

Spring 2023 ECE 445 Team Contract

Instructions: The content of this document should be specific to your goals and needs. Ideas for the content of each section are provided as suggestions.

Project No. and Name	Ambient Lighting System
Member Name, netID	Anusha Adira, adira2
Member Name, netID	Manushri Dilipkumar, md38
Member Name, netID	Chinmayee Kelkar, ckelkar2

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: *Short description of project*

This project is about an intelligent lighting system that connects LED strips, which can be placed behind a TV, painting, or near a speaker. The system automatically synchronizes with the background noise of the user's activity, while also adjusting intensity based on the user's heart rate. At a high level, we have an audio system that collects background audio and sends signals to change the color of the LED strip. Additionally, a heart monitor system connects to the circuit via Bluetooth and sends signals to adjust the intensity of the LED strip—brighter for higher heart rates and dimmer for lower heart rates.

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

Our project will be effective if we have an LED strip that reacts to sound, changing color depending on the change in noise. Our project needs to utilize a heart monitor and connect this with our system via Bluetooth and accurately identify when a user's heart rate is beating fast, and if so, increase the intensity of the light accordingly. Hardware wise we want to be able to

see the LED strip properly connected and changing color depending on the software component(proper analysis of data). Overall, we need to make sure that data transmission is accurate and the LED strip changes intensity based on heart rate and changes colors based on background noise.

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. Prepare for meetings properly to ensure that there is no “catching up” required for any member
2. Actively contribute in team discussions to make sure people have equal ideas being talked about and implemented
3. Take accountability for tasks - we are all in this together
4. Be quick about responding to messages
5. Be respectful of team members’ time - try to avoid last minute rescheduling requests
6. If there are challenges communicate them quickly so team members can talk about it

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?*

Yes, working together is essential for our team to be successful but we also have to note that there are some tasks that some people are better at than others. We need to play to the strengths of each team member. We can start off by spreading tasks equally and see what each team member is good at. Tasks can definitely be spread among ourselves to optimize progress. We only have a short time to come up with this project, so we need to both work together as well as split tasks for a successful project.

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?*

An ideal time for meeting in lab is right after our meeting with our TA, which is at 3pm, so meeting at 4pm would be ideal. Our team will do project research individually and share our findings as we go.

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?*

Whoever was in charge of that week's section will set the agenda. The team will have weekly deliverables to ensure that we stay on track during the semester. The decisions will be approved by majority vote, and a team member will be appointed to keep records.

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 issues arise, the team member should be approached privately and in a respectful manner. Together as a team, we can discuss the best possible solution and course of action. If the situation escalates, it can be addressed in the group meeting and the ground rules can be restated so that everyone is on the same page. If it still persists, the TA can be asked to mediate the situation so that everyone feels heard. They can assist with task redistribution and help resolve further issues.

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 think that the contract will hold our team some value to holding us accountable as we also care about getting a good grade in this class as well.

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: adira2	(digital) Signature: Anusha Adira	Date: 09/20/24
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netID: md38	(digital) Signature: Manushri Dilipkumar	Date: 09/20/24
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netID: ckelkar2	(digital) Signature: Chinmayee Kelkar	Date: 09/20/24
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