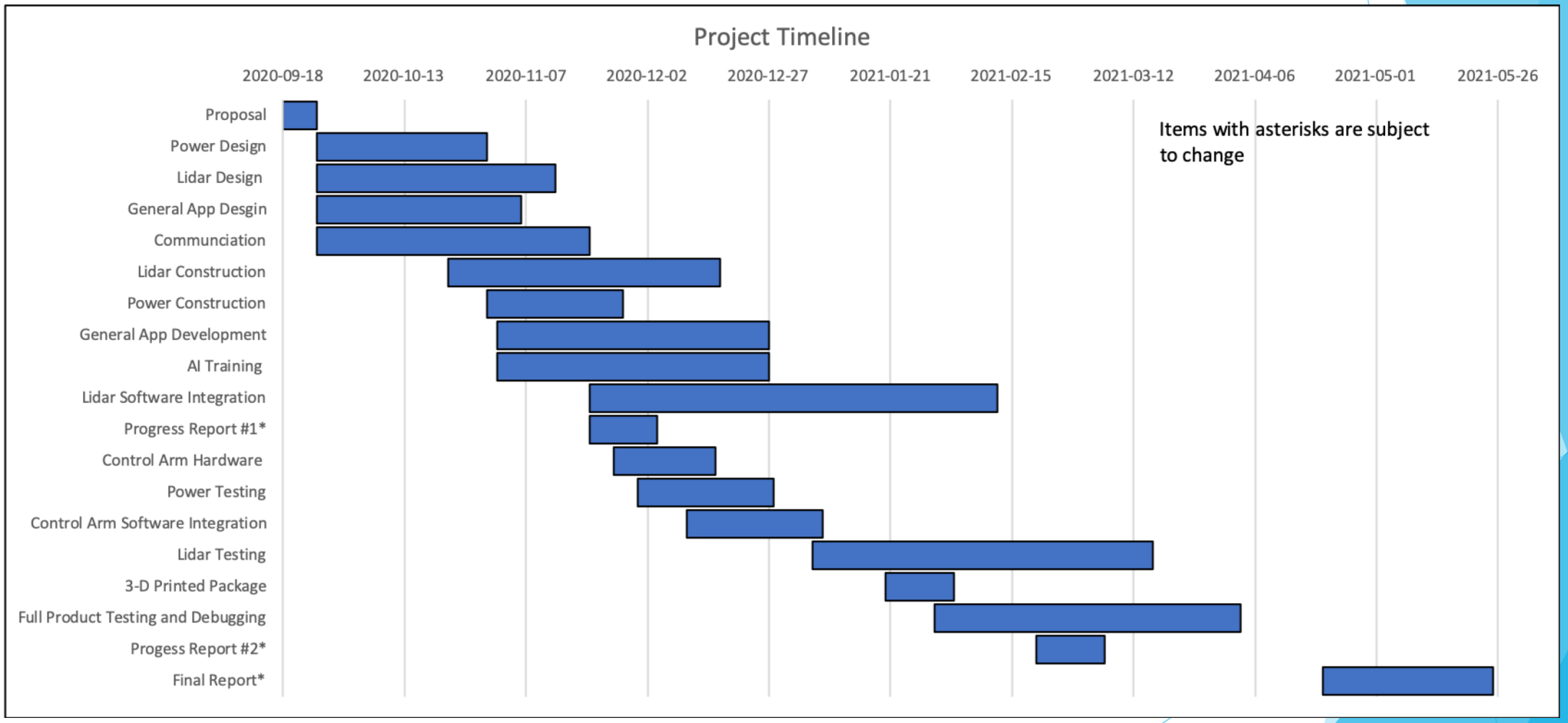
# Work Breakdown

| Hardware | Software |
| --- | --- |
| • Lidar system<br>• Bluetooth communication system<br>• Power system<br>• Remotely adjustable attachment arm<br>• 3D printed packaging | • General Android application design<br>• Communication via Bluetooth<br>• Attachment arm controls<br>• Machine Learning model training and production deployment |

# Primary Group Role Assignments

| Role | Group Member |
| --- | --- |
| LiDAR Hardware Designer | Daniel |
| LiDAR System & Power Designer | Jonathan |
| General Application Developer | Jennifer |
| AI Developer | Sean |
| Communications Designer | Kingsley |
| LiDAR Software Designer | Farhan |

# Initial Project Timeline



# General Project Schematic