Human–Computer Interaction

Crowdsourcing

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Today's Agenda

» Topic overview: *Crowdsourcing*

» Discussion

» Project Activity: *Q&A*

Human computation (Von Ahn et al. ~2000)

Crowdsourcing
(CSCW: Part 2)

Why are there two parts to CSCW?

Advances in technology—including communication, computing, and transportation— have fundamentally changed organizations.

Yesterday's organization:

» persistent

» collocated

» physically connected

Today's & tomorrow's organization:

» ad-hoc

» distributed

» digitally connected

*What is **virtual distance**?*

Definition: The perceived distance between two of more individuals or groups, caused by the persistent and pervasive use of technology-mediated work and communications.[1]

Three types of distance:

1. **Physical:** geographical, temporal, organizational

2. **Operational:** team size, meeting frequency, tech-savviness

3. **Affinity:** values, communication style, trust, interdependency

Technical and organizational innovation aims to close these distances.

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[1]Lojeski (2009). Leading the virtual workforce: How great leaders transform organizations in the 21st century.

*What is **crowdsourcing**?*

Definition: Crowdsourcing is a sourcing model in which individuals or organizations obtain goods and services, including ideas and finances, from a large, relatively open and often rapidly-evolving group of internet users; it divides work between participants to achieve a cumulative result.[2]
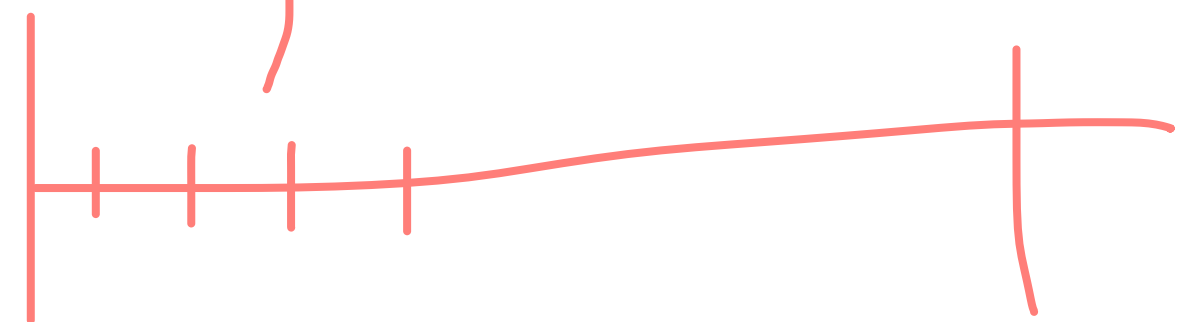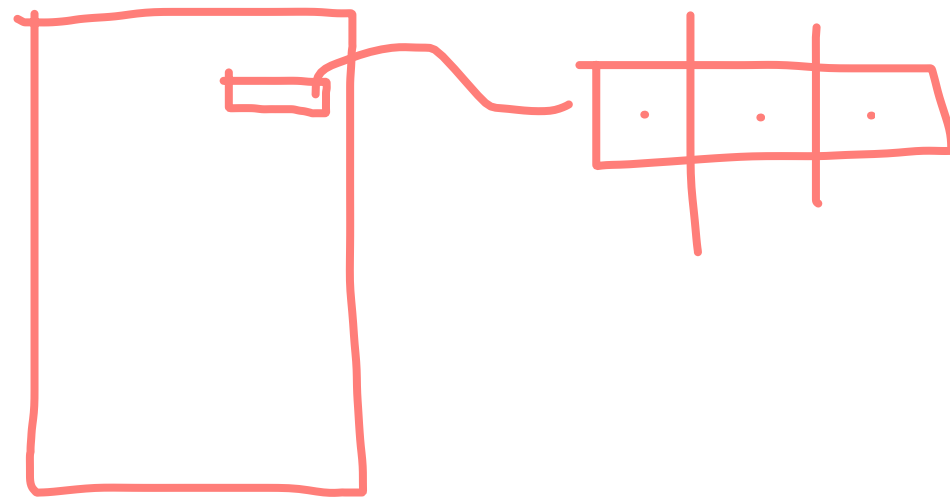
[2] Wikipedia

What are characteristics of crowdsourcing?

»   Other people doing work for you

»   Work is structure to facilitate efficiency and reaching expertise

    »   Tasks can be outsourced at any scale—"microtasks"

    »   Workers can be found instantaneously, e.g., within seconds

    »   Access to worker quality and expertise

Where does crowdsourcing come from?

Milestone 1. 13th century, Hugh of Saint–Cher, O.P., coordinated monks to index scripture.

Milestone 2. Longitude act of 1714 offered prize money to anyone who could determine the longitude of a ship to avoid accidents, followed by several examples of reward–based crowdwork.

Milestone 3. In 1794, Gaspard de Prony devised microtasks of addition and substaction for 80 unemployed heirdressers to develop logarithmic and trigonometric tables.[4]

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[4] Andro, 2018, Digital libraries and crowdsourcing

How is crowdsourcing different from contract work?

Similar, but different:

» Contracting is handled by a 3rd party

» Contracting, tasking, and work happens instantaneously

» More competitive, lower-cost, instantaneous

MTurk

Example Markets

❭ Design, product development, datawork, reputation management, errands

» Online
 – Design — 99 Designs
 – Datawork — Amazon's Mechanical Turk; CrowdFlower
 – Reputation — Fiverr

» Local
 – Errands — TaskRabbit, Taskr
 – Taxi — Uber, Lyft

» Flash Teams
 – Product development — Quirky, OpenInnovation,

How 99designs works

Where is crowdsourcing going?

Scaffold organizations that bring experts together to explore product/service ideas — "flash teams," "flash organizations"

» Scalable with new skillsets, workload

   » Examples: Quirky, OpenIdeo, Innocentive

This all sounds great. Should I quit grad school and start crowd work?

Not so fast. Work in the "gig economy" has many potential drawbacks for workers:

»   Lack of labor law protections, employment benefits[8]

»   Low pay, social isolation, low work quality, exhaustion[9]

Overall, this is a rapidly changing area with technological, societal, legal, and ethical facets.

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[8] Donovan et al. (2016). What does the gig economy mean for workers?

[9] Tan et al. (2021). The ethical debate about the gig economy: A review and critical analysis.

Discussion Questions

» How is crowdsourcing different from CSCW?

» What are examples you have found?

» What do you think are technological implications?

» What do you think are organizational implications?

» What do you think are societal implications?

» ...

Password generator
  Gamification

Artifact -> Empirical/quantitative

WoZ?

Adobe XD?

Humanlikeness of robot
  > Privacy of interacting

Measuring level of privacy

Disclosure — breadth
            — depth

$9/hour

10 minutes, 36 people

90 cents x 36 = $32.40

IV1: chatbot personality (extroversion)

IV2: user personality (extroversion)

Google Dialogflow — JS

Framing manipulation