FORMATIVE EVALUATION
OF USER INTERACTION:
INTRODUCTION

Chapter 10 (a)

TOPICS:

• What it is: formative vs. summative evaluation
• Types of formative evaluation data
• Steps in formative evaluation

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INTRODUCTION TO FORMATIVE EVALUATION

• Revisiting the usability engineering life cycle

Cycle of Activities for Hi-Fi Prototype

13.2 Eval Intro
LAST piece in the puzzle...

"Test" is a four-letter word!

• In contrast to *summative evaluation*

* Evaluation of interaction design to assess statistically the level of usability, *after development is done*

* Often used for comparison with previous version, or with another system

* Traditional human factors testing with rigorous statistics, statistical significance

  e.g., is system A better than system B?

- Randomly selected participants
FORMATIVE EVALUATION

• Usability engineering process is centered on *formative evaluation*

* Evaluation of the interaction design, *as it is being developed*, for the purpose of improving usability

* Early and continual

  Earlier in l-c that evaluation is done, more likely to get an improved UI.

  "Those user interface people don't know what they're doing; they can't get it right the first time; they keep changing their minds"

* Should have something to evaluate no later than 10% into a project schedule

* Carefully selected participants

• "When the cook tastes the soup, that's formative; when the guests taste the soup, that's summative."
  – Robert Stakes
TYPES OF EMPIRICAL FORMATIVE EVALUATION DATA

- Subjective — user opinion
- Objective — directly observed user performance
- Qualitative — non-numeric data and results
  
  Good for use during early development

- Quantitative — numeric data and results
  
  Can help monitor convergence toward usability specifications
FORMATIVE EVALUATION

USERS WILL EVALUATE THE USER INTERACTION DESIGN SOONER OR LATER...

Let's have them do it sooner,

so we can make changes to improve usability.
STEPS IN FORMATIVE EVALUATION

• *Before* evaluation session:
  * Develop the experiment

• *During* evaluation session:
  * Generate and collect data

• *After* evaluation session:
  * Analyze data
  * Draw conclusions
  * Redesign