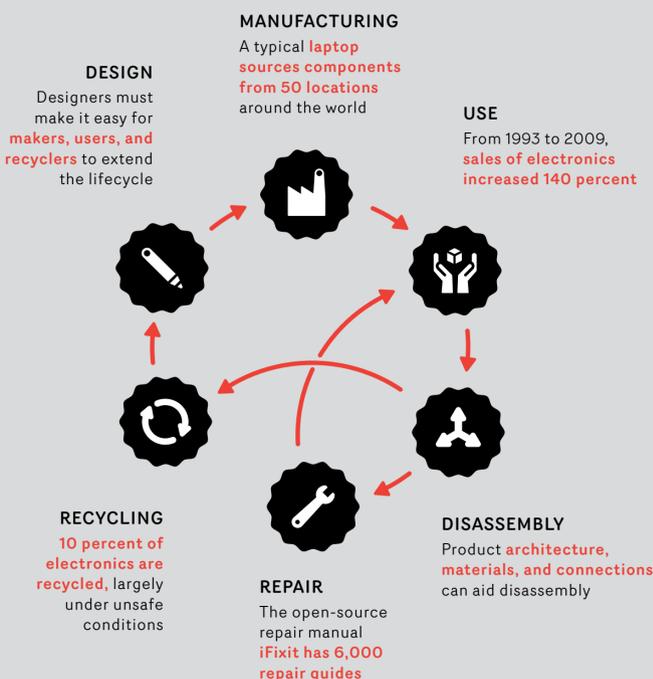


DESIGN FOR PRODUCT LIFETIME

Your phone's screen breaks, and you can't replace it. The battery's glued in, and you can't remove it. We toss 20-50 million tonnes of e-waste worldwide each year, largely due to simple design decisions. As a result, chemicals ripple through our drinking water and the lungs of trash pickers. As we embed electronics in more products, their lifespans decrease: refrigerators last 10 years; cell phones just a few. But designers can influence user behavior and make it easier to disassemble, repair, and recycle.

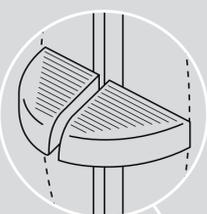
Autodesk

PRODUCT LIFECYCLE



DESIGN STRATEGIES

MATERIALS



Heirloom Materials

Choose materials and finishes that will last and get better with age.



Avoid Coatings

Use inherent color. Avoid paints, additives, and surface treatments.



Material Recycling

Choose materials that are recycled and can be recycled again in as many places as possible.

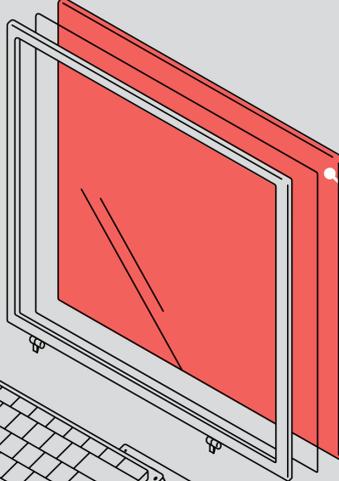


Separate Materials

Make it easy to separate dissimilar, hazardous, and non-recyclable components.



CONNECTIONS



Convenient Fasteners

Use intuitive snap-fits, clips, or sliding connectors. Use coarse threaded screws for speed.



Avoid Glues

Use only glues that are easily soluble. Use hand-strength press-fits.



Durable Fasteners

Use fasteners that will stand up to repeated use. Use nuts and bolts for strength.

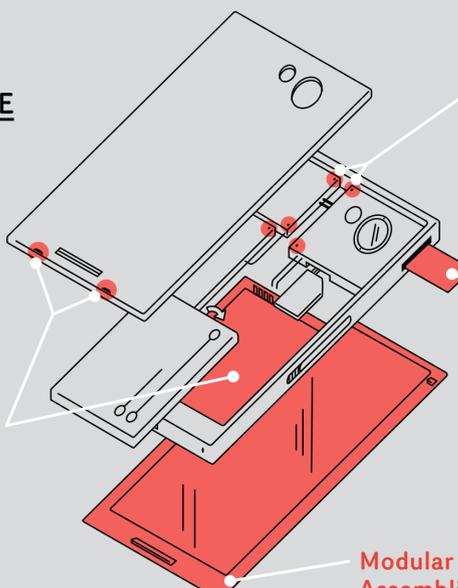


Common Fasteners

Use standard fasteners, and only require a few standard tools.



ARCHITECTURE



Affordances

Use form and design elements to provide clear clues about how to use or disassemble.



Accessible Connections

Access fasteners from the same axis. Hold multiple parts with one fastener.



Strive for Simplicity

Reduce the number of parts and use standard components that are easy to replace.



Modular Assemblies

Ensure easy access to need maintenance or upgrade.



INFORMATION

Conditional Warnings

Create prompts to let users know when your product needs service or repair



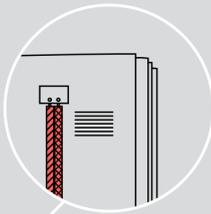
Real-time Feedback

Provide actionable data about environmental impacts so users can improve their behavior.



Embed Instructions

Label and color-code products for troubleshooting. Apply recycling codes.



Clear Documentation

Make service documentation accessible, easy to understand, and open source.



DESIGN FOR (YOUR) PRODUCT LIFETIME

STUDENT CHALLENGE · CORE77.COM/DFYPL · SUBMISSION DUE WEDNESDAY, OCTOBER 10



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