



# Ideation



Laboratory for Ubiquitous Computing and Interaction  
Donald Bren School of Information and Computer Sciences | University of California, Irvine

# Agenda

- Questions?
- Lecture – Ideation & Filtering
  - *With a design activity in the middle*
- Upcoming



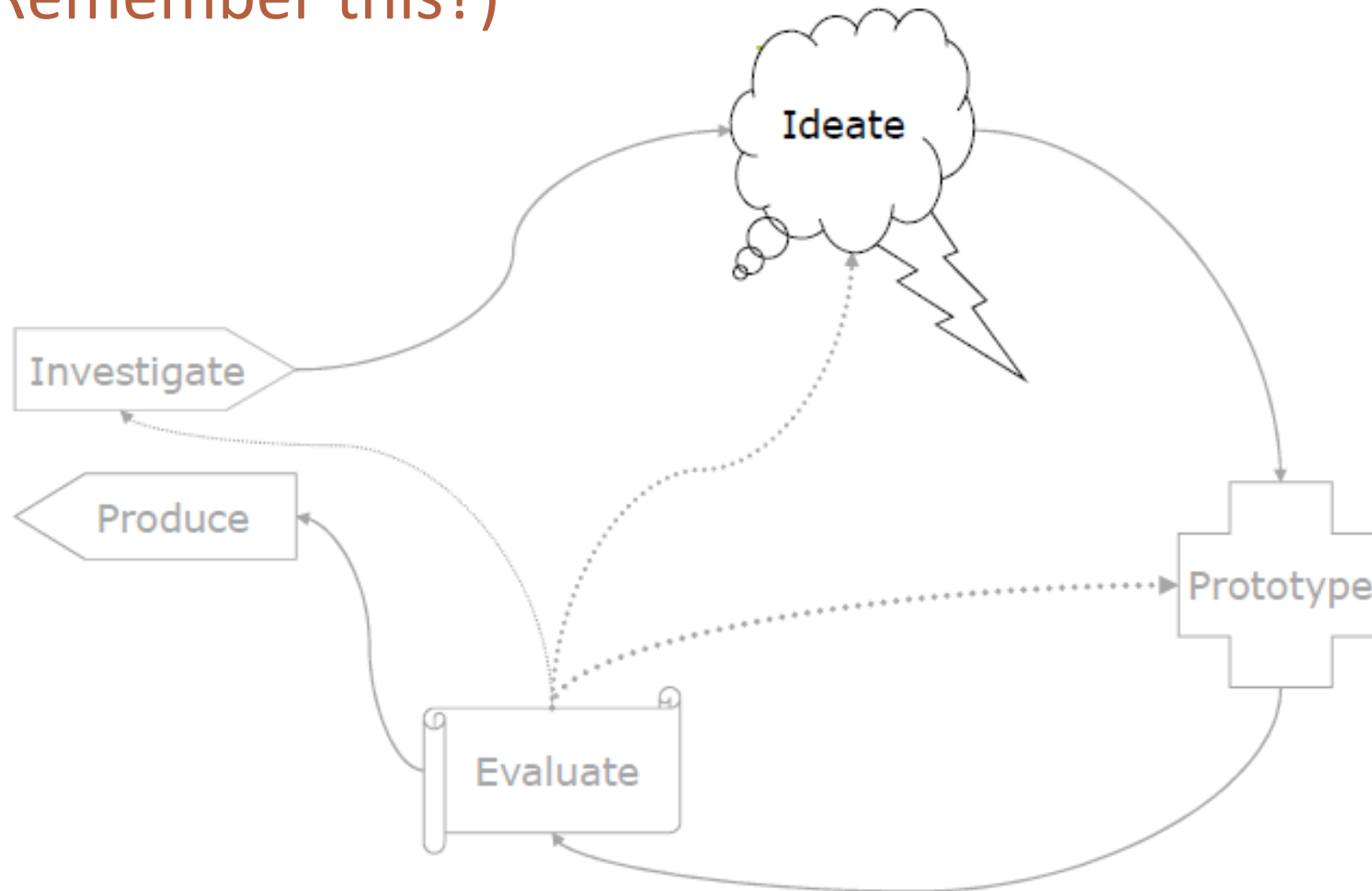
# Ideation

- How to come up with lots of ideas?
- How to come up with the big ideas?
- How to refine those ideas?
- How to organize those ideas?

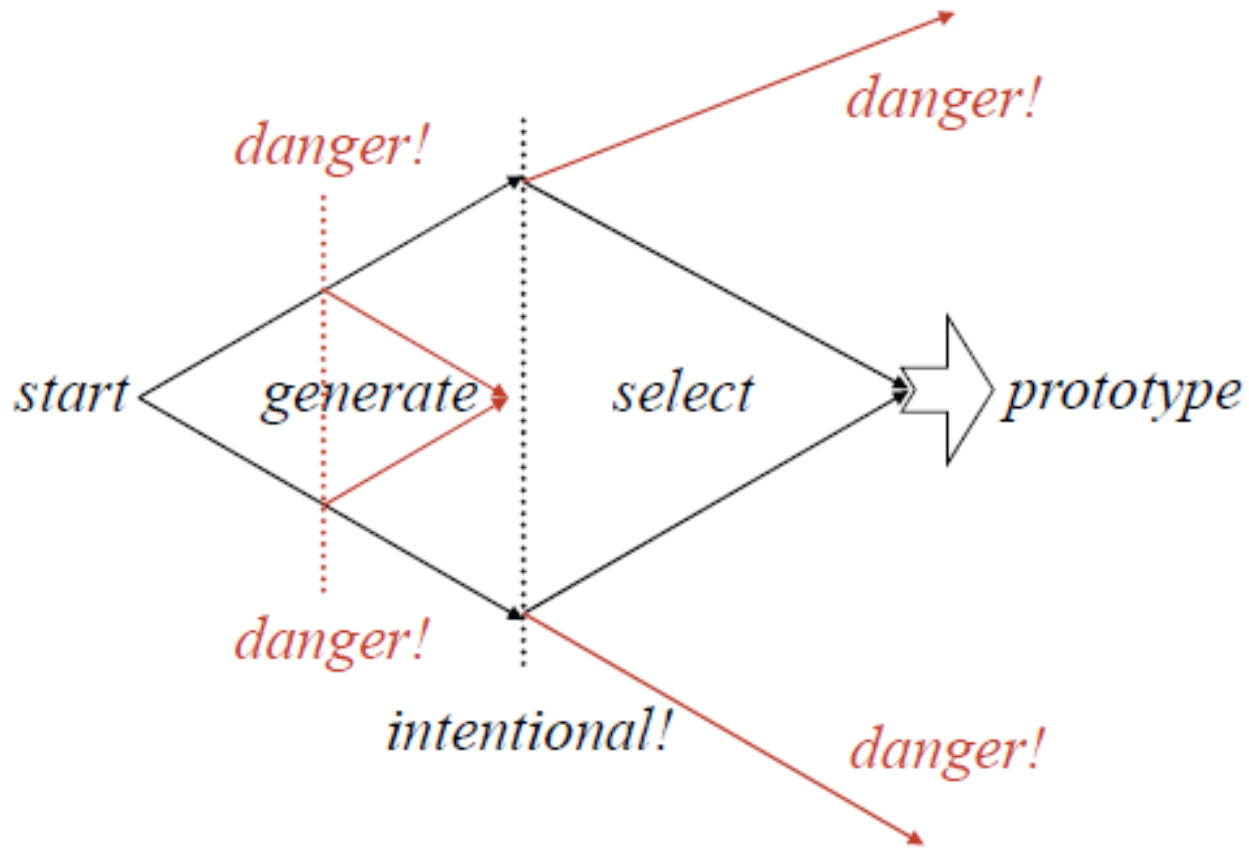


# Within the Design Process

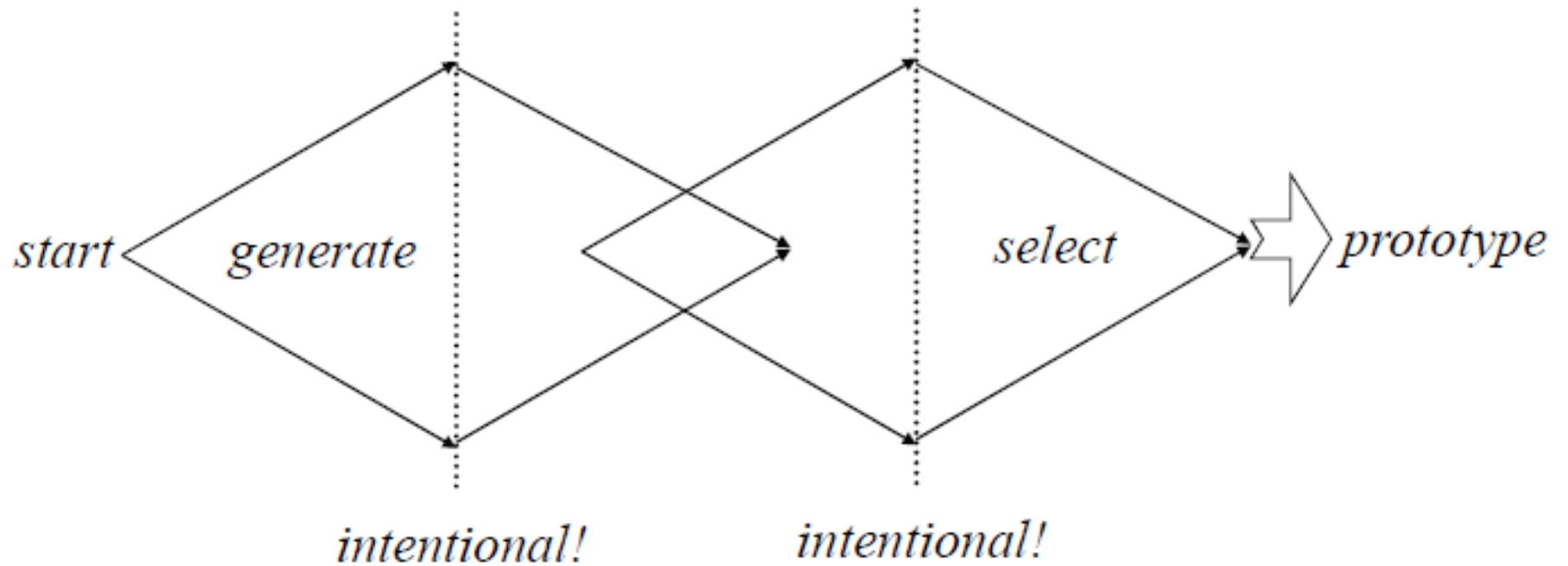
(Remember this?)



# Idea Oscillation



# Idea Oscillation



# Creativity



# Activity: How to inspire creativity?

- Spend 2 minutes thinking about your answer (write it down)
- Turn to one person next to you and discuss what you came up with
- We will then share ideas with the class





# How to inspire creativity?

- Immerse yourself in the world for which you're designing
- Generate ideas constantly
  - Keep a book, you never know when you're going to be inspired
- Sketch your vague ideas to think through them more clearly



# How to inspire creativity?

- Explain your ideas to others regularly
  - Feedback from others can inspire new ideas
  - But make sure you don't get stifled by it
- Take an **outsider's** perspective on something you know
- Take an **insider's** perspective on something you don't know
- Take risks!
  - Early in the design process, it won't hurt



# Think of the Children

- Children are creative because they don't know the rules, and thus break them all the time
- Children don't know the consequences, and thus are more likely to take risks



# Other Ideas

- Take things from one domain and try them in another
- Talk with other creative people
- Leave your comfort zone
- Be passionate about the topic
- Consider posting sketches around your workspace for inspiration and feedback
- Read science fiction



# More ideas (Mountford 1990)

- New uses of the design
- Adapt the design to be like something else
- Modify the design for a new purpose
- Magnify—add to the design
- Minimize—subtract from the design
- Substitute within the design
- Rearrange the design
- Reverse or transpose the design
- Combine the design in an ensemble



# Possible Futures

- Look to current trends and extrapolate future possibilities. The trends can be human, or technology, or both. Think sci-fi!
- Current trends
  - Distributed, social, community-driven, bottomup, sensors, networks, ambient, invisible, mobile, reconfigurable, fashion, adaptive...



# Roleplaying



# Roleplaying Features

- Script
- Director
- Actors
- Audience
- Setting
- Performance or rehearsal?
- Props





# Roles to Adopt

- The Explorer
  - gathers information and research
- The Artist
  - generates new ideas in the early phases
- The Judge
  - evaluates and filters the generated ideas
- The Warrior
  - champions one idea and sets the course forward



# Brainstorming

- Working in groups is essential to design
- Brainstorming can be fun and fruitful
- Keep the results of your user research handy during the process
  - E.g., scenarios, profiles of potential users, lists of design requirements



# IDEO's Rules for Brainstorming

1. Be visual
2. Defer judgment
3. Encourage wild ideas
4. Build on the ideas of others
5. Go for quantity
6. One conversation at a time
7. Stay focused on the topic



# 7 Brainstorming “Dos”

(Tischler, *Fast Company*, 2001)

- 1. Sharpen the focus
- 2. Write playful rules
- 3. Number your ideas
- 4. Build and jump
- 5. Make the space remember
- 6. Stretch your mental muscles
- 7. Get physical



# 6 Brainstorming “Don’ts”

(Tischler, *Fast Company*, 2001)

- 1. Let the boss speak first
- 2. Give everybody a turn
- 3. Ask the experts only
- 4. Go off-site
- 5. No silly stuff
- 6. Write down everything



# Nominal Group Technique (Sample et al.)

- A powerful alternative to traditional brainstorming
  - State an open-ended question ("What are some ways we could tackle our design problem?").
  - Have each person spend several minutes in silence individually brainstorming all the possible ideas and jot these ideas down.
  - Collect the ideas by sharing them roundrobin fashion (one response per person each time), while all are recorded in key term, on a flipchart. No criticism is allowed, but clarification in response to questions is encouraged.
  - Have each person evaluate the ideas and individually and anonymously vote for the best ones
  - Share votes within the group and tabulate



# Pros and Cons of NGT

## Advantages

- Voting is anonymous
- There are opportunities for equal participation of group members
- Distractions inherent in other group methods are minimized

## Disadvantages

- Opinions may not converge in the voting process
- Cross-fertilization of ideas may be constrained
- The process may appear to be too mechanical



# Filtering: How to do it?

- Talk about the strengths of the idea
- Talk about the weaknesses
- Discuss the feasibility of it
  - Is it buildable?
- Discuss the originality of it
  - What new task does this accomplish? Or what is out there that the idea is better than?
- Sort into piles of **good**, **okay**, and **off-the-table**





# P2 – Ideation & Sketching

- REMINDER OF YOUR ASSIGNMENT
- As a team, conduct a brainstorming session where you generate **at least** 6 ideas per person (e.g., 24 total ideas for a 4 person team)
- As a team, filter down the ideas by discussing their strengths and weaknesses and pick the best **three**
  - Resketch these 3 ideas more neatly and provide written justification for why they're the best



# Upcoming

- Thursday November 15
  - Prototyping
- Upcoming Work
  - Last sketching assignment due: Education Theme
  - P2 Due a week from today!!!!
- Next Thursday is Thanksgiving, no class 😊

