

## Sustainable Innovation 2010

### Reflecting on the Electronic Waste: The Case of Panel Radio Design and Its Implications for Design Education and Sustainability

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The drive towards globalization not only has environmental and social implications, but also has an effect on designer and design process. Today, the production of mass-produced electronic products is typically outsourced and most of these products are discarded when they still function properly (Fuad-Luke 2009, Walker 2006, Chapman 2005). Electronic products produced at large quantities and sold at very competitive prices mostly imply poor quality in terms of product aesthetics and materials, and product-user interaction. To enable critical discussion and reflection on the issues related to e-waste and sustainability, the third year design students have recently undertaken a project at the undergraduate level, in the department of industrial design at the Middle East Technical University (METU). This paper provides insights into the project phases and design outcomes.

The design students are developing design solutions through rethinking and reintegrating electronic components of a radio through a panel radio design based on a PhD design project and related design considerations (adapted from Dogan 2007):

- **Bringing together (blending) the scales of design, production and post-use:** Mass-produced parts aesthetically embedded in a batch-produced panel radio.
- **Aesthetically appealing and adaptable for variety and diversity:** A panel radio design tailored to local/regional materials and manufacturing capabilities.
- **Transparency and authenticity:** A panel radio design which facilitates user comprehension and engagement through exposing the functional components and parts of the radio, including the source of energy.
- **Evolving designs:** A panel radio design which enables post-use services for repair, re-use and upgrading at the local, batch-production scale.

The aims of the project are to a) raise awareness about the current conception of the electronic “black box”, and environmental and social implications of outsourcing materials, production and energy, b) make electronic components (i.e. circuitry, controls, displays and speakers) and energy sources more accessible and transparent to all parties that are people, producers, designers, c) apply locally available materials and flexible technologies (e.g. laser cutting) to generate more diverse and evolving design solutions, and d) provide an opportunity for self-reflection on the students’ approach and vision about design and designing. The students are developing two diverse panel radio designs through working prototypes by choosing two alternative themes (i.e. bringing outdoor to indoor, kid’s art or a theme of their choice).

#### **Post-project phase (reaching out the campus community and addressing social responsibility):**

The role of designers in contemporary culture appears to be forming meaningful relationships between the designed artefact and its context, that is, user, environment and society (Dogan and Walker 2008).

Final radio designs will be one-off, unique pieces reflecting the students’ interpretation of design issues raised in this particular project, and will be exhibited and shared with the members of the METU campus community and the visitors. The exhibition will also function as raising awareness and stimulating discussion on sustainable design and electronic waste, and inspiring students in expressing these values through their design works.

#### **References:**

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