



ENIGMA

# Gig Work and the Digital Security Divide

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In collaboration with Elizabeth Anne Watkins, Columbia University  
(@watkins\_welcome)







Delivery person, name unknown  
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Uber driver, name unknown.  
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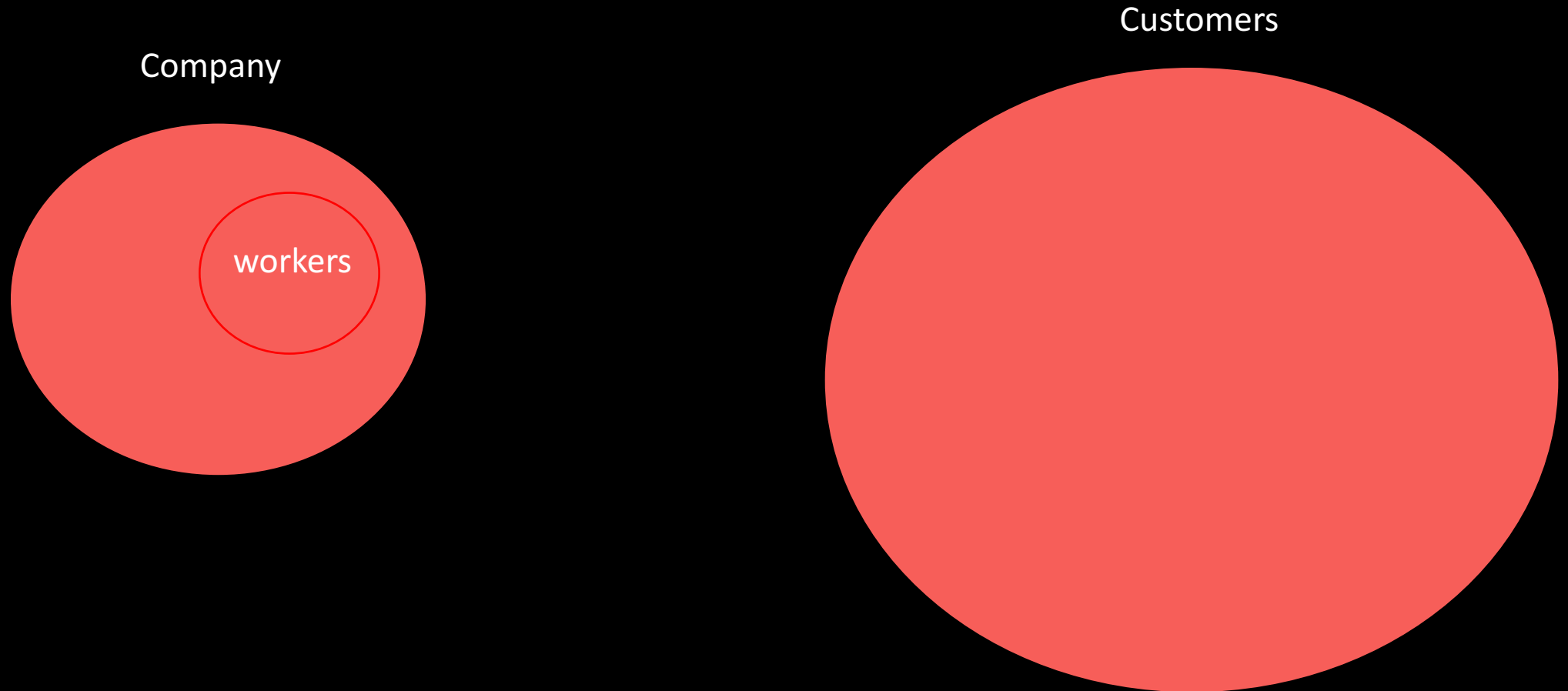
Cleaner, name unknown.  
Handy instructional video

Current gig work models are exacerbating trends towards a digital security divide.

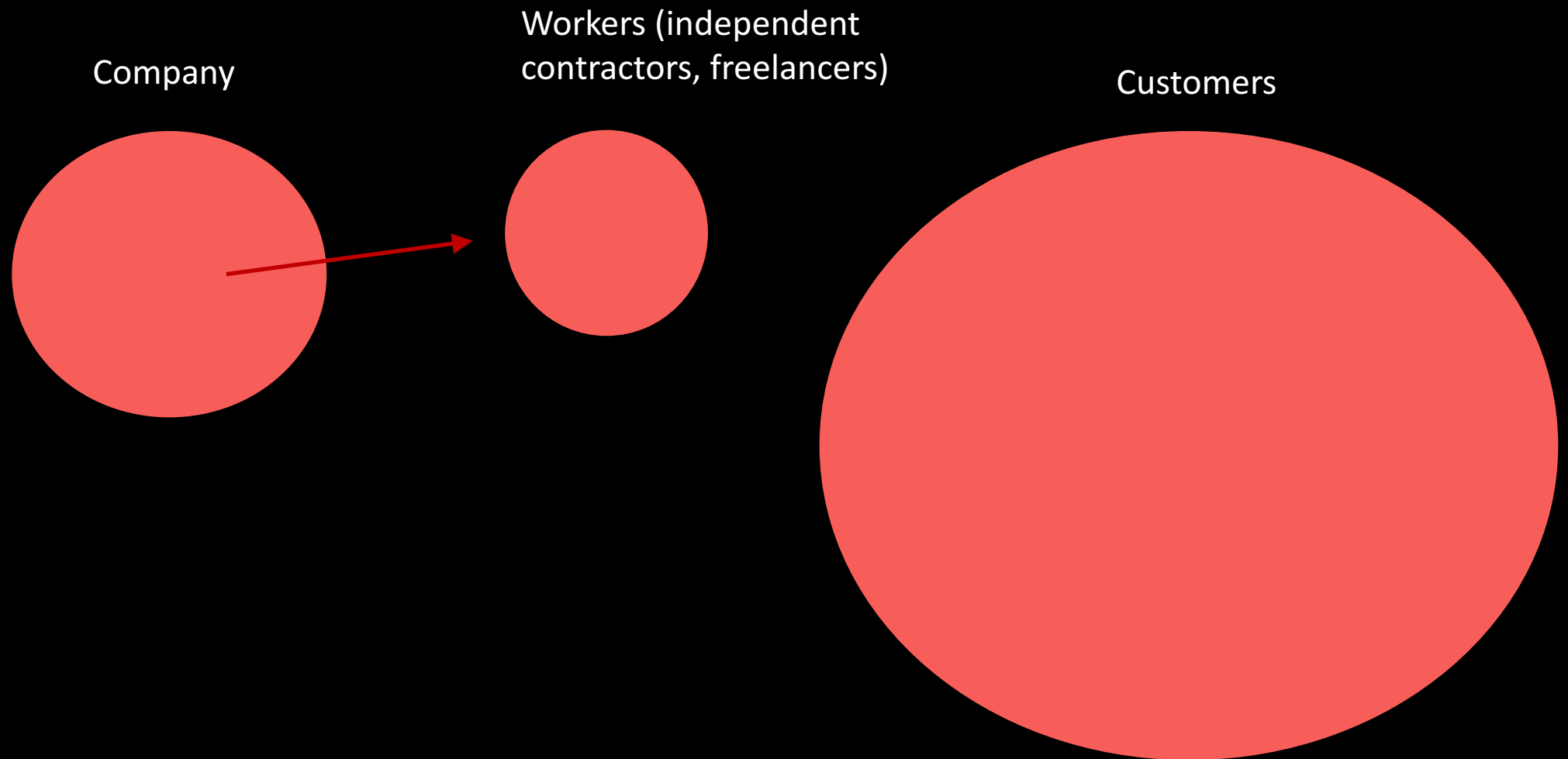
# whether people can control their digital lives

- ...whether their computer or phone is running malware,
- ...whether their identity gets stolen because of a data breach,
- whether their account gets phished.

# Traditional company model



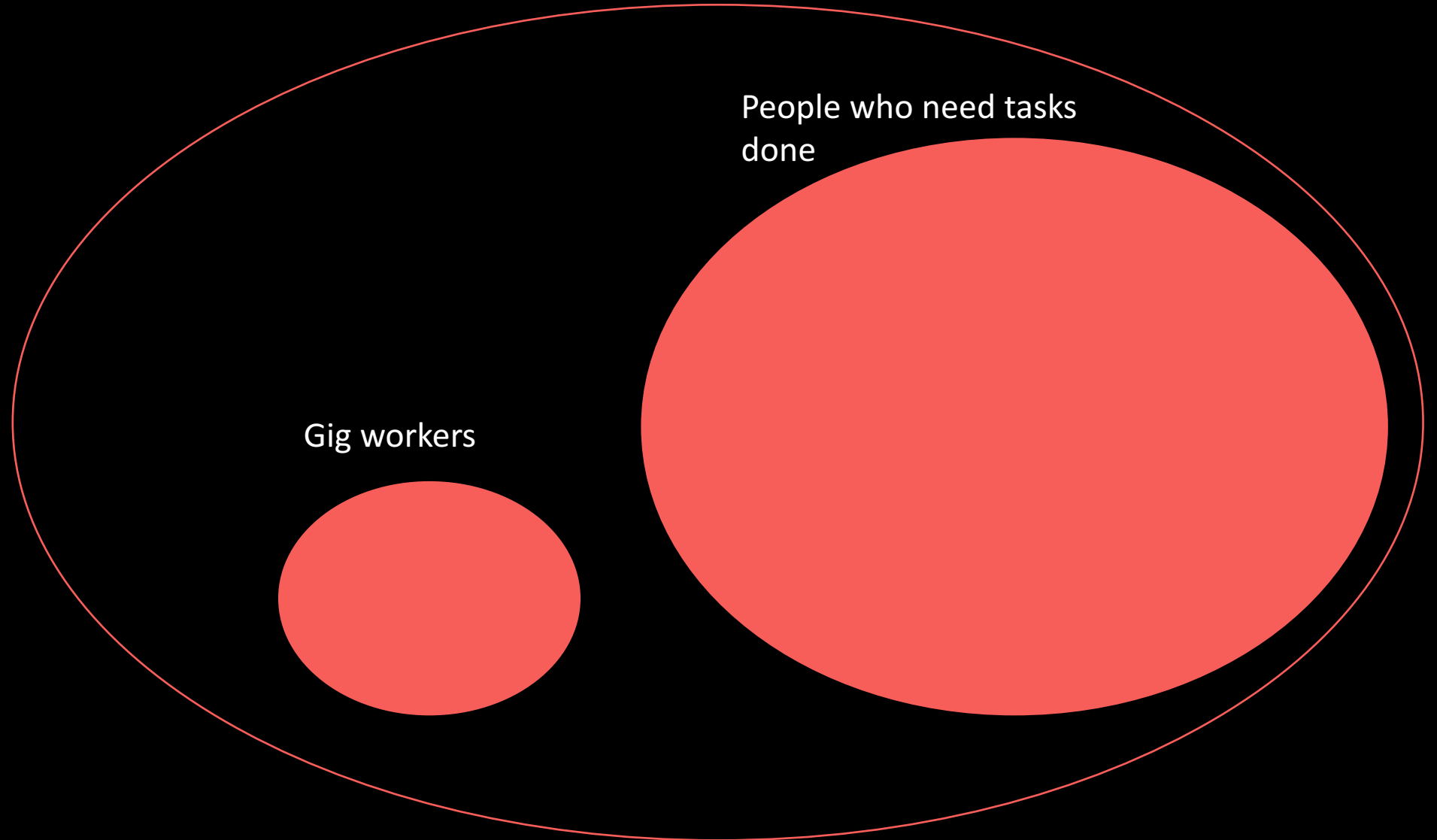
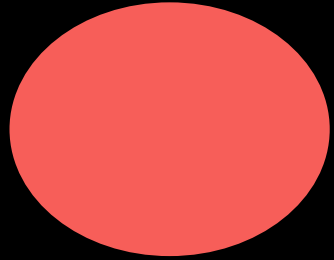
# Outsourced Model



# Platform-based gig work company

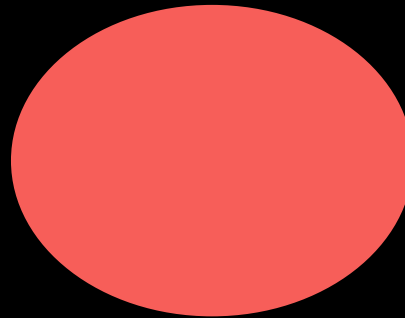
Users

Company/Employees



People who need tasks  
done

Gig workers



1. Gig workers have fewer chances to get trained or connect to security expertise.

The adoption of security tools and practices is socially contingent.



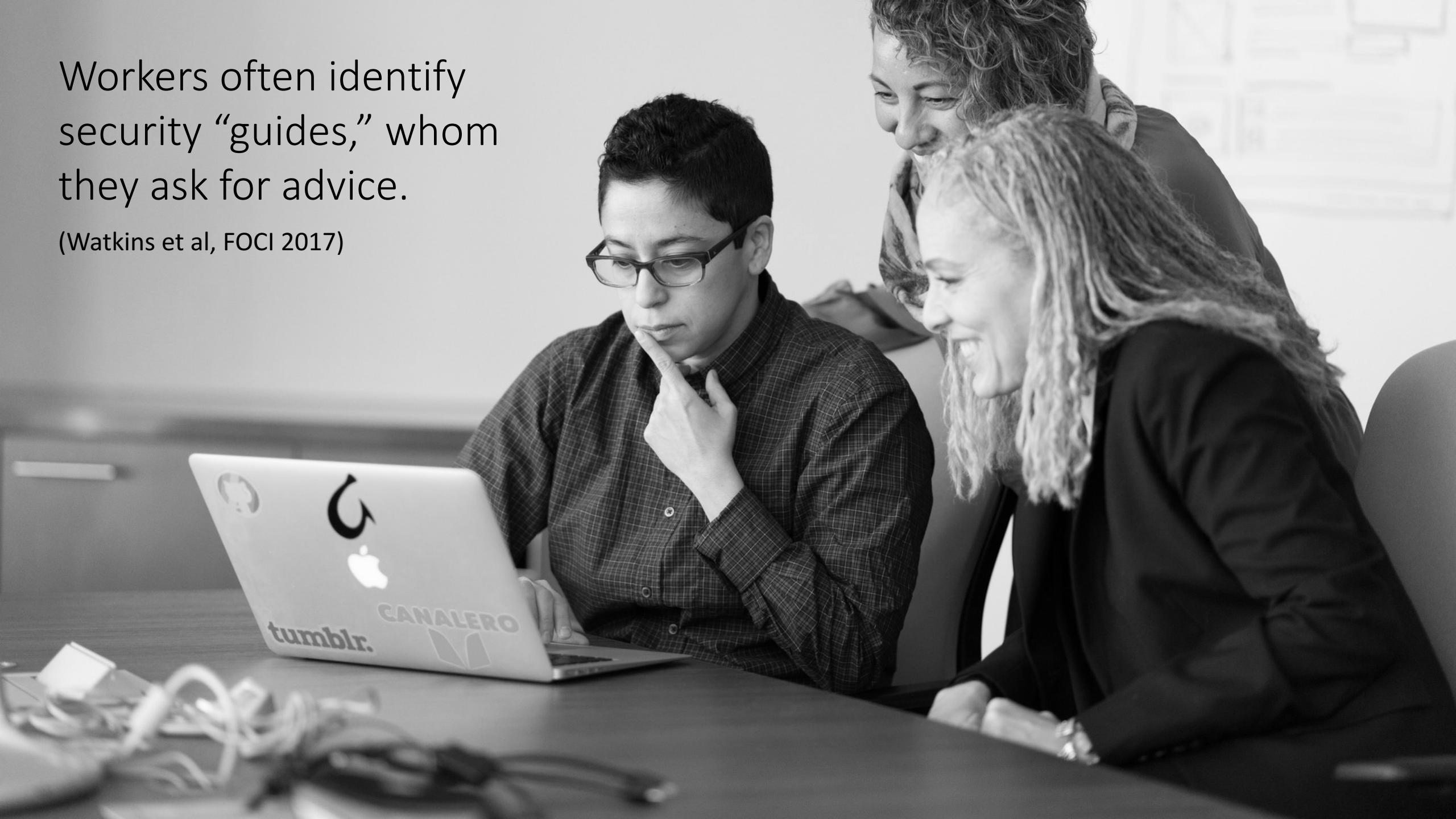
Of people who get security training,  
most get it in their workplace.

(McGregor et al, forthcoming 2018)



Workers often identify security “guides,” whom they ask for advice.

(Watkins et al, FOCI 2017)



Gig work platforms don't just externalize their security costs, but they actively make workers less secure.

2. Digital platforms require digital buy-in.

## Start your application

Grab these items now to complete your application faster:

- ✓ Driver's license or state ID (biometric preferred)
- ✓ Car insurance
- ✓ Bank account

## Document requirements

To become active on the platform, you need to:

- create an account at [partners.uber.com](https://partners.uber.com)
- submit your background check

### Upload Your Documents

Take photos of each of the documents below and upload them in the [Dashboard](#).

#### Driver's license

Drivers are required to have a valid driver's license (see sample [here](#)). A temporary license is acceptable, but be sure to upload your permanent copy when you receive it.

#### Personal vehicle insurance

Drivers are required to have personal vehicle insurance. Proof of insurance needs to be provided with either a photo of an insurance policy ([sample](#)) or vehicle registration ([sample](#)).

#### Driver photo

Lyft requires a photo of all drivers. Your driver photo is a passenger's first impression of you when they request a ride.



## Service Professional Agreement

HANDY TECHNOLOGIES, INC.

“Handy collects the latitude and longitude location... for 4 hours prior to the scheduled start of a Job and ending 2 hours following the scheduled end of a Job for the purpose of confirming that the Job is completed.”

# Uber Left Hundreds of Drivers' Licenses and Social Security Numbers Exposed

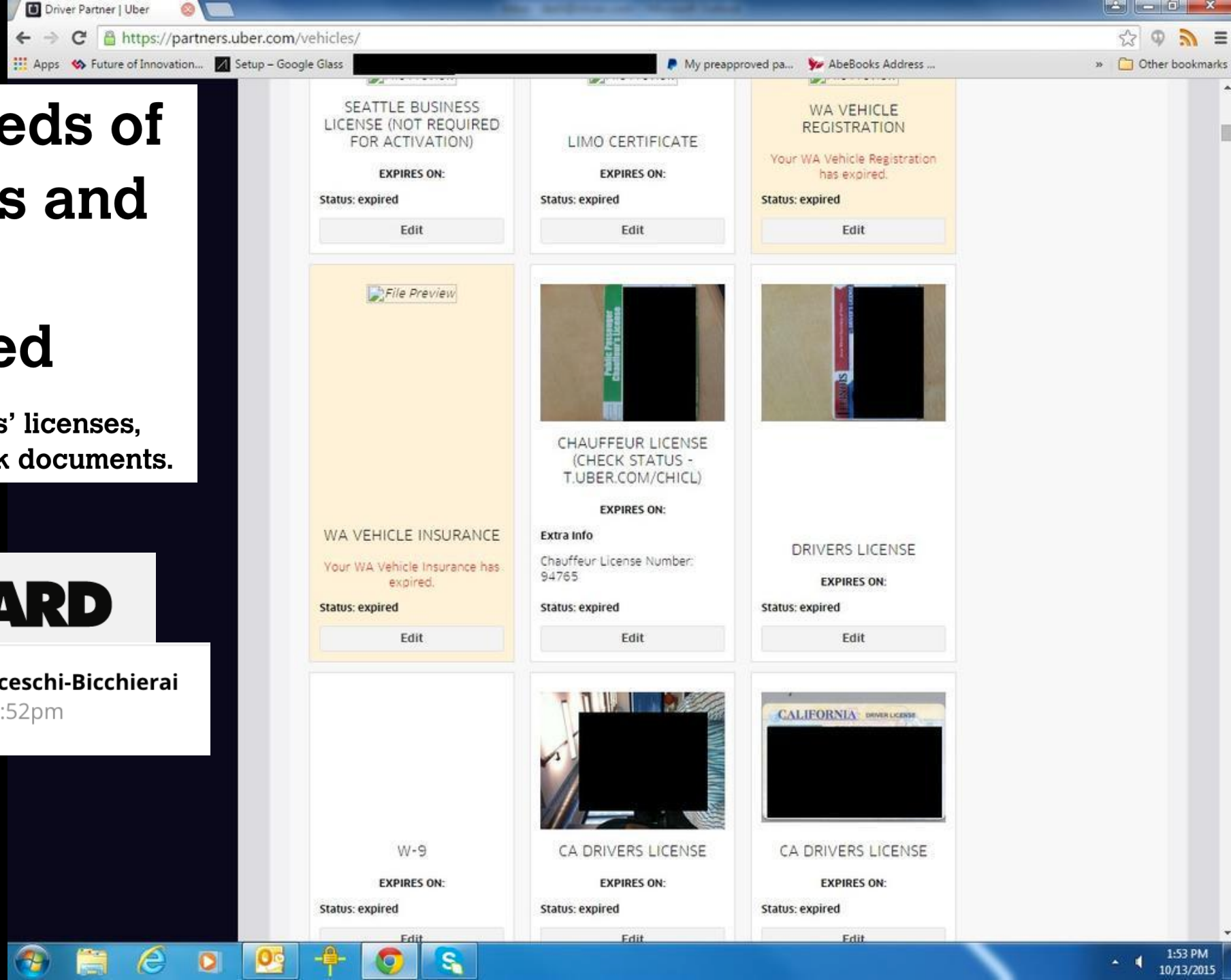
Apparent mistake exposed drivers' licenses, social security numbers, and work documents.

## MOTHERBOARD



Lorenzo Franceschi-Bicchierai

Oct 13 2015, 6:52pm



## *Inside Uber's \$100,000 Payment to a Hacker, and the Fallout*

**The New York Times**

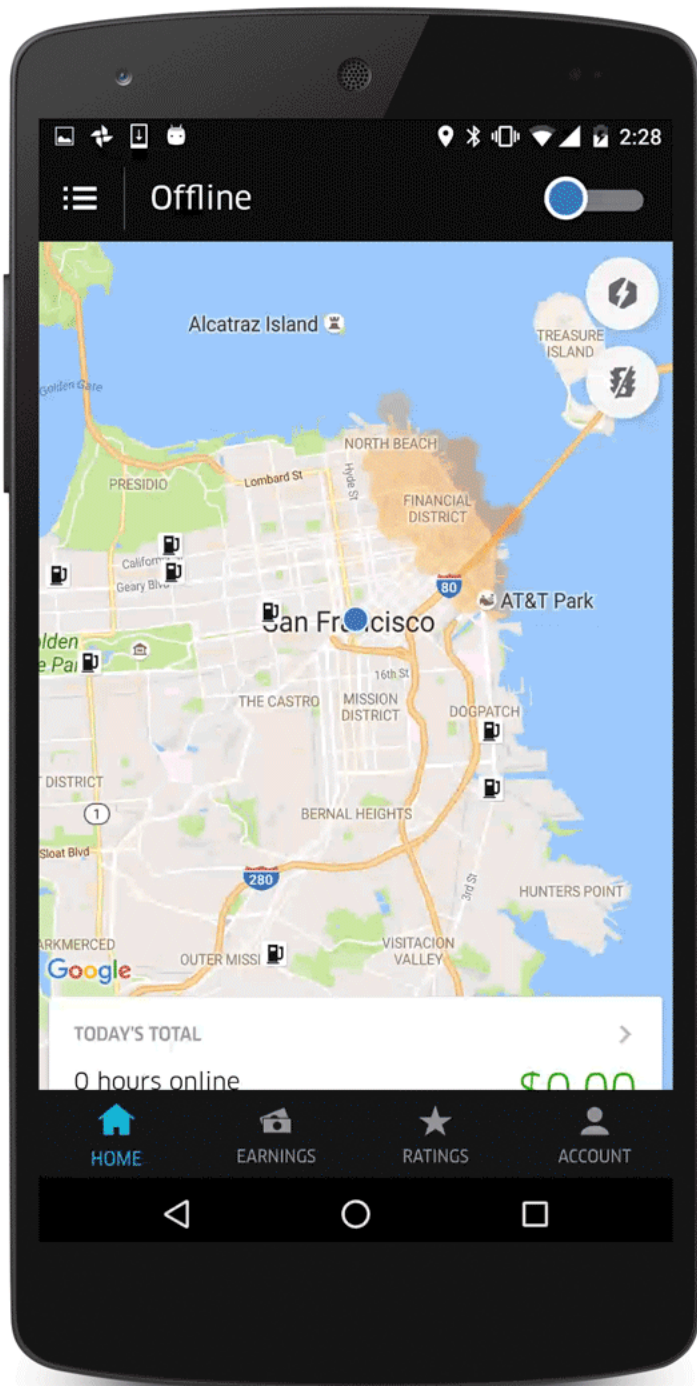
By Nicole Perlroth and Mike Isaac Jan. 12, 2018

“Those keys had allowed Preacher to gain access to Uber’s Amazon web servers, where it stored source code as well as 57 million customer and driver accounts, including driver’s license numbers for some 600,000 Uber drivers.”

3. Brittle security models  
perpetuate distrust.



Please pull over to  
verify your identity



Baseline mistrust.



**PLEASE REMOVE GLASSES**

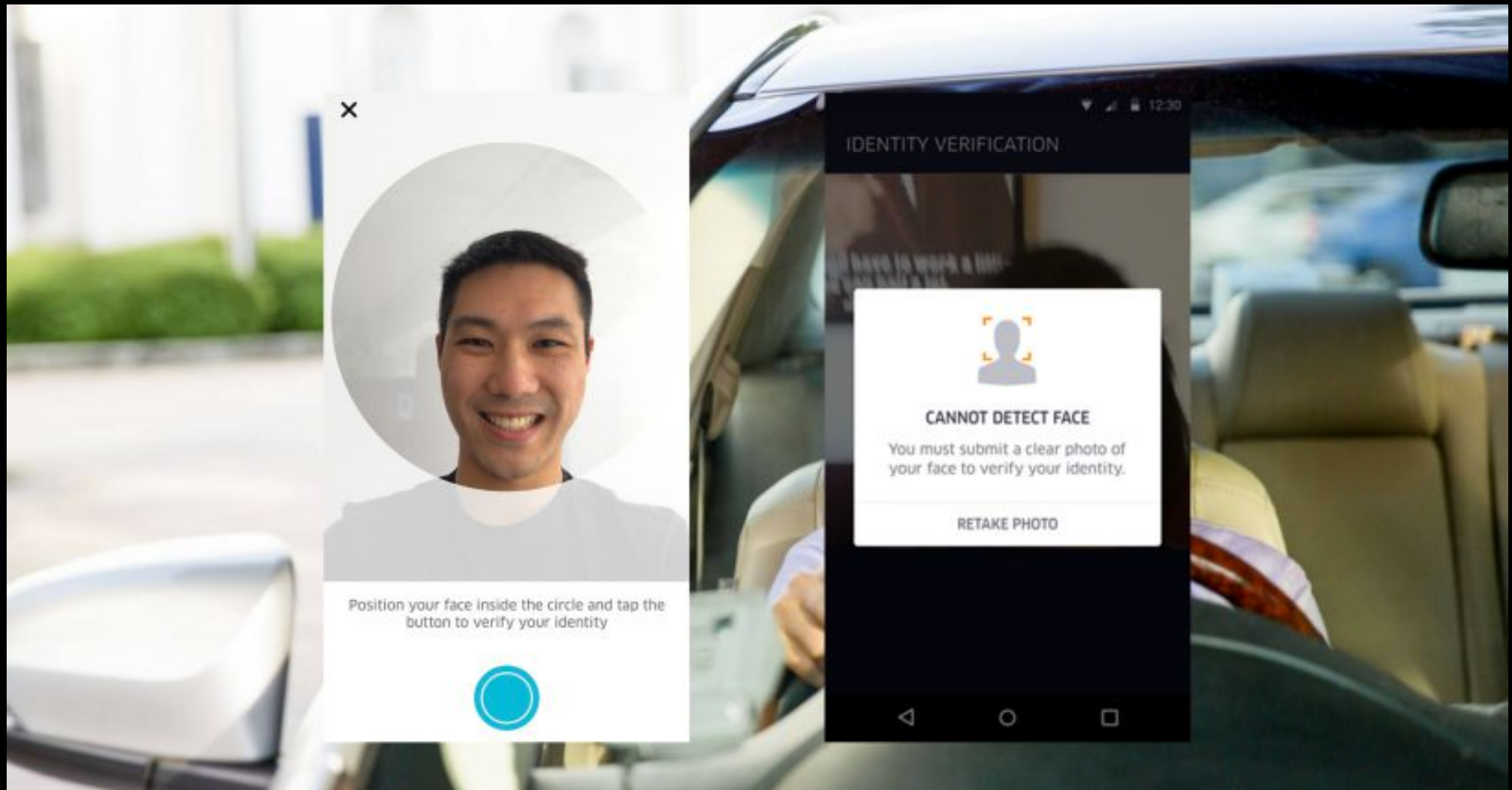
Your glasses are making it difficult to get  
a clear photo of your face.

RETAKE PHOTO

Verifying...



# Brittle systems.



Severe consequences.



Please pull over to  
verify your identity

Distrust makes some security  
problems worse.

# New Lyft Phishing Scam Hack and Steal Lyft Driver Earnings

November 3, 2016 by The Driver — 8 Comments



## The Phishing Scam That Steals Driver Pay In Seconds



**THE RIDESHARE GUY**  
A Blog and Podcast for Rideshare Drivers

## Scam Goes Phishing For Uber Drivers

April 17, 2017 at 5:45 pm



“They said if you don’t [give us your credentials] we are going to deactivate your account right now...”

## Scam Goes Phishing For Uber Drivers

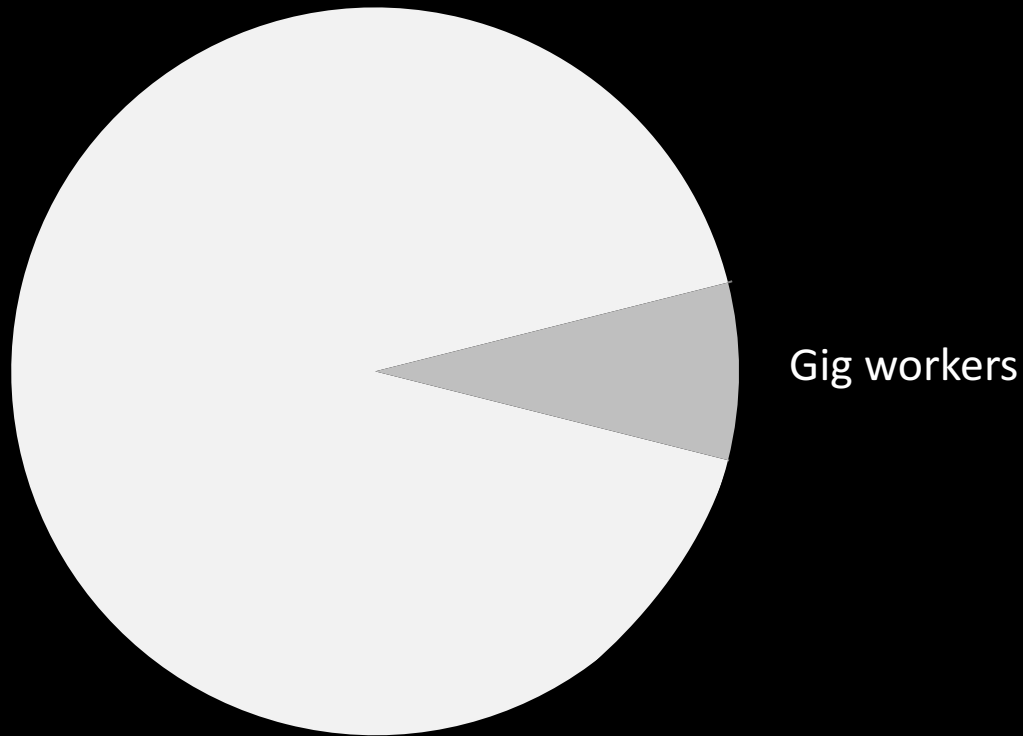
April 17, 2017 at 5:45 pm



“And I’m thinking, ‘oh come on, I just made a bundle of money and haven’t cashed out’.”

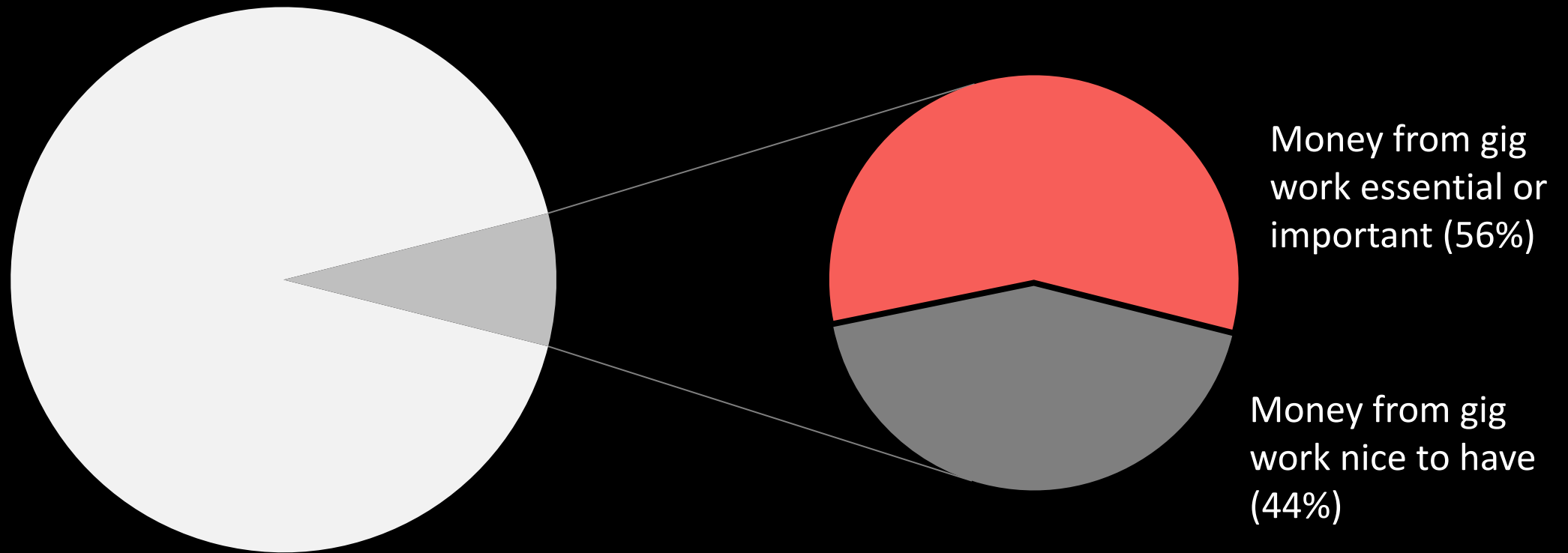
These problems  
disproportionately impact  
workers who rely on gig  
platforms for money.

In 2016, 8% of Americans earned money from an online gig platform.



Pew Research Center 2016 American Trends Panel survey.

56% of those Americans rely on that money.



Pew Research Center 2016 American Trends Panel survey.

These gig workers, economically  
reliant on platforms, often do  
not have the power to say no.

“... *all* of the net employment growth in the U.S. economy from 2005 to 2015 appears to have occurred in alternative work arrangements.”

- Lawrence F. Katz and Alan B. Krueger, The Rise and Nature of Alternative Work Arrangements in the United States, 1995-2015



Cleaner, name unknown.  
Handy instructional video

How do the systems you design,  
test, and study allocate security  
risk?

Is it to those with the least  
power to say no?

Thanks to Data & Society and Pew Research Center for foundational work in this space.

Thank you to Melanie Ensign, Erica Portnoy, Mary L. Gray, Susan McGregor, Schuyler Towne, David Evans, and Franziska Roesner for their input on this talk.

Images are courtesy WOC in Tech Chat, CC-BY 2.0, unless otherwise indicated.

For further reading, check out the work of:

- Julia Ticona
- Alex Rosenblat
- Alexandra Mateescu
- Mary L. Gray
- Siddharth Suri
- Elissa M. Redmiles



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