Communicating Measures of Sustainability

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Sustainability Indicators

The Campus Sustainability Indicators is a forthcoming section of the IUOS website that will provide public transparency into the goals and progress achieved towards sustainability on campus.

As working groups refine their long-term goals, data collection becomes increasingly important to measure the success of specific programs. I collaborated with Bill Brown and fellow intern Ben Inskeep to select this initial set of key metrics based on data that is currently available. I then designed a layout and navigation scheme for the indicators to be integrated with a forthcoming redesign of the IUOS website.

Utilities Dashboard

The Utilities Dashboard will be a dynamic web application that provides up-to-date visibility into the energy and water consumption in campus buildings.

As an intern in 2008, I recommended the creation of a web-based utilities dashboard. As of this year, all IUB buildings are now equipped with meters that capture electricity usage data at 15 minute intervals. This year, I worked on designing an interface to make this data accessible and engaging for a wide audience.

Proposed features

- Electric usage for each building viewable by day, month, or year.
- Water and natural gas usage viewable by month
- Compare usage to previous years
- Compare usage to changes in outside temperature
- Energy Challenge competition view

Proposed metrics

- Academics
  - Sustainability-focused classes
  - Sustainability-related classes
- Buildings & Energy
  - Greenhouse gas emissions
  - Total energy consumption
  - Energy cost by source
  - Energy consumption by building
  - LEED certified buildings
  - Total water consumption
- Computing
  - Electronic waste diverted
  - Total paper purchased
  - Recycled paper purchased
- Environment
  - Trees planted / Trees lost
- Food
  - Local food purchases (as of total)
  - Composting (total weight)
- Green Teams
  - Active green teams
- Recycling
  - Waste diverted / waste to landfill
  - Overall waste reduction
  - Results of Hoosier to Hoosier
- Transportation
  - Student commute modal split
  - Faculty/staff commute modal split

Interface design

Annual data will be displayed for each indicator along with the associated goal for 2020.

Next steps | Summer 2012

I will continue to develop this project as an intern this summer. My activities will include:
- Collect feedback from working groups
- Coordinate with overall website redesign
- Create higher-fidelity design mock-ups
- Conduct usability evaluation with potential users
- Produce final graphics for web deployment
- Tentative launch date: Fall 2012

Research

To inform the design, I analyzed similar products for best practices including University of Kentucky’s Empowered, Lucid Design Group’s Building Dashboard, and Opower’s online energy tools.

Proposed interface

- Electric usage for each building viewable by day, month, or year.
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- Energy Challenge competition view

Interface design

The proposed interface allows users to choose from different comparisons and to drill down for details.

Next steps | Summer 2012

I will continue to develop this project as an intern this summer. My activities will include:
- Collect feedback from building representatives
- Check the design against constraints of data and development resources
- Conduct usability evaluation with potential users
- Work with Technology Services to plan a timeline for front-end web development