

IN4MATX 153: CSCW

**Class 10:
online WORK**

Professor Daniel Epstein
TA Dennis Wang
Reader Weijie Du



Announcements

- A1 grades out!
 - We don't keep track of comments on Canvas, refer to the syllabus for how to submit a regrade
- A2 due next Wednesday!
- I have to cut my office hours 30 minutes short next Wednesday, my toddler has a doctor's checkup
 - Sorry—it got scheduled before I knew when this class was being offered
- We'll show the top memes at the end of class today

Today's goals

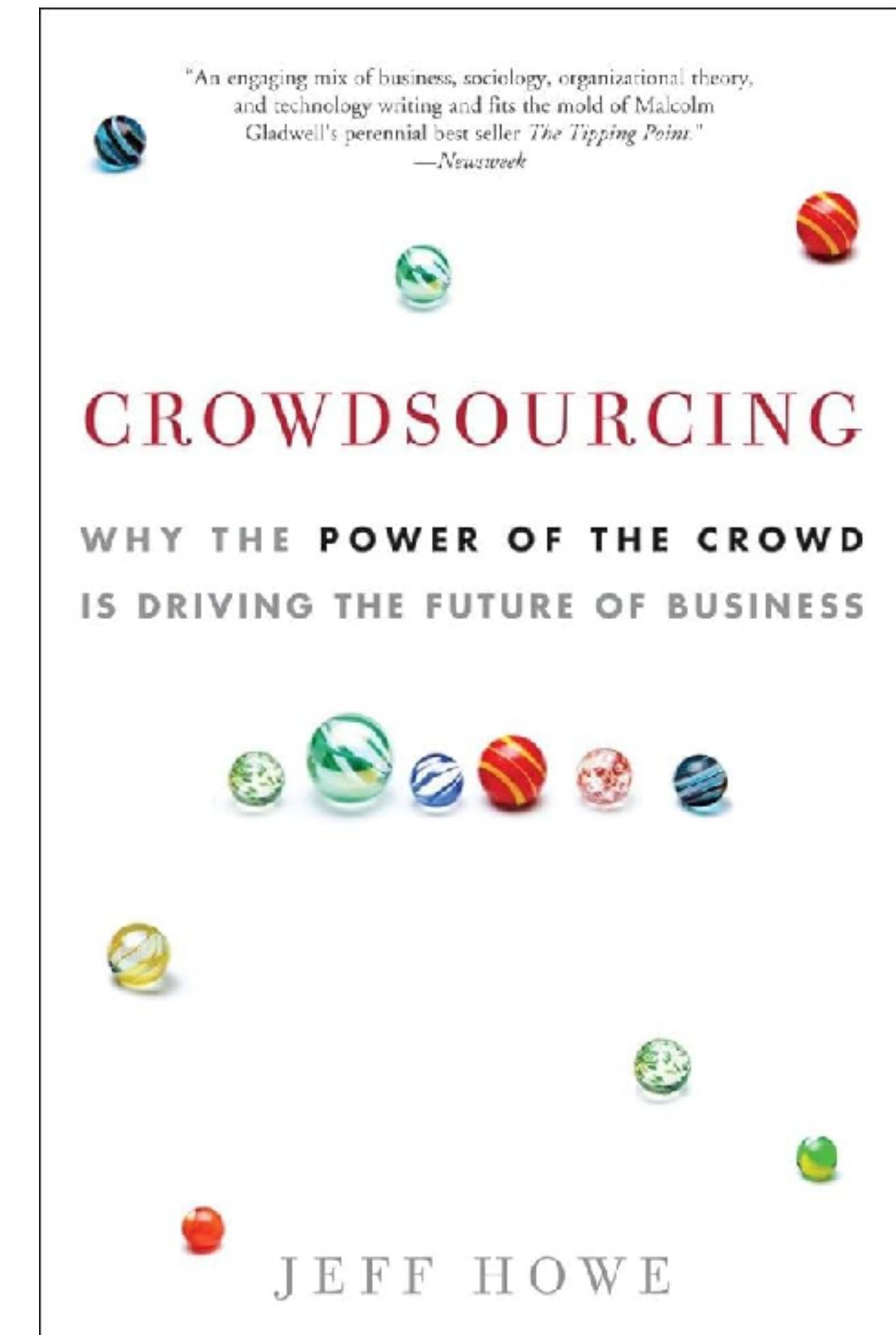
By the end of today, you should be able to...

- Define and differentiate kinds of gig work, including crowdsourcing, online-only gig work, and in-person gig work
- Articulate benefits and drawbacks of gig work platforms for the workers who conduct work on them
- Consider how the design of gig work platforms influence who can do work, and how they do work

First: crowdsourcing

Crowdsourcing defined

- Crowdsourcing term coined by Jeff Howe [2006] in Wired
 - “Taking [...] a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call.”

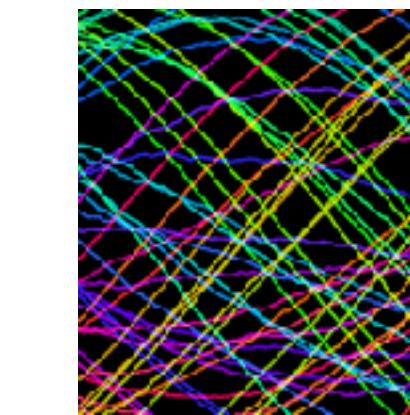


Volunteer crowdsourcing

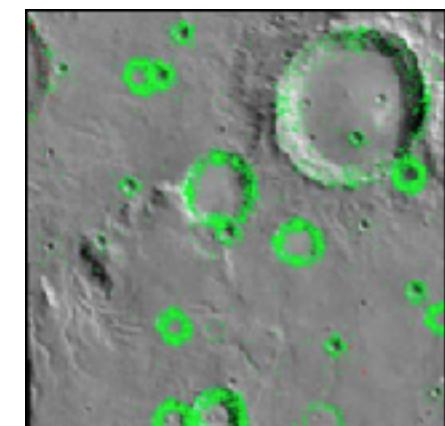
Tap into intrinsic motivation to recruit volunteers



Kasparov vs. the world



Collaborative math proofs



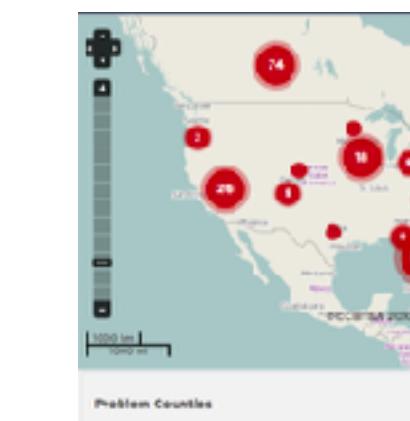
NASA Clickworkers



Search for a missing person



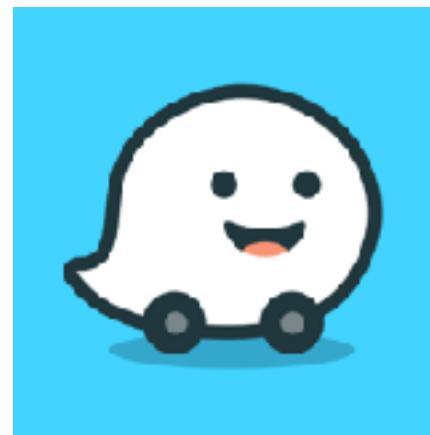
Wikipedia



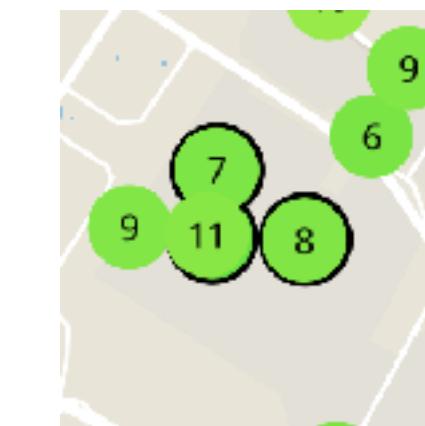
Ushahidi crisis mapping

Automated sharing

Opt in to sharing and aggregation



Waze traffic sharing
(also includes manual)



Purple Air air quality sensors



Privacy-Preserving Contact Tracing

Across the world, governments, and health authorities are working together to find solutions to the COVID-19 pandemic, to protect people and get society back up and running. Software developers are contributing by crafting technical tools to help combat the virus and save lives.

Games with a purpose

- Make the data labeling goal enjoyable
 - You are paired up with another person on the internet, but can't talk to them
 - You see the same image
 - Try to guess the same word to describe it
- (We now use computer vision for this task, but it wasn't robust at the time)



Von Ahn, L., & Dabbish, L. (2004, April). Labeling images with a computer game. In Proceedings of the SIGCHI conference on Human factors in computing systems (pp. 319-326).

Try it!



Taboo words:
Burger
Food
Fries

How would you describe this image? Cannot use: burger, fries, food



Nobody has responded yet.

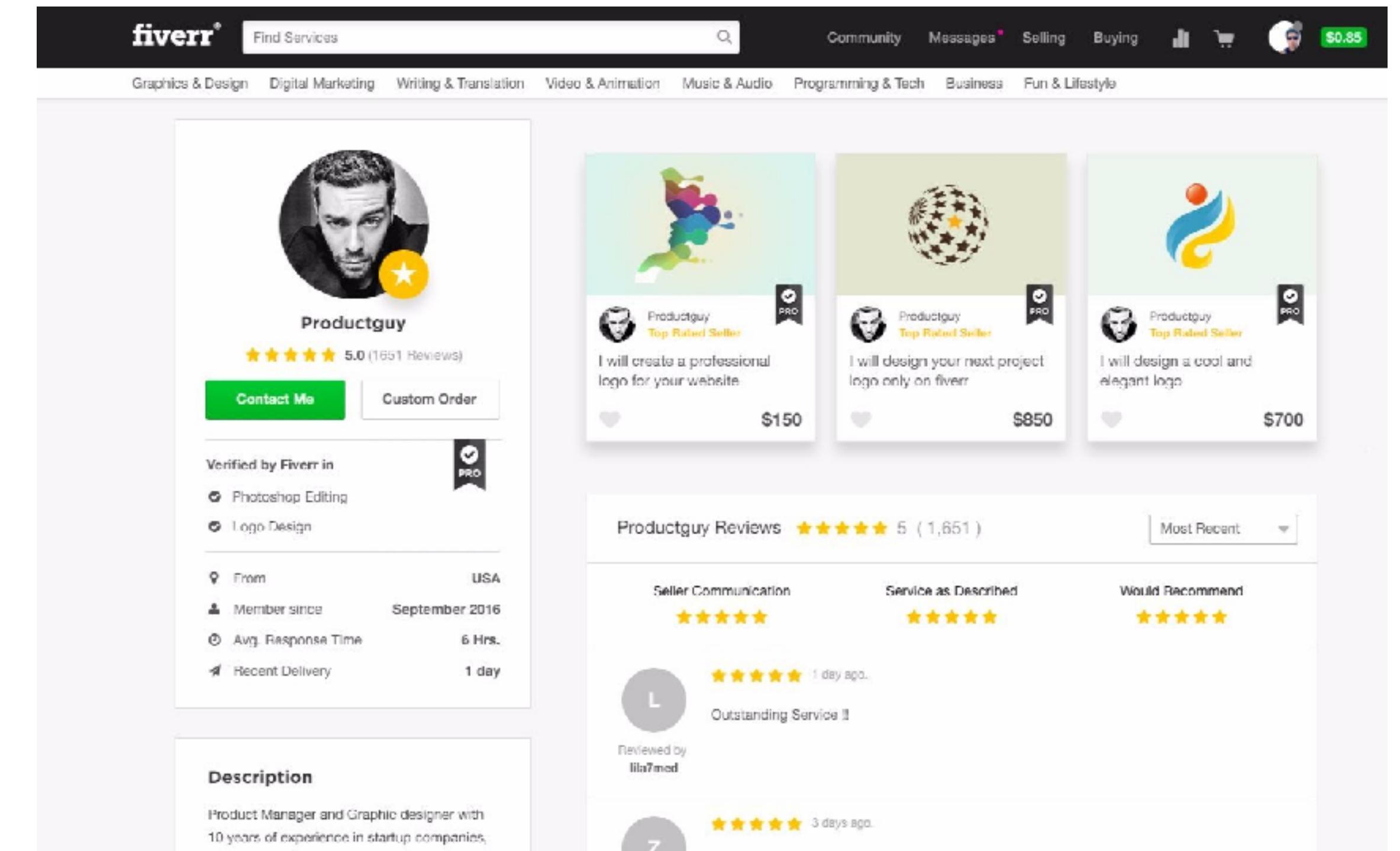
Hang tight! Responses are coming in.

Crowd work

- Crowds of online freelancers are now available via online platforms
 - Amazon Mechanical Turk, Upwork, Fiverr, TopCoder, etc.
- Crowdsourcing, but for money!

Crowd work

- Goal A: do work you don't have the expertise to do
 - Graphic design, software development, audio engineering
- That's nice, it enables crowd workers to leverage their expertise
 - It's essentially a “contractor” position, online-only

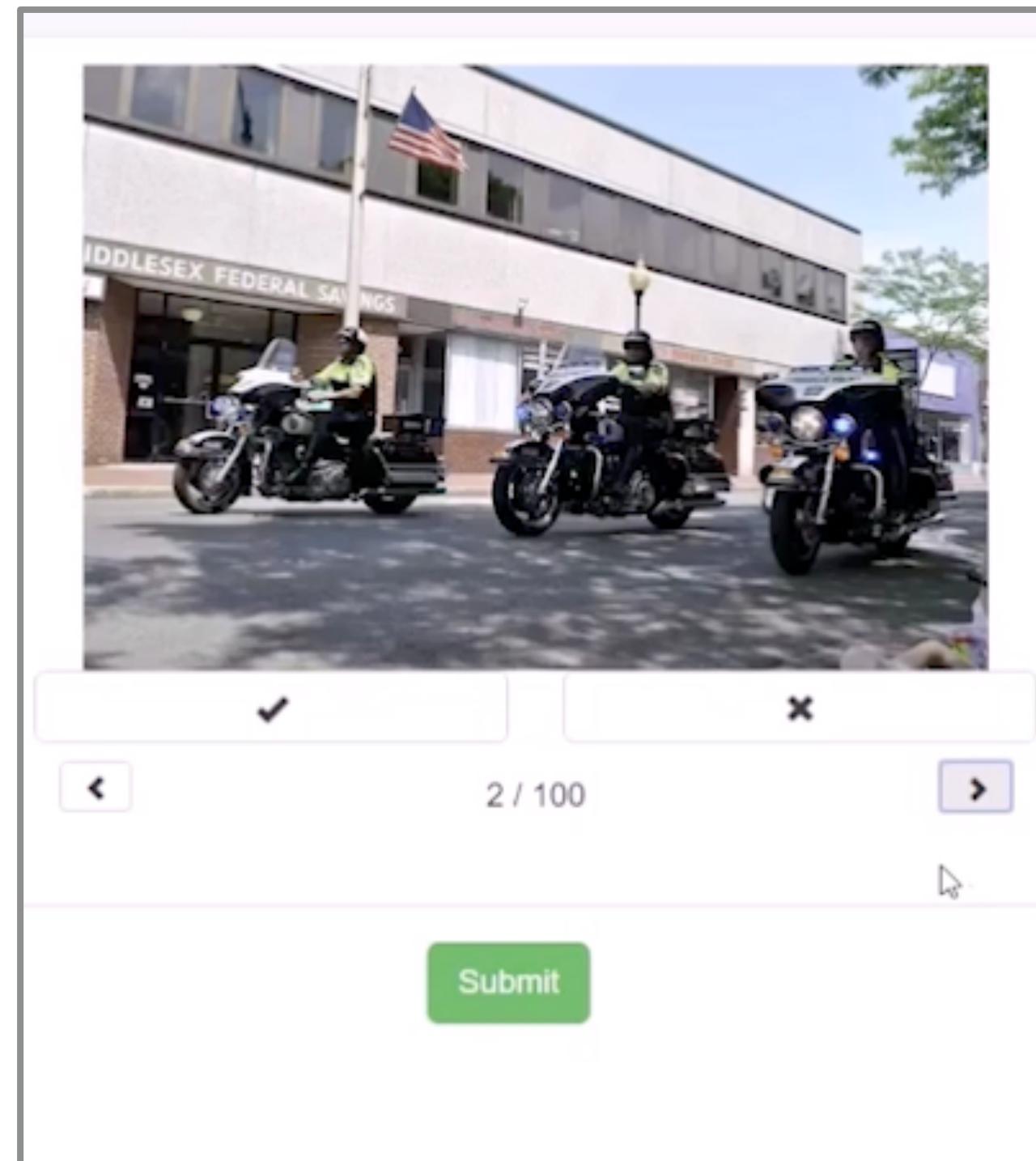


Crowd work

- Goal B: do work you don't have the time to do
 - Data labeling, cleaning, transcribing, etc.
- That's mundane, and dehumanizing
 - But, this data forms the backbone of basically every modern AI system
 - How do we make this work meaningful and respectful to the people doing it?

Label an image
Reward: \$0.20

Transcribe audio clip
Reward: \$5.00



Does this photo have a motorcycle in it?

Crowd work vs. Gig work

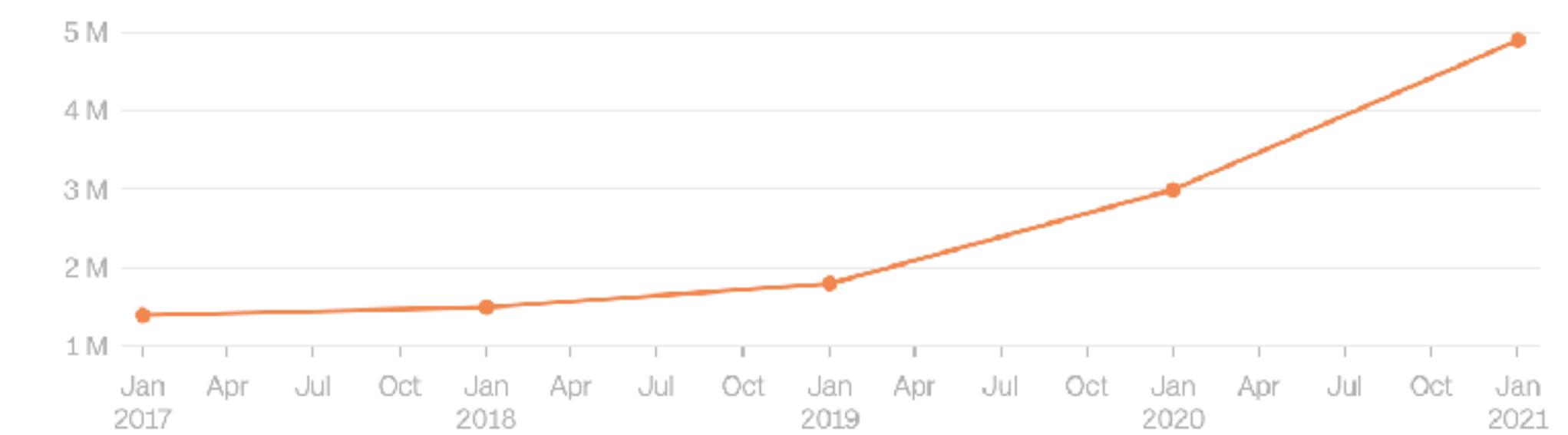
Gig work

- You hire someone to do any form of short-term labor, usually via technology (an app or website)
- Doesn't really differentiate between online-only work (Fiverr, OnlyFans) and in-person work (Uber, DoorDash, TaskRabbit)
 - “Crowd work” is therefore a part of gig work, but gig work is bigger
 - Estimates suggest 23 million people in the US earn money via gig work

Tracking the rise in gig economy in the US

According to 1099 tax forms, used to report non-employment income to the Internal Revenue Service, the total number of people who collected money from platform gig work, such as driving for Lyft or delivering for Grubhub, more than tripled between 2017 and 2021.

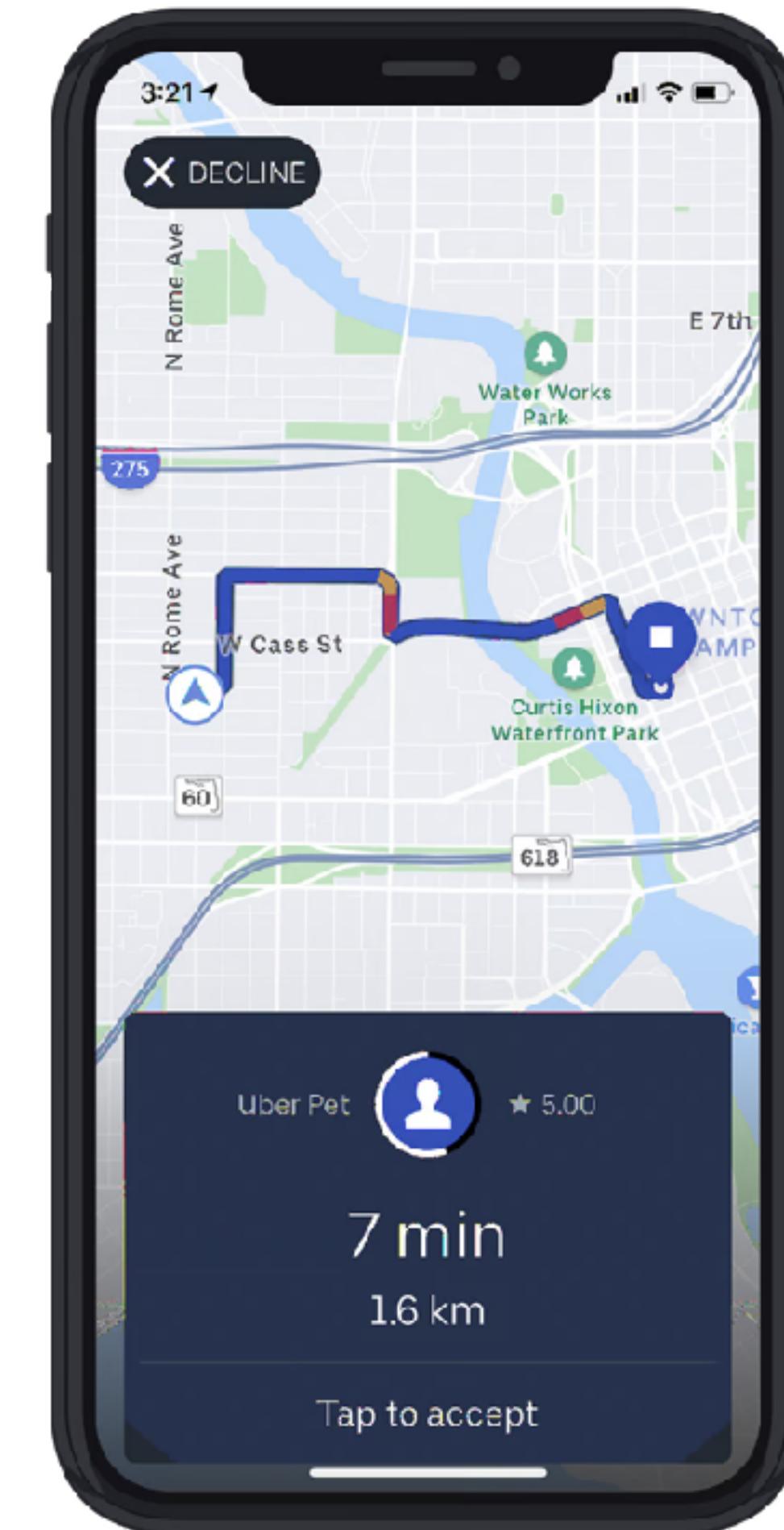
Number of workers (million)



Source: The Evolution of Platform Gig Work by the University of Chicago (2023)
Graphic: Carlotta Dotto, CNN

Gig work

- Worker-requested
 - Mechanical turk, you choose tasks you want to do
- System-mediated
 - Uber, mark yourself as available for rides, but you have only some influence on what rides you take
- Consumer-requested
 - Customer views profile and provides job description, like Fiverr or TaskRabbit
 - Or subscription model



Have you ever...

Both spent money on gig work and done it for money

0%

Done gig work for money, but never spent money on gig work

0%

Spent money on gig work, but never done it for money

0%

Neither spent money on gig work nor done gig work for money

0%

Gig Work: upsides for workers

Gig work: flexibility

- Temporal flexibility: you get to work your hours
 - In between other jobs and family responsibilities
 - Night owl, early riser, etc.



Lehdonvirta, V. (2018). Flexibility in the gig economy: managing time on three online piecework platforms. *New Technology, Work and Employment*, 33(1), 13-29.

Gig work: flexibility

- In practice, people face constraints
- Structural constraints
 - Availability of work: what's requested of you or available on the platform?
 - Dependence on work: are you reliant on income from that work?
- Actual flexibility depends on whether you rely on the money, and whether managers of other employment are also flexible

Table 1. Effects of structural factors on the scheduling of temporally flexible work

	Plentiful availability of work	Limited availability of work
Weak dependence on the work	Worker-controlled flexible scheduling	Scheduling by coincidence of needs
Strong dependence on the work	Mixed worker/manager scheduling	Manager-controlled flexible scheduling

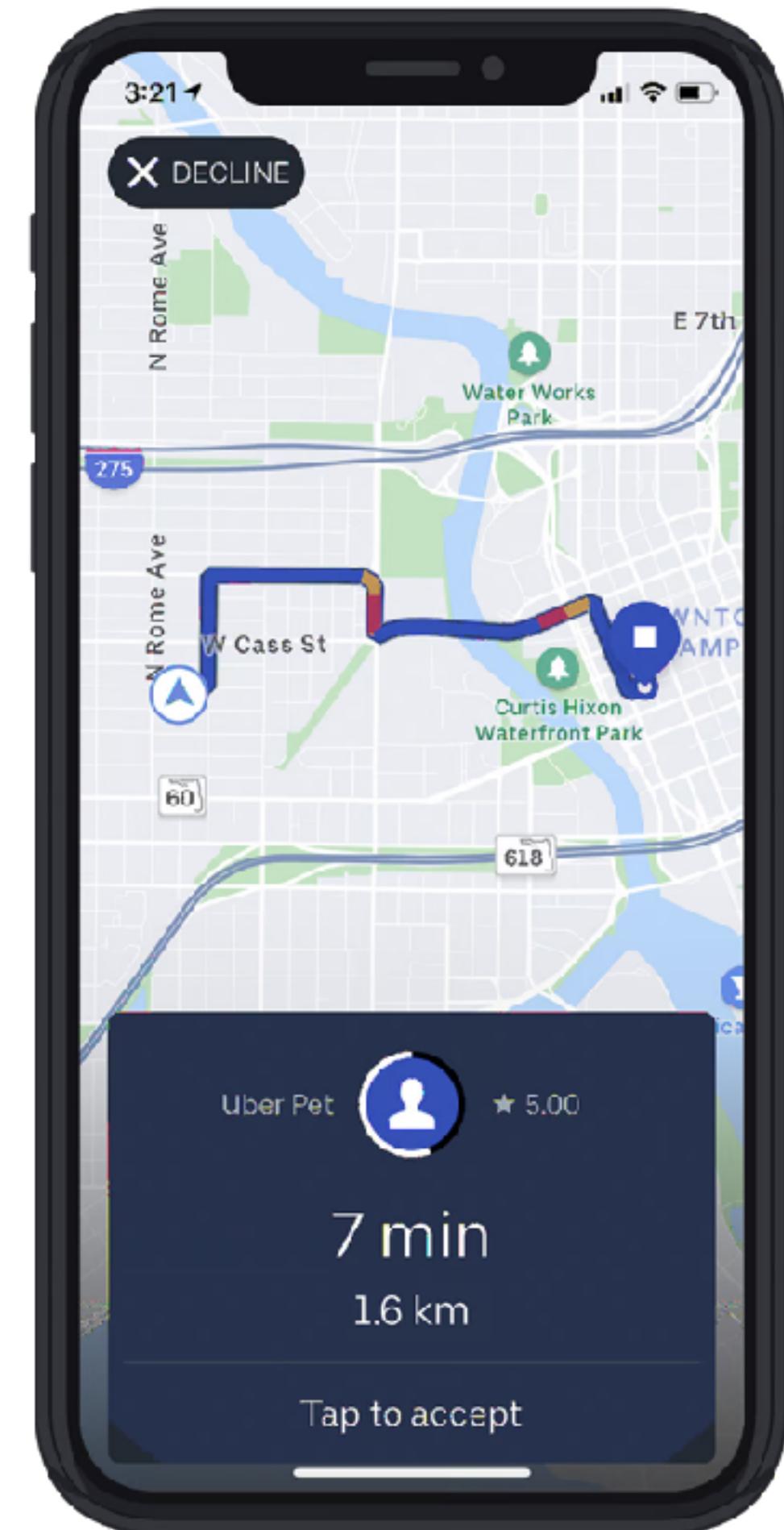
Gig work: flexibility

- In practice, people face constraints
- Cultural-cognitive constraints
 - It can be hard to get motivated to work
 - Or to start doing work versus browsing for work
- Moreso a concern on worker-requested platforms, as other platforms decide what work you do and when

All HITs Your HITs Queue						
HIT Groups (1-20 of 640)						
Requester	Title	HITs	Reward	Created	Actions	
ScoutIt	Classify Receipt	151	\$0.03	14s ago	Preview	Qualify
Crowdsurf Support	Full Text Review - Earn up to \$...	53	\$0.17	3m ago	Preview	Qualify
Laura A. King	Personality, Information Proce...	1	\$0.15	4m ago	Preview	Accept & Work
Crowdsurf Support	Review, edit, and score the tra...	1,091	\$0.02	5m ago	Preview	Qualify
Erica Fissel	Quick Demographic Survey! (~...)	1	\$0.01	6m ago	Preview	Accept & Work
ScoutIt	Extract summary information fr...	1	\$0.05	9m ago	Preview	Accept & Work
Crowdsurf Support	Transcribe up to 35 Seconds o...	1,042	\$0.05	10m ago	Preview	Qualify
Ben Stevens	Help Pick a Book Cover!	1	\$0.10	12m ago	Preview	Accept & Work
ScoutIt	Extract summary information fr...	1	\$0.05	12m ago	Preview	Accept & Work
Michael Busseri, PhD	Answer survey (10 minutes) a...	1	\$1.00	12m ago	Preview	Qualify
Amy Minnikin	Feedback Seeking Motives Pr...	111	\$0.25	15m ago	Preview	Qualify
SEO BrainTrust	Summarize and write three ke...	23	\$0.35	25m ago	Preview	Qualify

Gig work: autonomy

- You get some amount of choice in the jobs that you take on
 - Don't feel like driving right now? Just stop.
 - You can drive for Uber in the morning, do some MTurk tasks over lunch, and help someone move on TaskRabbit in the evening

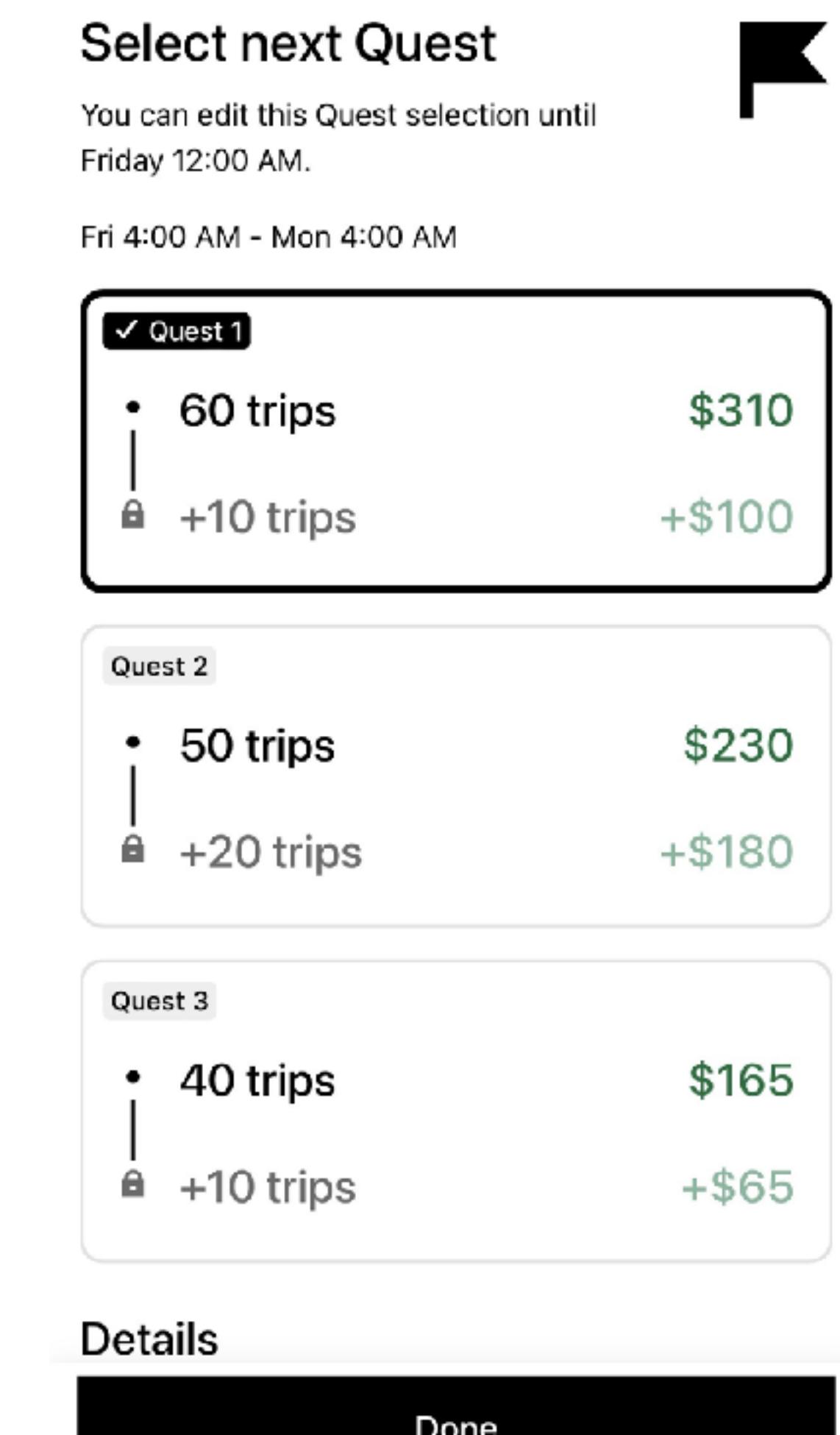


Wood, A. J., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Good gig, bad gig: autonomy and algorithmic control in the global gig economy. *Work, employment and society*, 33(1), 56-75.

Gig Work: downsides for workers

Gig work: algorithmic control

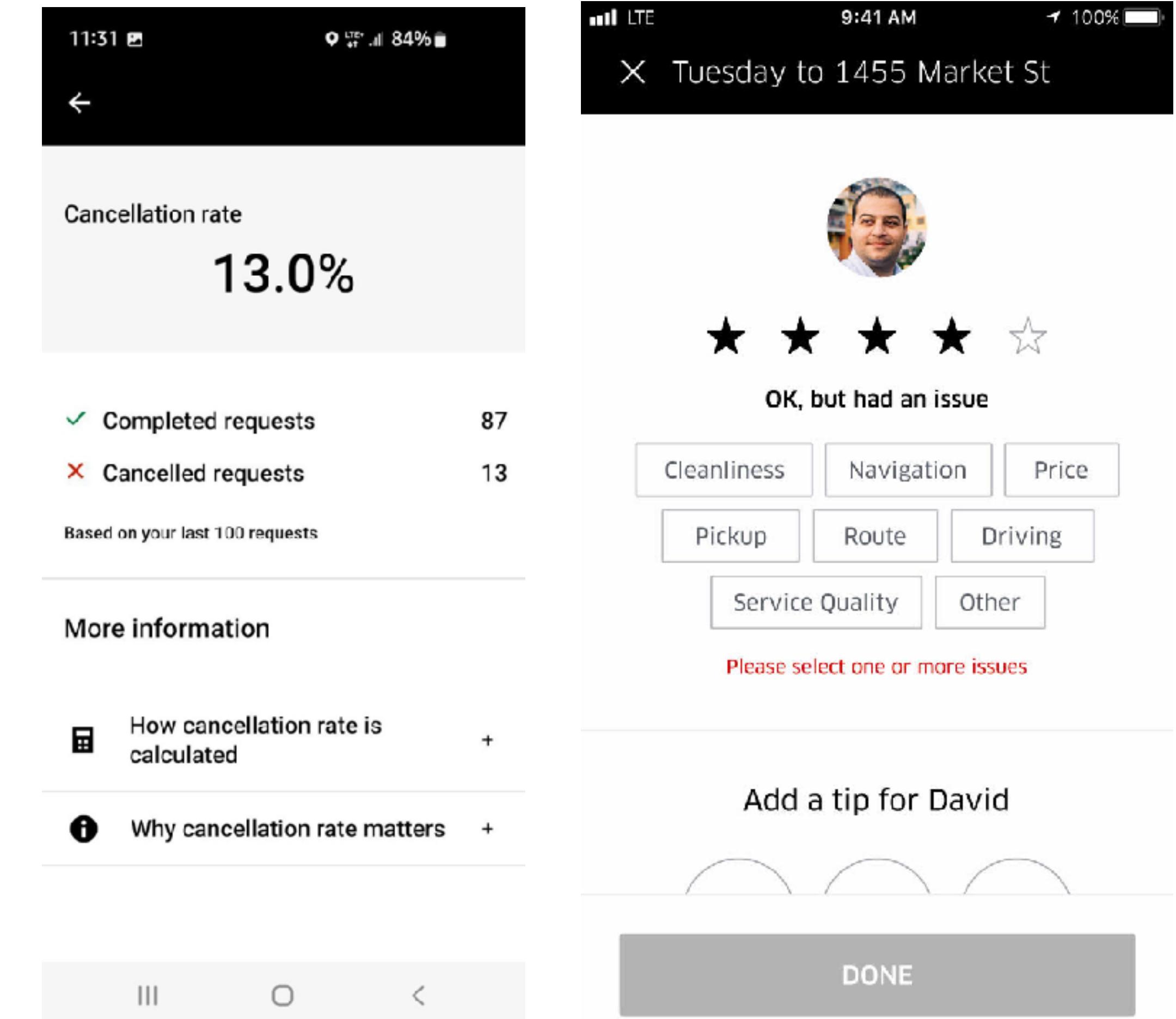
- Considering the case of Uber
- Work assignment: it's up to the algorithm who you're going to get
- To help control the algorithm, you could:
 - Avoid bar areas late at night to avoid drunk people
 - Go to downtowns around lunchtime to get short rides



Lee, M. K., Kusbit, D., Metsky, E., & Dabbish, L. (2015, April). Working with machines: The impact of algorithmic and data-driven management on human workers. In Proceedings of the 33rd annual ACM conference on human factors in computing systems (pp. 1603-1612).

Gig work: algorithmic control

- Algorithmic evaluation: you get penalized for rejecting work
 - You might get fewer matches
 - You might get longer to match
- Ratings influence how the algorithm matches you
 - Uber later added more specific metrics beyond the star rating



Lee, M. K., Kusbit, D., Metsky, E., & Dabbish, L. (2015, April). Working with machines: The impact of algorithmic and data-driven management on human workers. In Proceedings of the 33rd annual ACM conference on human factors in computing systems (pp. 1603-1612).

Gig work: pseudo-employee

- You're (currently) an “independent contractor” of the app
 - No health insurance, sick leave
 - No unemployment insurance
 - No social security benefits
 - Fewer safety and health protection measures

Gig work: pseudo-employee

- Subject to a lot of scrutiny
 - CA law in 2019 required Uber drivers to be treated as employees
 - Prop 22 passed in 2020, exempting Uber from this law
 - Court ruling in 2021 said Prop 22 was illegal
 - 2023 ruling mostly reaffirmed Prop 22 (exempting Uber), but drivers could unionize

BUSINESS

California court says Uber, Lyft can treat state drivers as independent contractors

MARCH 14, 2023 · 3:35 AM ET

By The Associated Press



<https://www.npr.org/2023/03/14/1163301631/california-court-says-uber-lyft-can-treat-state-drivers-as-independent-contractors>

Gig work: pseudo-employee

- This practice pseudo-employee practice continues to be litigated
 - Laws and policies come up regularly
- Uber and Lyft were accused in 2024 of suppressing pay, though case was dropped
- Biden rule tried to reclassify gig workers, but hasn't had the intended effect yet

March 15, 2024, 1:34 PM PDT

Uber, Lyft Drivers in California Drop Wage Price-Fixing Suit



Katie Arcieri
Senior Reporter

- Drivers accused Uber and Lyft of suppressing their pay
- Court said plaintiffs would be forced to arbitrate claims

A group of Lyft and Uber drivers have dropped a price-fixing case against the ride-sharing companies after a court ruled the workers had to arbitrate their claims.

The driver plaintiffs this week submitted a [notice](#) of dismissal in San Francisco Superior Court, nearly two years after filing a proposed class action that [accused](#) Uber and Lyft of exploiting their drivers and holding down wages through repeated violations of California antitrust and consumer protection laws.

ECONOMY

Millions of gig workers could qualify as employees under new Biden-era rule

A new Labor Department rule out this week aims to make it easier for millions of low-wage workers to get employee benefits and other protections



By Lauren Kaori Gurley

Updated January 9, 2024 at 12:22 p.m. EST | Published January 9, 2024 at 8:00 a.m. EST



<https://news.bloomberg.com/antitrust/uber-lyft-drivers-in-california-drop-wage-price-fixing-suit>

<https://www.washingtonpost.com/business/2024/01/09/independent-contractor-rule-labor-department-uber-lyft/>

Gig work: loneliness

- Unlike “traditional” workplaces, you lack sustained engagement with others
 - Much work is alone at home
 - Or driving, with minimal social contact
- But, you may develop more fleeting connections
 - With people you’re driving, subscribers, etc.

ECONOMY

A Gen Xer says making money as an Uber and Lyft driver isn't easy but the social interactions make the job worthwhile

Jacob Zinkula Jan 17, 2024, 10:40 AM PST



Jason McConahy says driving for Uber and Lyft has provided him a valuable social outlet. Jason McConahy

Wood, A. J., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Good gig, bad gig: autonomy and algorithmic control in the global gig economy. *Work, employment and society*, 33(1), 56-75.
<https://www.businessinsider.com/uber-lyft-driving-help-loneliness-gig-economy-work-las-vegas-2024-1>

Gig work: lack of choice

- Gig work is largely consolidated into a few platforms
- In the U.S. right now, you basically have 2 choices if you want to be a driver
 - There are other platforms, but your odds of reliably getting rides drops
 - Delivery apps, etc. aren't that much different
- And if your rating gets tanked, you're unhappy with the pay, etc., you have limited options to go to

**How does the design of technology
platforms impact gig workers?**

Design of gig work platforms

Enabling new kinds of work

- In-person jobs dropped off in the pandemic
 - People got fired, less need for Ubers
 - So people picked up other forms of online-only gig work
- Disability or other factors may not enable in-person work



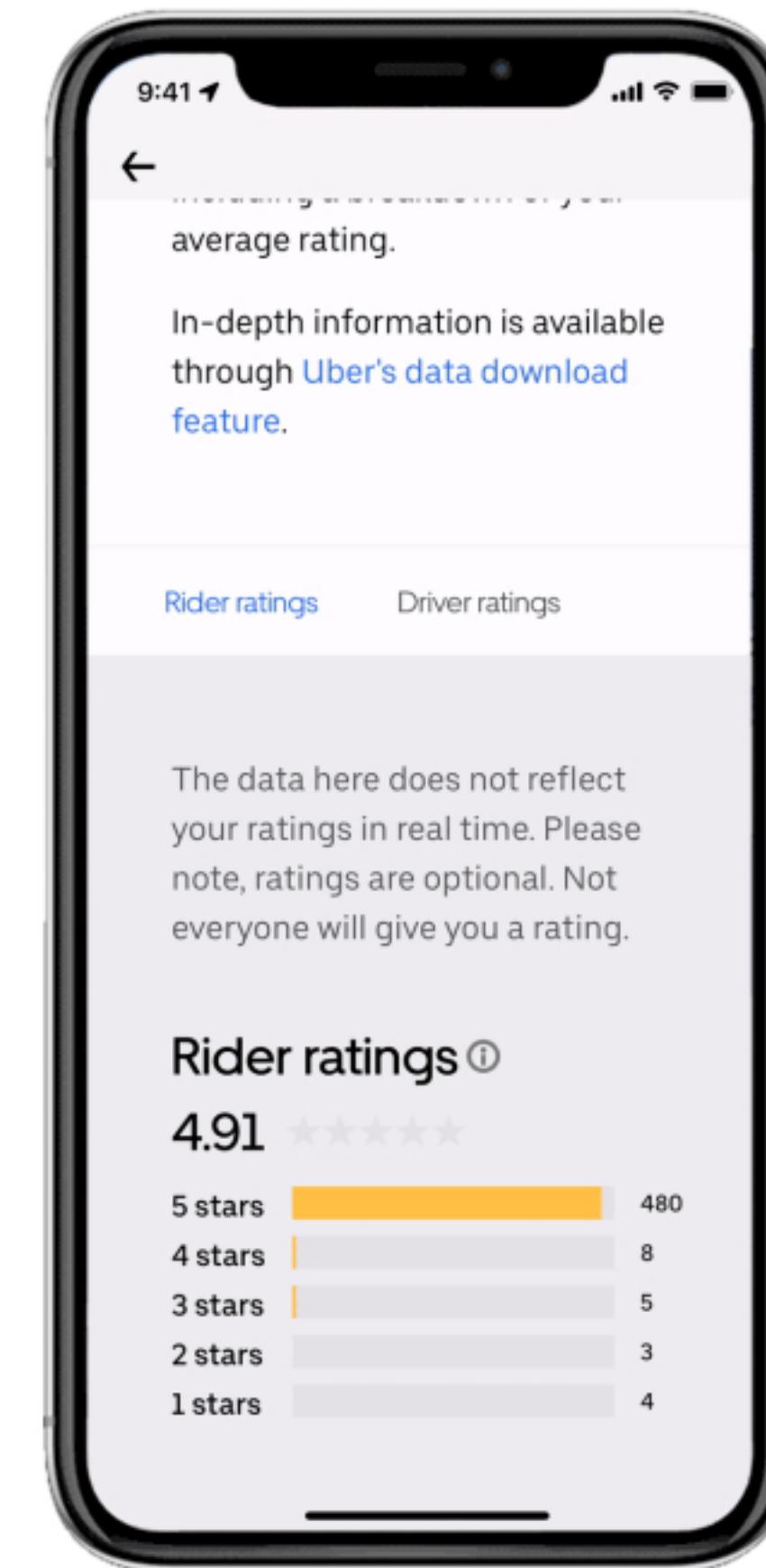
Hamilton, V., Soneji, A., McDonald, A., & Redmiles, E. M. (2023, April). "Nudes? Shouldn't I charge for these?": Motivations of New Sexual Content Creators on OnlyFans. In Proceedings of the 2023 CHI conference on human factors in computing systems (pp. 1-14).

Zyskowski, K., Morris, M. R., Bigham, J. P., Gray, M. L., & Kane, S. K. (2015, February). Accessible crowdwork? Understanding the value in and challenge of microtask employment for people with disabilities. In Proceedings of the 18th ACM conference on computer supported cooperative work & social computing (pp. 1682-1693).

Design of gig work platforms

Legitimacy

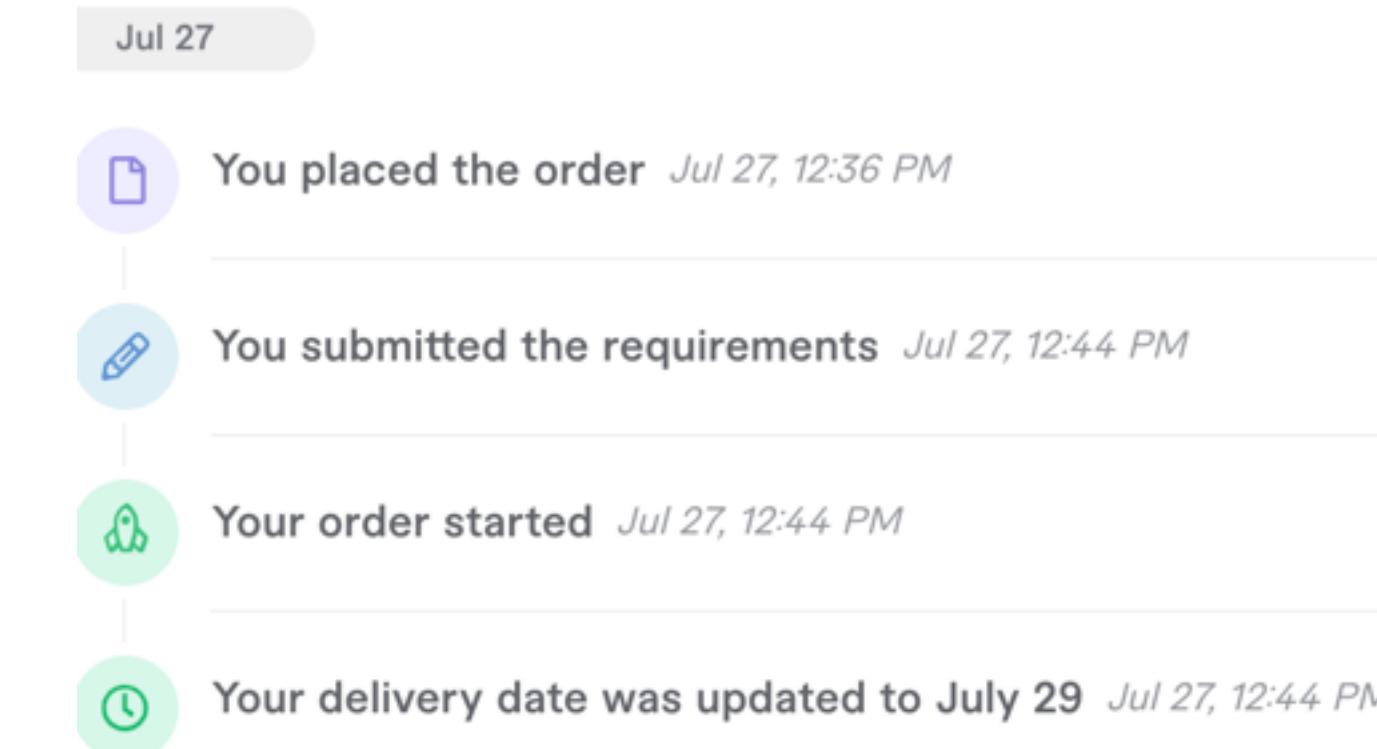
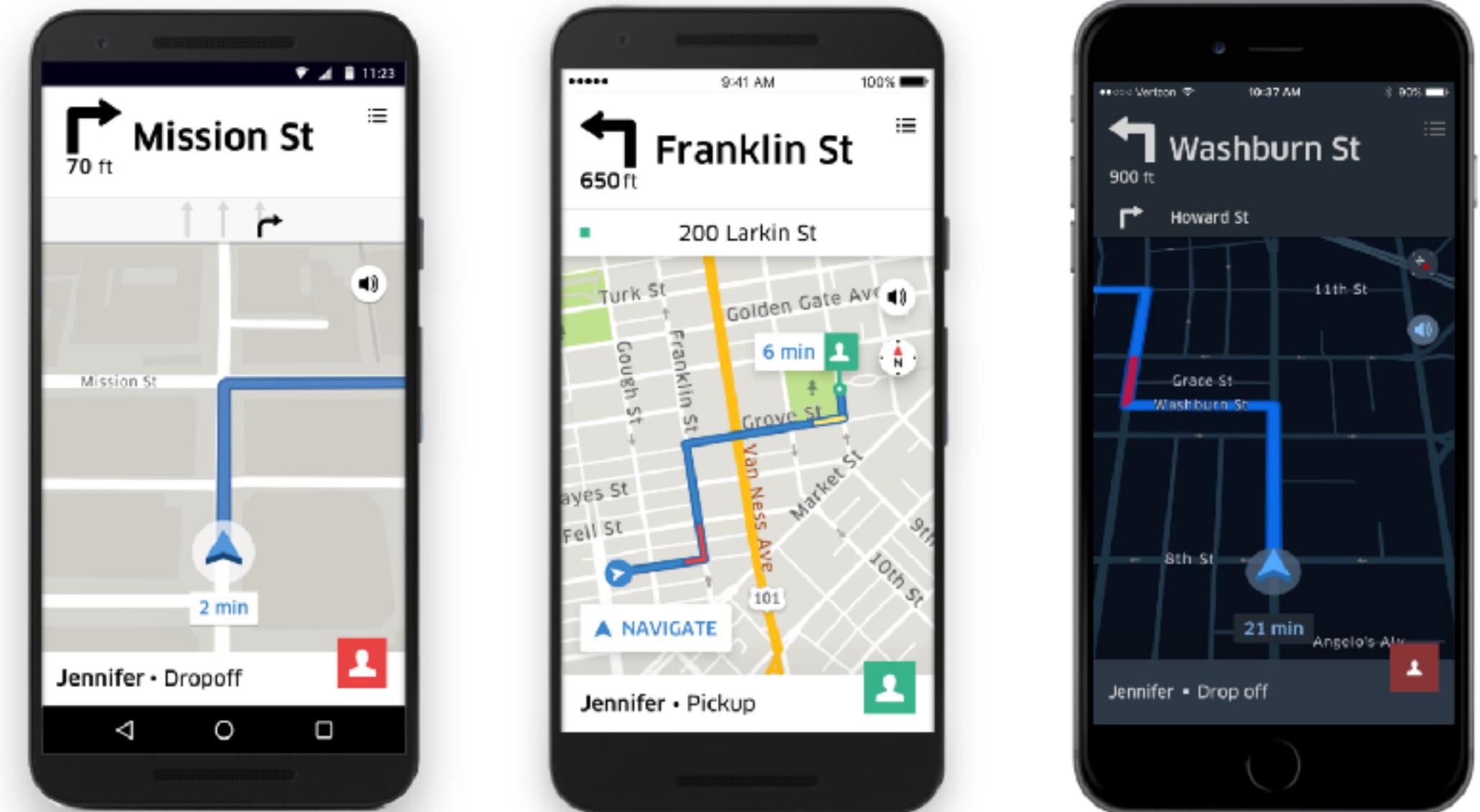
- As both a customer and a worker, you can learn from the experiences of others
- Is it safe to get into a car with this Uber driver?
- Uber's rating system helps answer that



Design of gig work platforms

Accomplishing the work

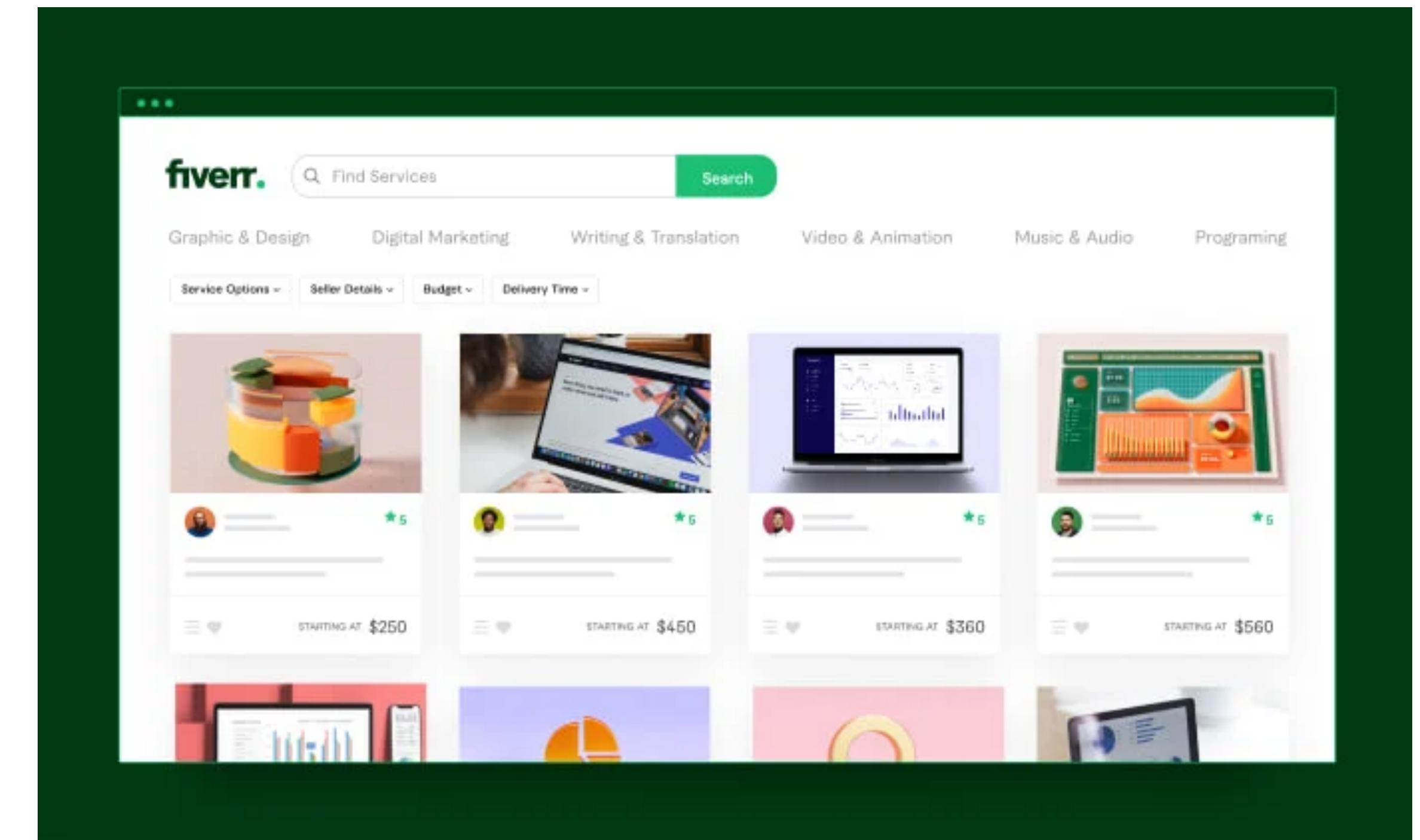
- Platforms aim to streamline getting the actual gig work done
- You must add requirements to put in an order on Fiverr, written how the worker expects
- Uber knows where you want to go. If you ordered a pizza in 2000, there was a 50% chance it would be cold by the time the driver found your apartment



Design of gig work platforms

Matchmaking

- Consultants spend significant time identifying and courting clients
- Gig platforms help with matching
 - There is still significant work put into building a profile and reputation
 - Platforms are reliant on substantial supply and demand



Today's goals

By the end of today, you should be able to...

- Define and differentiate kinds of gig work, including crowdsourcing, online-only gig work, and in-person gig work
- Articulate benefits and drawbacks of gig work platforms for the workers who conduct work on them
- Consider how the design of gig work platforms influence who can do work, and how they do work

Top memes!

A few disclaimers

- I do not endorse any of these, nor do I understand some of them
- View counts are the most recent that you reported to us, but quick searches suggest that these are underestimates

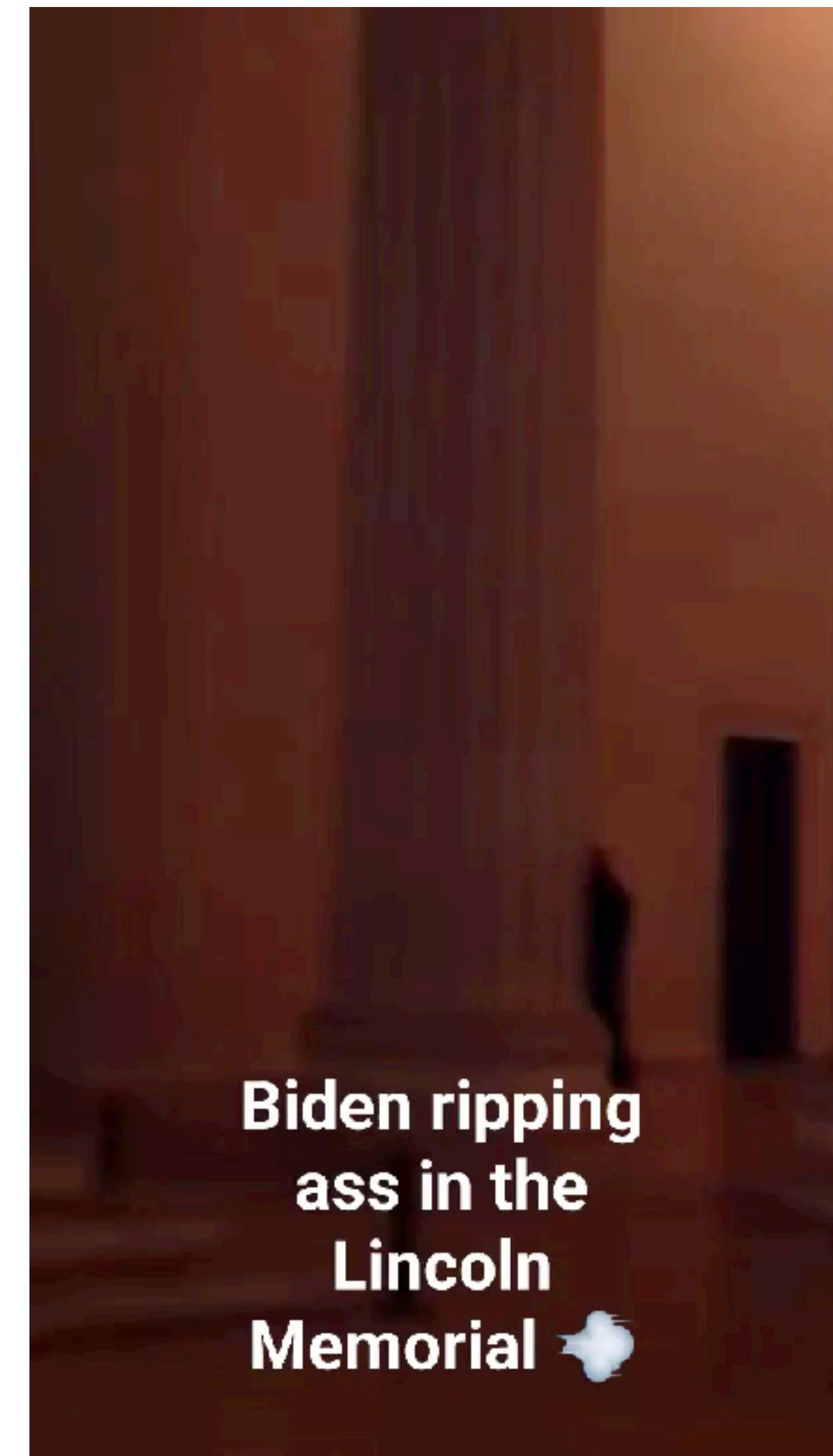
Top memes

- #1 most viral (TikTok)
 - 3.1M views
- By Kiera F.



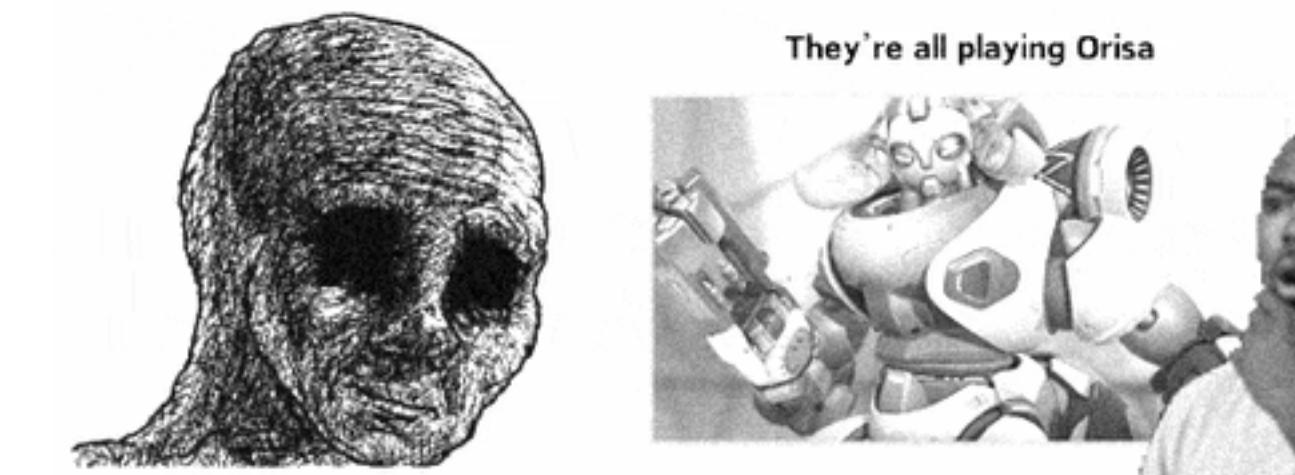
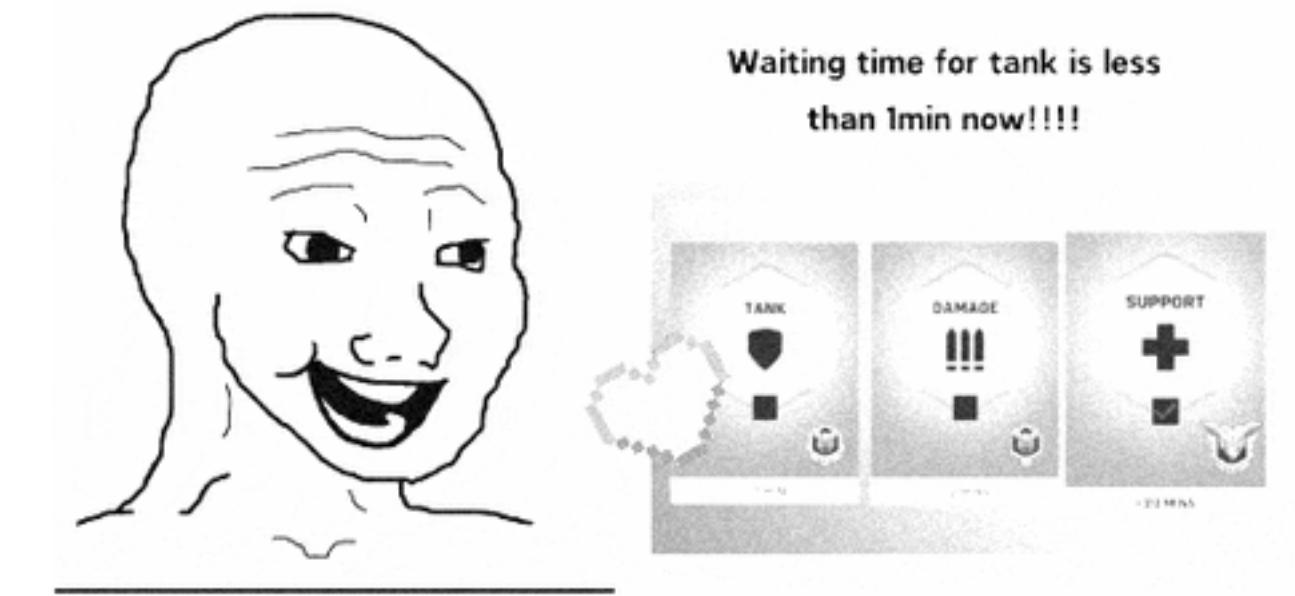
Top memes

- #2 most viral (YouTube)
 - 229K views
- By Trevor V.



Top memes

- #3 most viral (Reddit)
 - 53k views, 719 upvotes
- By Asher W.



Top memes

- #1 in the class
- By Ethan W.

The screenshot shows the University Registrar's website for the "Schedule of Classes". The top navigation bar includes links for Home, Schedule of Classes, WebReg, StudentAccess, and a search bar. The main content area is titled "Schedule of Classes". It features a search form with fields for quarter (2024 Spring Quarter), course comments (checked), finals schedule (checked), and various search filters for department, course number, title, type, days, time, capacity, and size percentage. Below the form is a large search button labeled "Search". A success message in a black box reads: "UCI: We have one of the best software engineering programs in the world!". The footer contains contact information for the University Registrar.

CT US : FAQ

University Registrar

Search Registrar site

Home : Schedule of Classes : WebReg : StudentAccess :

Schedule of Classes

cify as many fields below as you want, but ONE or more of the red asterisk "*" fields MUST

Display Web Results Display Text Results Reset Menu

2024 Spring Quarter

Show course comments Show finals schedule

Do not filter for General Education (GE) categories

Include All Departments

H2A, 5, 10-20 (multiple entries ok)

Any course division

14200, 29000-29100

Smith

protein

All Course Types

3, 4, or VAR

MWF, TuTh, W (courses will include all days specified)

Time After:

Time Before:

Capacity: >50, <20

Size Percentage: 100, 80, 100, 150

Courses: Exclude cancelled courses

Place Building code Room

Display Web Results Display Text Results Reset Menu

more about an in
s or comments ab
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of Classes (WebSOC) version 3.2

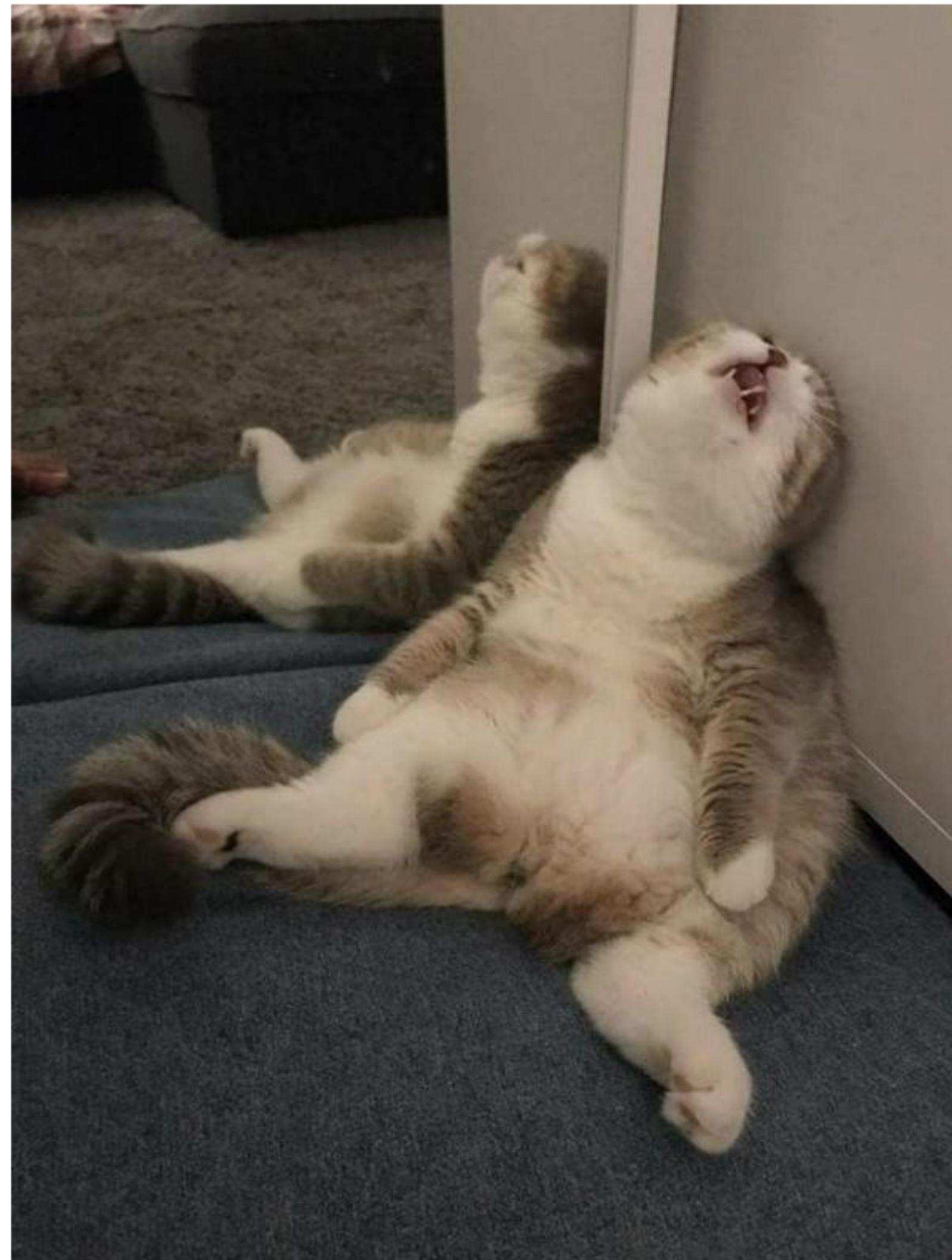
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Me: I'm gonna do so much work when I get home!

Top memes

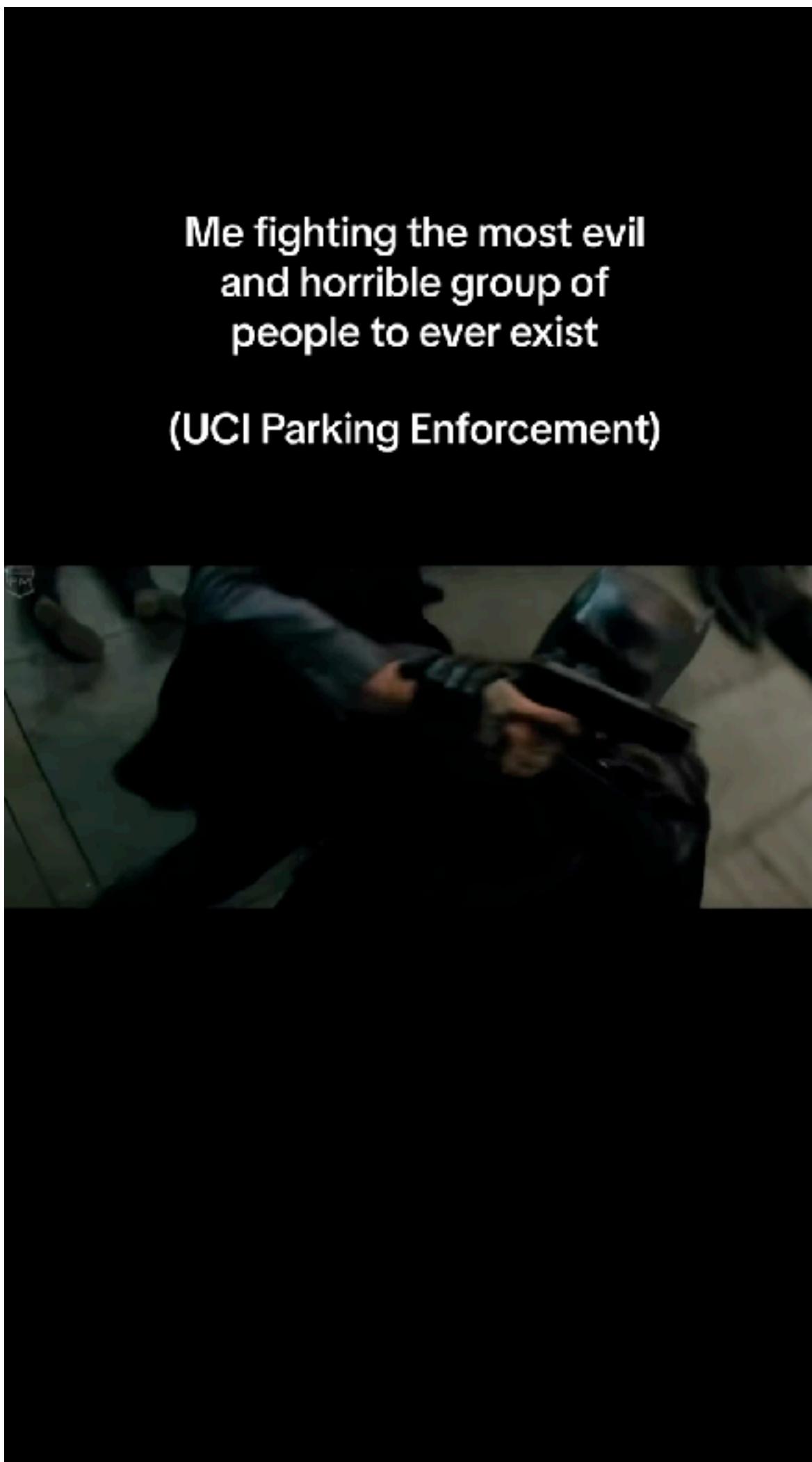
- #2 in the class
- By Brady N.

Me at Home:



Top memes

- #3 in the class
- By Junelle J.



IN4MATX 153: CSCW

**Class 10:
online WORK**

Professor Daniel Epstein
TA Dennis Wang
Reader Weijie Du