

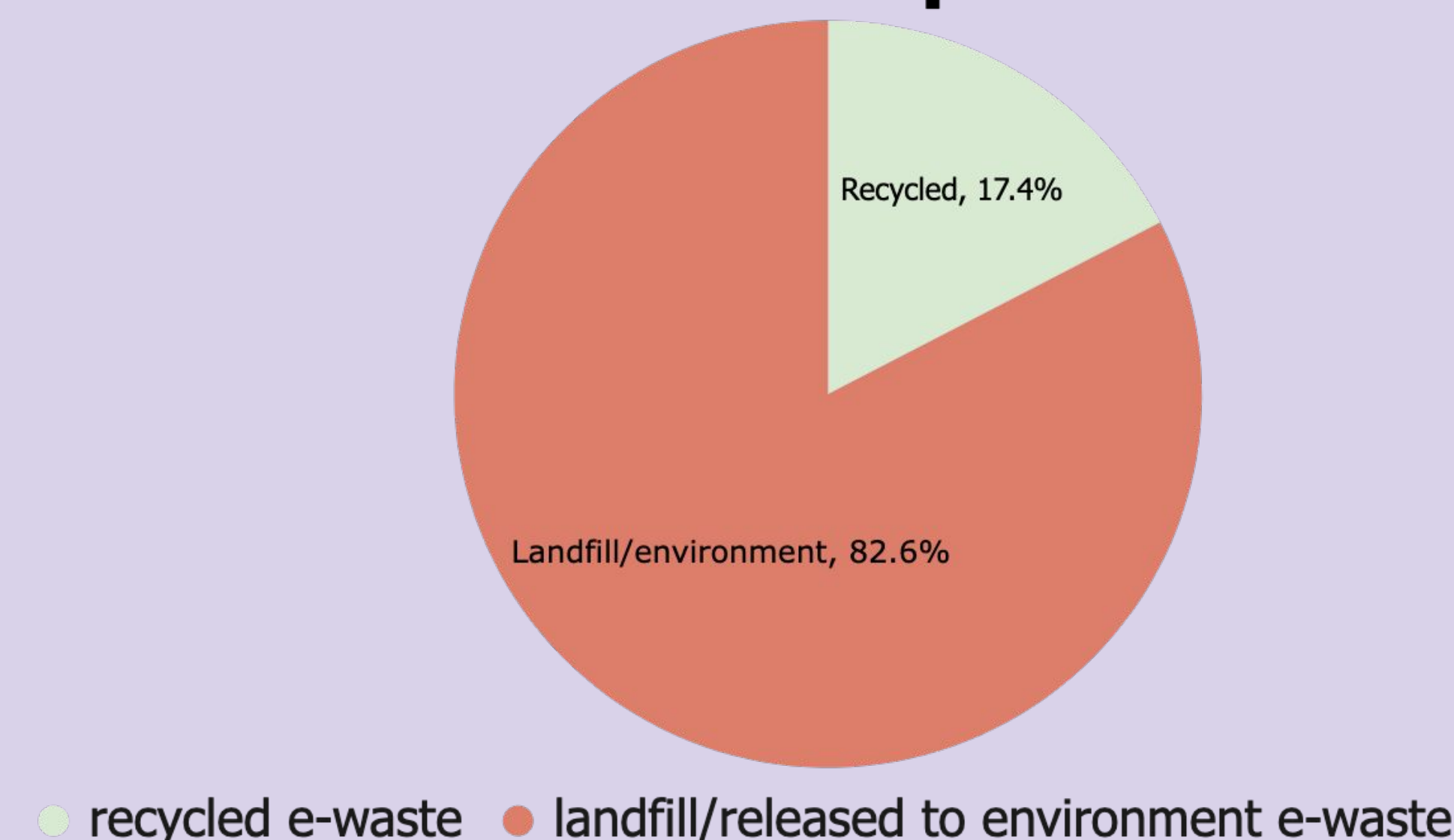
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Background

As demand for consumer electronics grows, the amount of electronic waste (e-waste) created is rapidly increasing. Due to devices' fragility and widespread planned obsolescence, repair is not often encouraged and devices are replaced. This leads to millions of pounds of electronics entering the waste stream annually.

In 2019, 53.6 million metric tonnes of e-waste was generated. Of that waste, only 17.4% of electronics made it to formal electronics recycling facilities. Once devices enter the waste stream, they begin to break down and release toxins into the environment (WHO, June 15 2021).

Breakdown of e-waste produced in 2019



Primary Research Questions:

- How can we foster a culture of repair among our peers at Northwestern?
- What factors affect the success of electronics self-repair?
- What barriers exist for consumers to repair their own devices?

Methods

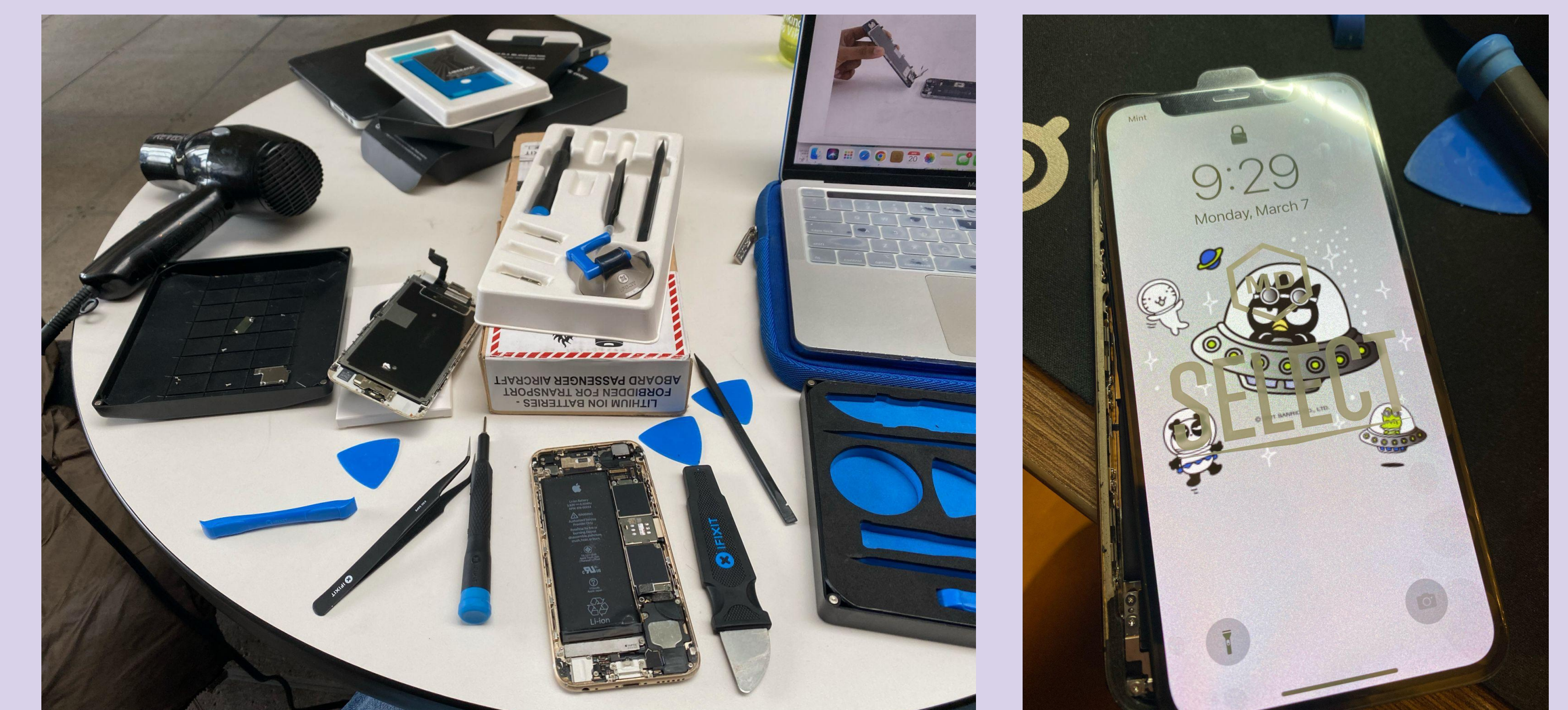
- **17 consult interviews** in initial round
- Questions focused on **diagnostics** and **troubleshooting**
- Interviews with **Northwestern staff** (SustainNU, NUIT) to learn about campus practices
- **Completed 7 repairs** initially based on consult outcomes to learn about fixing process.
- Planning a **repair fair** for students to fix their devices and foster repair culture.



Results and Findings

Repair success impacted by:

- **Compatibility** of third-party parts
- Accessibility of **proper tools and equipment**
- Keeping track of **parts and components**



Student Feedback:

- Interest in learning about e-waste, how devices are made, and how to fix them
- Short and long term cost considerations with repair
- More ownership over devices

Northwestern Institutional Feedback:

- Liability drives institutional (in)action
- Pre-existing programs catered toward departments and faculty that are unavailable to students

Acknowledgements

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