

## **Usability Testing**

- Involves recording performance of typical users doing typical tasks
- Controlled setting, data recorded on video, key presses logged
- Data is used to calculate performance times, and to identify/explain errors
- User satisfaction is evaluated using questionnaires and interviews
- Can use field observations for contextual understanding
- **Aims**
  - Goals & questions focus on how well users perform tasks with the product
  - Compare products or prototypes, focusing on time to complete task & number and types of errors
  - Data collected in the form of video and interaction logging
  - Satisfaction questionnaires and interviews for subjective data

## **Experiments**

- Used to investigate relationships between variables
- Usability testing is applied experimentation
- Predict relationship between two or more variables, researcher manipulates IV
- **Experimental Designs**
  - Different participants - single group of participants allocated randomly to the different conditions
  - Same participants - all participants experience all conditions
  - Matched participants - participants are matched on characteristics and each experiences one condition
- **Field Studies**
  - Natural setting, understand natural interactions
  - Used to: identify new technology opportunity, determine requirements, decide how to best introduce new tech, evaluate the tech in use

## **Testing conditions**

- Usability lab or other controlled space
- Emphasis is on: selecting representative users, developing representative tasks
- 5-10 users, short tasks (30 mins), constant conditions, consent form handles ethical issues
- **Types of data**
  - Time taken to complete task, time taken to complete tasks after specified time away from product
  - Number and type of error per task, errors per unit time
  - Number of times help was accessed (online vs manuals)
  - Number of users making the same error, number of users completing the task
  - Eye tracking

## **Usability Engineering**

- Improve with each version, assess current level of performance, establish threshold and target
- How many participants?
  - Depends on schedule, availability of participants, cost of testing
  - Typically 5-10, experts argue that testing should be run until no new information is being obtained