Spring 2023 ECE Team 35 Contract

Project No. and Name	**Project 35: Bluetooth Enabled Gloves for Controlling Music**
Member Name, netID	Saicharan Bandikallu, sb35
Member Name, netID	Mehul Aggarwal, mehula3
Member Name, netID	Oliver Johnson, owj2

ECE 445 is a project-based course. The course includes both team and individual grades. Project teammates generally all get the same grade for team assignments based on the expectation that all team members do their fair share of the work involved. The purpose of this contract is to lay out the tasks needed for the successful completion of the project and distribute them in a fair and efficient way to the team members. It will also discuss how the teammates will work together during the project and address any issues that come up. A contract that promotes good teamwork that leads to a successful project should:

·   Acknowledge that each team member has commitments and responsibilities outside of ECE 445
● Encourage open communication about challenges that team members are facing, both in and out of ECE 445
● Give team members the benefit of the doubt and the opportunity to explain themselves when something goes wrong and resist jumping to judgement

Project Description: *Our project is a glove that will be able to connect via bluetooth to your phone and allow you to control your music settings and accept/reject calls. The music settings it will control are volume up/down, play/pause, and next/previous track. This will be possible through the use of flex sensors mounted on all five fingers and an IMU sensor that will be mounted on the hand. The IMU sensor will allow us to capture movement and changes in orientation at the wrist joint. The microcontroller will combine this sensor data into useful bluetooth commands, allowing the user to control their music/phone without having to remove their gloves.*

Project Goals: *If the team is successful in its purpose, what hardware and software achievements will attest to this?*

Hardware Achievements:

- Battery will last for at least 3 hours of continuous use of the system (we have defined 3 hours as a reasonable single session of use)
- Glove should be comfortable to wear and have a form factor that is not too bulky

Software Achievements:

- Program will correctly identify predetermined gestures from sensor readings
- Correctly convert predetermined gestures into the required correlated bluetooth commands in order to successfully control music playback and accept/decline calls on a smartphone

Expectations (ground rules) for each member: *Try to list six or more minimum expectations. Consider aspects such as preparation, participation, feedback, responsiveness, etc. Try to explicitly list anything that could potentially turn into a problem. Find ways to encourage everyone to communicate (this may also fall under "tasks").*

1) All group members show up to all scheduled meetings.
2) All group members are honest and open to feedback and new ideas.
3) All group members communicate promptly and are responsive.
4) All group members are expected to stay on task during meeting times
5) All group members prepare for meetings by researching on topics on their own time
6) Each member focuses on working to accomplish goals for the team not for themselves.

Roles: *Do you see this team performing well because everyone works together and contributes equally? Are there certain aspects of the project that some teammates excel at? Can tasks be spread among individuals to optimize progress toward the final product?*

We anticipate this team performing well because everyone works together and contributes. Different group members excel at different things, so we plan to do things in a way that plays to the strengths of each team member. We plan to work on things in parallel where different team members work on different components at the same time. This way, we optimize the process.

Project Meeting Time(s): *The team will meet at the scheduled team meeting with TA each week. Can you also preset an ideal time for team meetings in the lab (your team may need to sign up for lab bench access)? Is your team interested in meeting to work on other aspects of the course together such as project research?*

We plan to meet weekly on Tuesdays at 4 PM and Saturdays at 1 PM to work on our project. We prefer to always work in person together because it is easier to discuss ideas. Team meetings will involve doing things such as: project research, document writing, deciding project directions/timelines, and working on the project design and assembly.

Agenda: *Who will set the agenda? Beyond the weekly meetings with the TA, what will the team do to ensure that it stays on track during the semester? When a decision needs to be made, will it be approved by consensus or majority vote? Will a team member be appointed to keep records?*

We will meet twice a week and set the agenda at the beginning of each meeting. At the end of each meeting, we will adjust our timeline based on the progress we made during the meeting. This should keep us on track during the semester. When a decision is made, it will be approved by consensus. All of us will keep records in our lab notebooks.

Process and penalties for dealing with team issues: What happens when ground rules are broken? Who intervenes? What happens if the situation escalates? Always remember not to jump to judgement. Give group members the benefit of the doubt and the opportunity to explain themselves when something first goes wrong.   TAs and instructors are available to help resolve issues.

If ground rules are broken, we will discuss the issue as a group and give the person the opportunity to explain themselves. If the situation escalates, we will discuss the situation with the TAs and/or professors.

End-of-term agreement on using final peer assessment for grade adjustment: Do you believe that this contract should hold your team accountable to its contents or that it may hold little value? There will be two formal peer assessments this semester. The first is used only to provide honest, constructive feedback to each team member. The second peer assessment affects a teammate's grade.   Without accountability, many promises go by the wayside.

We believe this contract will hold our team accountable and we will follow it.

Signatures: Iterate on this document until everyone is comfortable with its contents and signs (it is okay to type your printed name as your digital signature).

I affirm that I participated in generating this team charter and that I will abide by its contents to the best of my ability. Furthermore, I understand that failure to meet the expectations expressed here can lead to the stated consequences.

netID: sb35   Signature: Saicharan Bandikallu   Date: 2/15/2023

netID: mehula3   Signature: Mehul Aggarwal   Date: 2/15/2023

netID: owj2   Signature: Oliver Johnson   Date: 2/15/2023