Topic 1: E-Waste Recycling Management:

Waste Management has been a pressing issue across the globe with an ever-rising population surge and the utilization of daily needs including electronics. As we already are aware of the tenure of these goods and depending on the usage, have a specific lifespan. After these electronics reach the end of life, they are typically discarded the waste disposal which gets accumulated and joins the regular pile of waste that gets shipped and accumulated in dump yards across the globe. We wanted to have the e-waste handled in a much more efficient sense with the urge to have a service that could significantly reduce and recycle the parts and remains of electronic goods after their end of life.

The E-waste Recycling Management System encourages proper processes to collect e-waste, and "recover and recycle material by safe methods to reduce its adverse impacts on the environment" (Khatun). It also includes re-use and educating the public about E-Waste risks and good disposal practices.

E-waste covers a huge range of products from small equipment like calculators to large equipment like solar panels. These items are growing in huge numbers as individuals and businesses are more technology-oriented with existing and new types of equipment. Our E-waste information service idea would not be just individual specific, it can even be open to businesses. With a world population of 7.98 billion and with ever-growing changes in media and technology, this will not just be a one-time thing as it's a cycle of recycling, refurbishing, and reselling.

From an information standpoint, this service should be able to pick up e-waste from homes or business places by having a specific set of order numbers and thoroughly checking and closing the collection orders. Reselling information is a good part of this information service where refurbished components can be put up for sale (at a lower cost) and that itself will have information (on the technical components) and other processes.

Upon learning more about the proposed topic we found out that "many old electronic devices contain toxic substances that include lead, mercury, cadmium, beryllium, polyvinyl chloride, and chromium. When e-waste is tossed into landfills, these chemicals leach into the soil, polluting the groundwater as well as the air" (E-Waste Disposal: Why You Should Recycle Old Electronics). These findings help emphasize the various issues surrounding this process in its current state.

Electronics are created with valuable raw materials. Recycling old devices helps save energy. It also means that fewer limited raw materials are needed to create new devices. By reusing old devices (specifically their materials), it prevents e-waste by keeping it away from landfills. It also saves the resources used to recycle them. "Recycling also saves the raw materials that can be repurposed by producing new devices" (E-Waste Disposal: Why You Should Recycle Old Electronics). Due to these possible changes, energy can be saved with less pollution and greenhouse gas emissions released. This help emphasizes the importance of making this change for all humans on Earth.

As this will be an information service that is based on people's independent actions and the ways that they choose to live more eco-friendly and sustainably, it would make the most sense to have this organized through both mobile and website-based applications. This will help ensure that not only technology companies can access/use this information, but also all consumers of technology (most people on Earth) can access and use this information to the Earth's benefit.

Functions and benefits of our information service:

With our application, users can create an account for themselves, login, and look out for the nearest collection lakes where they can dump their e-waste.
Having an account, they will be subscribing to our email listings which would educate them on safe, hygienic disposal practices and awareness about sustainable living.
Adding to the benefits of having an account, users would gain points or rewards with their actions which can be redeemed later for buying any refurbished devices from our service.
From the collection lakes, the e-waste would go through our next steps of recycling and reusing as refurbished products.
The refurbished products will be up for sale for the users and the service itself will be having tie-ups with external vendors for further management of the system.

Teamwork Plan (for both): Who is going to do what by when?

Team Roles:	Deliverables:
● Manages the group by making sure everyone is on the same page. (Harshitha) ● Gather and submit all the materials and deliverables. (Asmita) ● Researcher - Research for needed materials and information. (Kamran) ● Researcher - Research for needed materials and information. (Sakshi) ● Researcher - Research for needed materials and information. (Srikanth) ● Writer - Takes notes and makes sure everything in the narrative is written correctly. (Nayab)	● PowerPoint (Harshitha & Sakshi) ● Video Presentation (Everyone) ● DFD (Srikanth) ● ERD (Kamran) ● Data Visualization Table (Asmita) Due Dates: ● Proposal - October 7 ● Video Presentation and Supporting Materials - Last week of the semester ● Weekly Team Meeting (Every Thursday) ● Initial Research - By Week 8 ● Diagrams - By Week 11 ● All Materials and Deliverables - By Week 14

Work Cited

Khatun, Ayesha and Nandan Dhara. "E-Waste Management: A New Concern for Environmental Sustainability." *Smart Cities, Citizen Welfare, and the Implementation of Sustainable Development Goals,* edited by Ana Cristina Pego, IGI Global, 2022, pp. 222-238. https://doi.org/10.4018/978-1-7998-7785-1.ch012

"E-Waste Disposal: Why You Should Recycle Old Electronics." *JDog Junk Removal & Hauling*, 14 Feb. 2019, www.jdogjunkremoval.com/2019/02/e-waste-disposal-the-importance-of-recycling/.