# *Thank you for your commitment to green initiatives at the University of Illinois. One of the ongoing requirements listed in the terms of the funding agreement for your project is the submission of semesterly reports with key information about your project. In addition to this form, please provide additional financial documentation and/or progress photos if available.*

# *Please be as accurate as possible in describing the project (including possible setbacks or challenges in meeting the initial goals of the project). Not fully meeting your project's goals will not disqualify you from making future funding requests as long as your reports are as complete and accurate as possible. If you have any questions, please contact the Student Sustainability Committee, at* [*sustainability-committee@illinois.edu*](mailto:sustainability-committee@illinois.edu)*.*

**Project Name:** **Towards a Battery-Free Environment Sensing System for Urban Heat Island Identification**

**Date of Report Submission:** 5/12/2023

**Project Purpose:**

Briefly, the purpose of the project is to develop cheap battery free sensors to monitor air temperature for identifying and monitoring urban heat islands.

**Detailed Accounting of Expenditures to Date:**

We have not spent money from the account yet. We will start using the funds in the Fall semester.

**Project Progress to Date:**

We have contacted Microsoft Research and met with Dr. Vaishnavi Ranganathan to discuss our idea and learn from their past hyperlocal environment sensing “Eclipse.” Through conversations with her, we learned about what needs they met and how they approached their work. We also learned about her previous work of analog devices for wearable sensors, which she will share with us so we can replicate it. Furthermore, based on the feedback we got from her, we started contacting stakeholders in our community to ask what they need to address the challenges posed by climate change and heat waves in our community.

We were able to contact Stacy Gloss from the Smart Energy Design Assistant Center and she told us that the main thing she was interested in was learning how different zones cool down at night. She argued that this is a key insight that can help decision makers identify where they can build or provide buildings for people to cool down. Based on those needs, we will need to rethink the design of our hardware (this will not affect our timeline, we just need to reevaluate our design so we can store sensor readings through the night. She also gave us a list of people to contact, ranging from local government officials to U of I researchers. We hope to hear back from them soon.

We believe we are on track to meeting our goals by the December 2024 deadline.

**Student Involvement and Outreach to Date:**

The students led the effort of contacting people mentioned above.

**Marketing and Promotion Efforts to Date:**

We have not promoted or marketed the project yet.

**Additional Comments:**

Using the data from the project Eclipse, we were able to calculate a Level 1 [urban heat island index](https://calepa.ca.gov/climate/urban-heat-island-index-for-california/understanding-the-urban-heat-island-index/). This is preliminary since it does not account for various factors like wind and population density. A map of a city with red dots

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