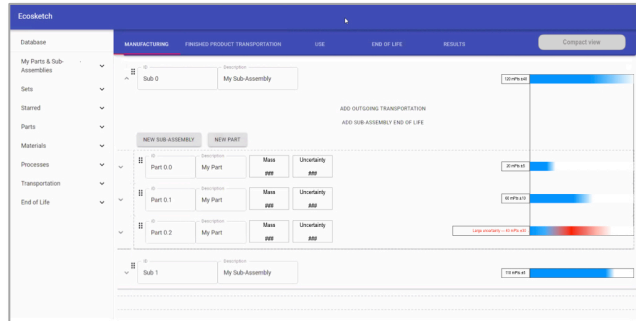# Improving LCA Software User Interface

Masters graduation or research project

The problem: Life-cycle assessment (LCA) software is the most rigorous and credible way to measure environmental impacts of products, services, buildings, and companies. However, few companies use LCA because existing software's user interfaces and data visualization are so cumbersome. Allowing users to build models faster and more intuitively, and creating visualizations that are both more engaging and better support decision-making, could greatly increase adoption of LCA in industry. Increasing LCA adoption can greatly improve the effectiveness of company sustainability efforts. The target users are product designers, engineers, and managers of product development teams.

Project goal: The project goal is to design, user test, iterate, and write actual code for a functioning web-based application. Significant work has already been done on this project, and you will work with a team at Dartmouth College also building parts of the app, but much work is required for a viable release, and you can scope your portion of the project to provide a clear domain that is your responsibility. This could include one or more aspects of data visualization that show data uncertainty; building the LCA model and library lookup interface; integrating data visualization into the model-building workflow; interface for reports and data export; and more. In addition to design skill, programming skill is necessary to complete this project—mostly JavaScript, possibly with HTML and some python.

Company partner: EarthShift Global, LCA consultants and software producers, headquartered in Kittery, Maine, USA. You are also encouraged to user test with designers or engineers you find at local companies.

Skills required: Applicants must have experience with human-centered design, LCA, JavaScript, and ideally HTML. Time commitment required is a graduation project or a research project of 9 ECTS.

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