

# Questions?

- Reading
- Project #1
- Homework #1

# User centered design and prototyping

- Two approaches to design
  - System centered design
    - *Design what is easy to implement or cool*
    - *Limiting yourself to a specific platform/toolkit*
    - *Limiting yourself to using tools you know*
  - User centered design
    - *Users capabilities*
    - *Users tasks*
    - *Users needs*



# User centered design

- Goal: satisfied customers
- Collaboration with users
  - Users primary source of information
    - *Expert in the subject matter*
  - Designer assist users in establishing their needs
    - *Designer must be honest!*
  - On going collaboration between designers and users
    - *Users*
    - *Testers*
    - *Informants*
    - *Design partners*

# How to extract users knowledge and needs?

- Ethnographic approach
  - Interviews
    - *Preferably where they will perform the task*
    - *Phone*
  - Diary
    - *Paper, annotated photographs, video*
    - *Debrief with them*
  - Direct observations at their work place
    - *Paper, photographs, video*
    - *Debrief with them*
  - Logging
    - *Google, Amazon*



# What to ask and to whom?

- To the stakeholders
- Subject matter expert
- To users and customers
- Danger

# What to ask and to whom?

- To the stakeholders
  - Constrains: cost, schedule, resources...?
  - Business objective?
  - Perception of their users?
  - How their vision differ?
- Subject matter expert
  - Develop an ongoing relationship with them
- To users and customers
  - Problem and frustration with the current state of affair
  - What, When, Where, Why and How do they reach their goals?
  - Could you show me
- Danger
  - Steering the conversation to your design or away from technical challenges

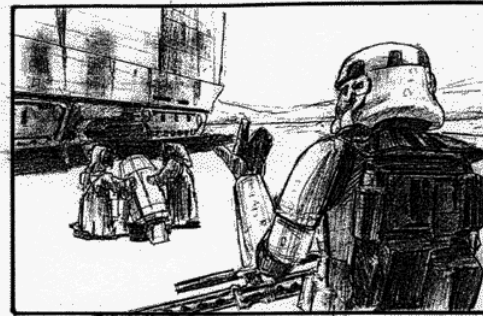
# User centered design: difficulties

- Where to find users?
  - User might be fearful
- Several Masters
  - Real users
  - Their representatives
  - The persons will buy the product
- Users might not know how to formulate their needs
  - Users are not designers
- Designer might influence users
  - Pushing a cool idea
  - Pushing what you have been working on for the last month

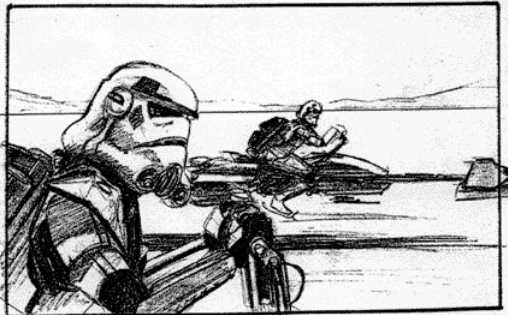
# How to explain your design to users?

- Verbal description
  - Often difficult to do
- Storyboarding
- Low fidelity prototypes
- Wizard of Oz
- Medium fidelity prototypes
- High fidelity prototypes (products)
  - From your company
  - From other companies

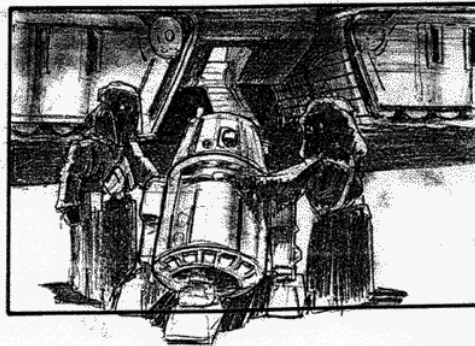
# Storyboard example (Troops)



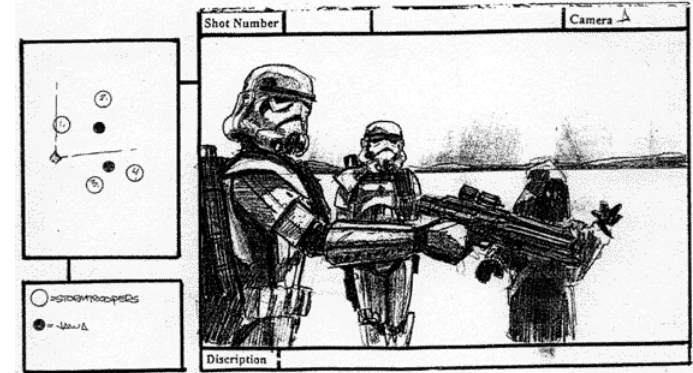
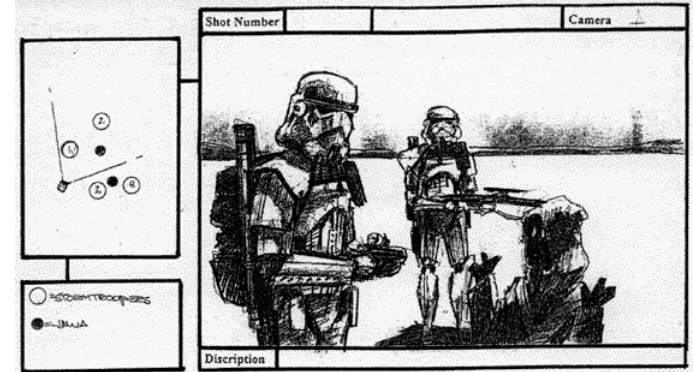
JYANIX  
Excuses Me. You wanna come over  
here, please.



1A Camera Car/Two Shot/ Jyanix in FG. CG Trooper in BG A



The Jawas look surprised.



See <http://www.theforce.net/theater/shortfilms/troops/>

# Storyboarding (Summary)

- Technique
  - Series of key frames depicting key steps in reaching a goal
    - *Use a pin board for easy editing*
  - Describe the interaction in context
    - *Relationship between the user and its environment*
    - *Relationship between the user and the system*
  - Can be “played” in front of users (or other designers)
- Goals
  - Check your understanding of the process users are going through
    - *Observe user reaction*
    - *Debrief users*
  - Good reference point during the design process