User Centered Design Process
January 4 - March 1

History of user centered design in HCI
March 6, March 8

Academic HCI
March 13, March 15

Special topics in HCI
March 20, March 22

Course Review
March 27

Presentation 2
March 29

Last class
April 3
Special topics

Gamification

Accessibility in HCI
Gamification - the use of game mechanics and game dynamics in a non-game context

Term coined by Nick Pelling in 2002. Gained popularity around 2010

Used in design to increase motivation and engagement
Gamification

Game mechanics

- Gamespace
- Player representation
- Rules
- Competition
- Collaboration

- Element of chance
- Feedback system
- Evidence of accomplishments
- Goals and challenges
- Transparency
Gamification

Engagement elements

- Meaning of the gamespace
- Game objectives and feedback
- Social game context
- Meaningful choices
Gamification

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Gamification

Meaning of the gamespace

- Often achieved by storytelling practices
- Should be heavily supported by visual elements
- Gamified goals should connect to personal goals
- Connecting to a meaningful community of interest is helpful
- Building upon social meaning within the created story and outside of it
Gamification

Engagement elements

Meaning of the gamespace

Game objectives and feedback

Social game context

Meaningful choices
Gamification

\[
\text{Challenge} = \text{Goals} + \text{Rules} + \text{Feedback}
\]
Gamification

Challenge = Goals + Rules + Feedback

Features:
-Personally meaningful
-Customizable
-Socially meaningful
-Clearly presented
-Achievable
Gamification

- Challenge
- Goals
- Rules
- Feedback

Goals:
- Personally meaningful
- Customizable
- Socially meaningful
- Clearly presented
- Achievable

Rules:
- Transparent
- Reliable
Gamification

- Challenge
  - Personally meaningful
  - Customizable
  - Socially meaningful
  - Clearly presented
  - Achievable

- Goals
  - Transparent
  - Reliable

- Rules
  - Informational
  - Meaningful rewards
  - “Juicy”

- Feedback
Gamification

- Interesting and meaningful challenges
- Clear goals, organized by increasing difficulty
- Match the edge of user abilities
- Make rewards meaningful internally and externally
- Feedback should be informational
- Feedback is more effective when hitting emotional level

Game context

Game objectives and feedback

Meaningful choices
Gamification

Engagement elements

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Gamification

- Support voluntarism and autonomy
- Make choices feel meaningful and impactful
- Support multiple ways of problem solving
- Lead users in the right direction but don’t force them

Meaning of the gamespace

Game objectives and feedback

Meaningful choices
Gamification

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Gamification

The Robbers Cave Experiment by Muzafer Sherif

Realistic conflict theory - situation when two or more groups that are seeking the same limited resources leads to conflicts, negative stereotypes and discrimination between groups.

In-group–out-group bias - pattern of favoring members of one's in-group over out-group members.

Gamification

Meaning of the gamespace

Game objectives and feedback

Meaningful choices

Social game context

- Connect to meaningful communities
- Allow users to group and regroup
- Support community internal activities
- Support setting shared goals
- Support status and reputation representations
- Support players representation customization
Gamification

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Gamification

Cow Clicker by Ian Bogost
Gamification

Self-Determination theory

Intrinsic motivation

Extrinsic motivation
Gamification

Self-Determination theory

Intrinsic motivation
- Feeling capable of doing something
- Feeling free to choose how to do something
- Feeling connected to other people

Extrinsic motivation
- Possibility of achievement
- Fulfilling an obligation
Gamification

- Single game element
- Serious games
Gamification

Single game element

Serious games

Games design with a main purpose being other than entertainment

Military, education, health, science, engineering, management, etc.
Games Research in HCI - ‘Player-Computer Interaction’ (PCI)
area concerned with studying games, gaming and play

Paradigms of games research in HCI:

Operative - knowledge gained from the study of games or play to exert control upon the world, such as encouraging exercise or learning

Epistemological - uses games as a vehicle for understanding the use of all technologies, such as virtual embodiment or interfaces

Ontological - the design and understanding of the ontology of games: rules, aesthetic, interfaces, fiction and game design patterns

Practice - the emergent practices and experiences that occur as a result of interaction with games, or interaction with technology with a lusory attitude

Carter, Marcus, et al. "Paradigms of games research in HCI: a review of 10 years of research at CHI."