

Usability Observations of Everyday Things

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Course HCI

Programming Language None

Knowledge Unit N/A

CS Topics XII. Human-Computer Interaction – A. User-Centered Design (general)

Resource Type Assignment

SYNOPSIS

This assignment is designed for an introductory human-computer interaction course. Students are expected to identify usability issues in everyday things. For example, confusing light switches, street signs, mobile applications, gaming consoles, or microwave ovens. There are three learning objectives: 1) *demonstrate* the ability to notice the usability of everyday things, 2) correctly *apply* usability terms and concepts, and 3) *design* a solution that addresses an identified weakness.

KEYWORDS

Usability design, HCI, user experience

ACM Reference Format:

Michelle Dowling and Scott Grissom. May 2022. Usability Observations of Everyday Things. In *ACM EngageCSEdu*. ACM, New York, NY, USA, 2 pages. <https://doi.org/10.1145/3554915>

1 ENGAGEMENT HIGHLIGHTS

In this assignment, we leverage the principle Make It Matter from the NCWIT Engagement Practices Framework by invoking the practices of student choice and using meaningful content. This is accomplished by asking students to elaborate on a chosen usability concept they see applied to something in their everyday life. As such, this assignment is open-ended and encourages engagement from students of all backgrounds. Additionally, students are asked to share their usability observations with others in the class to support interaction. This interaction may lead to deeper discussions of usability concepts.

2 RECOMMENDATIONS

Students are encouraged to post their observations on a social media platform such as Facebook or the university learning management system. This allows students to see and comment on



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ACM EngageCSEdu, September 2022.

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ACM ISBN 978-1-4503-9516-8/22/08

<https://doi.org/10.1145/3554915>

each other's observations. To begin fostering this out-of-class discussion, a selection of the observations are discussed in class.

We recommend students complete the assignment three times throughout the course as they gain more exposure to usability concepts. This is not a heavy burden since each observation takes only one or two hours to complete.

3 USABILITY DESIGN PRINCIPLES

Students are introduced to Don Norman's seven usability design principles [1]. The design principles include: discoverability, affordances, signifiers, feedback, constraints, conceptual models, and mapping. *Discoverability* reflects the user's ability to find the current state of the system and possible actions to perform. *Affordance* is the principle that objects convey their intended purpose. *Signifiers* directly communicate this intended purpose through marks, sounds, or other such attention-calling features. A user should receive *feedback* from the system in response to an action. A system should include *constraints* that prevent users from making errors. *Conceptual models* help the users understand the system itself in a simple manner. Controls should be positioned using the principle of *mapping* to indicate an action. For example, a left arrow should be used to rewind video rather than an up or right arrow.

4 REQUIREMENTS

Students identify an everyday item they use on a regular basis that has a usability flaw. The design flaw is described using text, images, or video. Appropriate design principles are described as either being followed or violated. One or more solutions for the design flaw are proposed using text or mockups. We reference a website that shows design issues with many different objects as GRADING RUBRIC

Recommended assessment criteria include:

- Appropriate use of usability terms and concepts
- Use of images or video to describe the problem and solution
- Writing quality
- Complexity of the problem
- Document appearance
- Proposed solution

5 MATERIALS

Usability Observation.docx – The assignment description provides instructions, grading criteria, and an example.

Norman Design Principles.pptx – The PowerPoint slides that cover with these design principles

6 REFERENCES

- [1] Norman, D. 2013. *The Design of Everyday Things: Revised and Expanded Edition*. Basic Books.
- [2] Darnell, Michael J. Bad Human Factors Designs. Accessed July 13, 2021. <http://www.baddesigns.com/>