

Improving Department Website Usability through Heuristic Evaluation and User Testing

Saki Takizawa

Computer Science Department, Earlham College

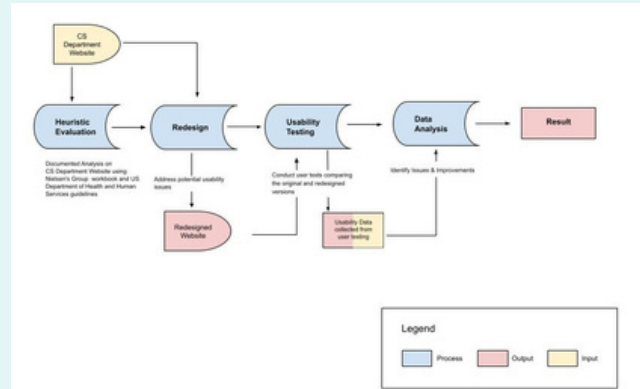
Abstract

This project uses heuristic evaluation and user testing **to identify and resolve usability issues on a college department website**. Evaluations focus on tasks relevant to current and prospective computer science students. Heuristic evaluation is guided by the Nielsen Norman Group's criteria, while redesign decisions follow the Research-Based Web Design and Usability Guidelines (HHS). After the redesign, user testing compares the original and revised versions. **The goal is to improve overall usability and create a more user-friendly experience.**

Methods

User Experience (UX) design focuses on creating digital products that are intuitive, efficient, and enjoyable. It involves **how users perceive and use a product**—covering layout, navigation, emotional response, and task efficiency. For college websites, good UX is critical, as they serve diverse user groups like current students, faculty, and prospective students. Despite its importance, many college department websites—including the Earlham College Computer Science site—lack UX-focused design. This research addresses those gaps by applying usability evaluation methods to improve the site's design.

Reference



Background

1. Heuristic Evaluation

- Based on Nielsen's usability principles and HHS guidelines
- Evaluators inspect the website for usability issues
- Problems are categorized and ranked by severity

2. Usability Testing

- Real users (current and prospective students) complete tasks on both original and redesigned versions
- Measures effectiveness, efficiency, and satisfaction
- Includes demographic questions for deeper insight

3. Analysis of Variance (ANOVA)

- Compares task performance and satisfaction across user groups
- Identifies statistically significant differences
- Helps target improvements for specific audiences

Result

Figure 2
→Data visualization with the data I will collect from user testing

Future Work