User Research

COSC 480: User-Centered Design
Madeline E. Smith
October 24, 2016

Looking Ahead

- T6: Low-Fi Prototype due Wed 11/2 (PR Fri 11/4)
- Trip to Google NYC Thur 11/3 – Fri 11/4
- A5: Individual Prototype due Mon 11/14
- Thanksgiving Break (no class Mon 11/21 – Fri 11/25)
- T7: User Testing due Wed 11/30 (PR Fri 12/2)
- T8: Hi-Fi Prototype due Mon 12/5 (PR Wed 12/7)
- T9: Final Presentation on Wed 12/7 (PR Fri 12/9)
- A6: Final Reflection due Mon 12/12

Last Week

Grace Hopper Celebration

of Women in Computing

Grace Hopper

"Amazing Grace"

- (1906 – 1992)
- PhD in Math
- Prof at Vassar
- Joined the Navy Reserves during WWII
- Invented the first computer compiler

Read more on wikipedia


NETSUITE
NETSUITE
NETSUITE
NETSUITE
GRACE HOPPER


EXHIBIT
Colgate
Computer
Science


Google

NEW NEXT YEAR!

MORE TRACK SESSIONS

ALL HOUSING WITHIN 3 MILES

ACM RICHARD TAPIA

CELEBRATION OF DIVERSITY IN COMPUTING CONFERENCE

SEPTEMBER 14-17, 2016

AUSTIN, TX

Atlanta, GA
September 2017

Since 2001, the Tapia Conferences have highlighted and celebrated the technical achievements of diverse people in computer science. With over 1,000 participants it is the premiere venue to recruit top diverse technical talent, find mentors, learn about the latest research, and build networks. Tapia is more than just a conference; it's a community.

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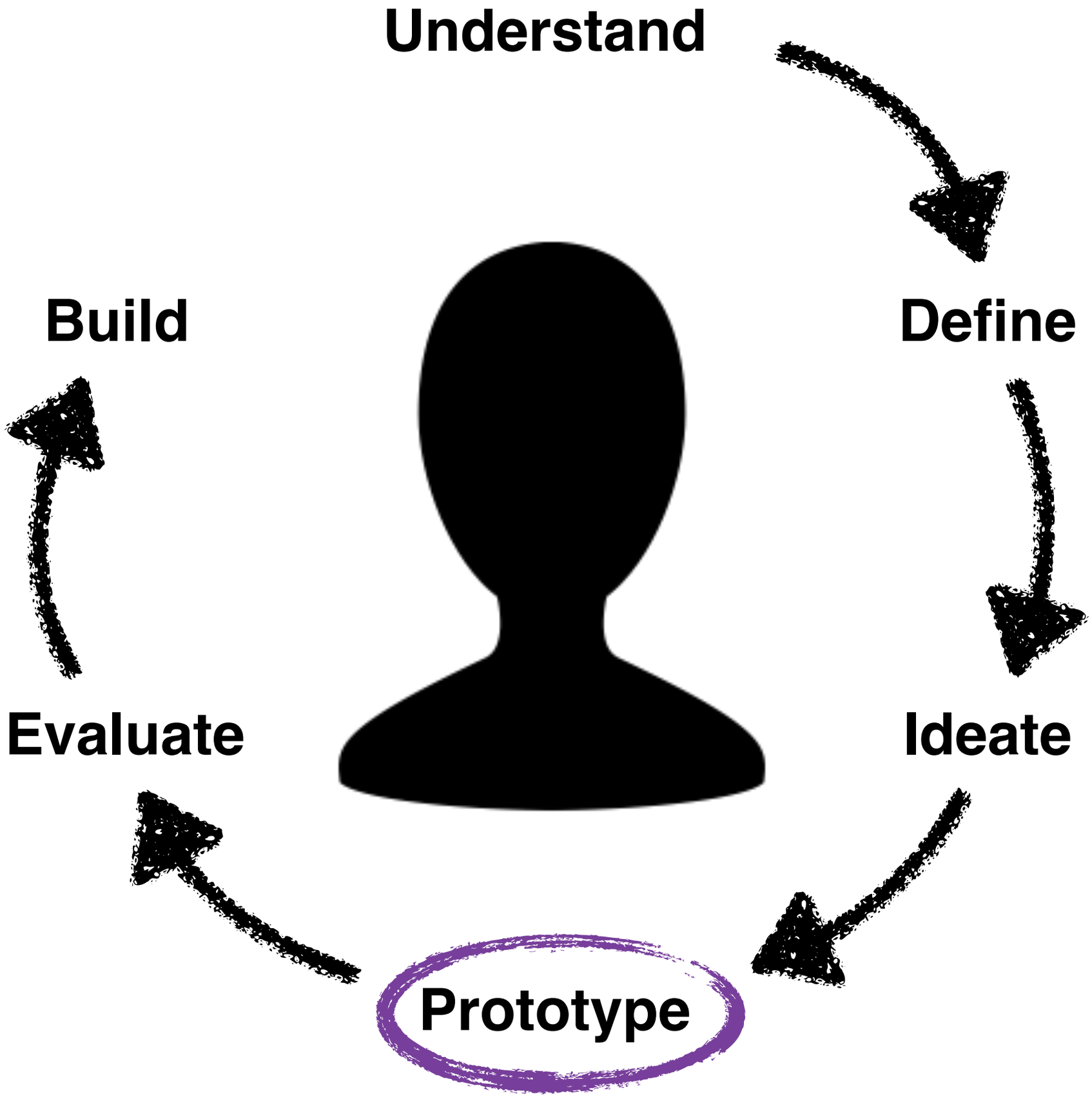
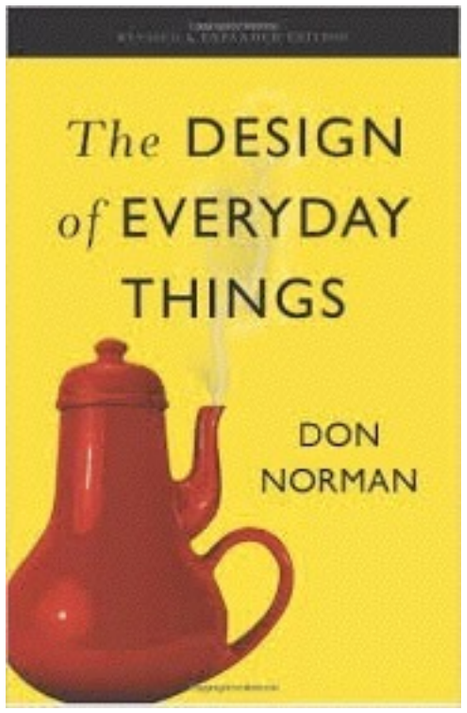

Understand
Define
Ideate
Prototype
Evaluate
Build

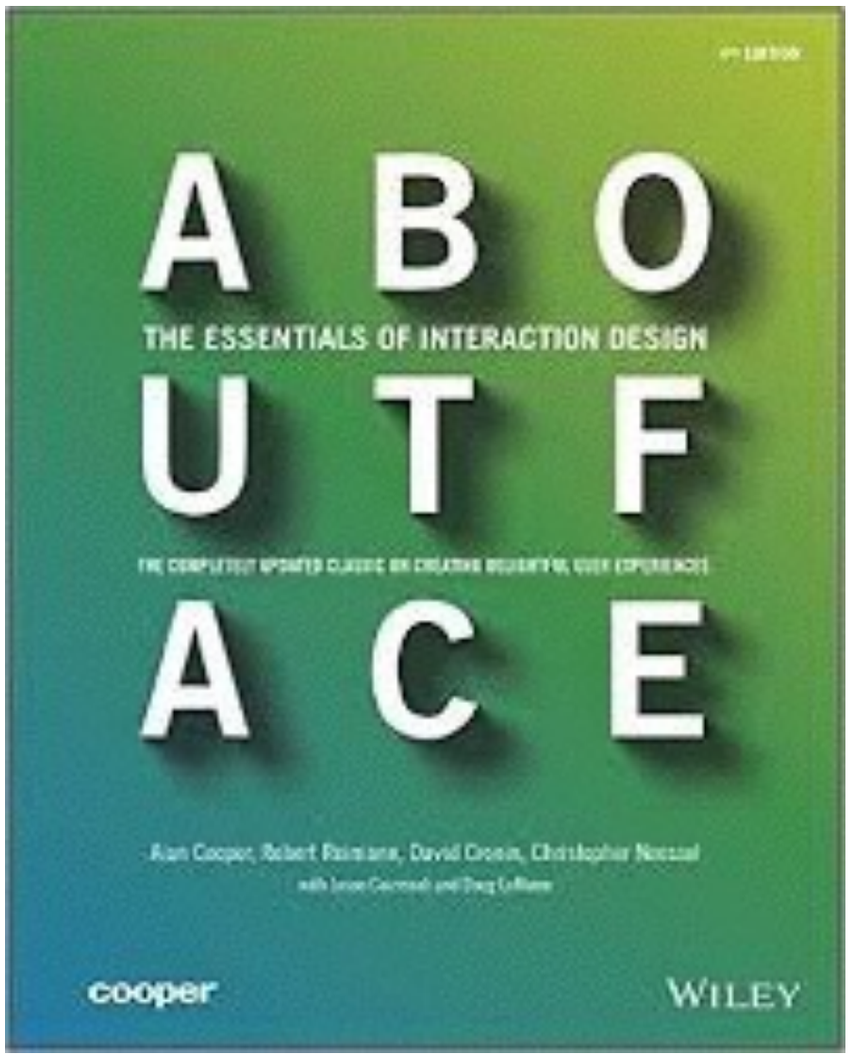
Wednesday:
Models & Conceptual Design



Chapter 3:
Knowledge in the Head &
Knowledge in the World

Chapter 8:
Mental Models &
Conceptual Design

Friday:
Patterns & Metaphors

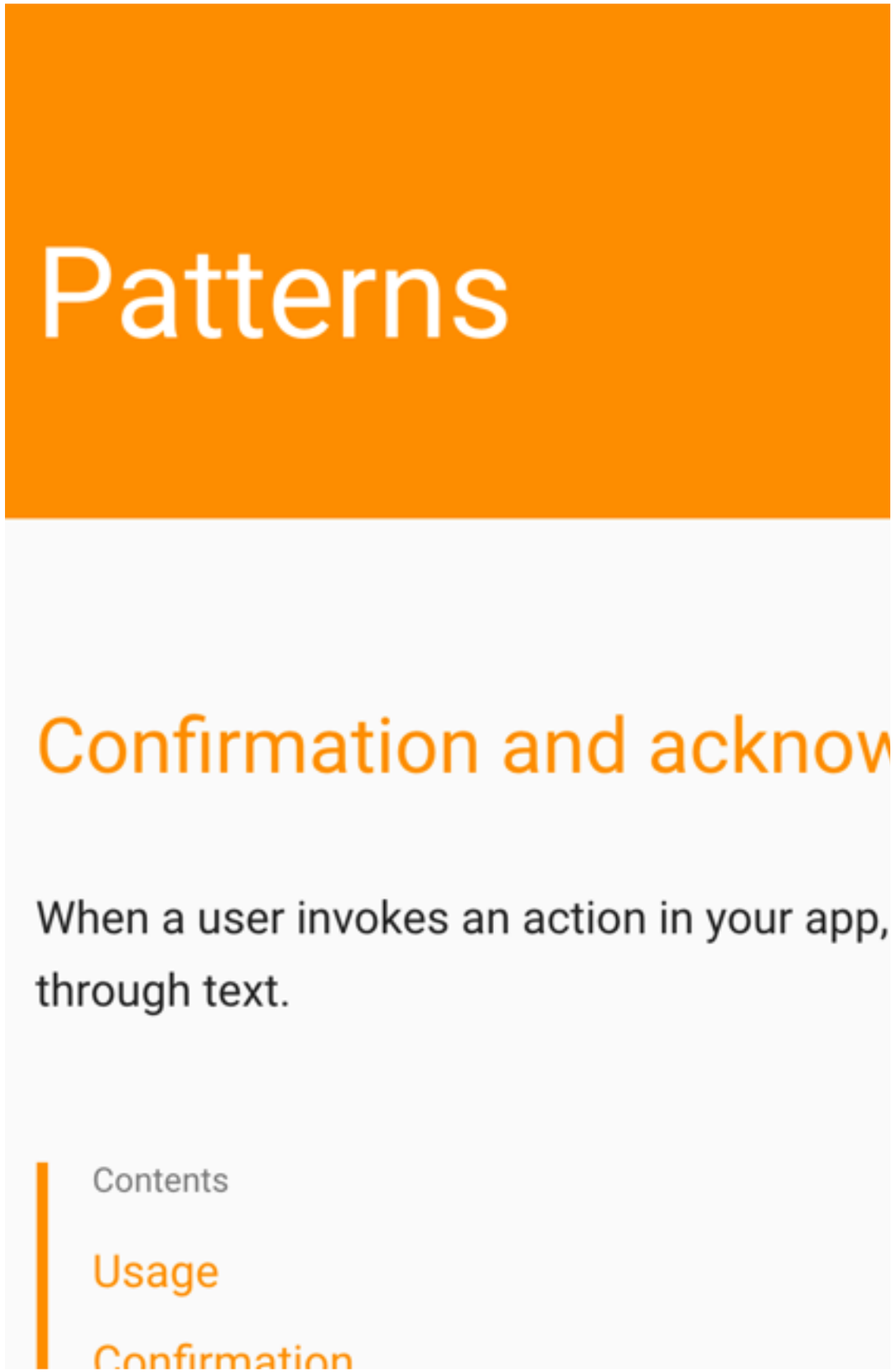


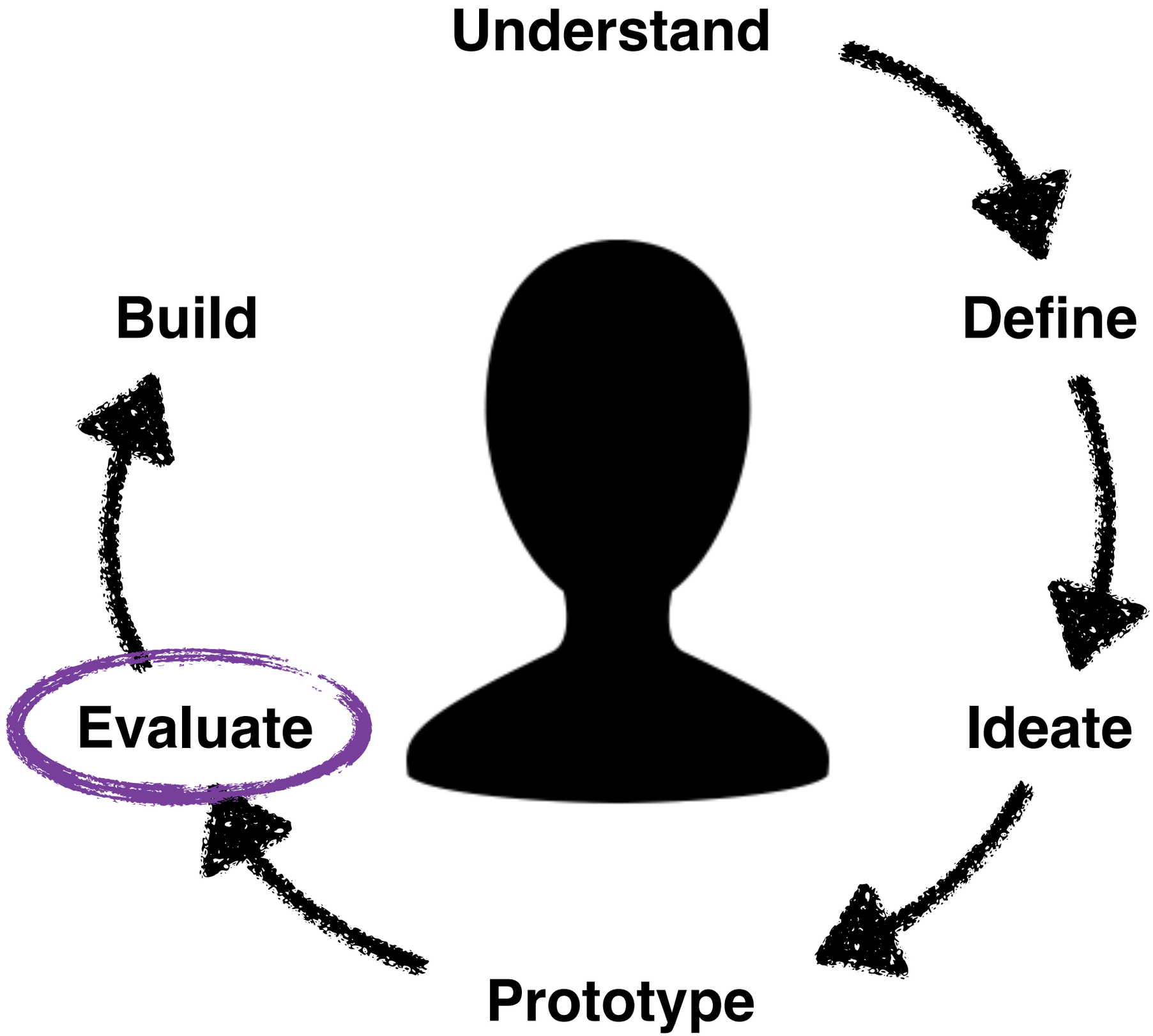
Chapter 7:
A Basis for Good Product Behavior

Chapter 13:
Metaphors, Idioms, and Affordances

Design Patterns

Google Material Design

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User Research

Usability

- Usability is a quality attribute that assesses how easy user interfaces are to use
- Five quality components define 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?

Adapted from: http://www.nngroup.com/articles/usability-101-introduction-to-usability/

Utility

- Utility is another important quality attribute that refers to the design's functionality: Does it do what users need?
- Usability and utility are equally important and together determine whether something is useful:
  - It matters little that something is easy to use if it's not what you want
  - It's also of no value if the system can do what you want, but you can't make it happen because the user interface is too difficult

Adapted from: http://www.nngroup.com/articles/usability-101-introduction-to-usability/

Utility = whether it provides the features you need

Usability = how easy and pleasant these features are to use

Utility + Usable = Useful

Adapted from: http://www.nngroup.com/articles/usability-101-introduction-to-usability/

Evaluating Usability

Usability Component	Type of Usability Evaluation
Learnability	Control how much instruction is given to evaluation participants, or recruit participants with different levels of domain knowledge and experience, then measure efficiency, errors, and satisfaction
Efficiency	Time (or number of clicks) to complete realistic tasks
Memorability	Time to complete a task after a 48-hour break
Errors	Evaluate tasks for how accurately they were completed, and how often they produce errors; include task scenarios with potential problems (give participants enough latitude to make errors)
Satisfaction	Satisfaction surveys or qualitative interviews can gauge participant acceptance and attitudes towards the software

Adapted from http://www.wqusability.com/articles/more-than-ease-of-use.html

Guerilla Usability Testing