Usability Testing

Goals of today

- Learn why developers perform usability testing
- Learn the basics of how usability testing is performed
- Design and facilitate a usability test for your project
- Participate in a usability test of someone else's project
- Leave with at least one usability-related problem you'd like to **fix during your last sprint**

What is usability testing?

“Watching people try to use what you’re creating/designing/building, with the intention of (a) making it easier for people to use and (b) proving that it is easy to use”

- Steve Krug, Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems

5 Components of Usability

- **Learnability**: How easy is it for users to accomplish basic tasks the first time they encounter the design?
- **Efficiency**: Once users have learned the design, how quickly can they perform tasks?
- **Memorability**: When users return to the design after a period of not using it, how easily can they reestablish proficiency?
- **Errors**: How many errors do users make, how severe are these errors, and how easily can they recover from the errors?
- **Satisfaction**: How pleasant is it to use the design?

Nielsen (2012), Usability 101: Introduction to Usability
https://www.nngroup.com/articles/usability-101-introduction-to-usability/

Types of Usability Testing

- **Quantitative:** try to *prove something* about your application by *measuring things*
  - Answer questions such as:
    - Is the new version **better** than the last version?
    - Are people able to **quickly** complete important tasks in the application?
  - Requires a scientific approach
- **Qualitative:** gain *insights* into how you might be able to improve your application
  - Participants try to perform a task and **think out loud** while doing it
  - Requires fewer participants and testing structure can be more flexible

Krug (2010), Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems

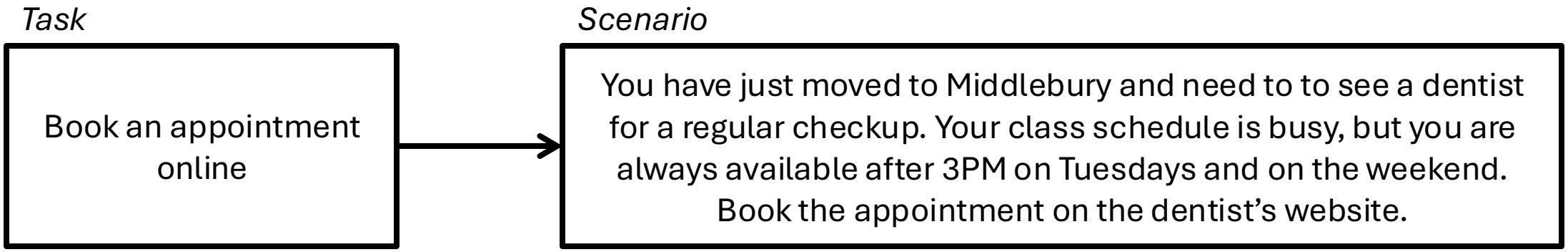
Step-by-Step Guide

- Recruit **representative users**
- Ask those users to perform a set of **representative tasks**
- **Observe** what the users do and where they have difficulties with the user interface
- Debrief and determine **what you will do** to address usability problems

Nielsen (2012), Usability 101: Introduction to Usability
https://www.nngroup.com/articles/usability-101-introduction-to-usability/

Defining Tasks & Scenarios

1. Come up with a list of the most important things that a user needs to be able to do on your site (**tasks**)
2. Convert those tasks to scripts that give context on how they will perform the tasks (**scenarios**)



Krug (2010), Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems

Creating High-Quality Scenarios

Make the Scenario Realistic

- **Task**: Browse product offerings and purchase an item.
- **Poor scenario**: *Purchase a pair of orange Nike running shoes.*
- **Better scenario**: *Buy a pair of shoes for less than $40.*

Make the Scenario Actionable

- **Task**: Find movie and show times.
- **Poor scenario**: *You want to see a movie Sunday afternoon. Go to www.fandango.com and tell me where you'd click next.*
- **Better scenario**: *Use www.fandago.com to find a movie you'd be interested in seeing on Sunday afternoon.*

Avoid Giving Clues and Describing the Steps

- **Task**: Look up grades.
- **Poor scenario**: *You want to see the results of your midterm exams. Go to the website, sign in, and tell me where you would click to get your transcript.*
- **Better scenario**: *Look up the results of your midterm exams.*

McCloskey (2014), Turn User Goals into Task Scenarios for Usability Testing
https://www.nngroup.com/articles/task-scenarios-usability-testing/

Setting Up the Test and Preparing Participants

- Make sure that the participant knows that **the product** is being tested, not **the participant**
- Give the participant written instructions describing the task
  - Read the task out loud to the participant to make sure they aren’t missing anything
- Give the participant one task at a time

During the Test

- Have the participant "**think aloud**"
  - What are they doing?
  - Why are they doing it?
- **Don't help** the participant!
  - Remember, you wouldn't be in the room with a real user!
  - Use your judgement – you may be able to answer some clarifying questions
- Take detailed **notes**
  - What steps did the user take? Where did they click?
  - How long did it take them?
- When to **stop** a task?
  - Keep an eye on the time
  - Make sure you're learning something

Krug (2010), Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems
https://hci.stanford.edu/courses/cs147/2022/wi/lectures/15-usability-testing.pdf

Debriefing

- Your debriefing meeting should lead to two lists:
  - The most serious usability problems that were uncovered in your site
  - The usability problems that you intend to fix before the next round of usability testing

- One way to start: go around and have everyone who observed the test list the 3 most serious problems that they saw

Adapted from Krug (2010), Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems

Example: Transit Planning

You are a student at Middlebury who is starting an internship at UVM medical center. You do not currently have a car, and decide to take the bus to Burlington.

You need to get to the medical center bus stop by 8:30AM. Figure out when you need to be at the Academy Street bus stop in Middlebury to make it on time.

https://www.trivalleytransit.org/

Usability Testing Activity

Please see the details on the course website

1. Define Tasks and Scenarios
2. Prepare Your Environment
3. Conduct Your Test
4. Debrief