Team Agreement

EC463/EC464 - Senior Design
Fall 2018 – Spring 2019

We, the members of team number 34, called PuckFish, have entered into a project titled PUCKFish - Lobster Trap Sensor Collection Device for the customer, Fathom Fishing as part of Senior Design Project, ENG EC463/EC464.

The general objective of our project is:

The general objective of our project is to allow lobster fishermen to place their traps more effectively through the use of data analytics. Fewer, more lucrative traps will help to prevent the North American Right Whales from lobster trap entanglement and fishing vessel collisions.

We expect that our major project deliverables will include the following:

Our deliverables consist of a base station (to be mounted on fishing vessels) and three small sensing devices (to be mounted on or near individual lobster traps). The first revision of the PUCKFish, will collect temperature, depth, dissolved oxygen, and other measurements of the water surrounding a deployed lobster trap. As soon as a fisherman pulls the trap above the surface, the PUCKFish will wirelessly upload the collected data to the onboard base station.

GENERAL CRITERIA FOR SUCCESS

We understand that evaluation of our work in Senior Design will depend on several factors. First is our team's success at meeting our proposed objectives, as described by our specifications, and providing our deliverables in working fashion, with the required documentation, by the course deadlines. Second is our demonstration of individual proficiency at design and at keeping adequate engineering records of our work. Third is our individual and collective team skill in listening, helping others to reach their goals, and negotiating technical and team problems. Finally, we understand the department policy for reimbursement of expenditures made in executing our project and agree that anything spent about the amount reimbursed by the department will be equally shared among all team members.

INDIVIDUAL LEADERSHIP

We understand that Senior Design teams shall be organized to give each member clear responsibility for one or more design areas. Several people may collaborate on a problem, but only one person should be the designated 'leader' for a design area. Each of us should be the leader of at least one design area so that we can clearly demonstrate our individual proficiency in design and in keeping professional engineering records (in our logbooks).

RESOLVING TEAM CONFLICTS

We understand that we need to work to resolve interpersonal and technical disputes within our team, in a professional and respectful manner. This will sometimes involve compromise, and we agree to be open to reasoned technical arguments about our individual areas and the team's collective efforts. We will seek faculty or mentor help when problems appear serious and are not resolved quickly by our efforts.

NON-PERFORMANCE OF DUTIES BY A TEAM MEMBER

We understand that each of us must pursue our design and team tasks in a professional and timely fashion to ensure our team's success. Should a team member fail to show diligence and concern for the team, a meeting of the team and the course faculty will be held to assess the situation and recommend specific short-term performance goals for the team member, and possibly the whole team. If these goals are not met, the course faculty may decide to remove the offending team member from the team. The student will then have to complete the course reporting directly to the faculty as a team of one. This is a serious step and suggests a significant failure on the part of the individual, and possibly the whole team. It should not be considered except as a last resort.

QUESTIONS

We understand that students and teams are welcome to approach the course faculty about this agreement at any time.

INDIVIDUAL TEAM MEMBER RESPONSIBILITIES

The remaining pages list our team members and our individual 'leader' responsibilities.

TEAM MEMBER ADDENDUM (submit one for each team member):

Team Member Name: (printed) Victoria Thomas

Team Number 34 Team Name: PuckFish

I have read this entire document, including my teammates' descriptions of their 'leader' roles. I understand the document and agree with the descriptions of roles.

Team Member Signature Victoria Thomas

Date: 11/29

The following paragraph(s) describes the technical problem(s) for which I hold leader responsibility. (Please give technical details if possible. Broad topical claims will be difficult to assess.)

While I did not take on the role of team lead, I did have other responsbilities during this semester. My main responsibilities related to manufacturing, design and testing. For manufacturing, I would assess our designs and determine whether we could actually make these in EPIC and how. In this vein, I also manufactured the parts we needed made such as our electronics bed. Additionally, I am responsible for the port between the inside of the pill and the outside which is needed for the sensors that have to be in contact with the water. I have identifed the hardware we need and plan to buy this over break. I also took on the role of ensuring that the pill would be watertight. I did this through testing our setup in water before we put the electronics so we could test in the lazy river.

TEAM MEMBER ADDENDUM (submit one for each team member):

Team Member Name: (printed) Alex Necakov

Team Number _3____ Team Name: PUCKFish

I have read this entire document, including my teammates' descriptions of their 'leader' roles. I understand the document and agree with the descriptions of roles.

Team Member Signature Alex Necakov

Date: 11/30/21

The following paragraph(s) describes the technical problem(s) for which I hold leader responsibility. (Please give technical details if possible. Broad topical claims will be difficult to assess.)

My technical responsibilities in team PUCKFish lie in the ECE realm. As we are in interdisciplinary team, with mostly mechanical engineers, I have taken over duties for software for our prototypes. This includes managing our code repository, writing code for our microcontrollers in our puck and in our base station, and writing drivers for sensors as needed. I am also responsible choosing electronics hardware including: microcontrollers, the radio chips, and the water current, ambient light, and pressure sensors. I will also be sharing some responsibilities for design and manufacturing of the PCB for our final prototype.

TEAM MEMBER ADDENDUM (submit one for each team member):

Team Member Name: (printed) Ammar Hussain

Team Number 34 Team Name: PUCKFish

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Team Member Signature Ammar Hussain

Date: 11/30/2021

The following paragraph(s) describes the technical problem(s) for which I hold leader responsibility. (Please give technical details if possible. Broad topical claims will be difficult to assess.)

My main responsibilities for PUCKFish are mainly based in the electronic hardware as I am one of the ECE members of the team. Specifically, I am responsible for the circuitry that is required for collecting data from the host of required sensors. I am also responsible for choosing appropriate sensors that will be apart of our final design. Aside from dissolved oxygen and current speed and direction, the remaining sensors will work immediately out of the box. For dissolved oxygen, I am responsible for coming up with a cost effective solution that will fit within our power and financial budgets. I will also be sharing responsibility on the PCB design and manufacturing.

TEAM MEMBER ADDENDUM (submit one for each team member):

Team Member Name: (printed) Peter Ha

Team Number 34 Team Name: PUCKFish

I have read this entire document, including my teammates' descriptions of their 'leader' roles. I understand the document and agree with the descriptions of roles.

Team Member Signature Peter Ha

Date: 12/1/21

The following paragraph(s) describes the technical problem(s) for which I hold leader responsibility. (Please give technical details if possible. Broad topical claims will be difficult to assess.)

I am responsible for the mechanical aspects of PUCKFish, such as sealing and weatherproofing, as well as some sensing and instrumentation design, specifically water current sensing. The former includes sealing the device overall, but also ensuring that sensors that require access to the outside water can capture useful data while optimizing for longevity. And though the latter may not be directly mechanical, it poses challenges that lie towards the mechanical end of the mechatronics spectrum. This includes sensor selection, as well as the model to derive current speed from sensor outputs.

TEAM MEMBER ADDENDUM (submit one for each team member):

Team Member Name: (printed) _____

Team Number _____ Team Name: _____

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Team Member Signature _____

Date: _____

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