

PacifiCorp Design & Development Competition 2013 Problem Statement

EWaste

While electronic and media devices enhance our lives and increase our productivity, they also contribute to the growing global problem of electronic waste. EWaste is the popular name given to technology that has ended its useful life span. In today's fast paced society, simply purchasing new computer equipment is often more cost effective than upgrading an older system. Between 2000 and 2007, the United States Environmental Protection Agency reported 500 million personal computers were obsolete. In 2009, discarded TVs, computers, peripherals (including printers, scanners, fax machines) mice, keyboards, and cell phones totaled about 2.37 million U.S. tons, and many of these devices were still in good working order. Where do these devices go when they become obsolete?

The problem of managing the large amount of EWaste entering the landfills is enormous. The issue is now referred to as WEEE (Waste Electrical and Electronic Equipment) discarded electronic devices. Why is this a problem? First, technology is developing at such a fast rate that computers become obsolete in approximately two years. Second, although the potential harmful effects are not fully known, EWaste products contain harmful substances that are potentially hazardous to the environment. Third, according to the National Defense Center for Energy and Environment, availability of landfill space is decreasing, which increases costs of disposal and environmental pressures for remediation of toxic leachate from landfills. Because of the presence of toxins, such as lead and mercury, in computers and monitors, it is critical to address this situation.

Being ecologically minded, the Oregon State Legislature is concerned with the problem and has set aside monies to address this issue. The state is accepting proposals to develop a public awareness program addressing the problem of EWaste. The proposal should be a design for the development of a pilot program to test in one city. If the selected pilot program is successful, the state is prepared to extend this contract to 15 additional cities designated "at risk" for excessive EWaste.

The proposal must include:

- Information and training strategy to inform the public
- Educational program and materials for select grades in public schools
- Evaluation of the program
- Funding, time, and staffing requirements

First Phase of the Competition

The three senators supporting the development of an E-Waste public education pilot program desire an initial proposal regarding your plan of action. This group would like your team to put together a document outlining your plan to educate the community on E-Waste concerns and appropriate individual action. The document should be detailed enough to give the group a sense of what you intend to do, but it should not be the final product in all its detail. It should be a document that helps them decide whether they should invite your team to continue to work on your plan and eventually submit a more complete proposal to the legislature with the potential to make a presentation. The creation of this document is your first task. This document must be submitted by April 15, 2013. A client representative will be available February through April to answer your questions about the context/circumstances of the problem. Up to six proposals from Phase One will be selected to proceed to Phase Two.

Second Phase of the Competition

Once the senators agree that your proposal represents a viable solution for the state, you will work with an independent learning consultant (a mentor) who will be assigned to you to help you develop what will become the final plan. What you create will be a detailed description of the process you propose and the means by which you will deliver it. As much as possible, justifications for the decisions that went into your proposal will need to be provided. The creation of the process, pilot program, and training is your second task. These documents are due on August 15, 2013. The top three proposals from Phase Two will be invited to make a presentation to the judging panel in the third and final phase.

Third Phase of the Competition

You have been part of the team that has designed a solid E-Waste community education plan and developed all of the materials for the training. The senators now ask you to make a half-hour presentation that will help them select which proposal to fund. At the 2013 AECT annual conference you will have 30 minutes to present your E-Waste pilot program to your judges, the AECT community, and all concerned citizens.

Reception – Tuesday, October 30

For those involved in or interested in learning more about the PacifiCorp Design Competition, PacifiCorp is hosting a reception on Tuesday, October 30 6:30 - 9:30pm, Jockey Silks Bourbon Bar in the Galt House.

For additional information, visit the Website: <http://www.aect.org/pacificorp/>

AECT PacifiCorp Design Team

Karen Kaminski, Chair, Colorado State University
Patricia J. Slagter van Tryon, East Carolina University
Amy C. Bradshaw, University of Oklahoma
Jill Stefaniak, Wayne State University
Jeton McClinton, Jackson State University

PacifiCorp Sponsor

Daniel Schuch