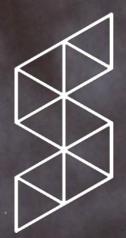
What Keeps us up at Night?

A Content Sharing Vendor's Threat Models





Alex Nauda CTO, SHIFT



Content Leaks

Big hacks and malware infections get a lot of press

Protection against them is vitally important

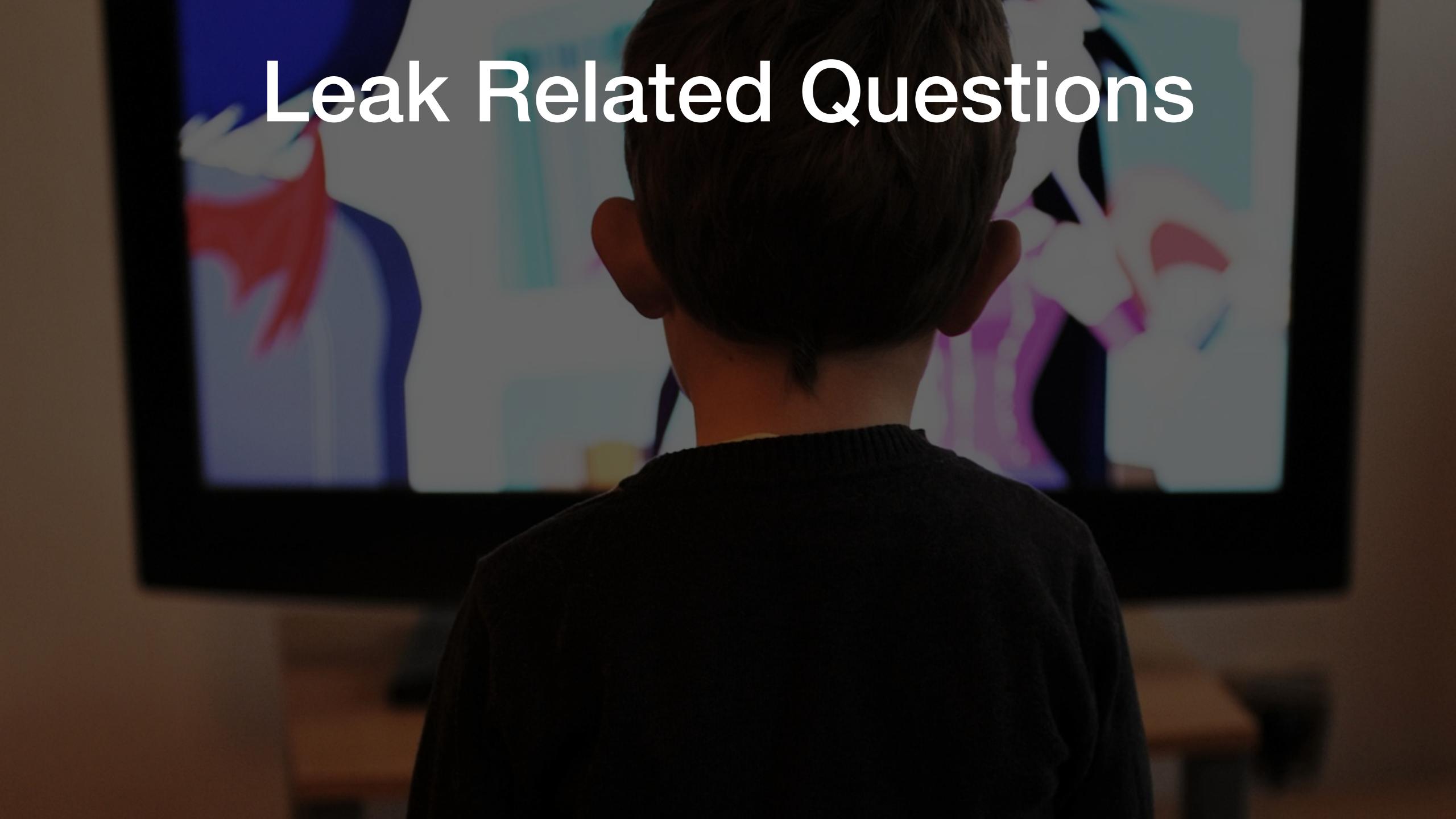
Less sophisticated patterns of misuse cause a lot of problems

- Damage to media properties
- Cost of cleanup

Mundane leak scenarios

Observed as most common leak sources for our customers

Recent focus on improving detection and response



What is the content?

• Is it cultish or nerdy, or has some anticipated reveal?

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- Have you been doing a good job marketing it? Congrats!

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- Is it cultish or nerdy, or has some anticipated reveal?
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What controls did we use when we shared it?

Did we lower our guard?

What is the content?

- Is it cultish or nerdy, or has some anticipated reveal?
- Have you been doing a good job marketing it? Congrats!
- Someone likes it and thinks everyone has to see this thing right away

- Did we lower our guard?
- On purpose or by accident?

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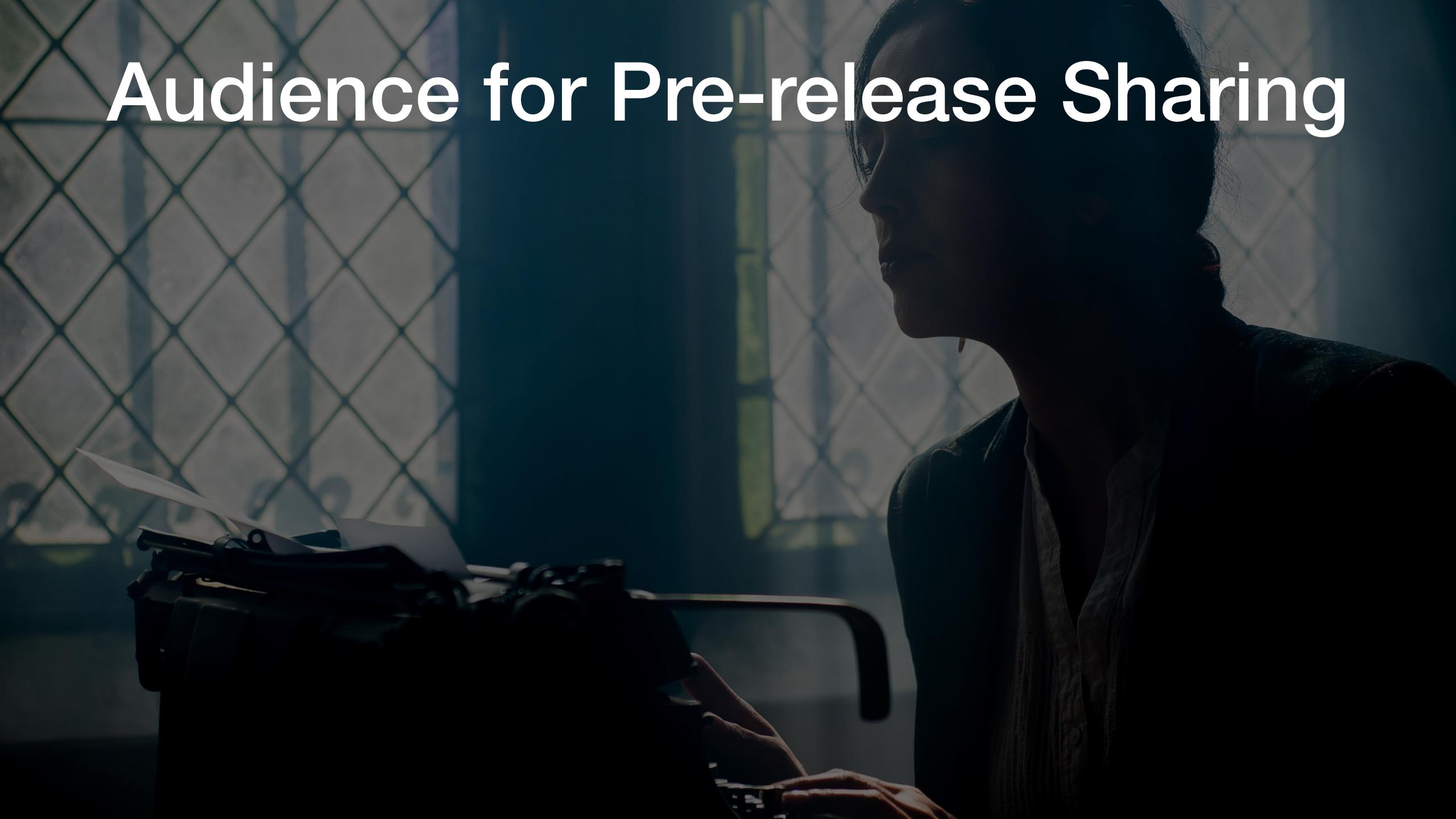
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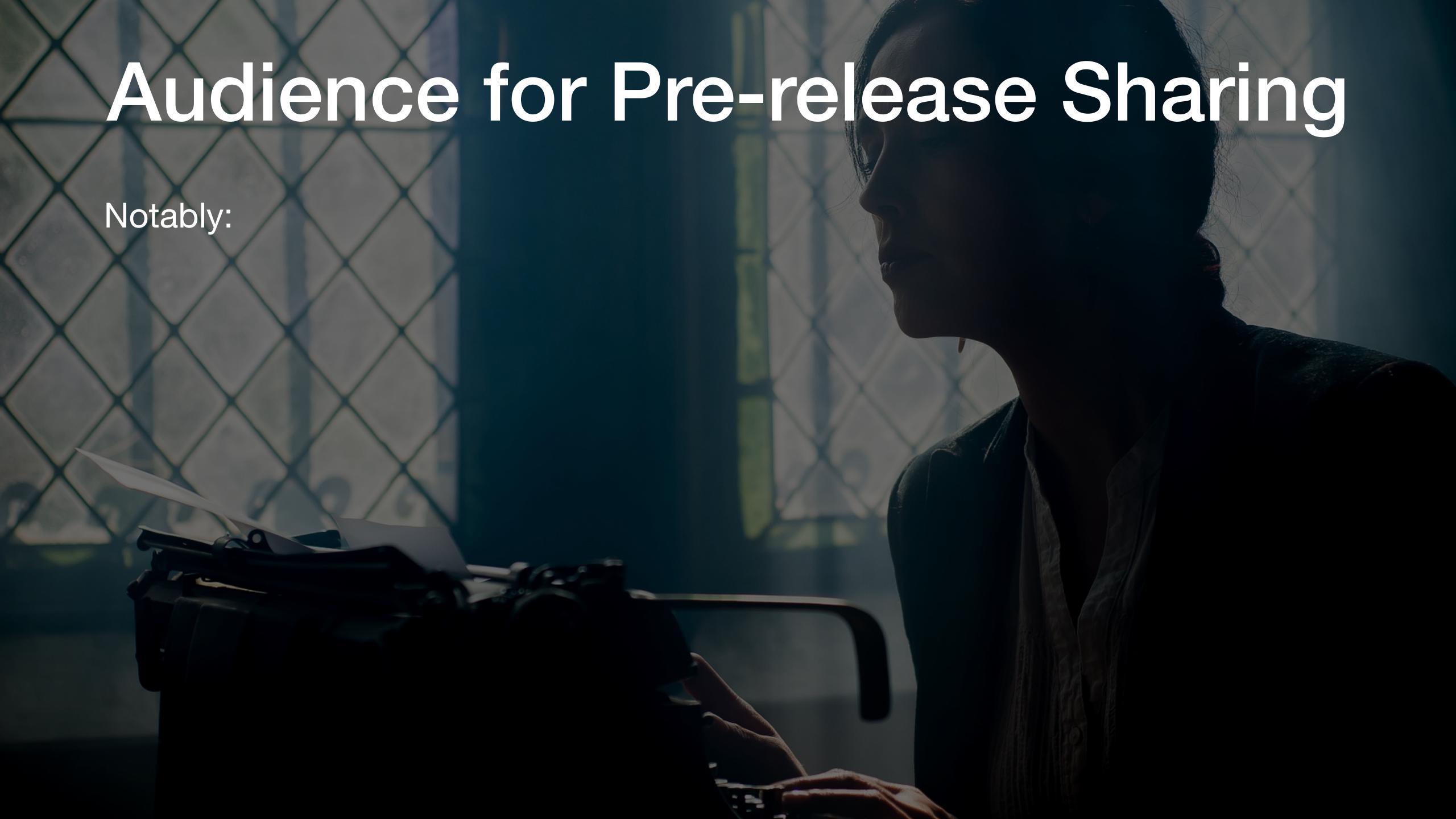
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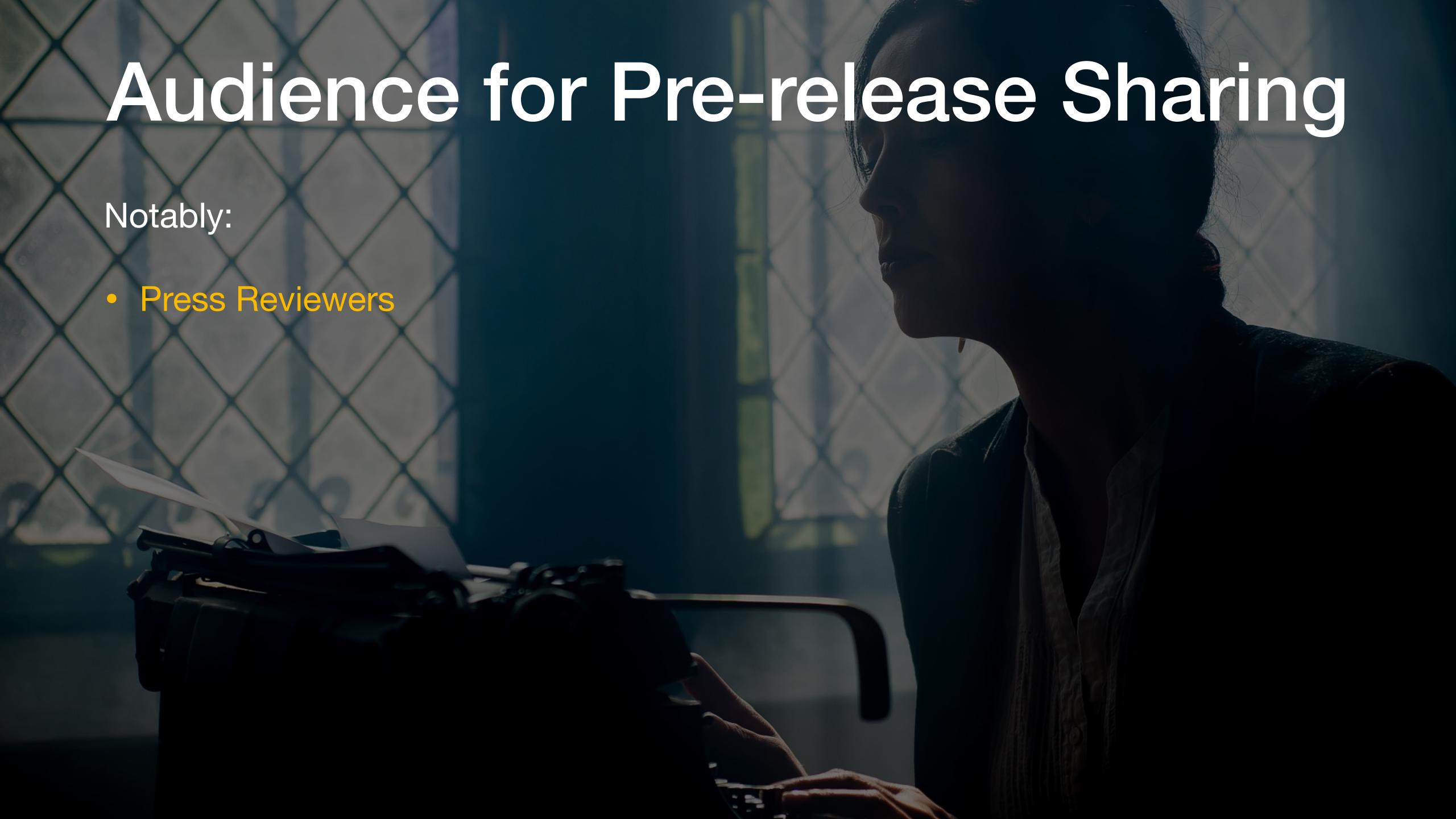
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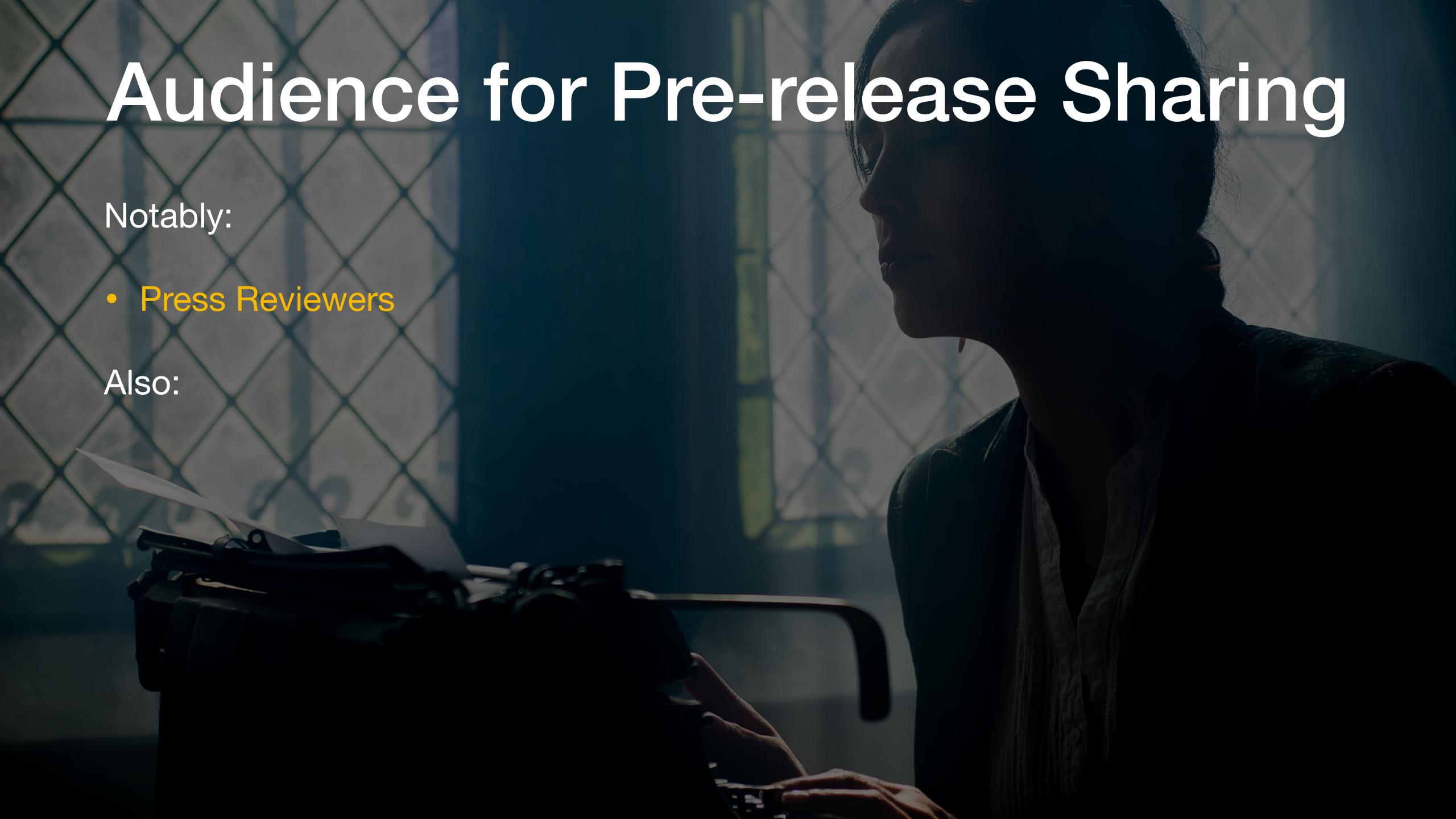
- Is it cultish or nerdy, or has some anticipated reveal?
- Have you been doing a good job marketing it? Congrats!
- Someone likes it and thinks everyone has to see this thing right away

- Did we lower our guard?
- On purpose or by accident?
- For what purpose?
- Who are we making it easy for and why?









Notably:

Press Reviewers

Also:

VIPs of various kinds

Notably:

Press Reviewers

Also:

- VIPs of various kinds
- External team members

Notably:

Press Reviewers

Also:

- VIPs of various kinds
- External team members
- Internal team members doing the sharing

Notably:

Press Reviewers

Also:

- VIPs of various kinds
- External team members
- Internal team members doing the sharing

In other words, all kinds of people will have access

• Screeners.com Press screening platform

- Screeners.com Press screening platform
- SafeStream Real-time watermarking service and API

- Screeners.com Press screening platform
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- MediaSilo Content sharing workflows and lightweight cloud DAM

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Screeners.com Press screening platform



Today's Focus

- SafeStream Real-time watermarking service and API
- MediaSilo Content sharing workflows and lightweight cloud DAM
- Wiredrive Content presentation workflows and cloud content library
- SHIFT New content sharing and presentation platform





• Screeners.com Press screening platform

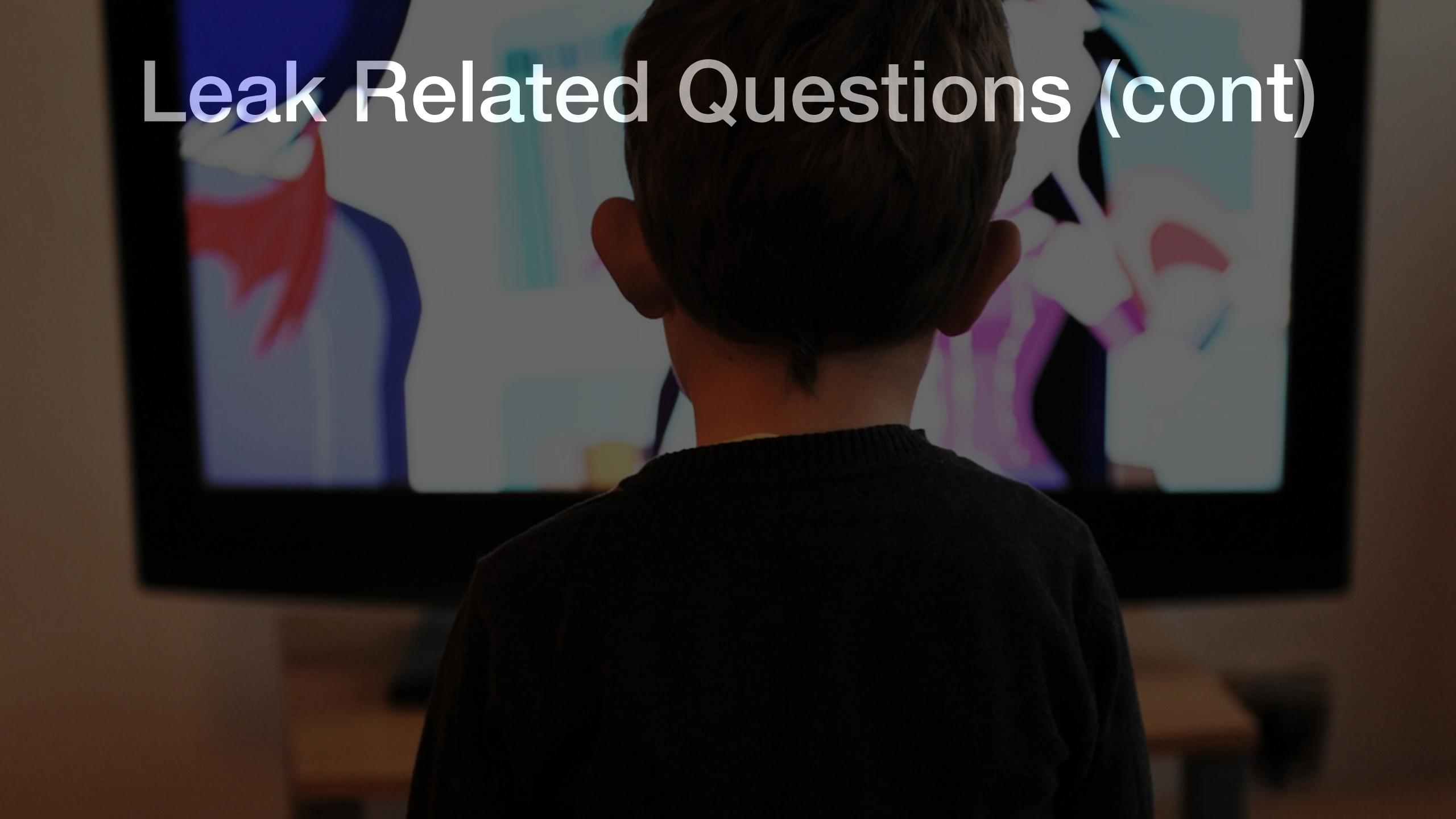
Today's Focus

- SafeStream Real-time watermarking service and API
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Other Relevant Experience



How did the authorized user lose custody?

Was it shared on purpose? By accident? Without their knowledge?

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- Authorized users don't usually pirate it directly

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- Was it shared on purpose? By accident? Without their knowledge?
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- "Oversharing"

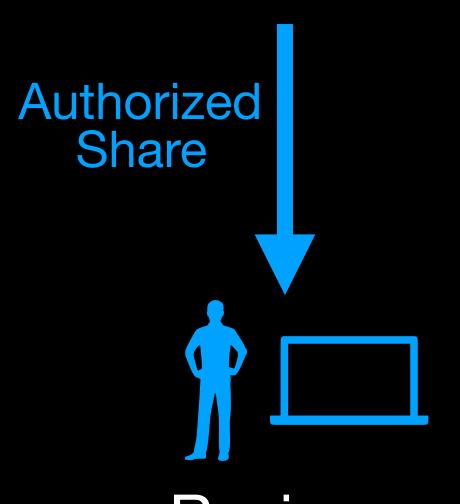
Threat 1: Oversharing

An authorized user intentionally shares access with an unauthorized user



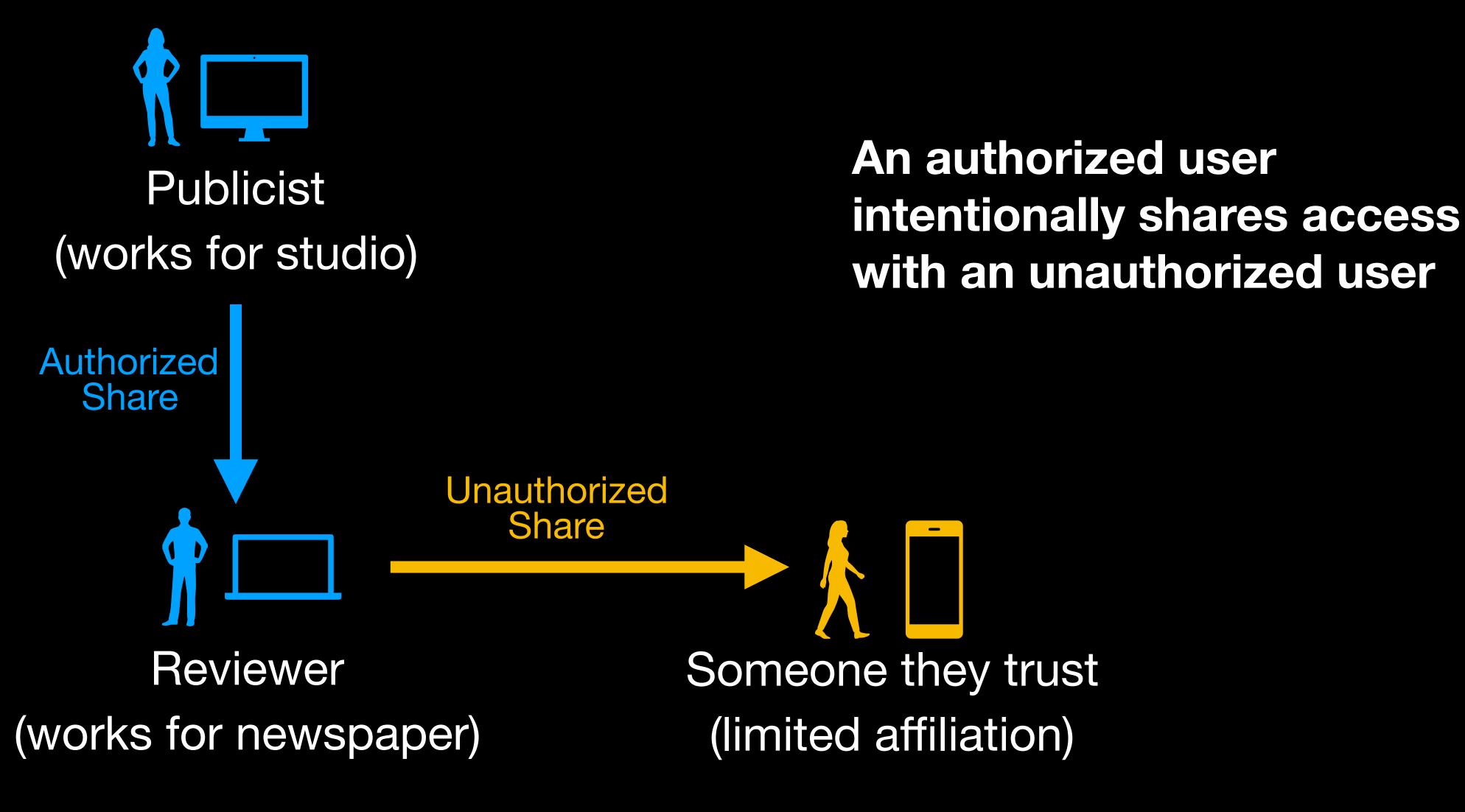
An authorized user intentionally shares access with an unauthorized user

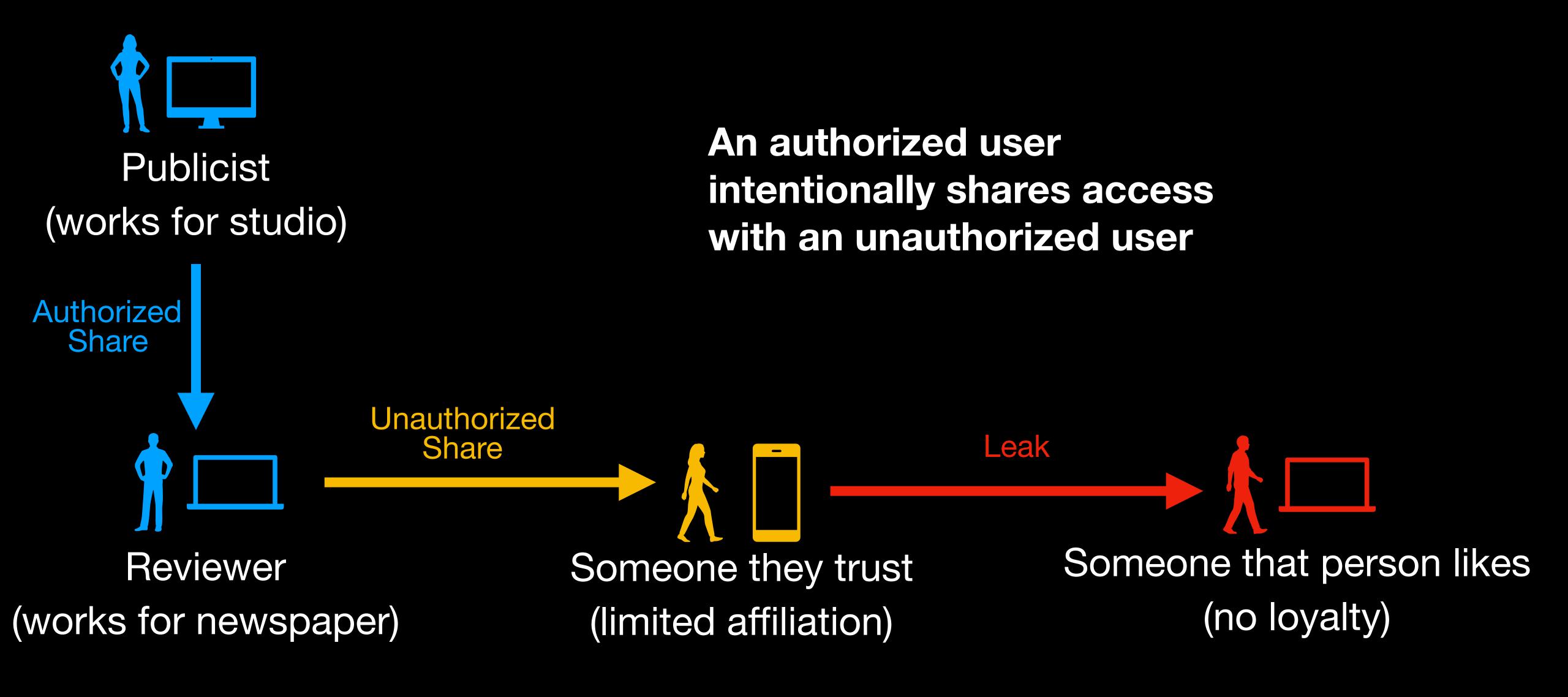




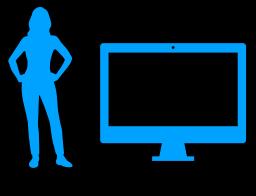
Reviewer (works for newspaper)

An authorized user intentionally shares access with an unauthorized user





Code Name: "The Lover"



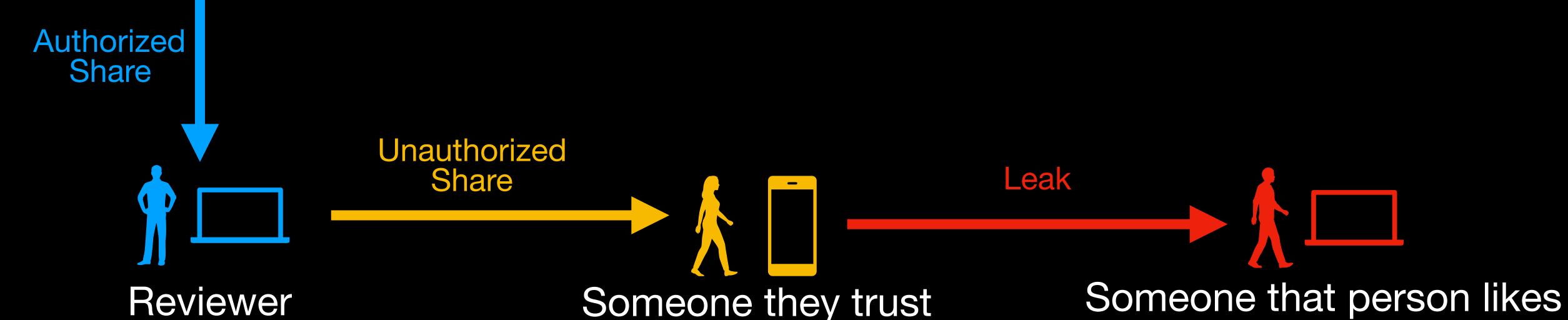
Publicist

(works for studio)

(works for newspaper)

An authorized user intentionally shares access with an unauthorized user

(no loyalty)

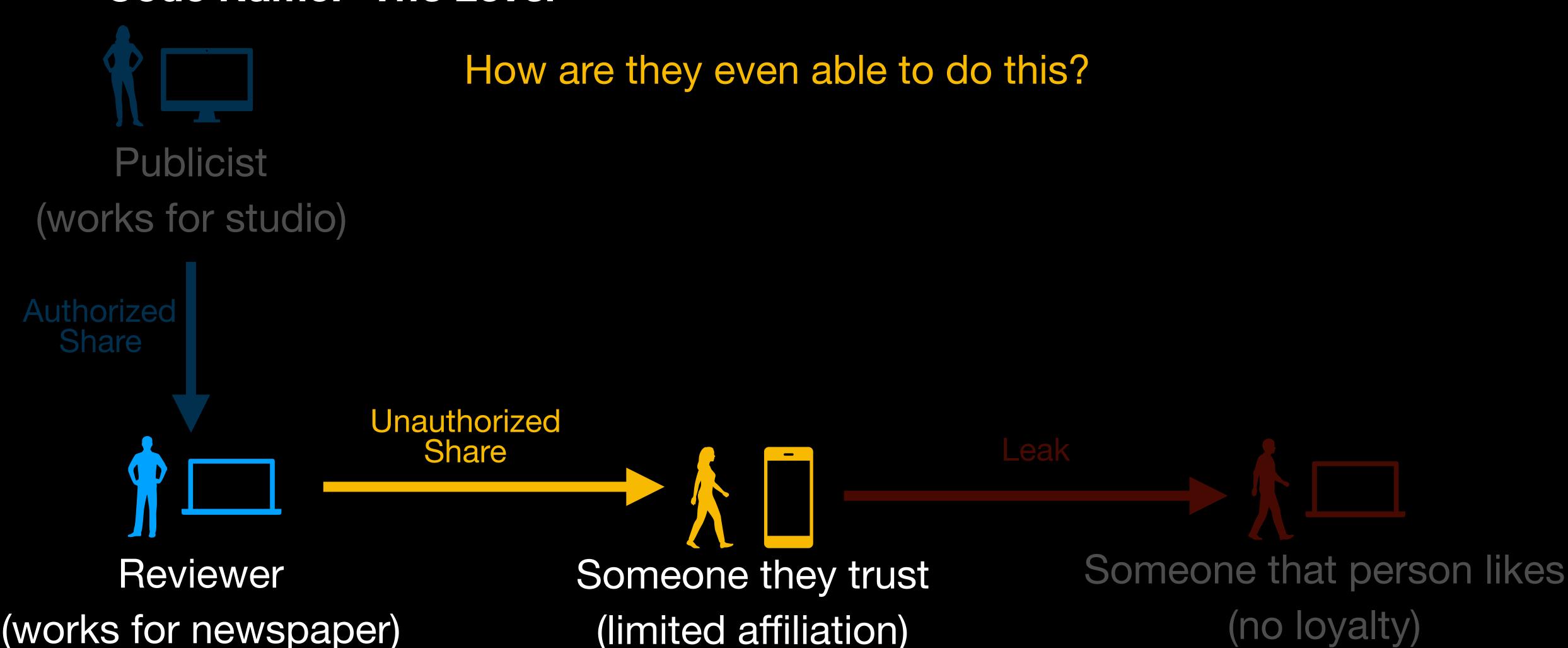


(limited affiliation)

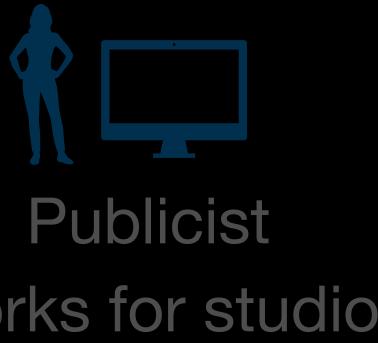
Code Name: "The Lover"



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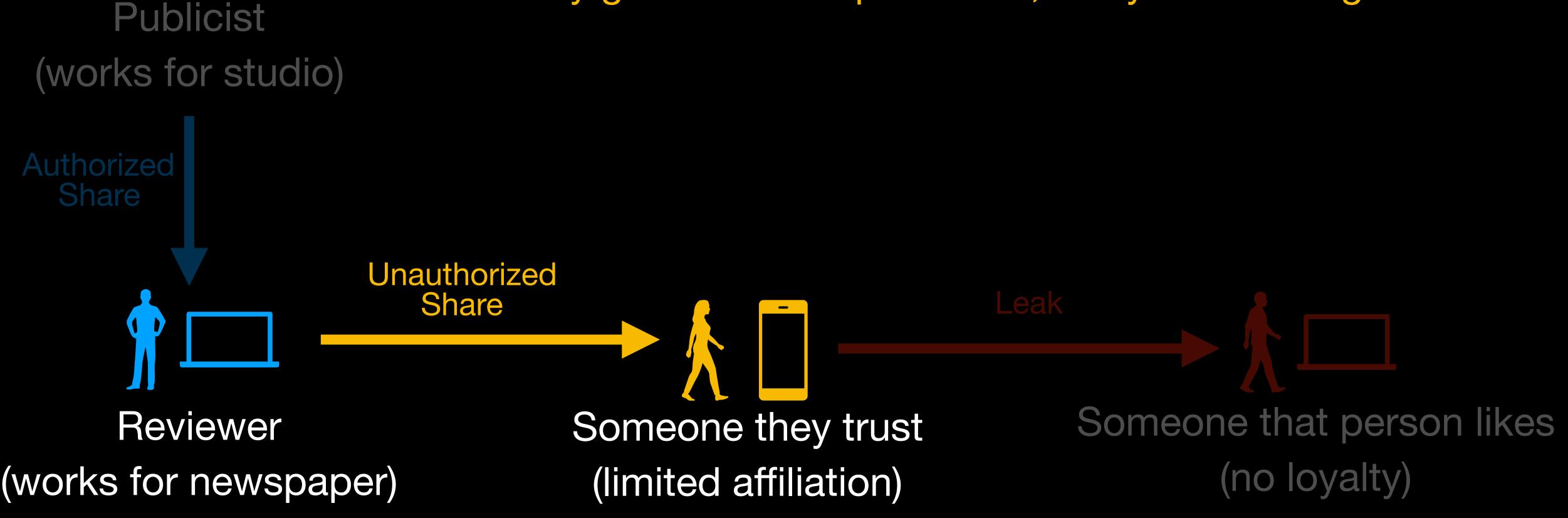


Code Name: "The Lover"

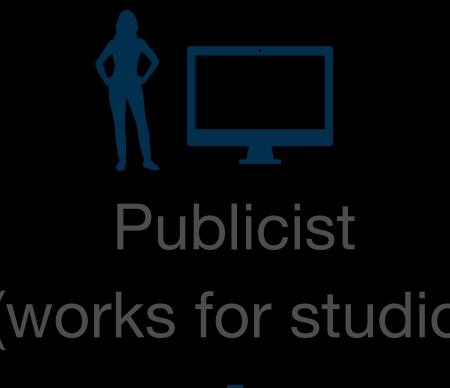


How are they even able to do this?

They give them the password, "Maybe I'll change it later"



Code Name: "The Lover"



How are they even able to do this?

- They give them the password, "Maybe I'll change it later"
 - LET'S ELIMINATE PASSWORDS!

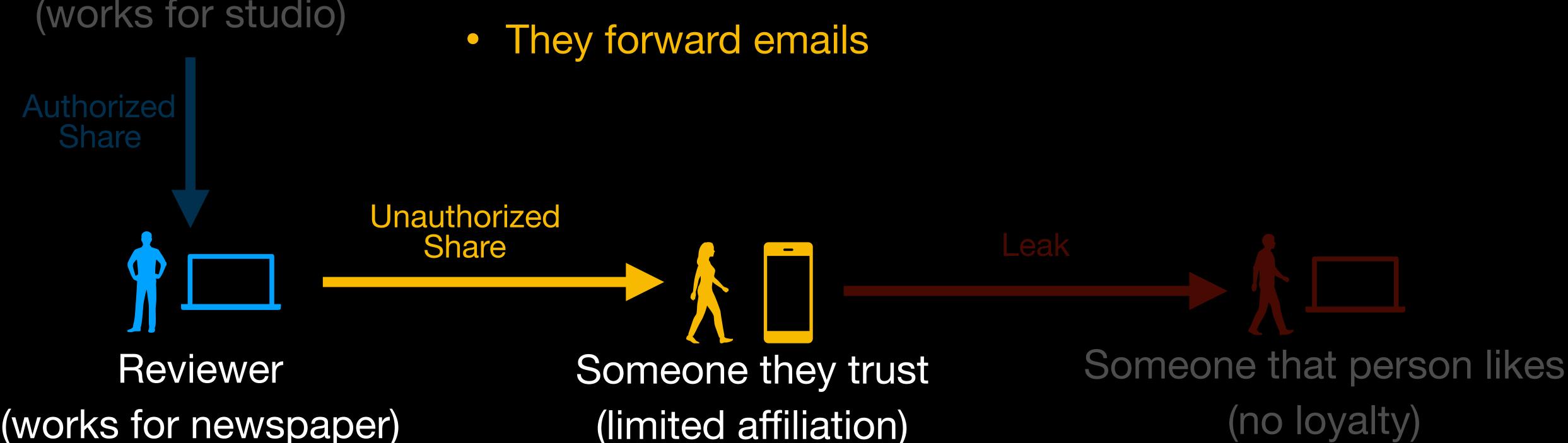


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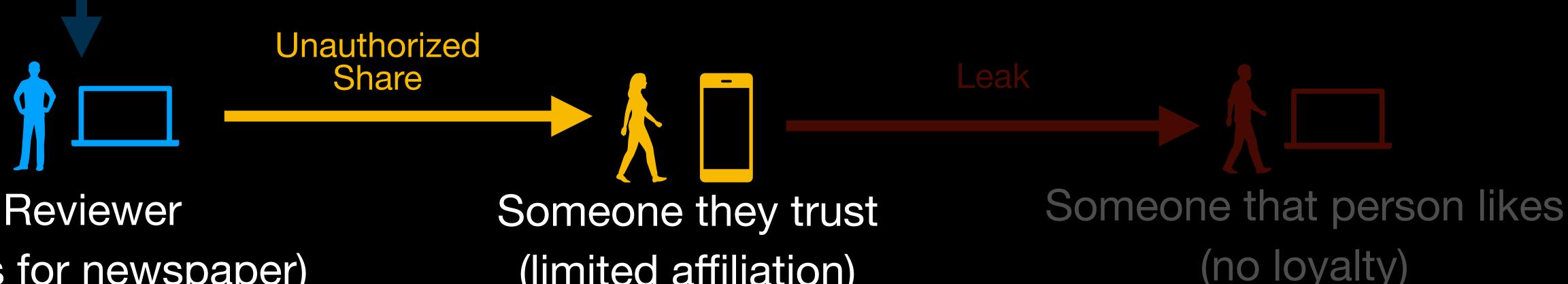
Code Name: "The Lover"



(works for newspaper)

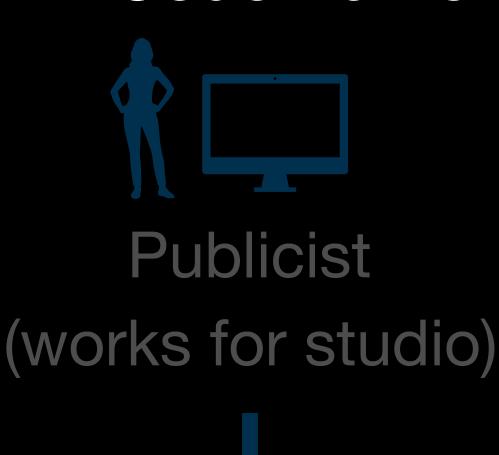
How are they even able to do this?

- They give them the password, "Maybe I'll change it later"
 - LET'S ELIMINATE PASSWORDS!
- They forward emails
- They download/rip and share the file



(limited affiliation)

Code Name: "The Lover"





Reviewer (works for newspaper) Someone they trust (limited affiliation)



Someone that person likes (no loyalty)

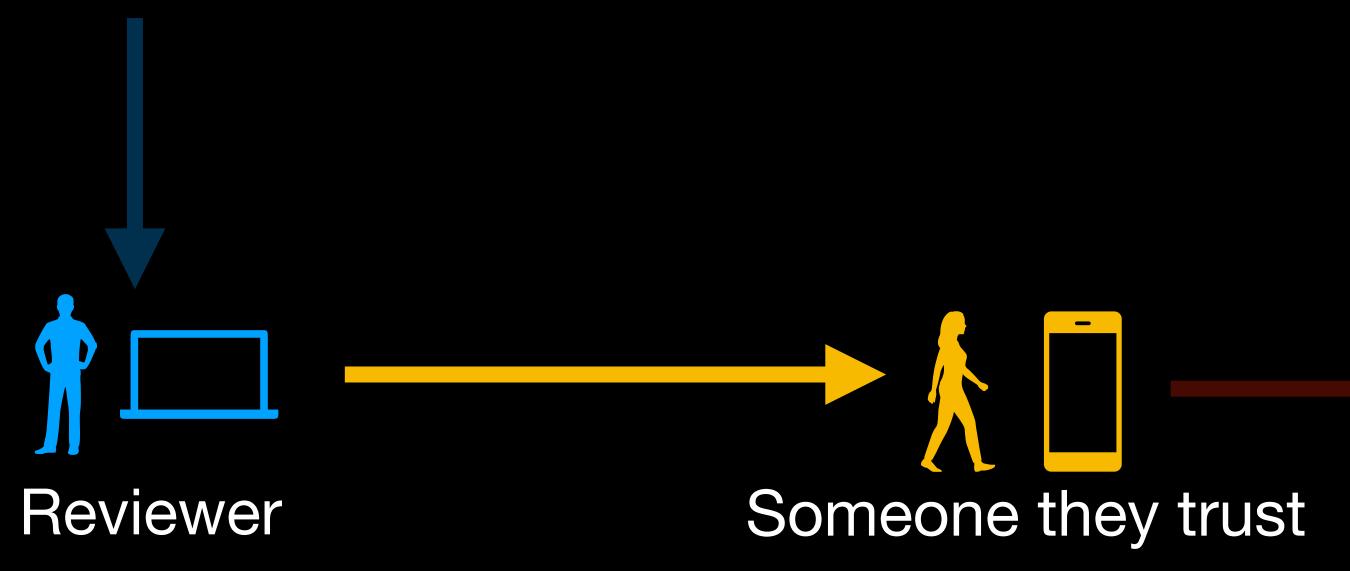
Code Name: "The Lover"



/

Magic login link only - No password to forward

(works for studio)

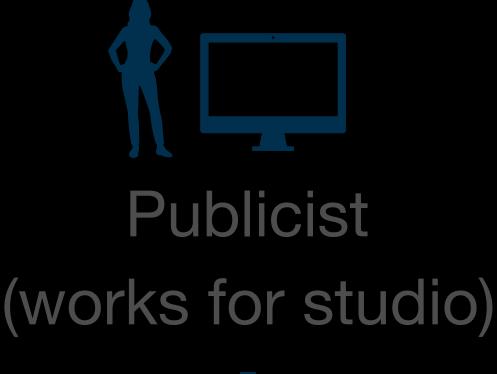


Someone that person likes (no loyalty)

(works for newspaper)

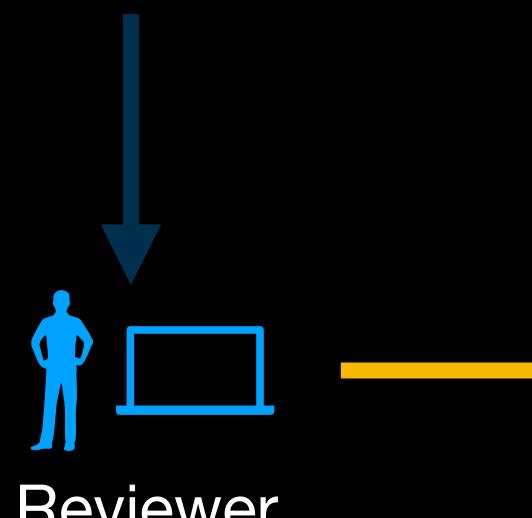
(limited affiliation)

Code Name: "The Lover"

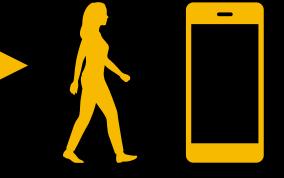


- **/**
 - Magic login link only No password to forward
- **/**

MFA requirement settable by content



Reviewer (works for newspaper)

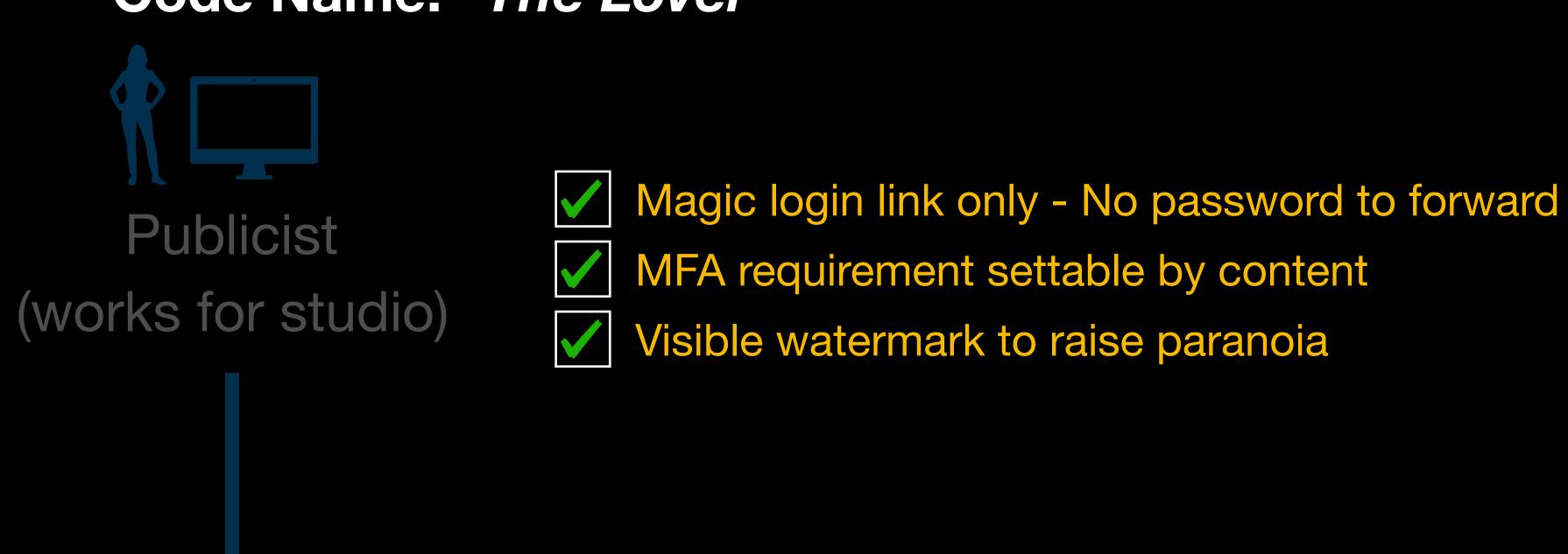


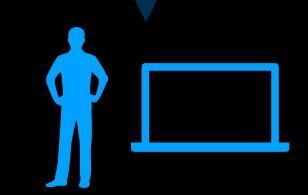
Someone they trust (limited affiliation)



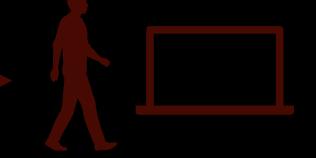
Someone that person likes (no loyalty)

Code Name: "The Lover"





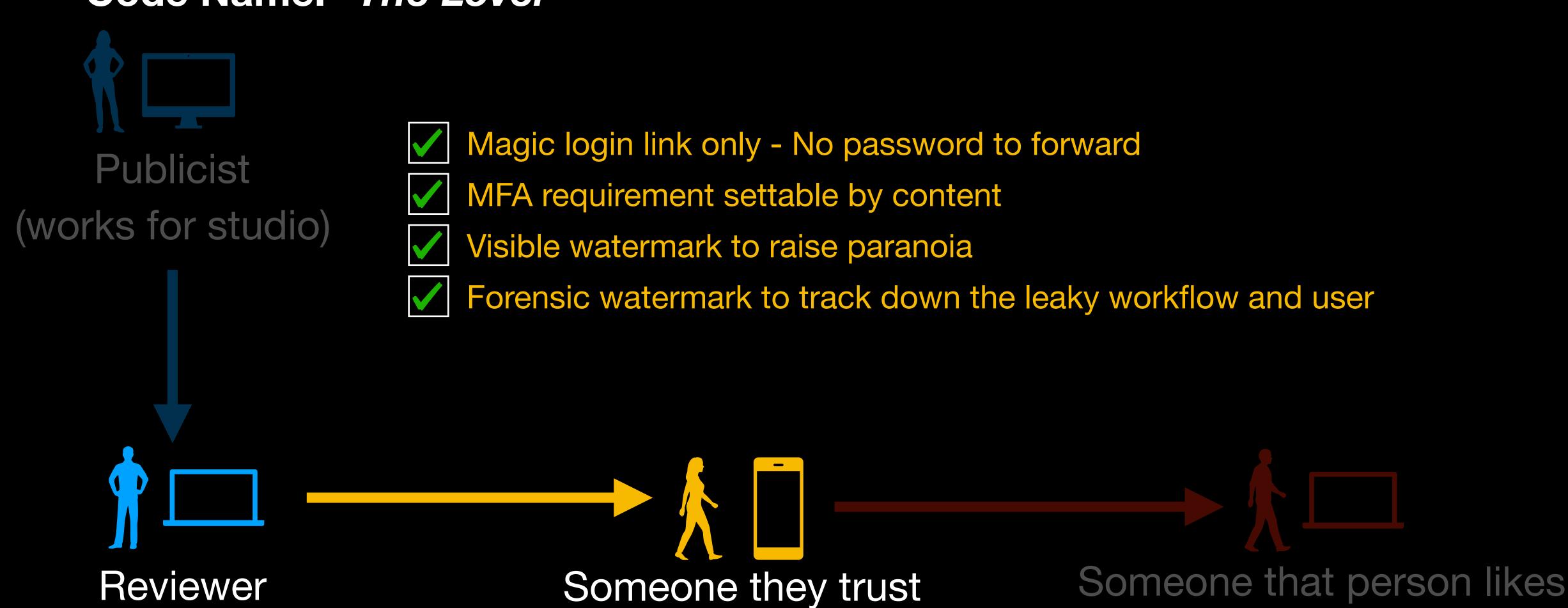
Reviewer (works for newspaper) Someone they trust (limited affiliation)



Someone that person likes (no loyalty)

Code Name: "The Lover"

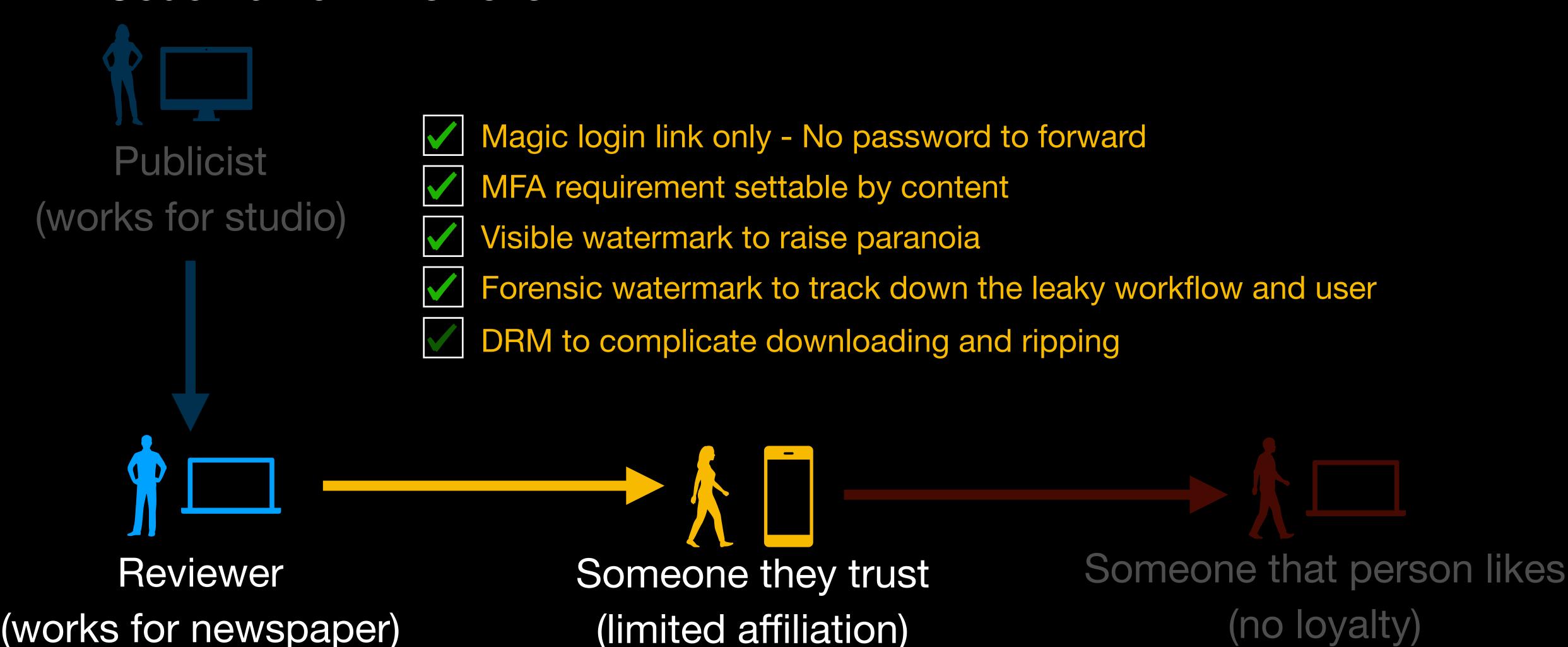
(works for newspaper)



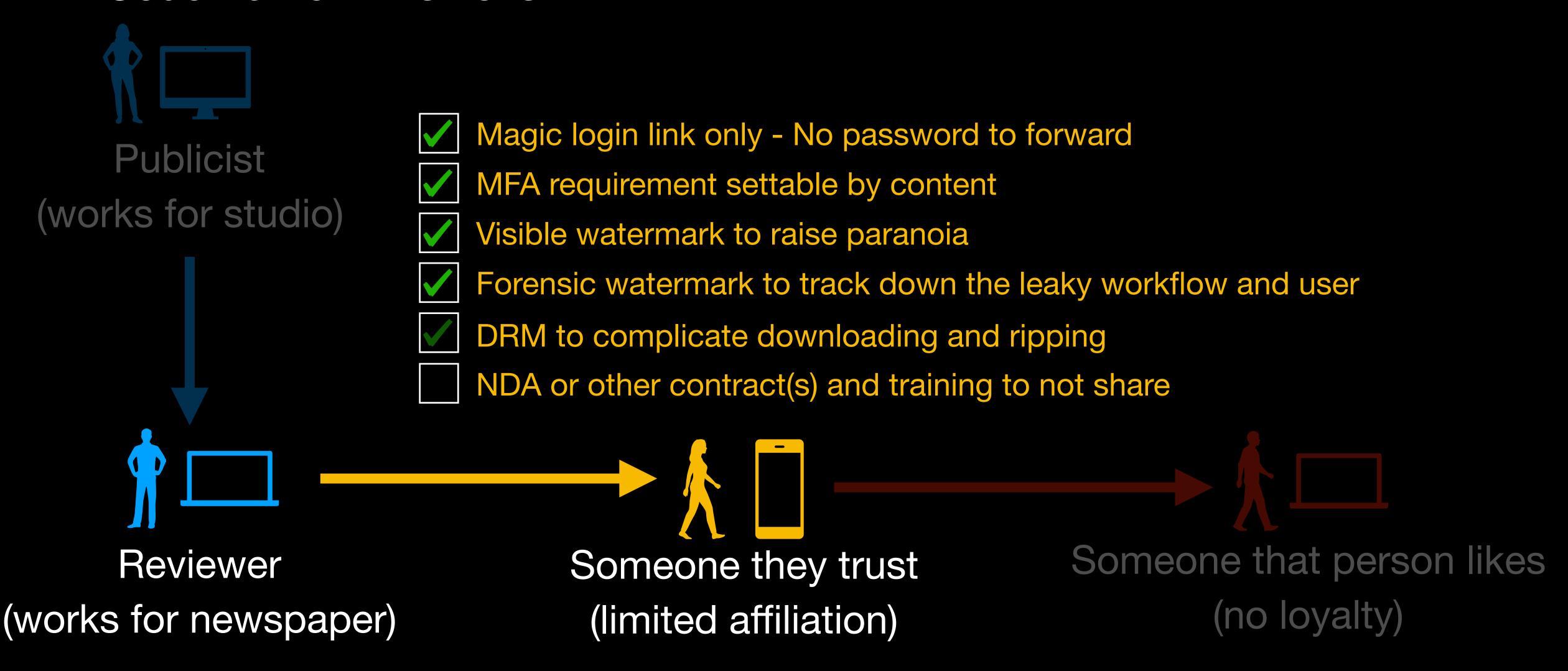
(limited affiliation)

(no loyalty)

Code Name: "The Lover"



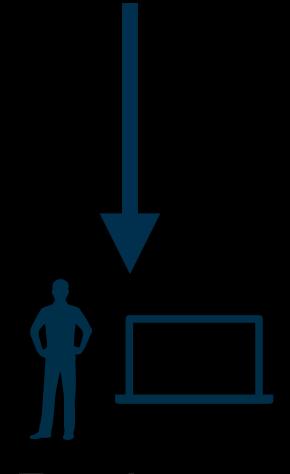
Code Name: "The Lover"



Code Name: "The Lover"



(works for studio)



Reviewer

(works for newspaper)



Someone they trust

(limited affiliation)



Someone that person likes (no loyalty)

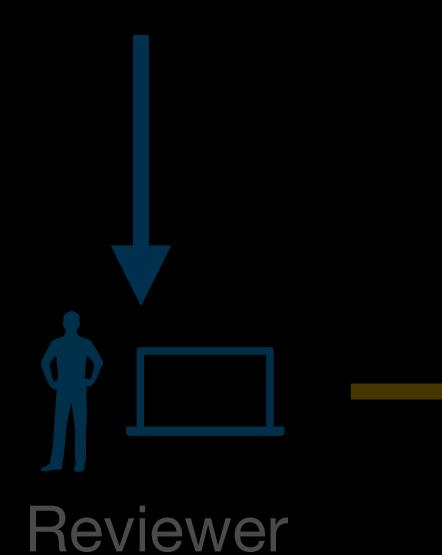
Code Name: "The Lover"



/

Magic login link only - No password to forward

(works for studio)



Someone they trust

(limited affiliation)



Someone that person likes (no loyalty)

(works for newspaper)

Code Name: "The Lover"

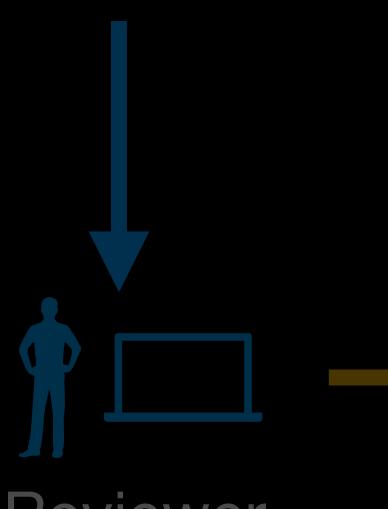


/

Magic login link only - No password to forward



MFA requirement settable by content



Reviewer (works for newspaper)

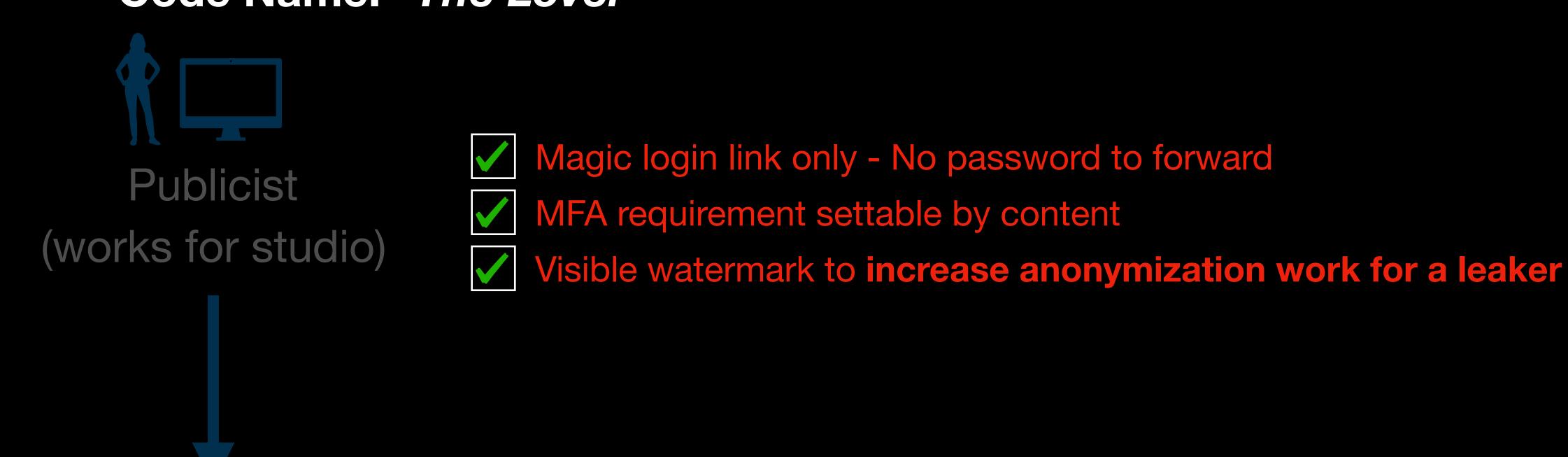


Someone they trust (limited affiliation)



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Code Name: "The Lover"

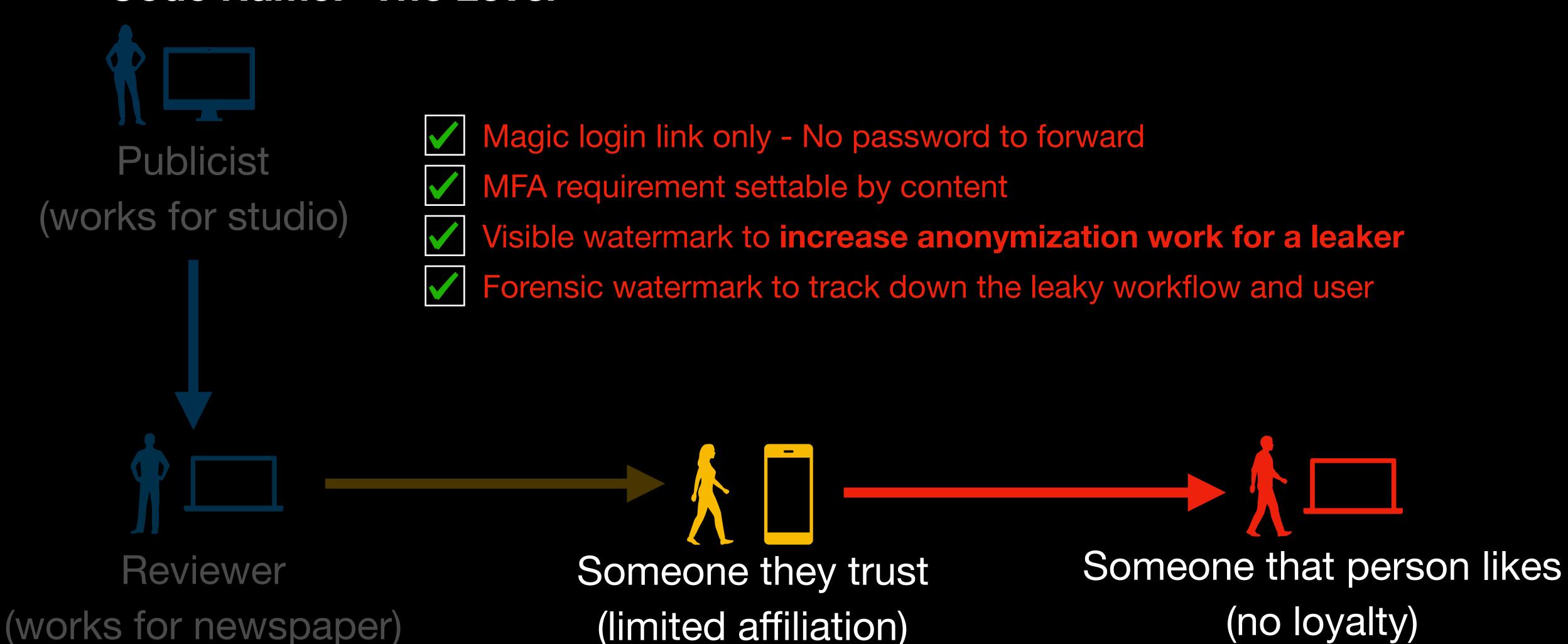


Reviewer (works for newspaper)

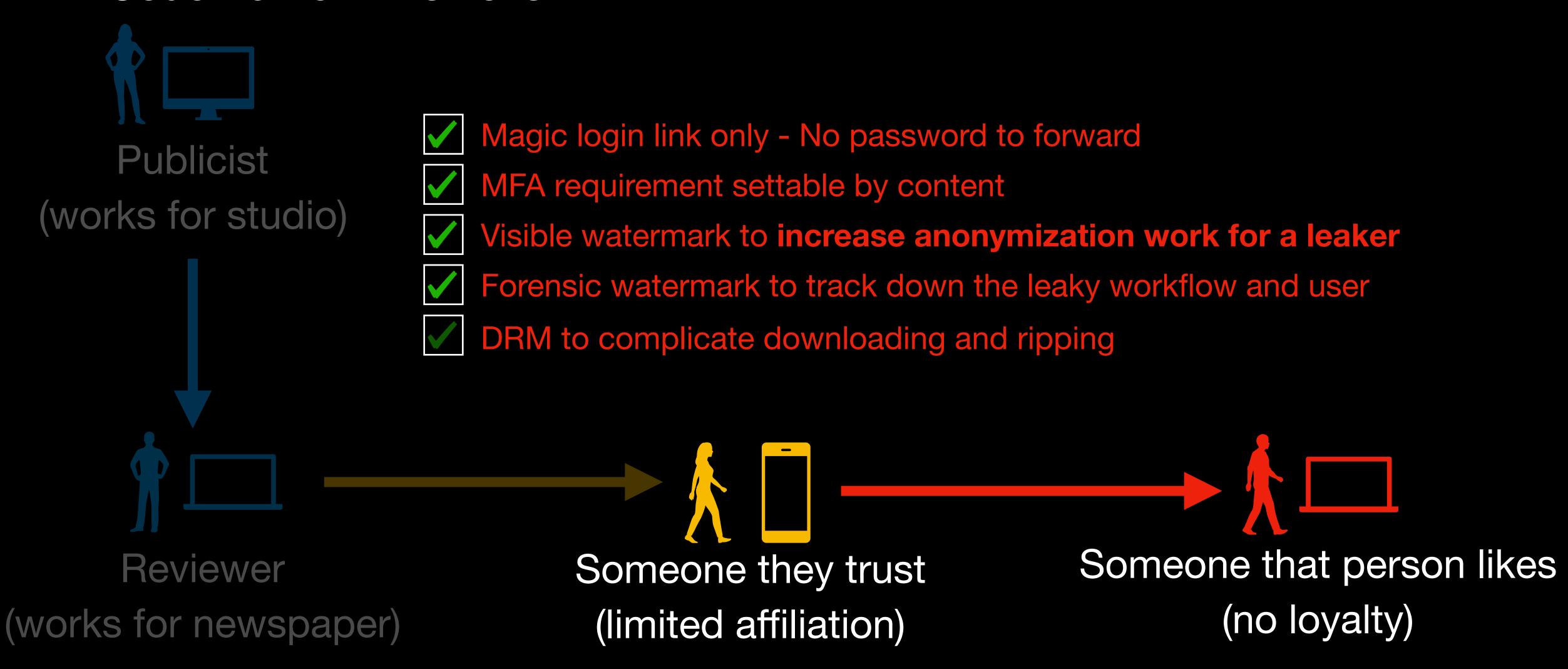
Someone they trust (limited affiliation)

Someone that person likes (no loyalty)

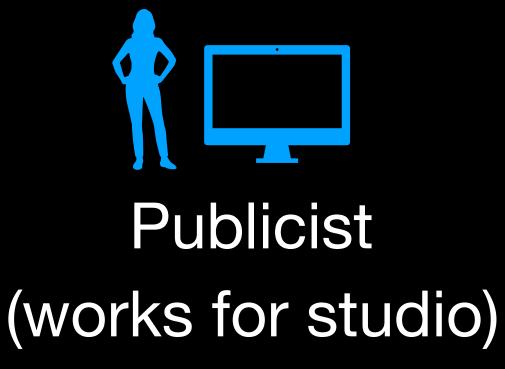
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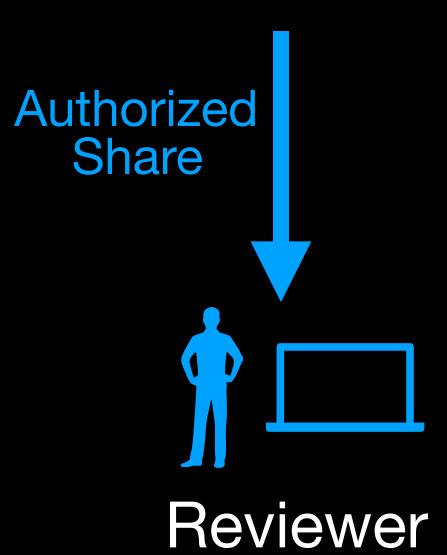


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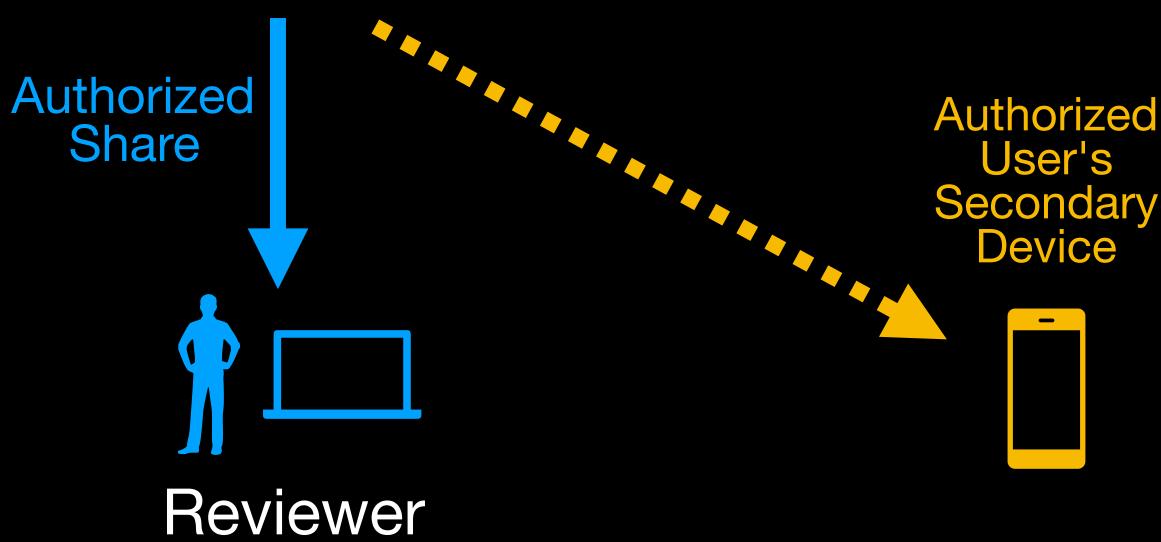




(works for newspaper)



An unauthorized user has standing access or can gain access to an authorized user's credentials

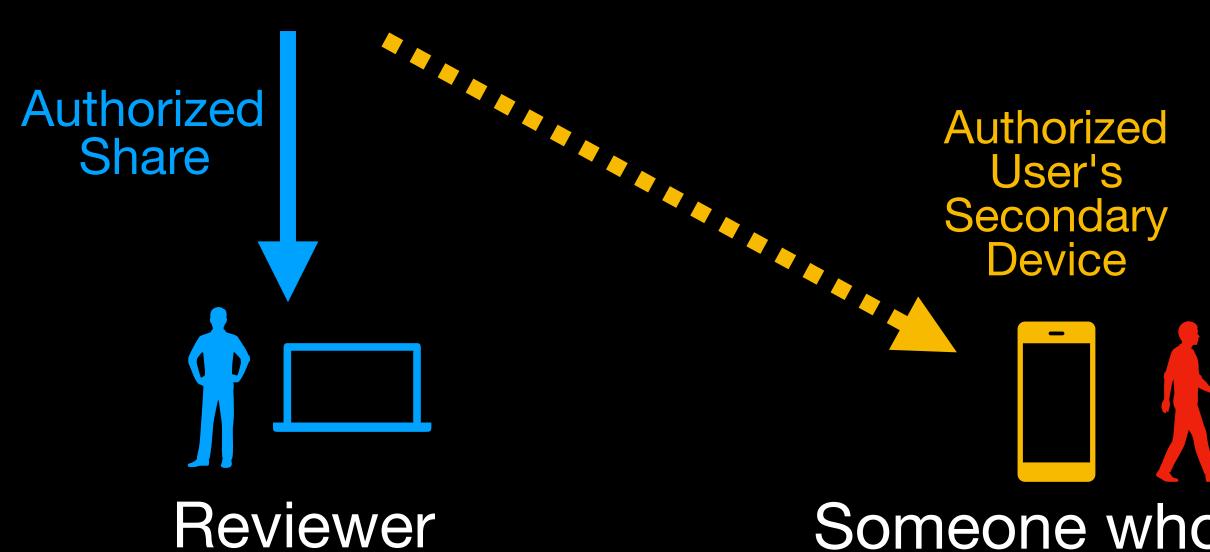


(works for newspaper)



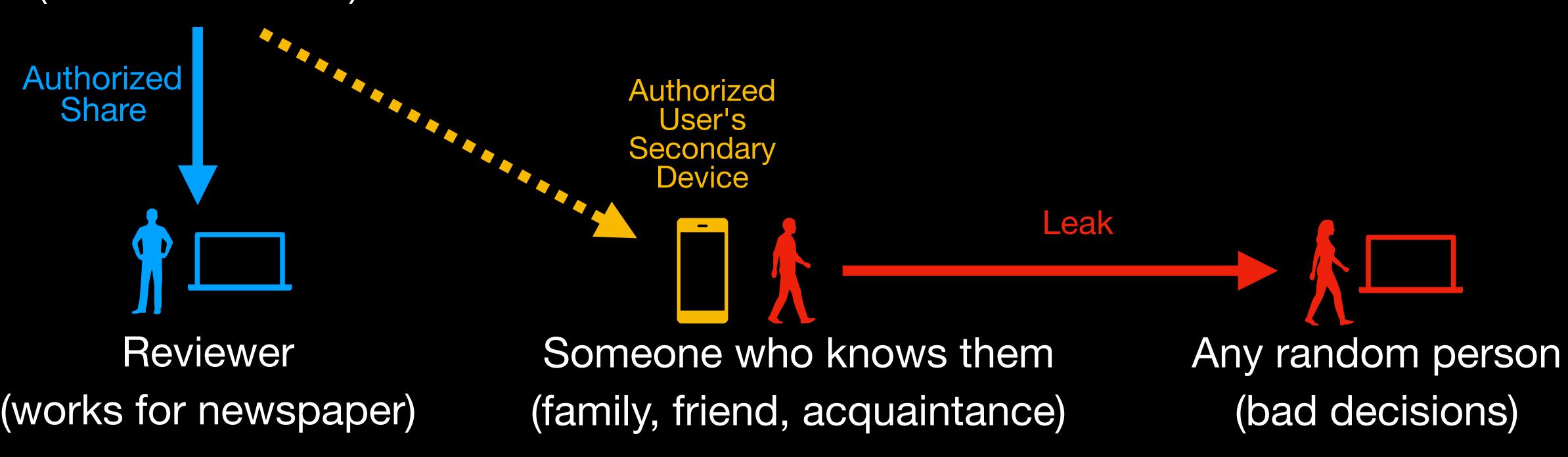
(works for newspaper)

An unauthorized user has standing access or can gain access to an authorized user's credentials



Someone who knows them (family, friend, acquaintance)





Code Name: "The Stale iPad"



Publicist

(works for studio)

An unauthorized user has standing access or can gain access to an authorized user's credentials

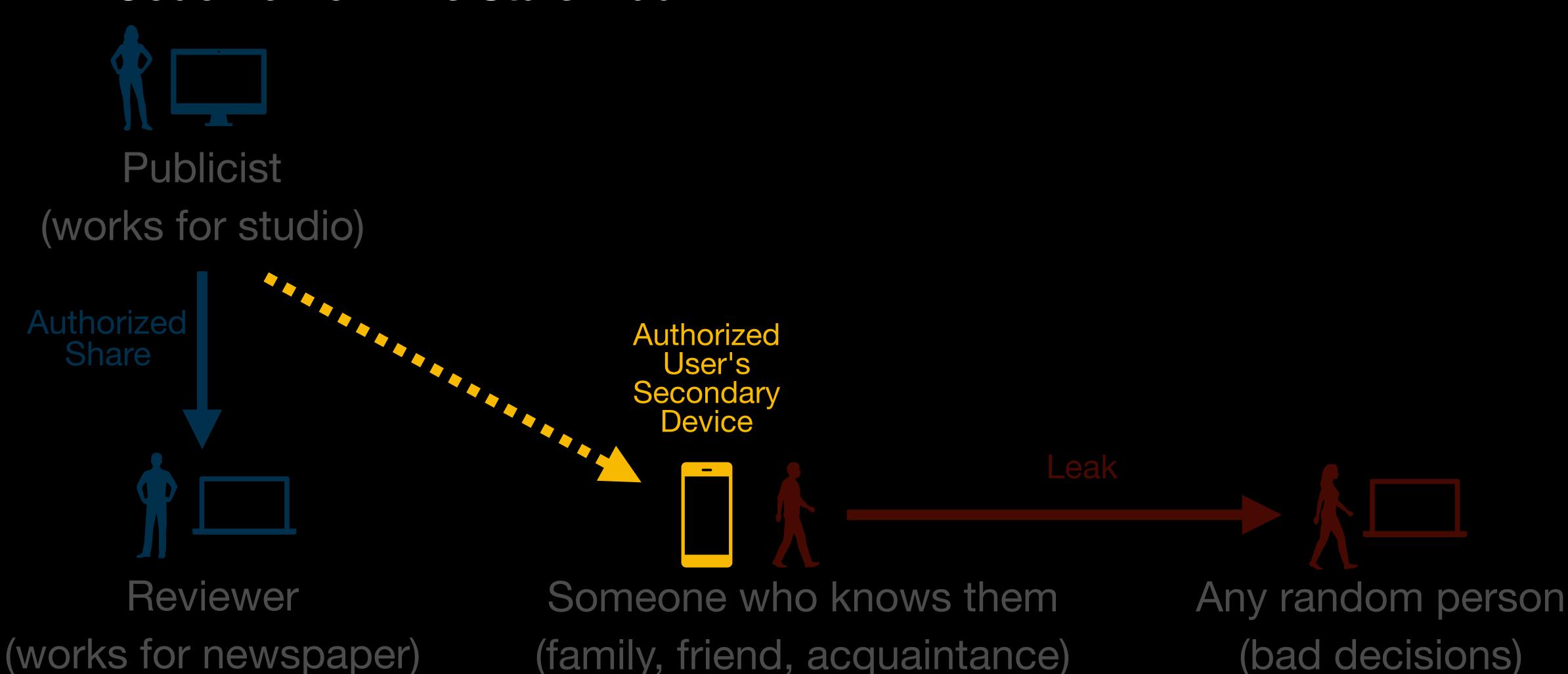


Reviewer (works for newspaper)

Someone who knows them (family, friend, acquaintance)

Any random person (bad decisions)

Code Name: "The Stale iPad"



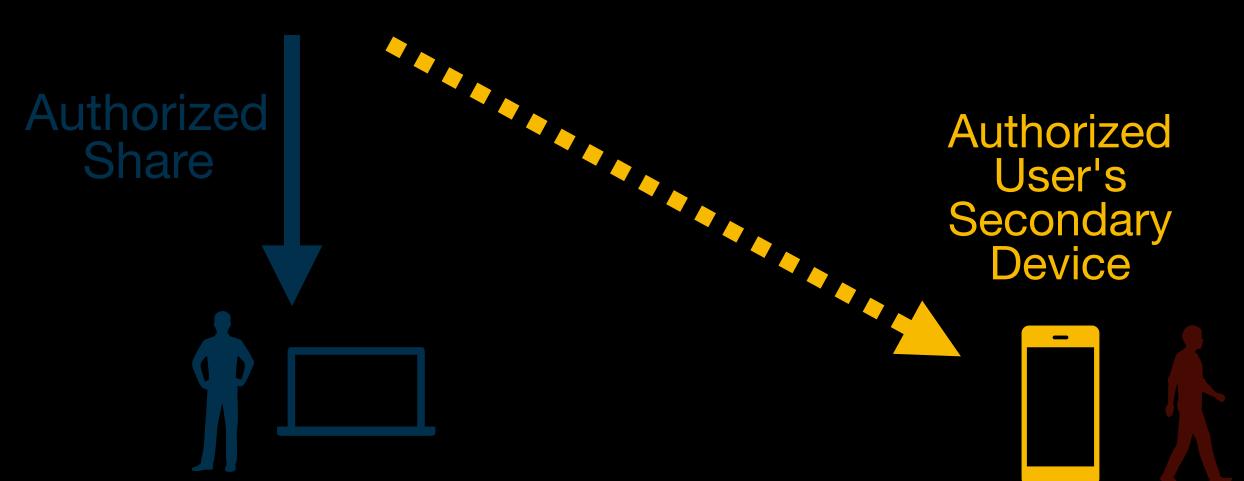
Code Name: "The Stale iPad"

How does this device even have access?



i ubiicist

(works for studio)



Reviewer

(works for newspaper)

Someone who knows them (family, friend, acquaintance)



Any random person (bad decisions)

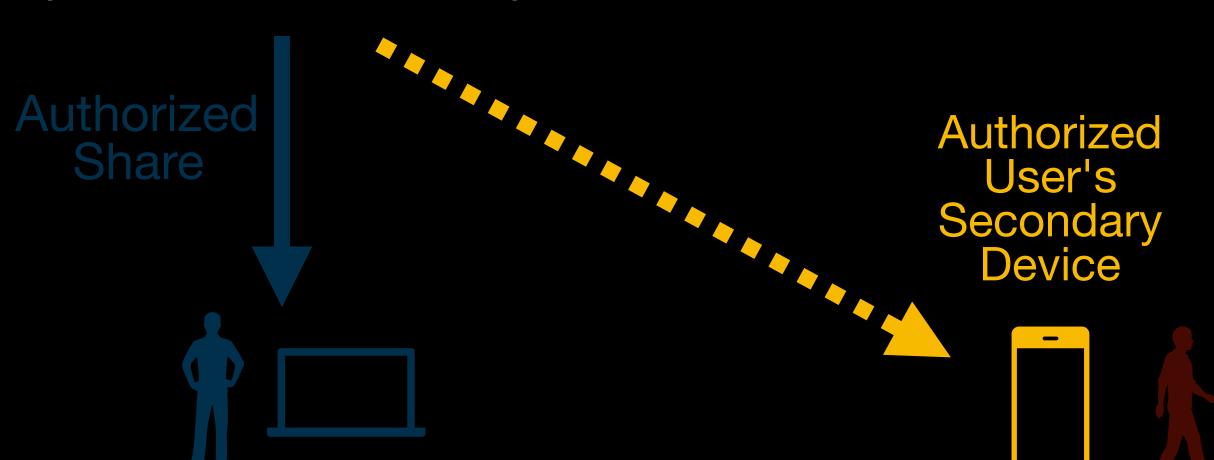
Someone who knows them

(family, friend, acquaintance)

Code Name: "The Stale iPad"

Publicist

(works for studio)



Reviewer

(works for newspaper)

How does this device even have access?

Passwords, ugh



Code Name: "The Stale iPad"

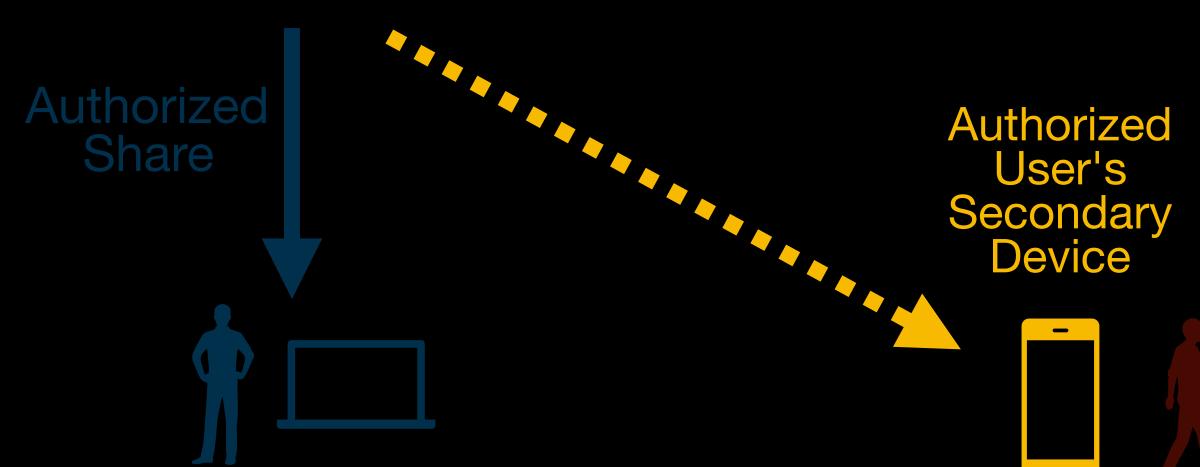


Publicist

(works for studio)

How does this device even have access?

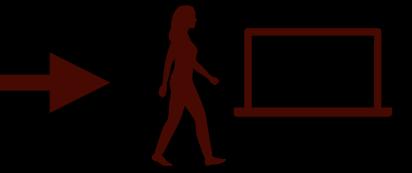
- Passwords, ugh
 - Devices save them!



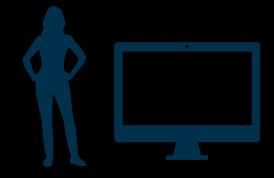
Reviewer

(works for newspaper)

Someone who knows them (family, friend, acquaintance)



Code Name: "The Stale iPad"

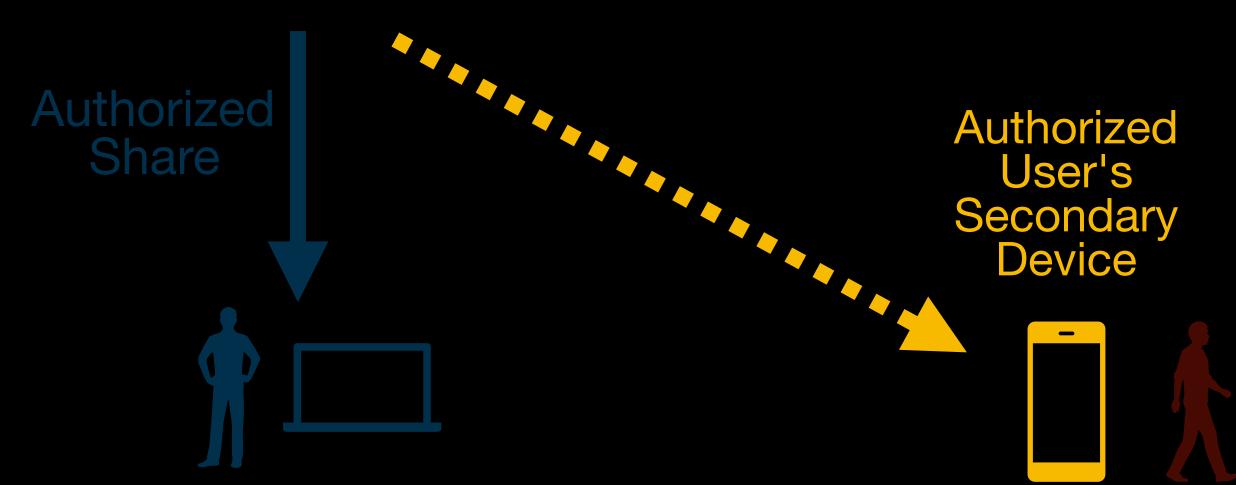


Publicist

(works for studio)

How does this device even have access?

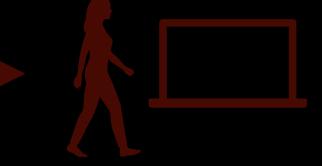
- Passwords, ugh
 - Devices save them!
 - People reuse them! Share them!



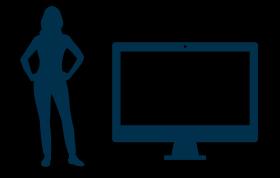
Reviewer

(works for newspaper)

Someone who knows them (family, friend, acquaintance)

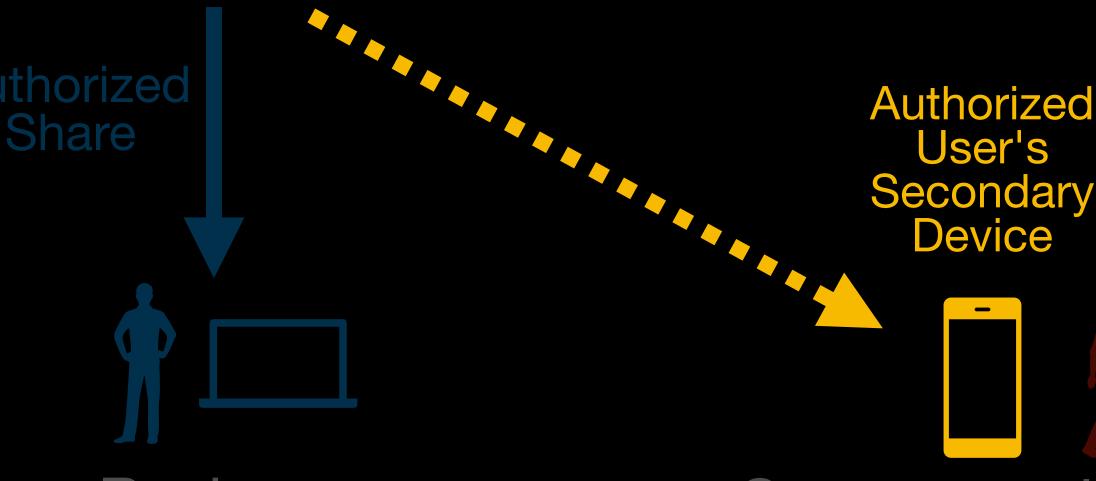


Code Name: "The Stale iPad"



Publicist

(works for studio)



Reviewer

(works for newspaper)

How does this device even have access?

- Passwords, ugh
 - Devices save them!
 - People reuse them! Share them!
 - Family and friends know their 4- or 6digit passcode and password habits

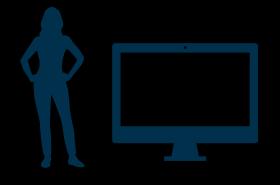
Leak

A

I

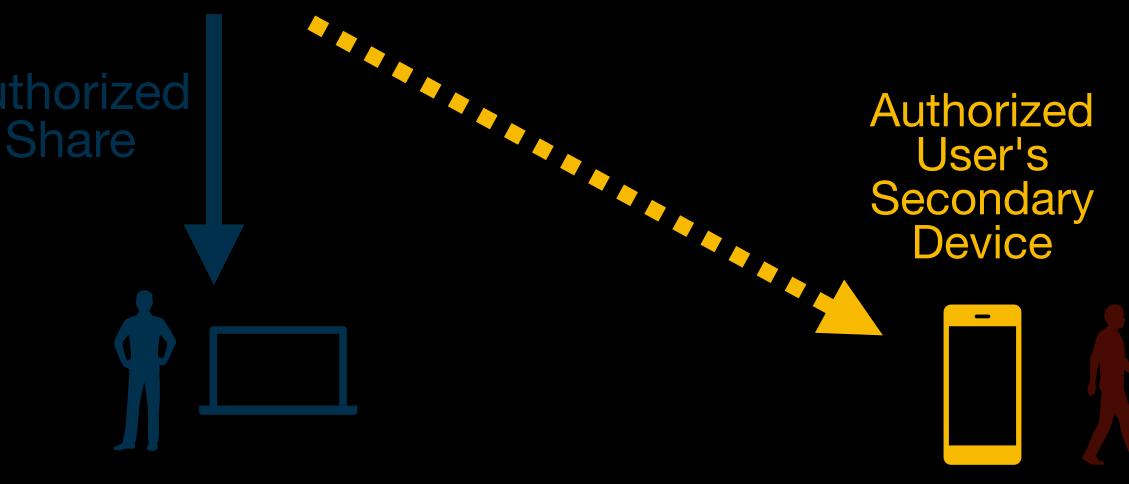
Someone who knows them (family, friend, acquaintance)

Code Name: "The Stale iPad"



Publicist

(works for studio)



Reviewer

(works for newspaper)

How does this device even have access?

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 - Devices save them!
 - People reuse them! Share them!
 - Family and friends know their 4- or 6digit passcode and password habits
 - We can't change any of the above



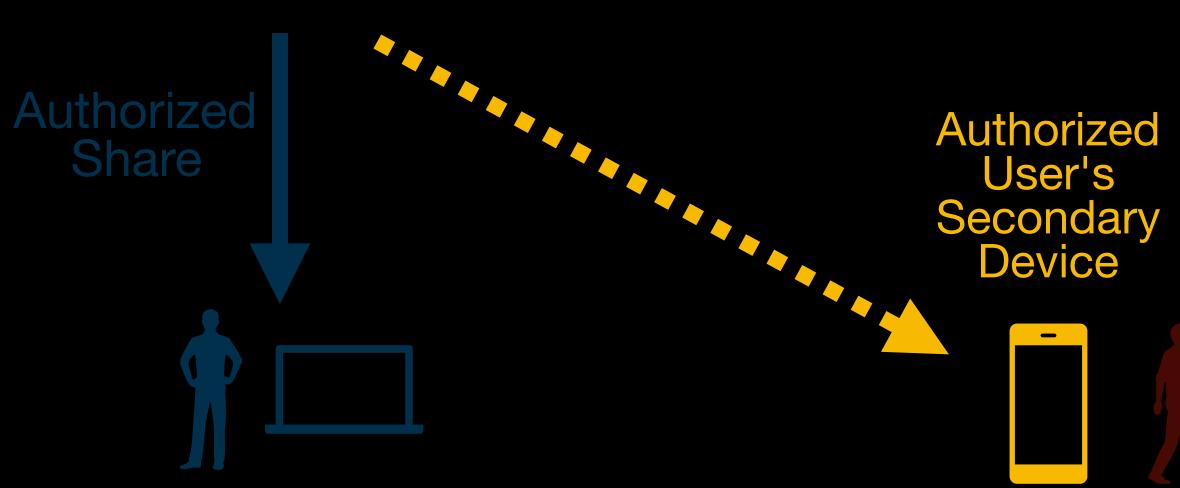
Someone who knows them (family, friend, acquaintance)

Code Name: "The Stale iPad"



Publicist

(works for studio)



Reviewer

(works for newspaper)

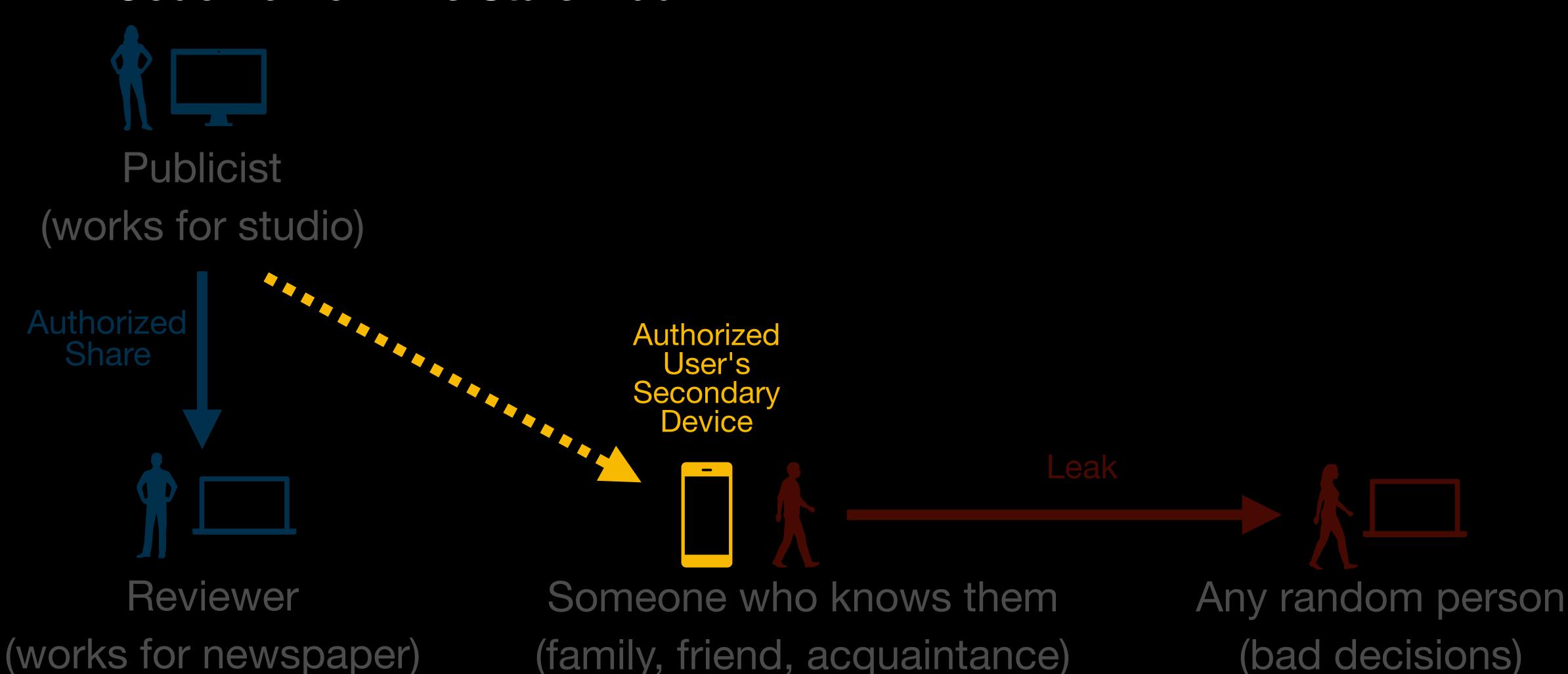
How does this device even have access?

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 - Devices save them!
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LET'S ELIMINATE PASSWORDS!



Someone who knows them (family, friend, acquaintance)

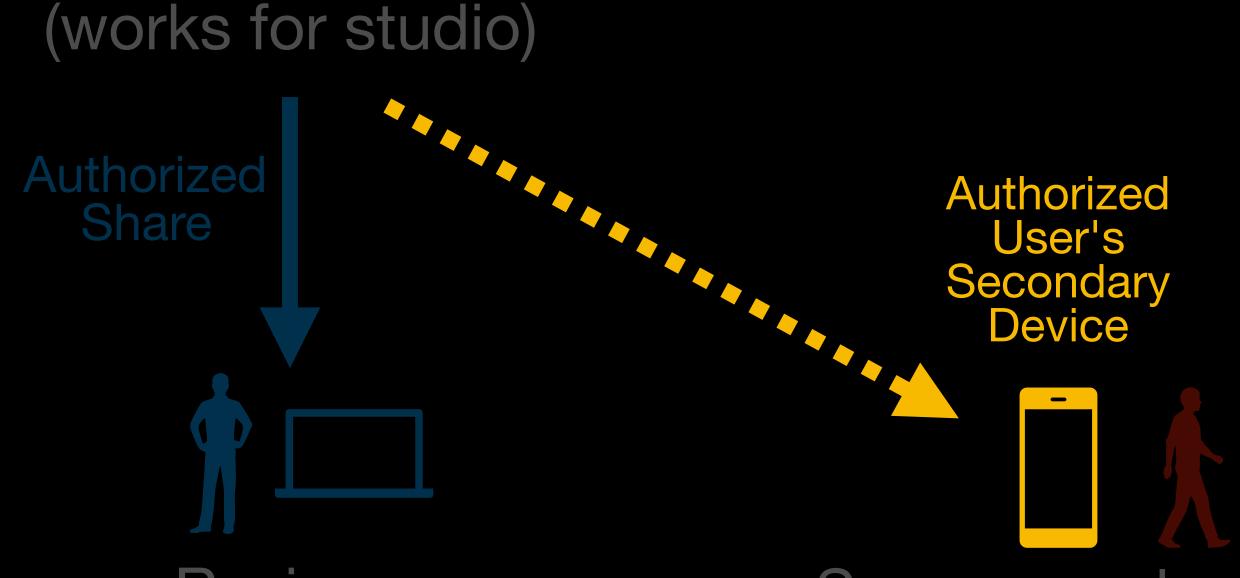


Code Name: "The Stale iPad"



/

Magic login link only - No password to store

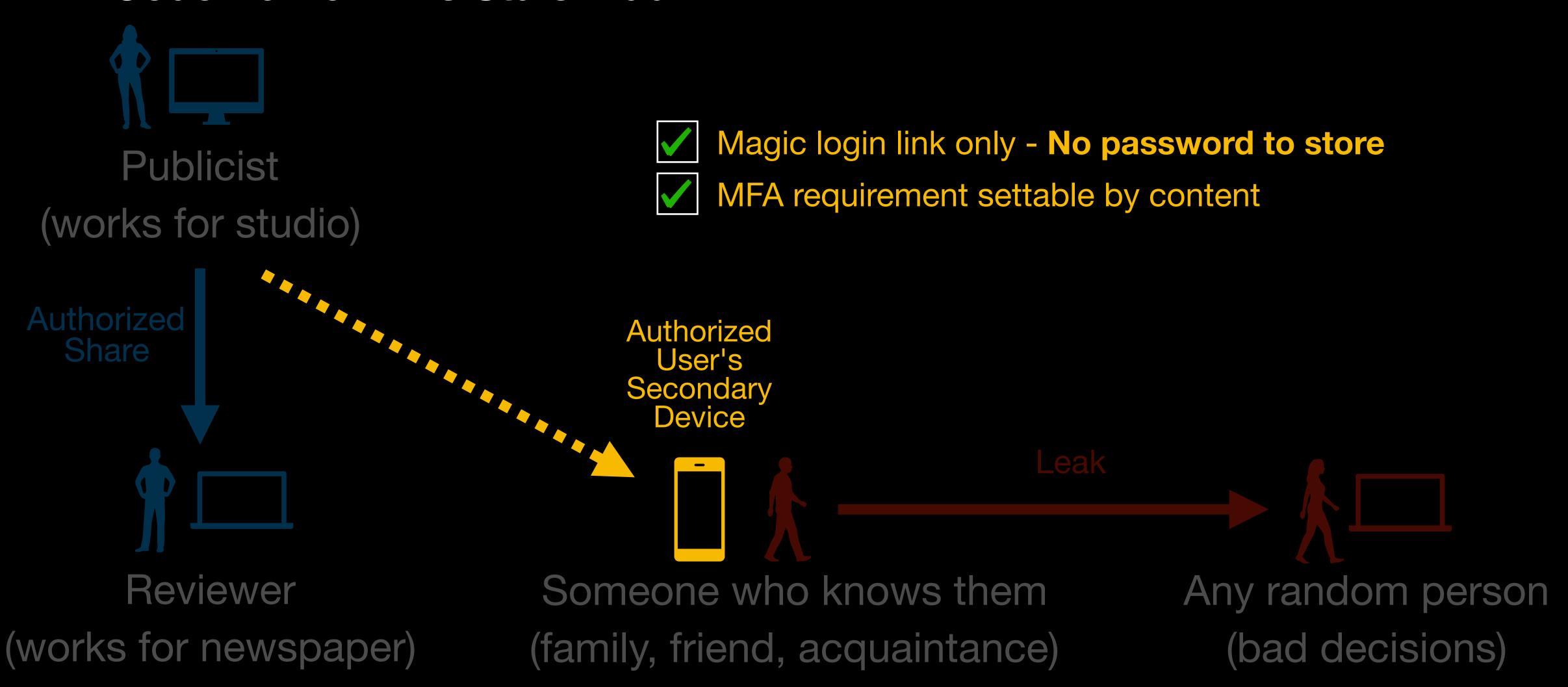


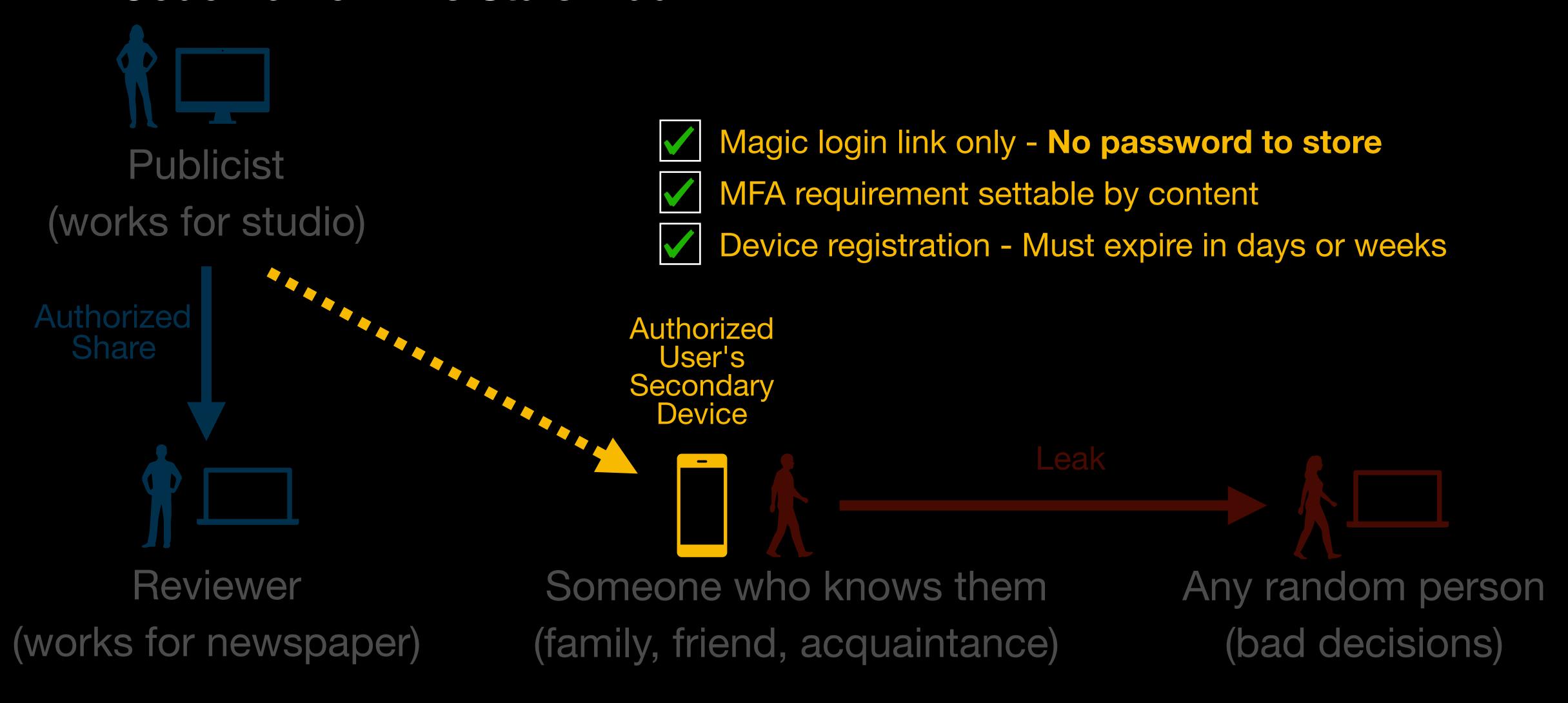
Leak

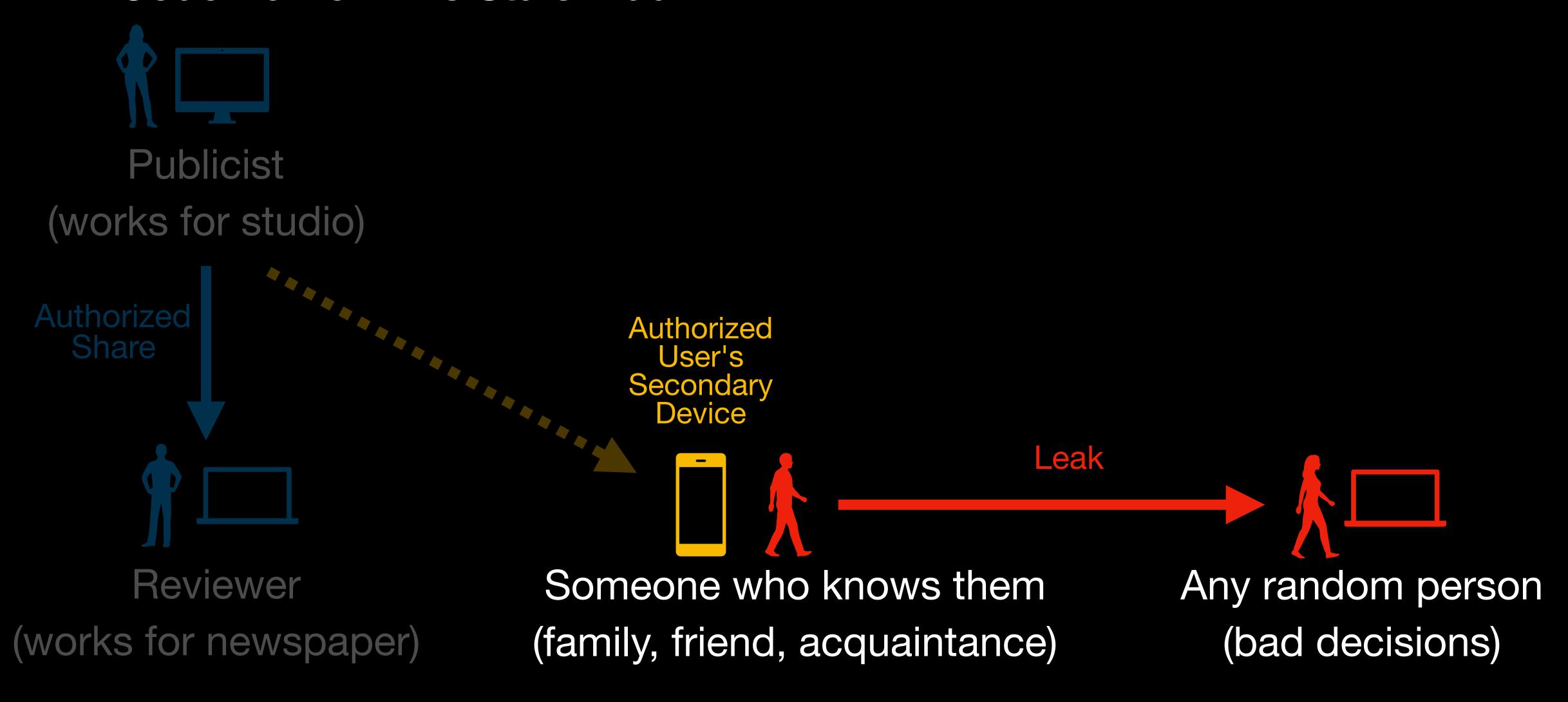
Reviewer

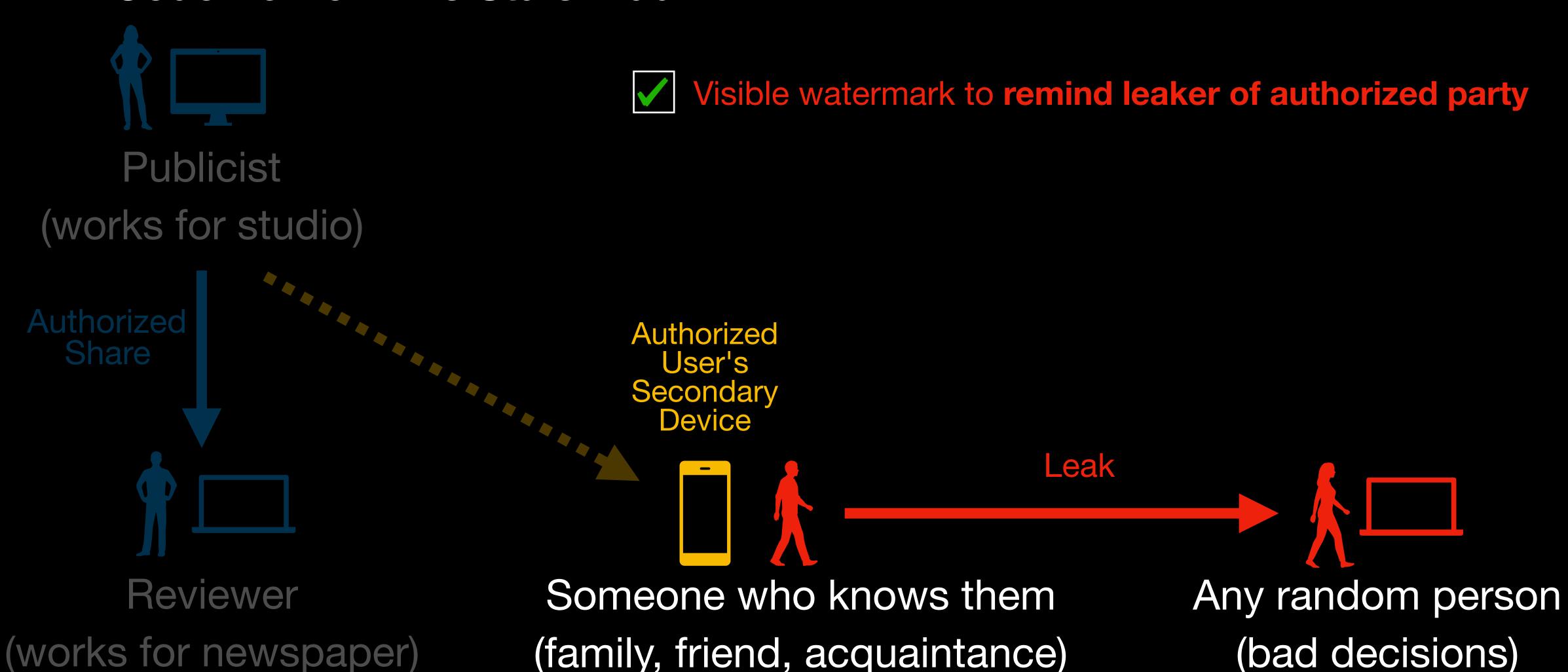
(works for newspaper)

Someone who knows them (family, friend, acquaintance)









Code Name: "The Stale iPad"



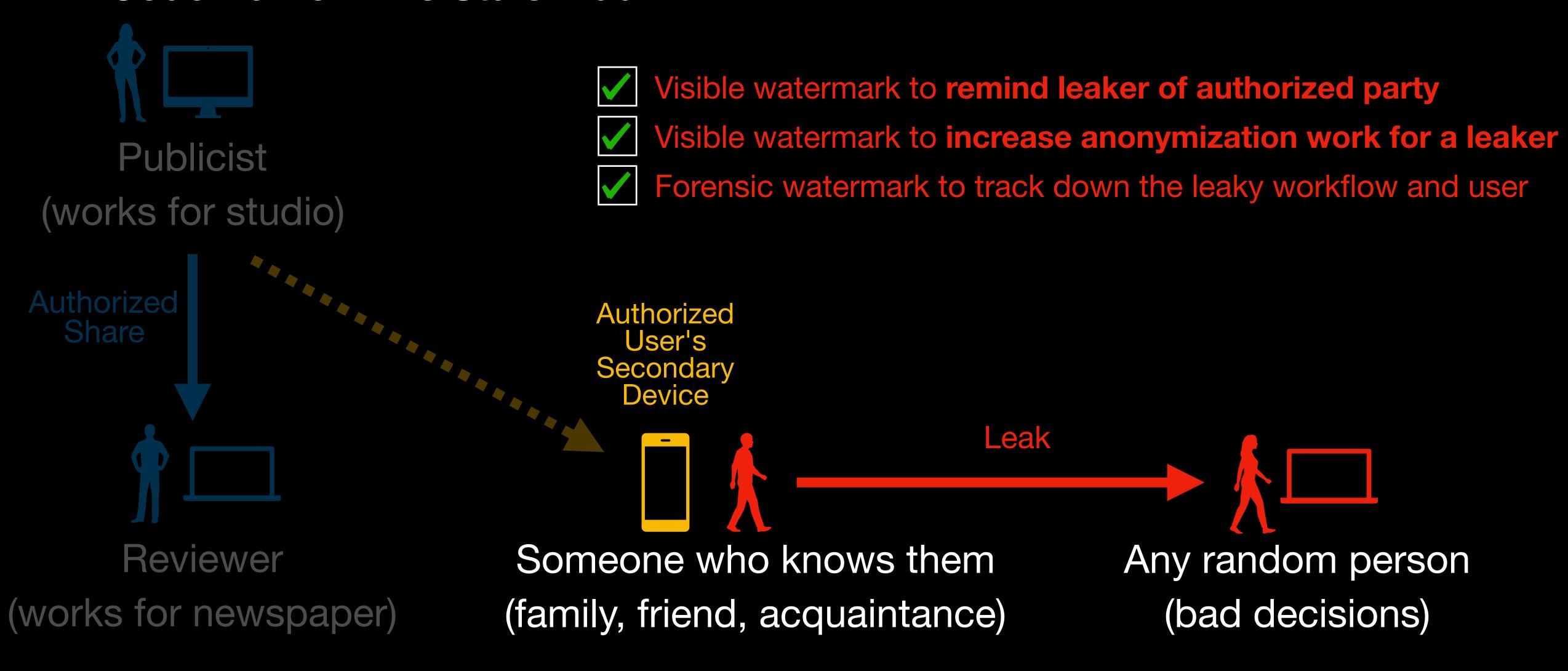
(works for newspaper)

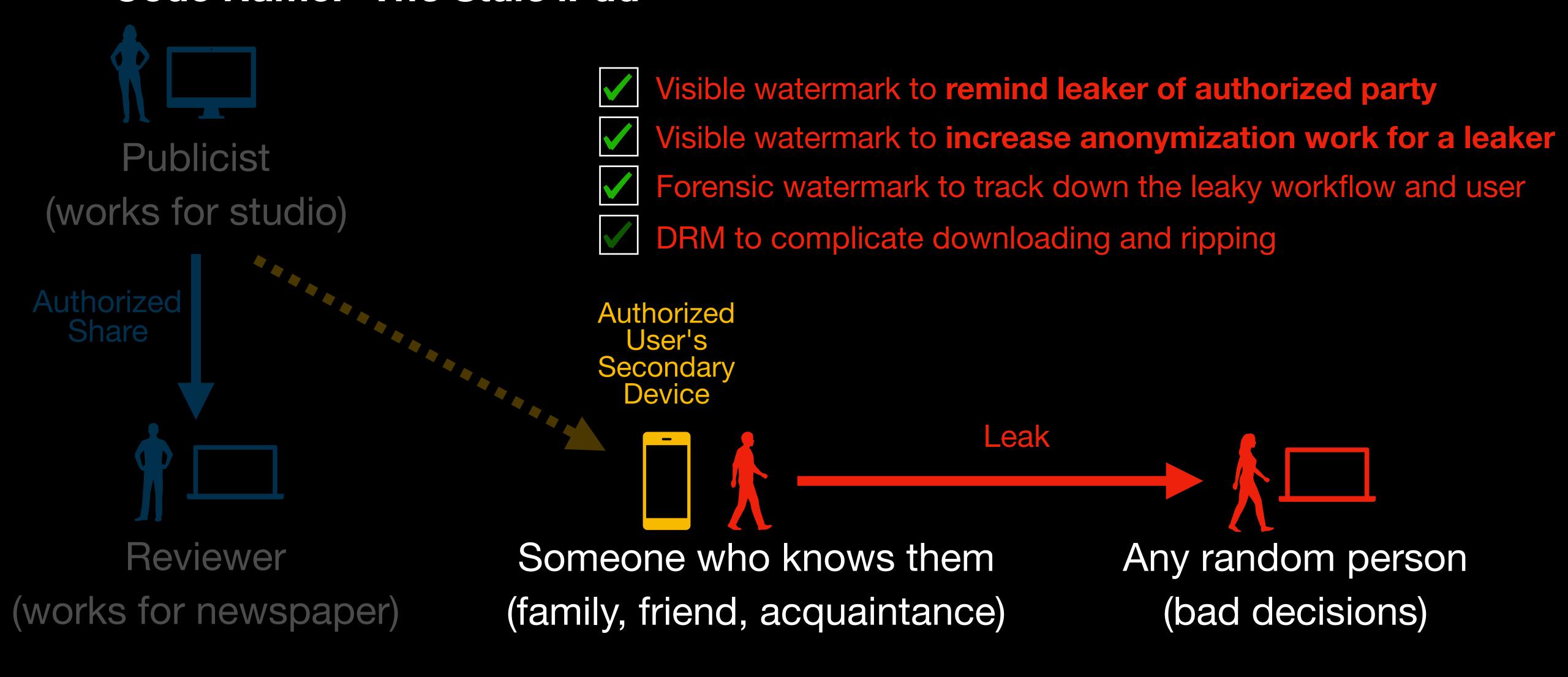
✓ Visible watermark to remind leaker of authorized party

Visible watermark to increase anonymization work for a leaker



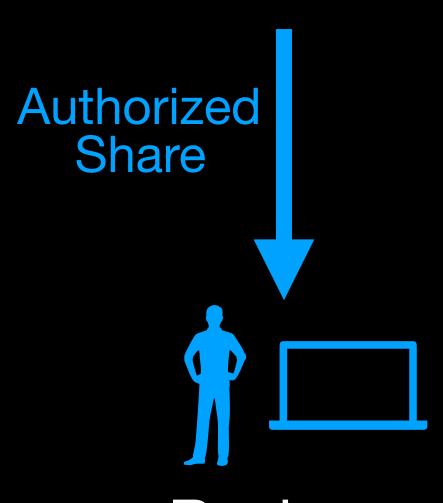
Someone who knows them Any random person (family, friend, acquaintance) (bad decisions)





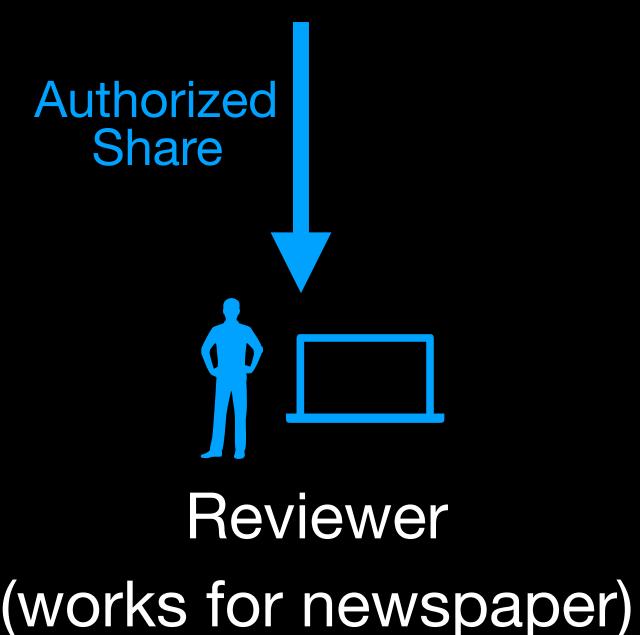




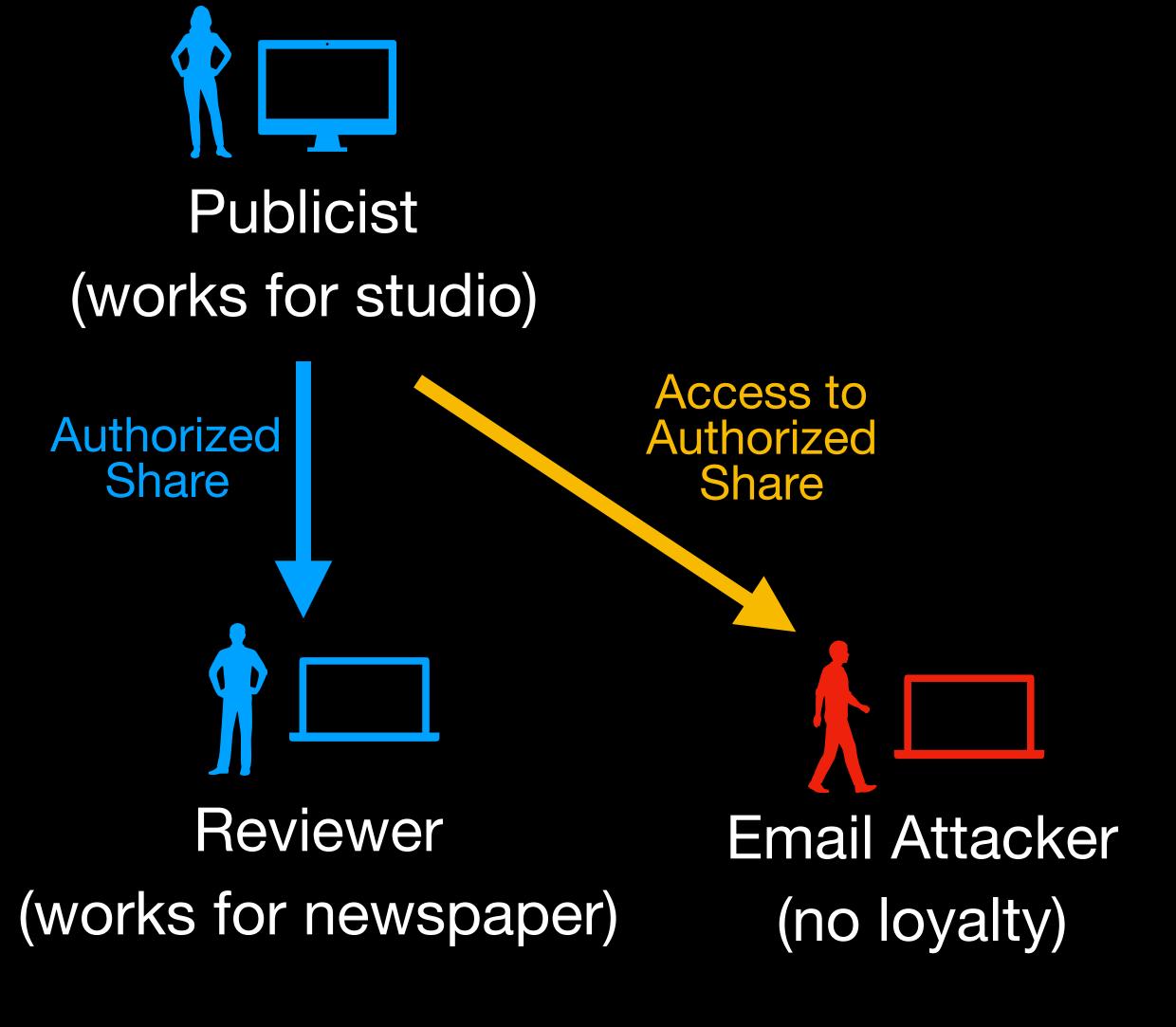


Reviewer (works for newspaper)





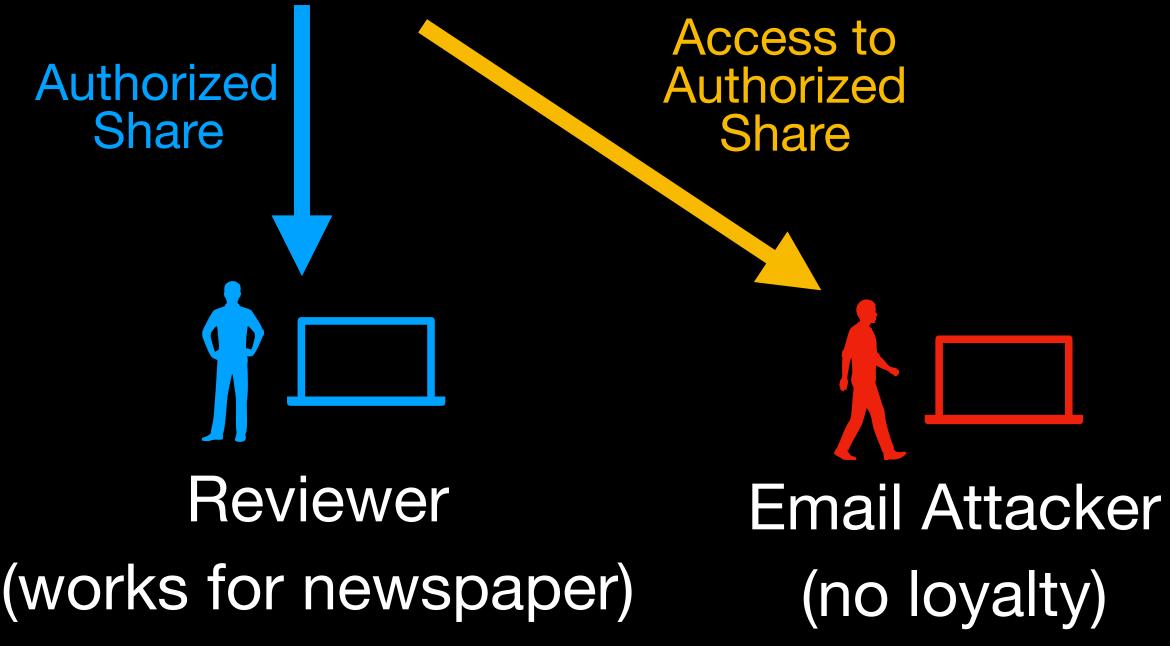
Email Attacker (no loyalty)



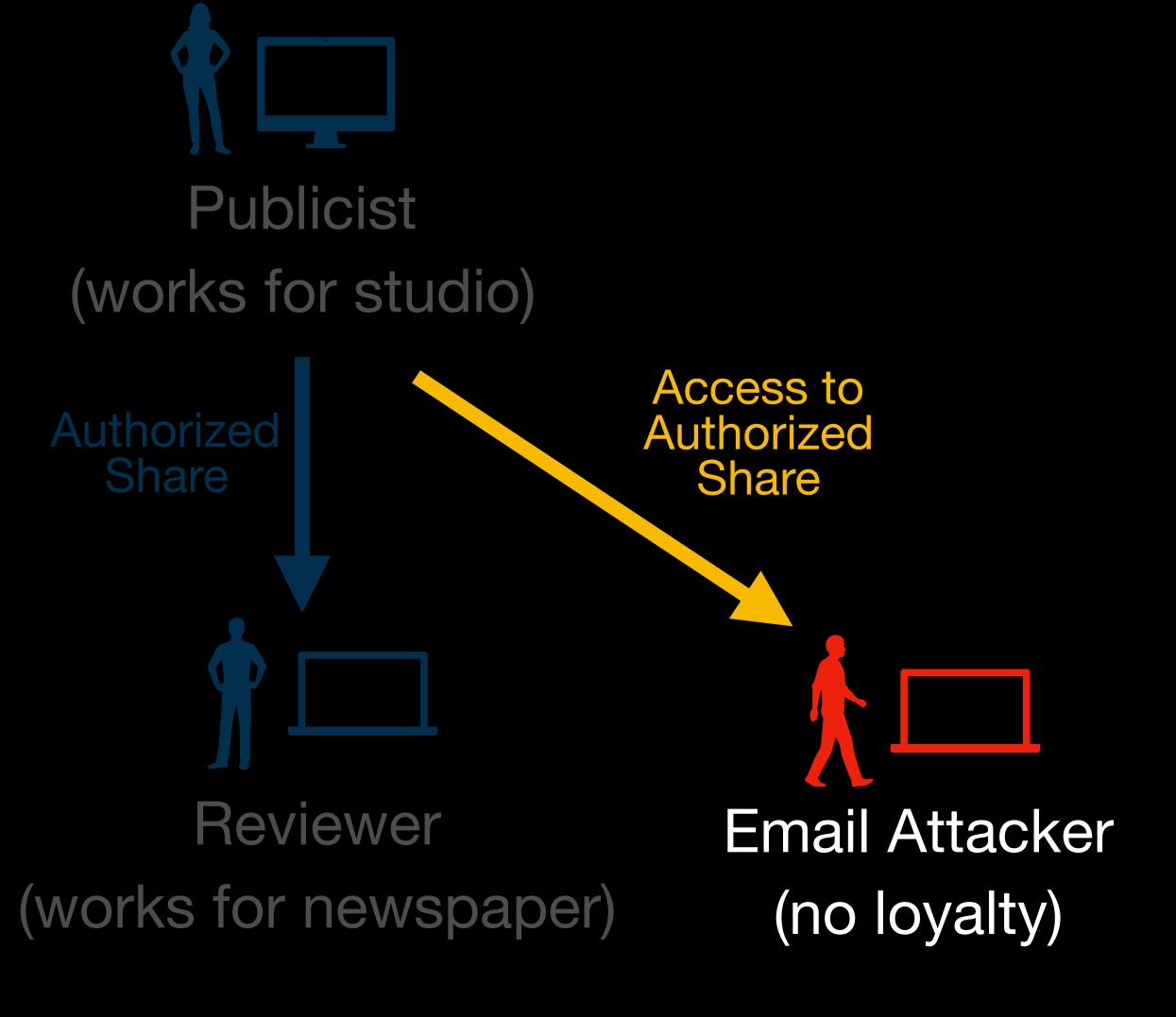
Code Name: "You've got pwned"



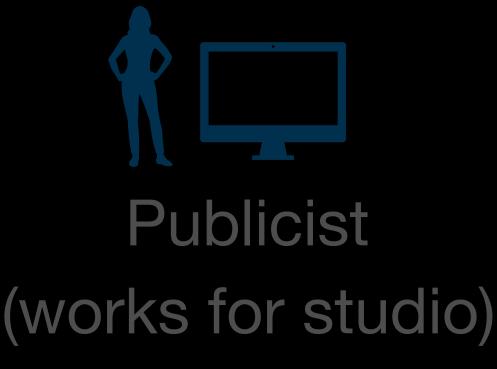
(works for studio)

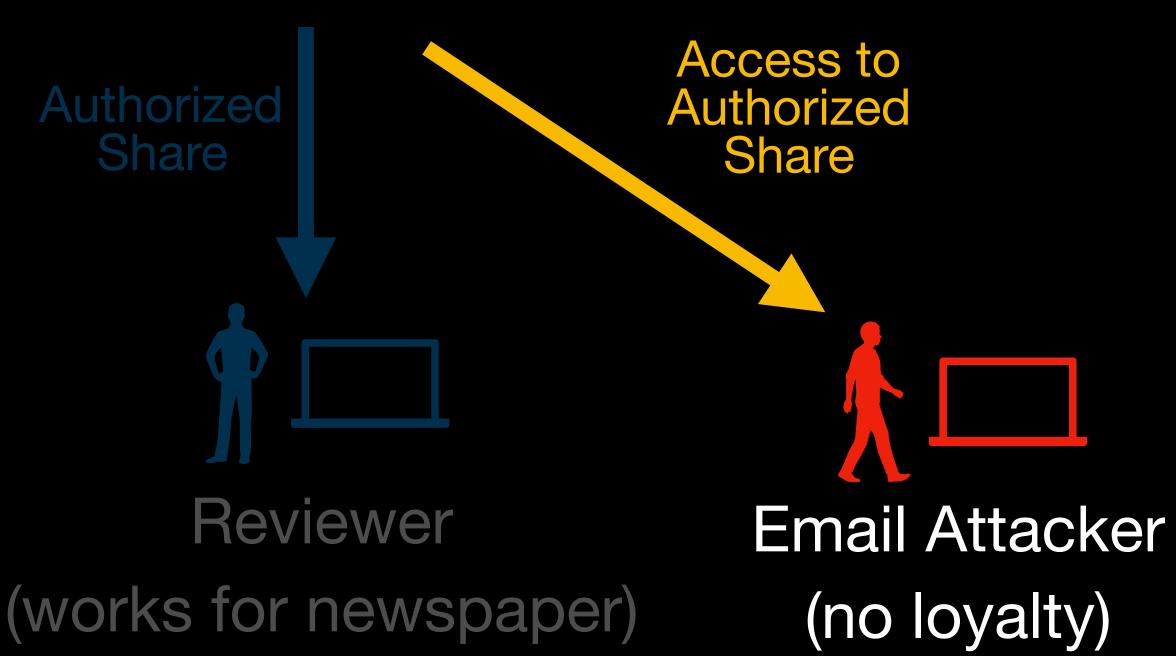


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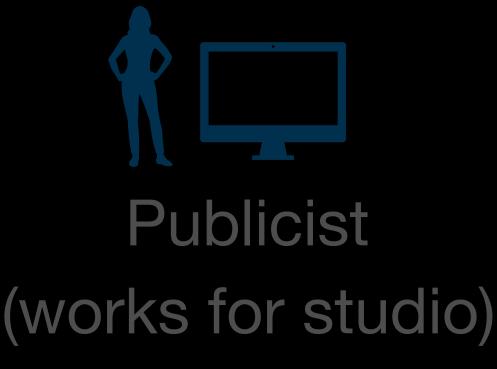
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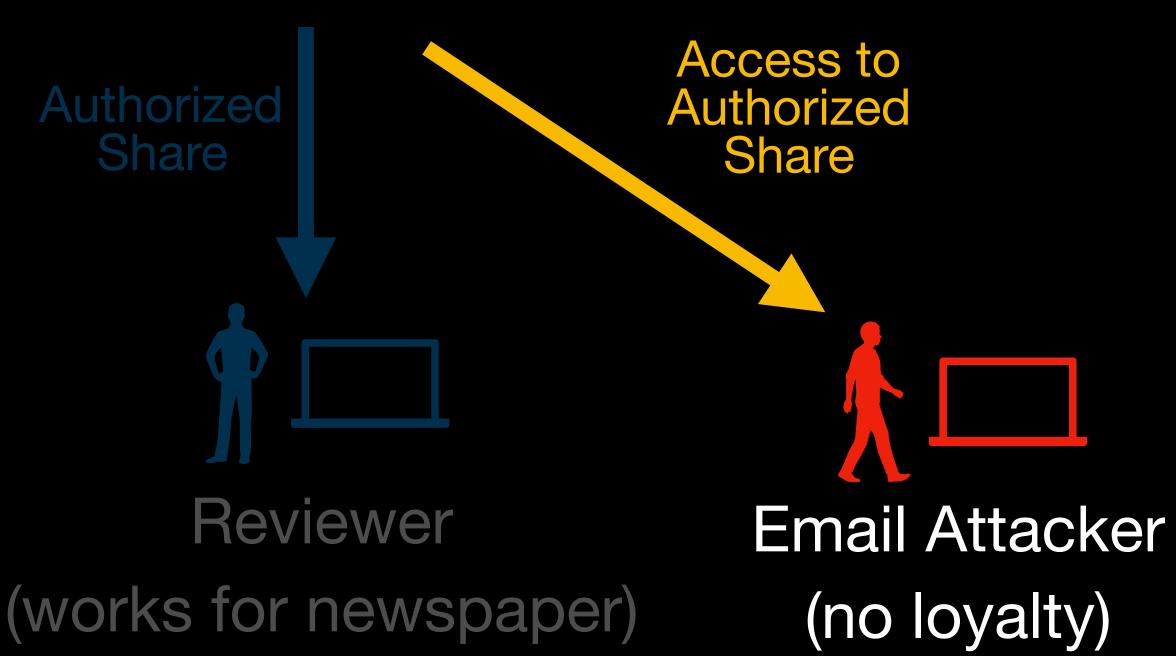




Today's best available defense against account compromise is MFA

Code Name: "You've got pwned"





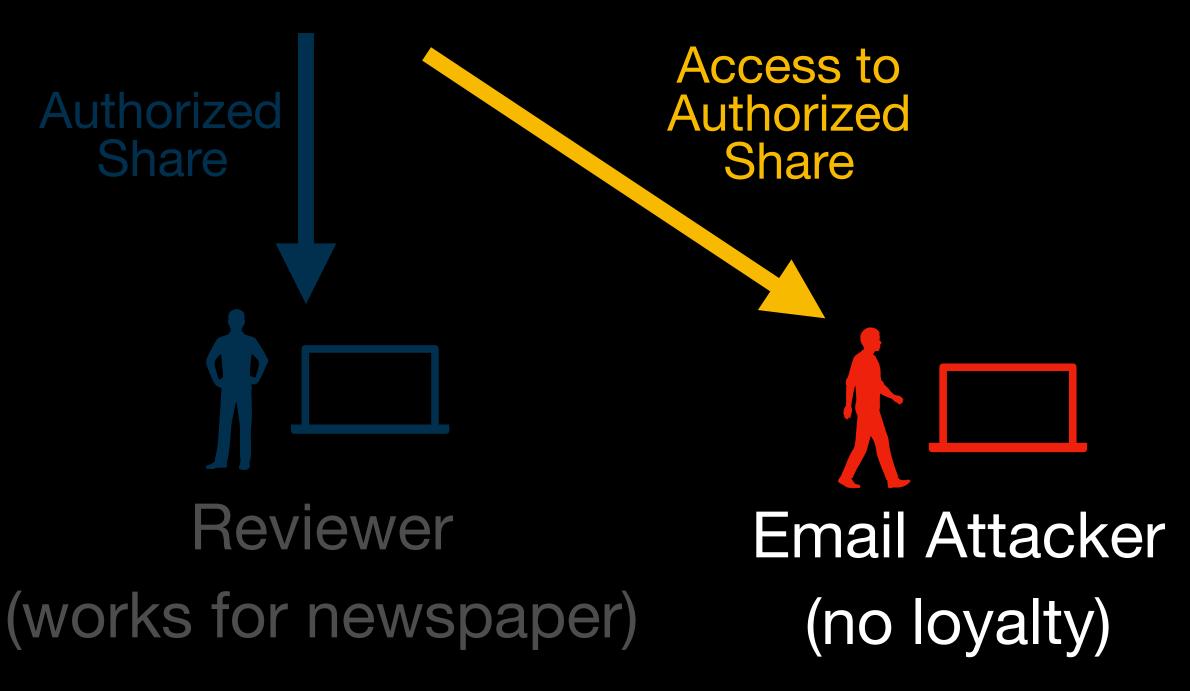
Today's best available defense against account compromise is MFA

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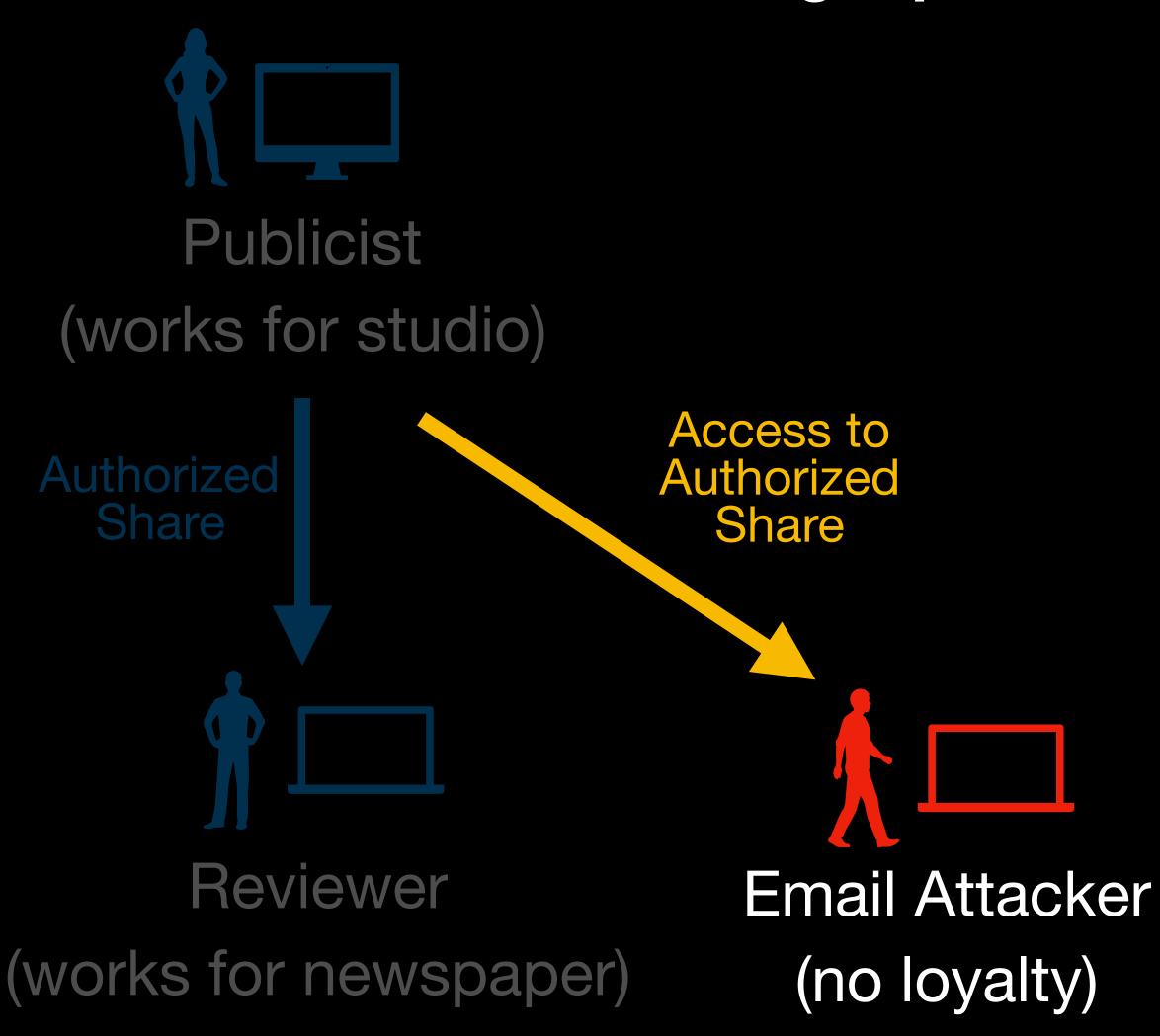
Publicist

(works for studio)



Today's best available defense against account compromise is MFA

Code Name: "You've got pwned"

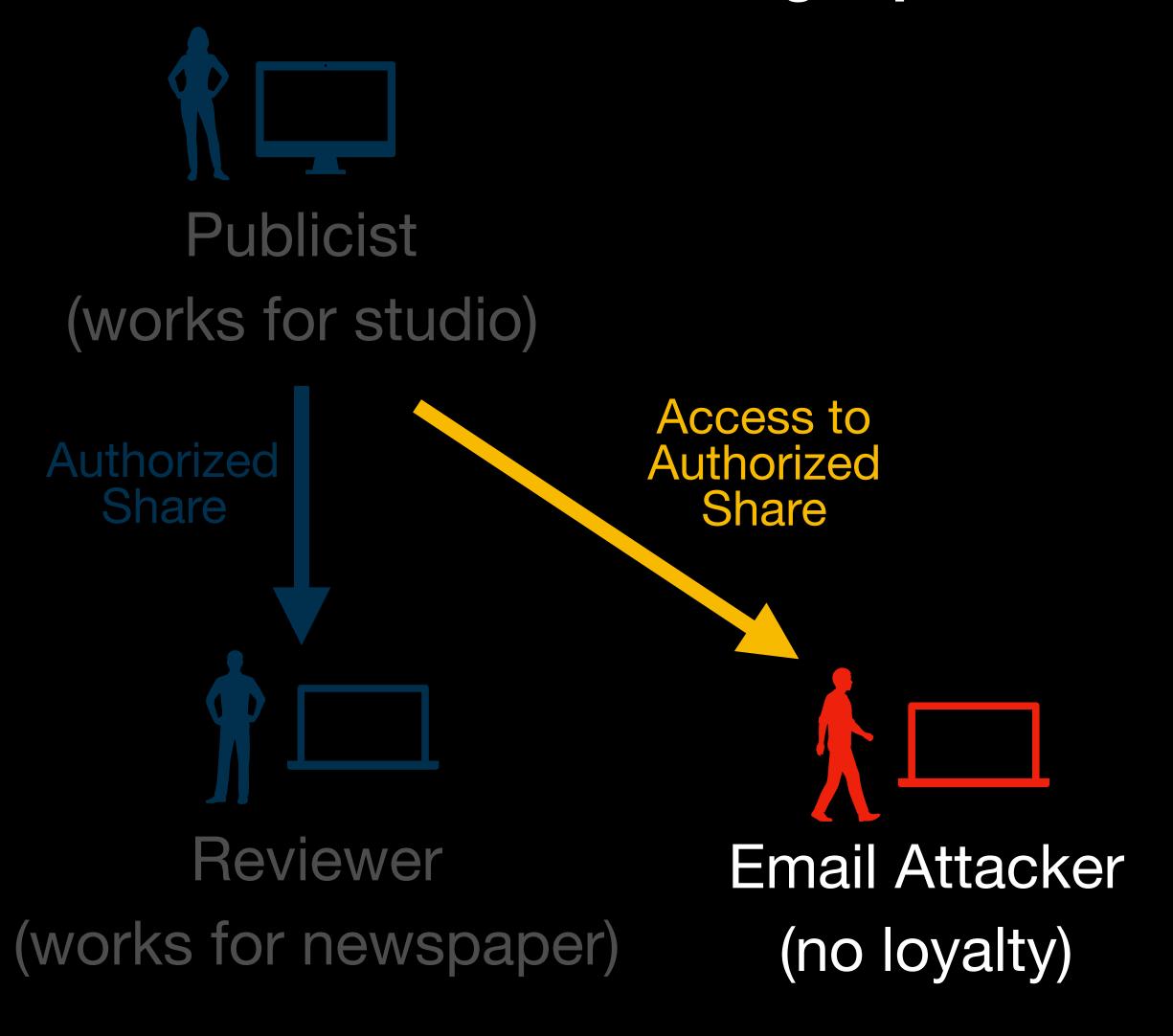


Today's best available defense against account compromise is MFA

Biometrics: TouchID, FaceID, Face Unlock

Hard to share widely, beyond family

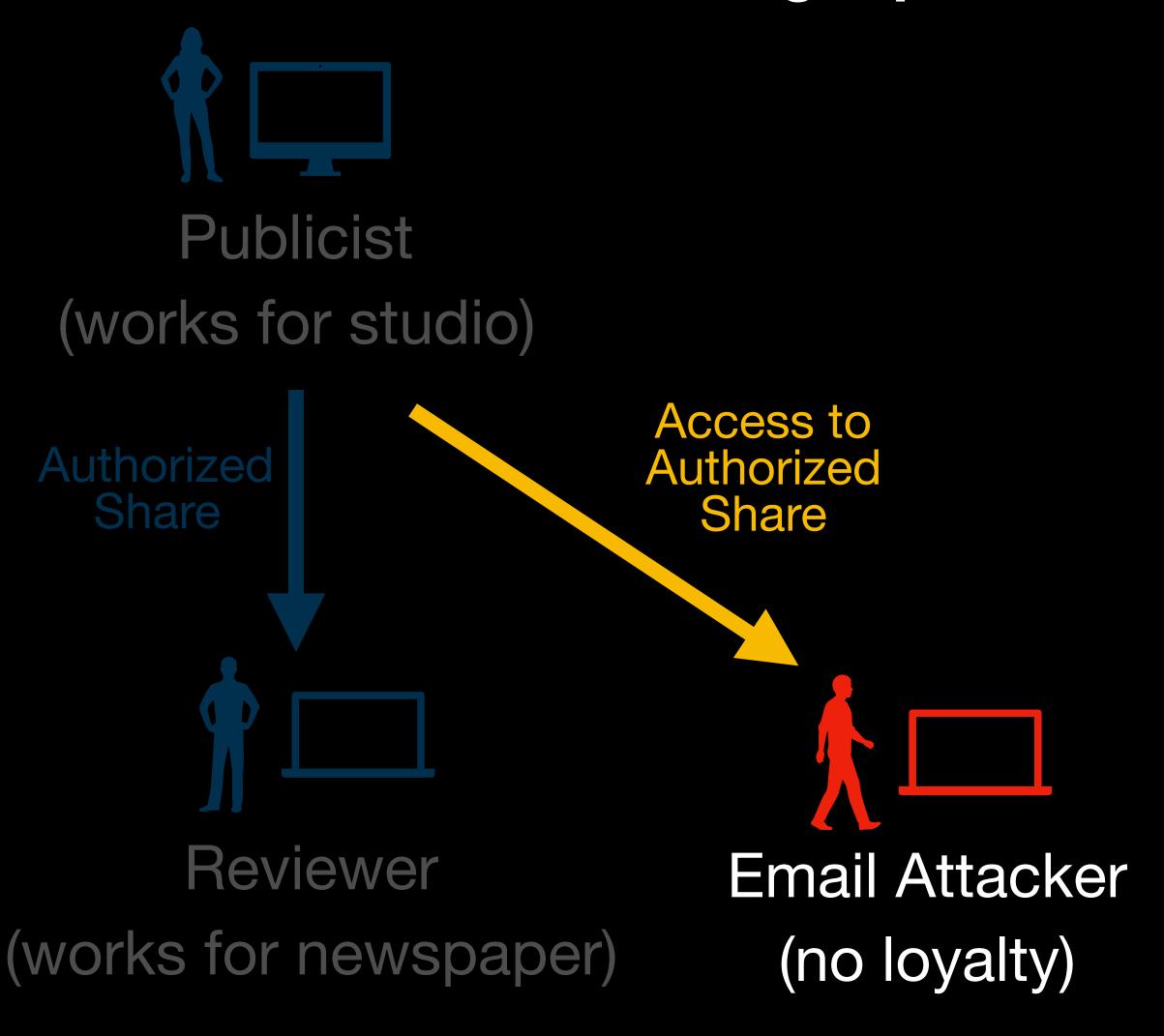
Code Name: "You've got pwned"



Today's best available defense against account compromise is MFA

- Hard to share widely, beyond family
- Hard to steal

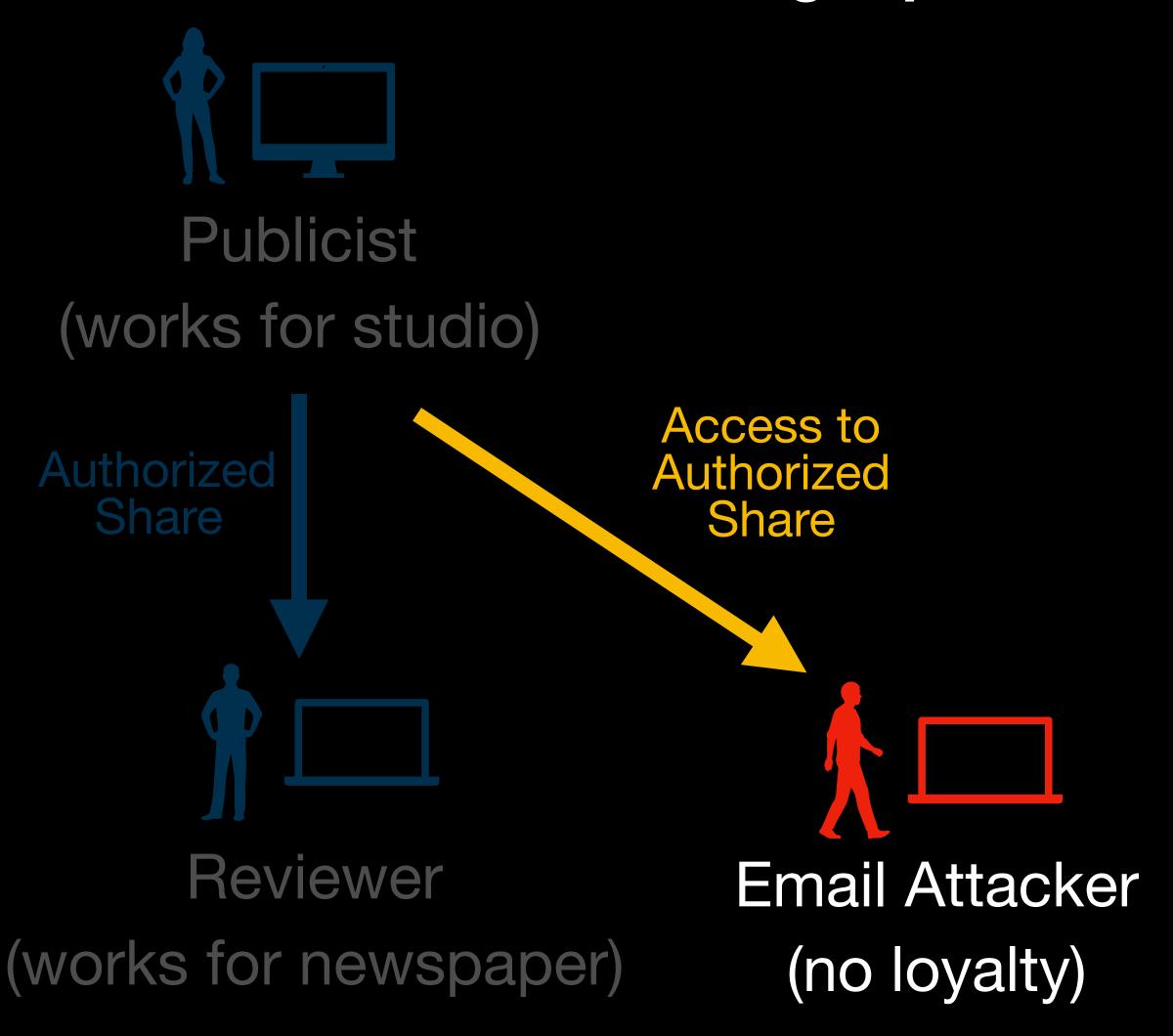
Code Name: "You've got pwned"



Today's best available defense against account compromise is MFA

- Hard to share widely, beyond family
- Hard to steal
- Availability varies

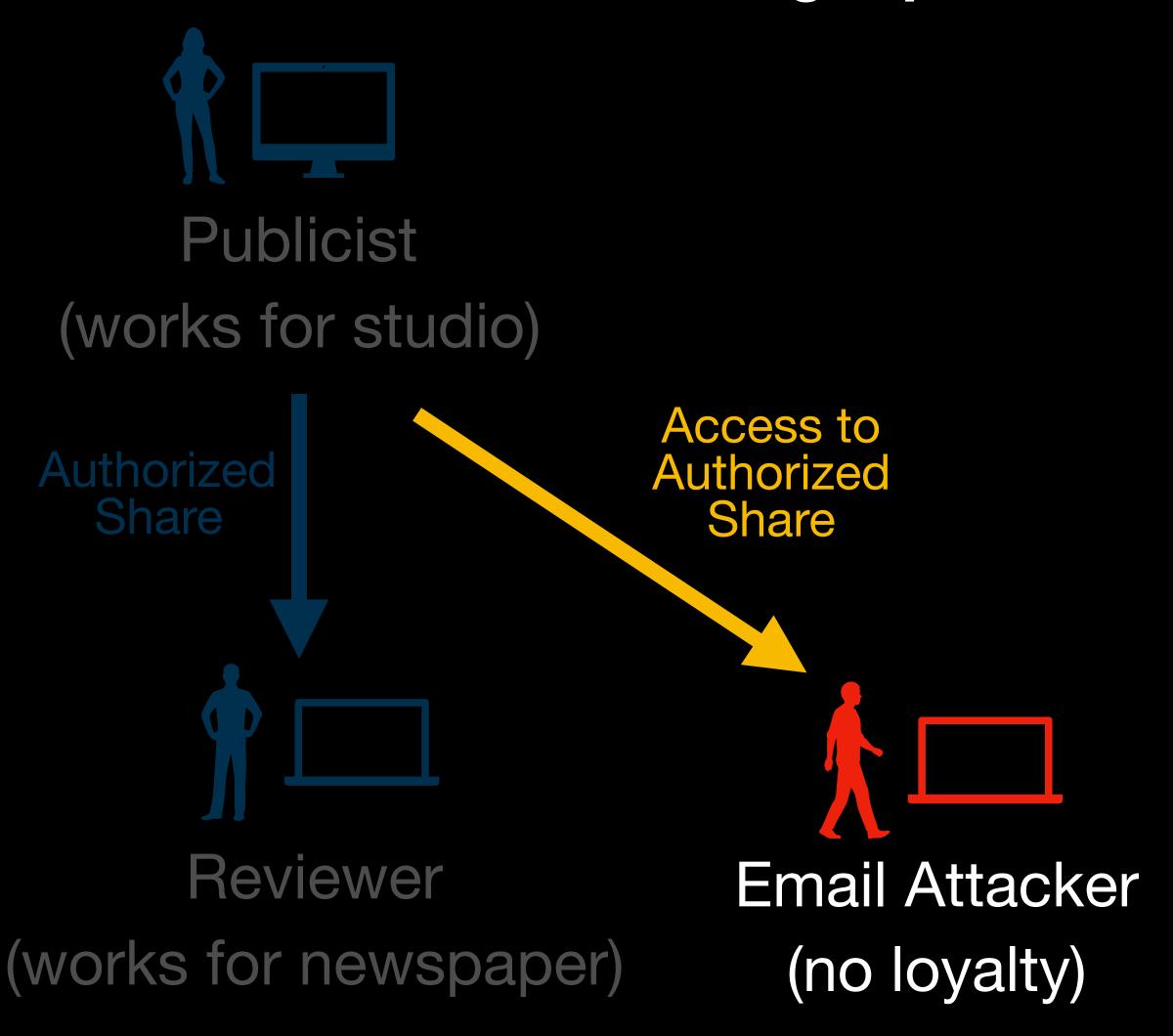
Code Name: "You've got pwned"



Today's best available defense against account compromise is MFA

- Hard to share widely, beyond family
- Hard to steal
- Availability varies
- Quality varies (iOS is ahead)

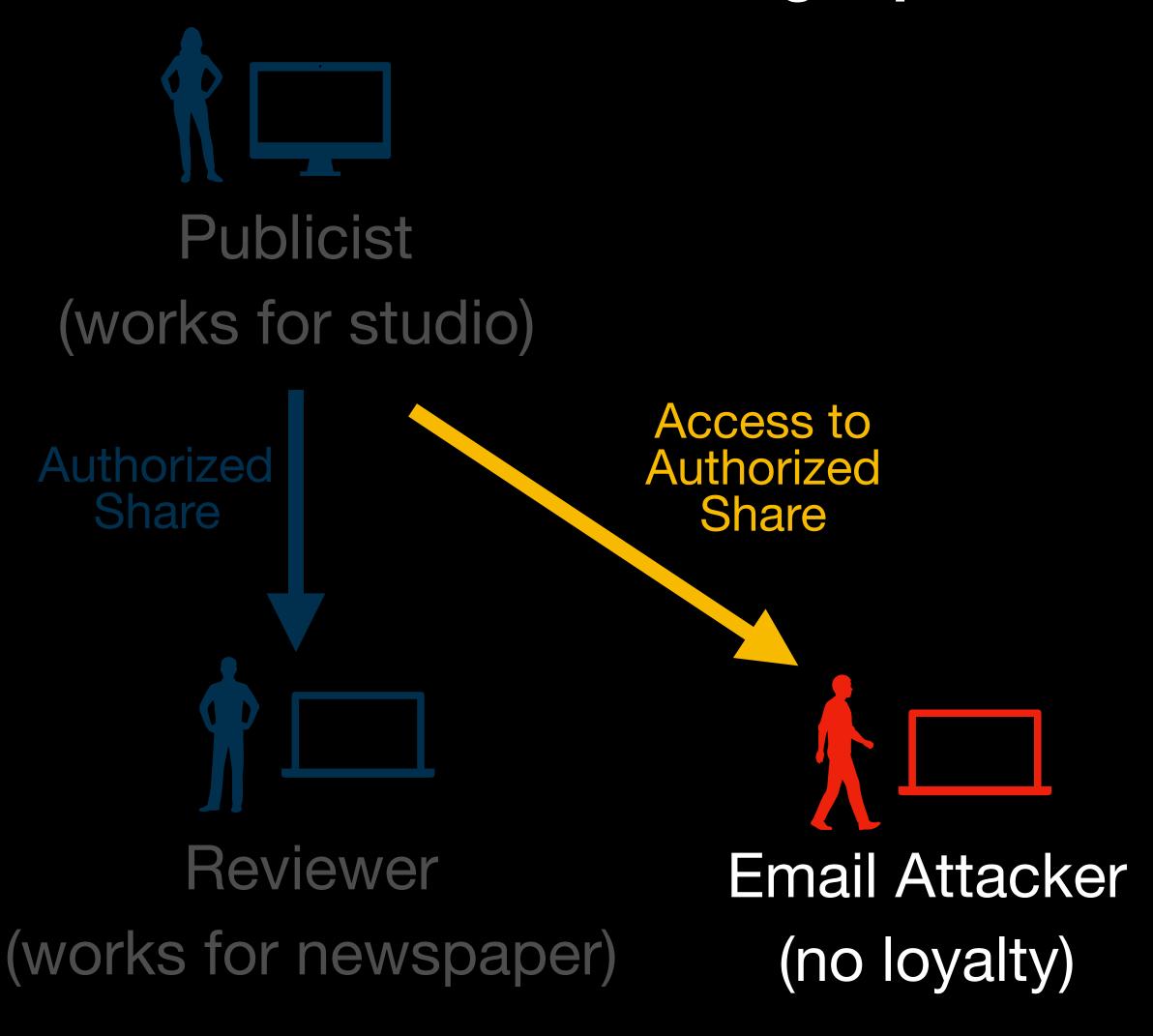
Code Name: "You've got pwned"



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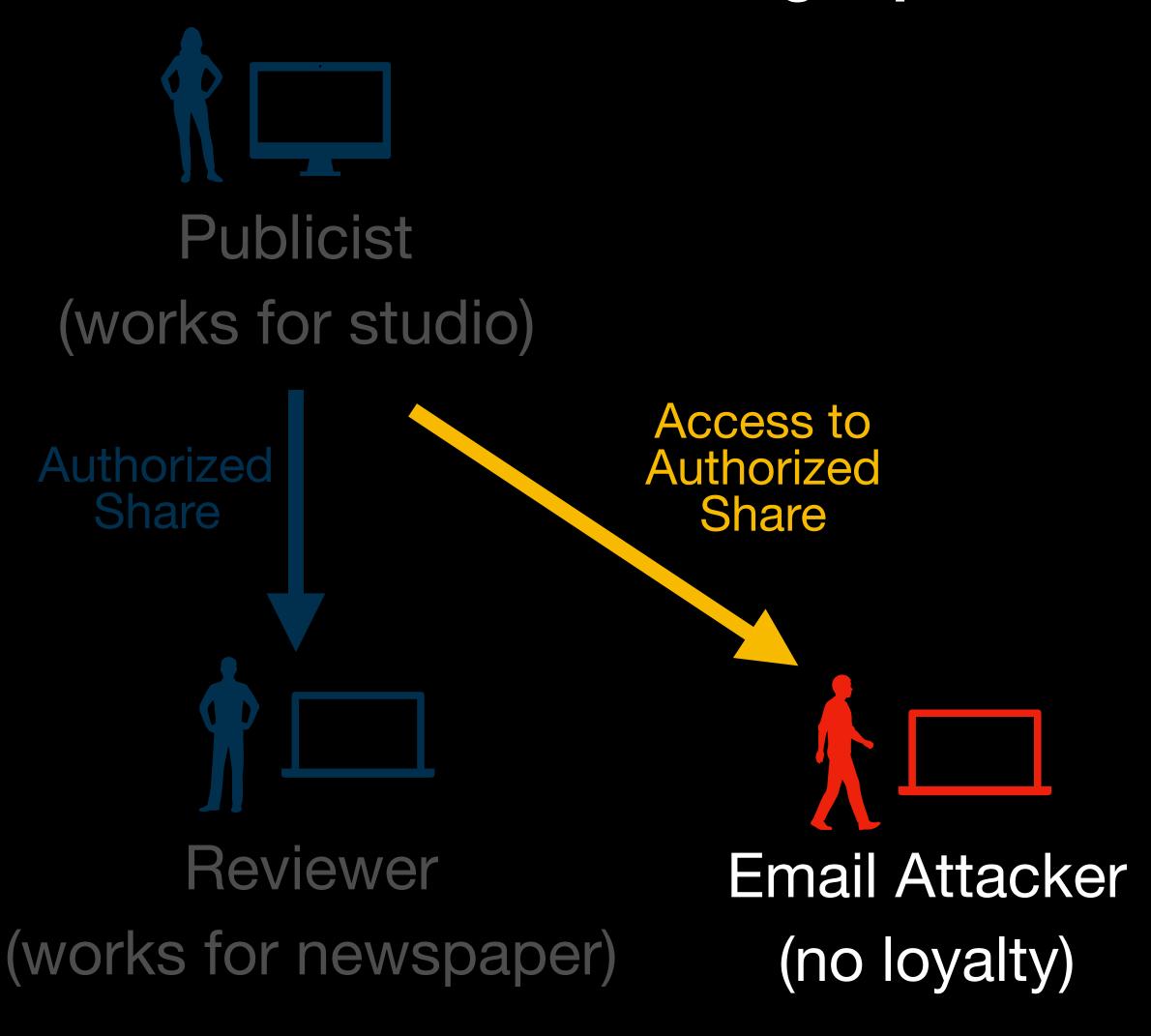


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Today's best available defense against account compromise is MFA

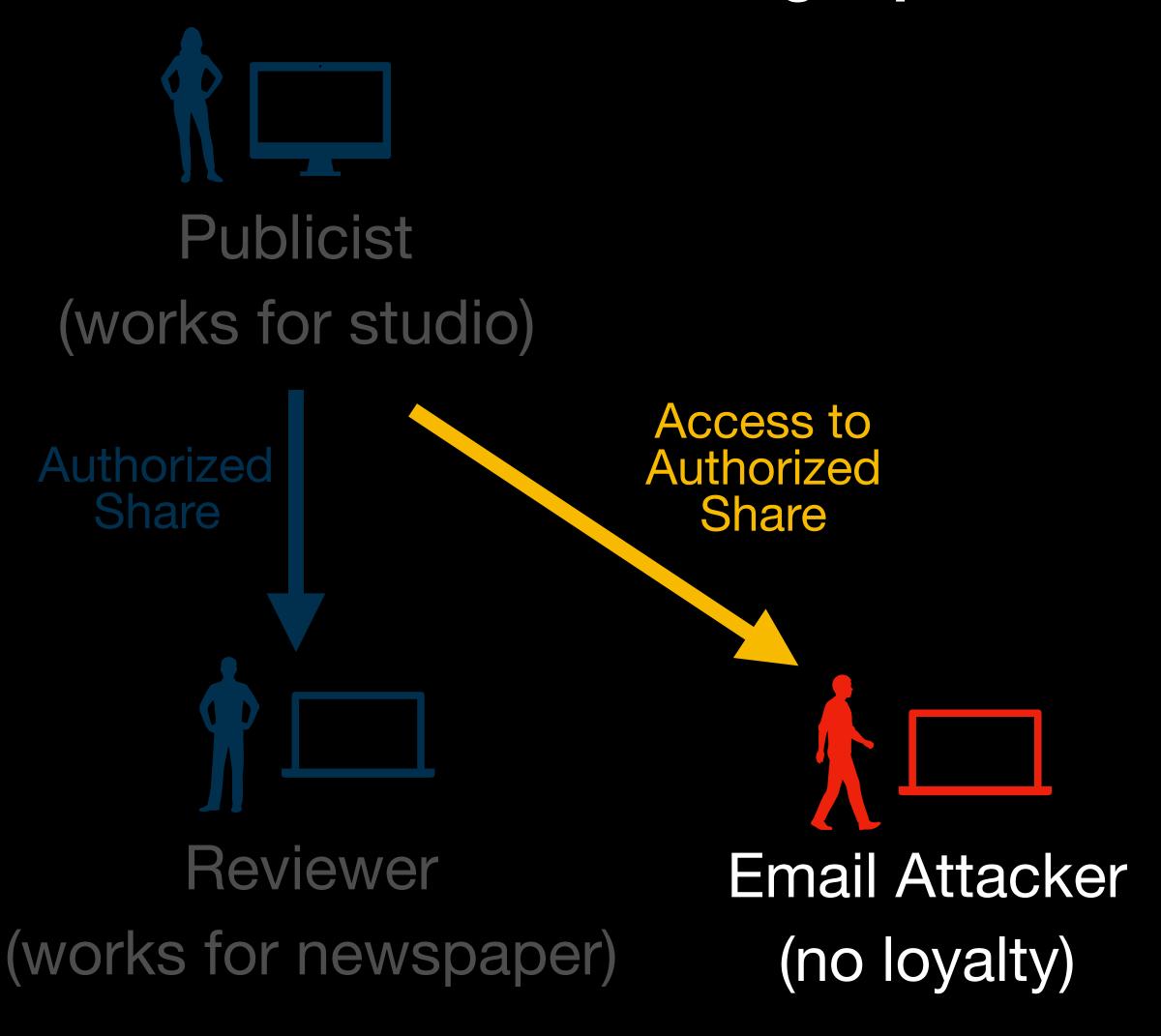
Biometrics: TouchID, FaceID, Face Unlock

- Hard to share widely, beyond family
- Hard to steal
- Availability varies
- Quality varies (iOS is ahead)

Physical factor: U2F (YubiKey)

Hard to share, beyond a shared device

Code Name: "You've got pwned"



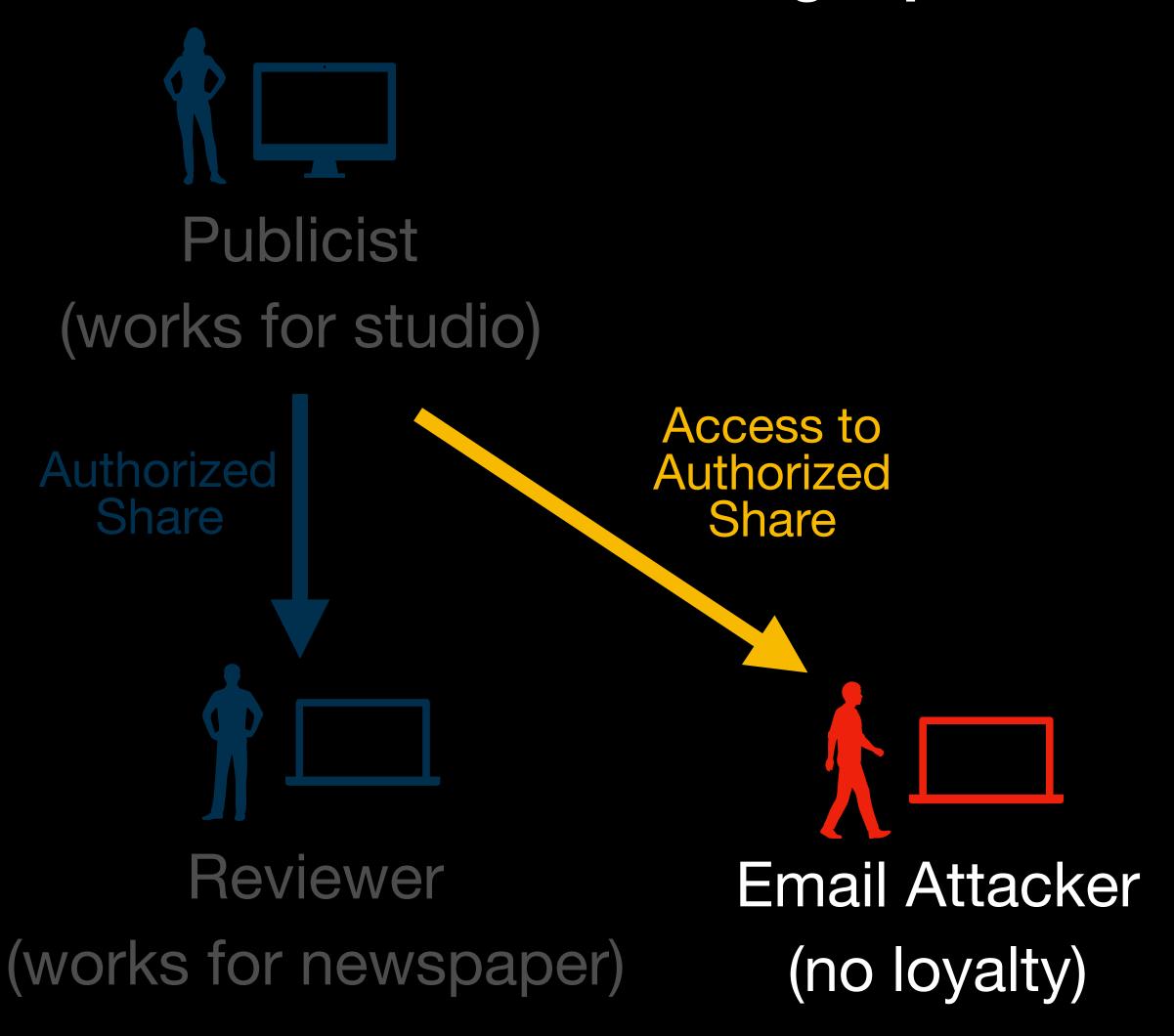
Today's best available defense against account compromise is MFA

Biometrics: TouchID, FaceID, Face Unlock

- Hard to share widely, beyond family
- Hard to steal
- Availability varies
- Quality varies (iOS is ahead)

- Hard to share, beyond a shared device
- Hard to steal

Code Name: "You've got pwned"



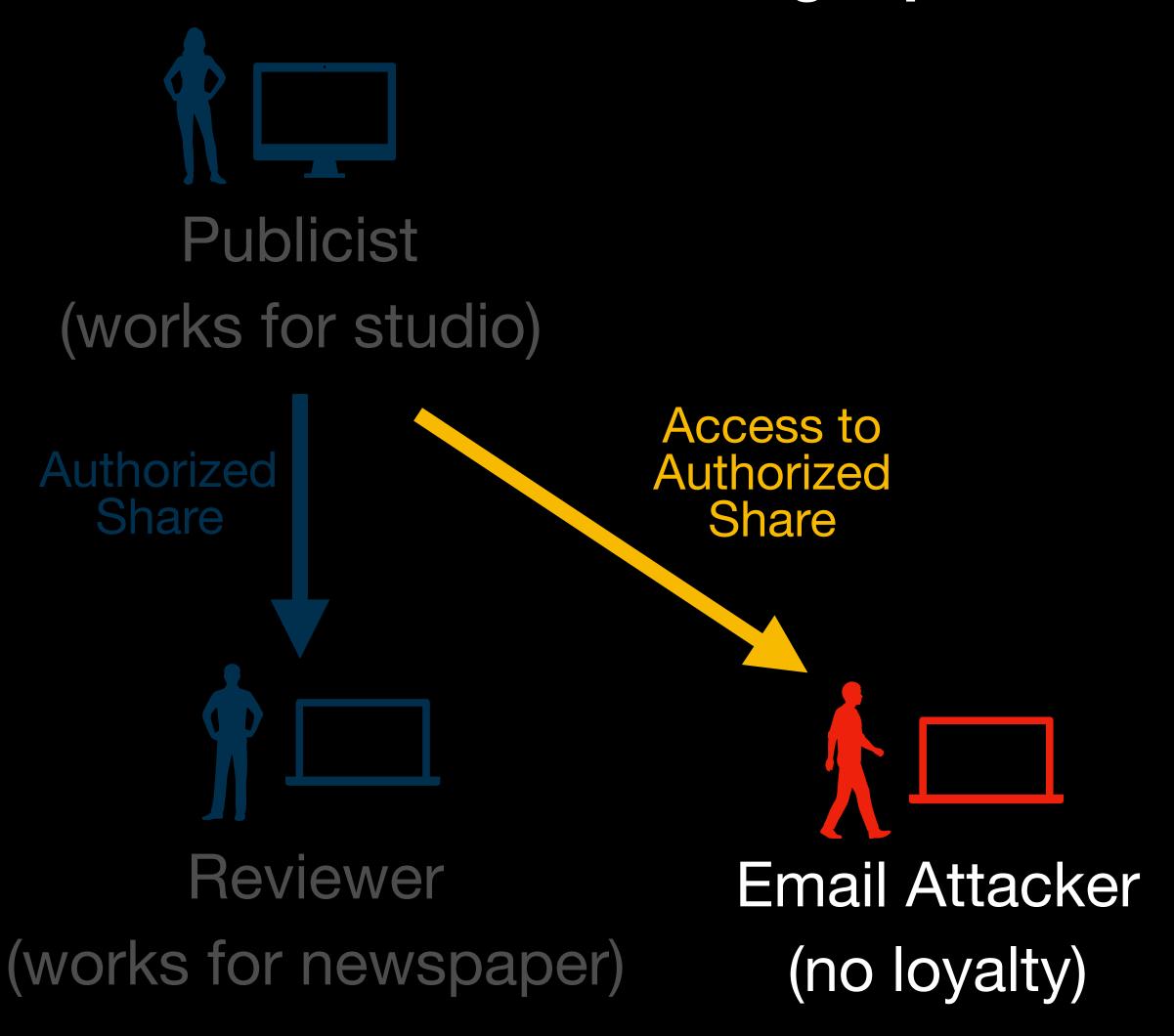
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Biometrics: TouchID, FaceID, Face Unlock

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- Hard to steal
- Availability varies
- Quality varies (iOS is ahead)

- Hard to share, beyond a shared device
- Hard to steal
- Availability varies (iOS is behind)

Code Name: "You've got pwned"



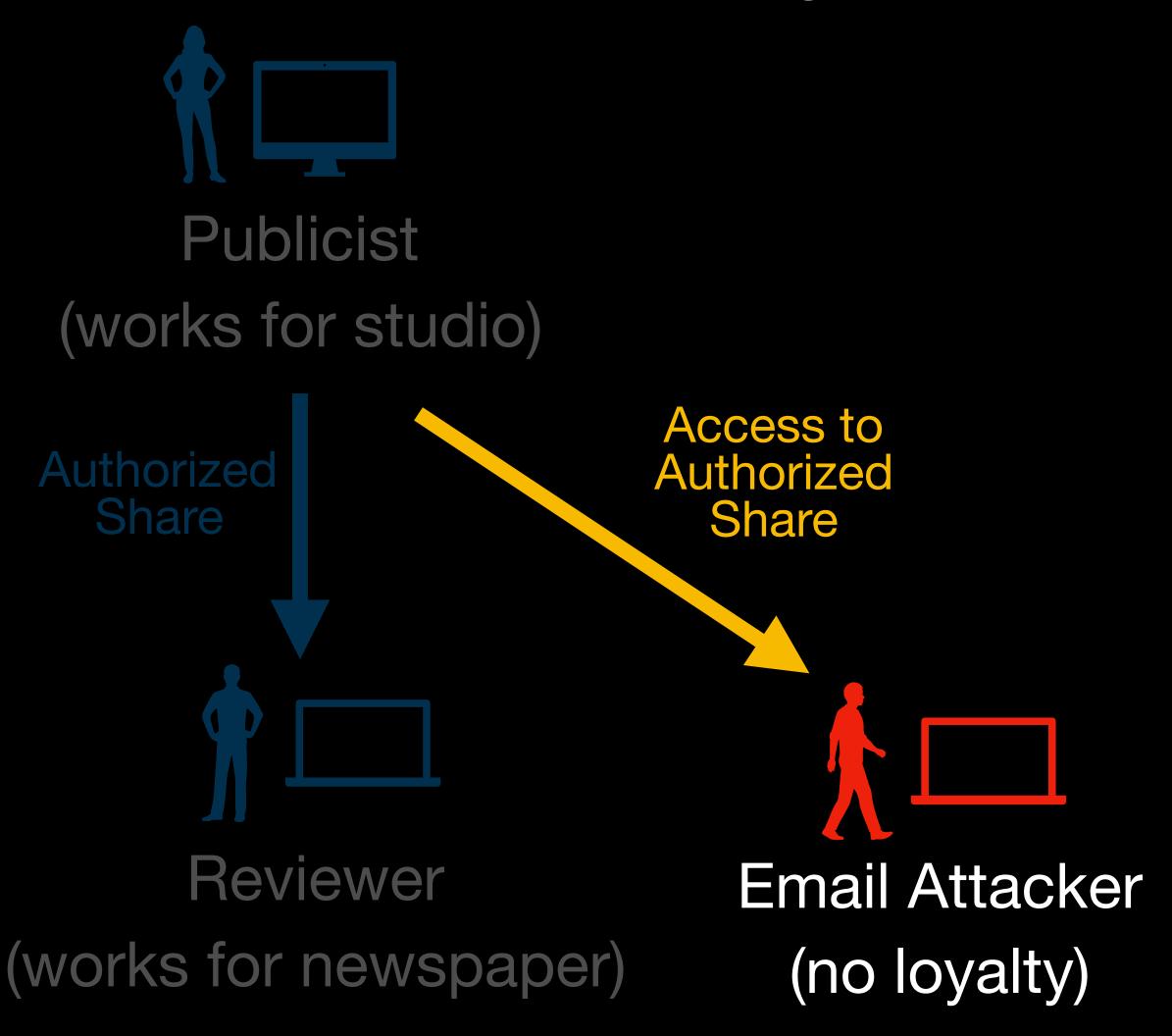
Today's best available defense against account compromise is MFA

Biometrics: TouchID, FaceID, Face Unlock

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- Hard to steal
- Availability varies
- Quality varies (iOS is ahead)

- Hard to share, beyond a shared device
- Hard to steal
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Code Name: "You've got pwned"



Today's best available defense against account compromise is MFA

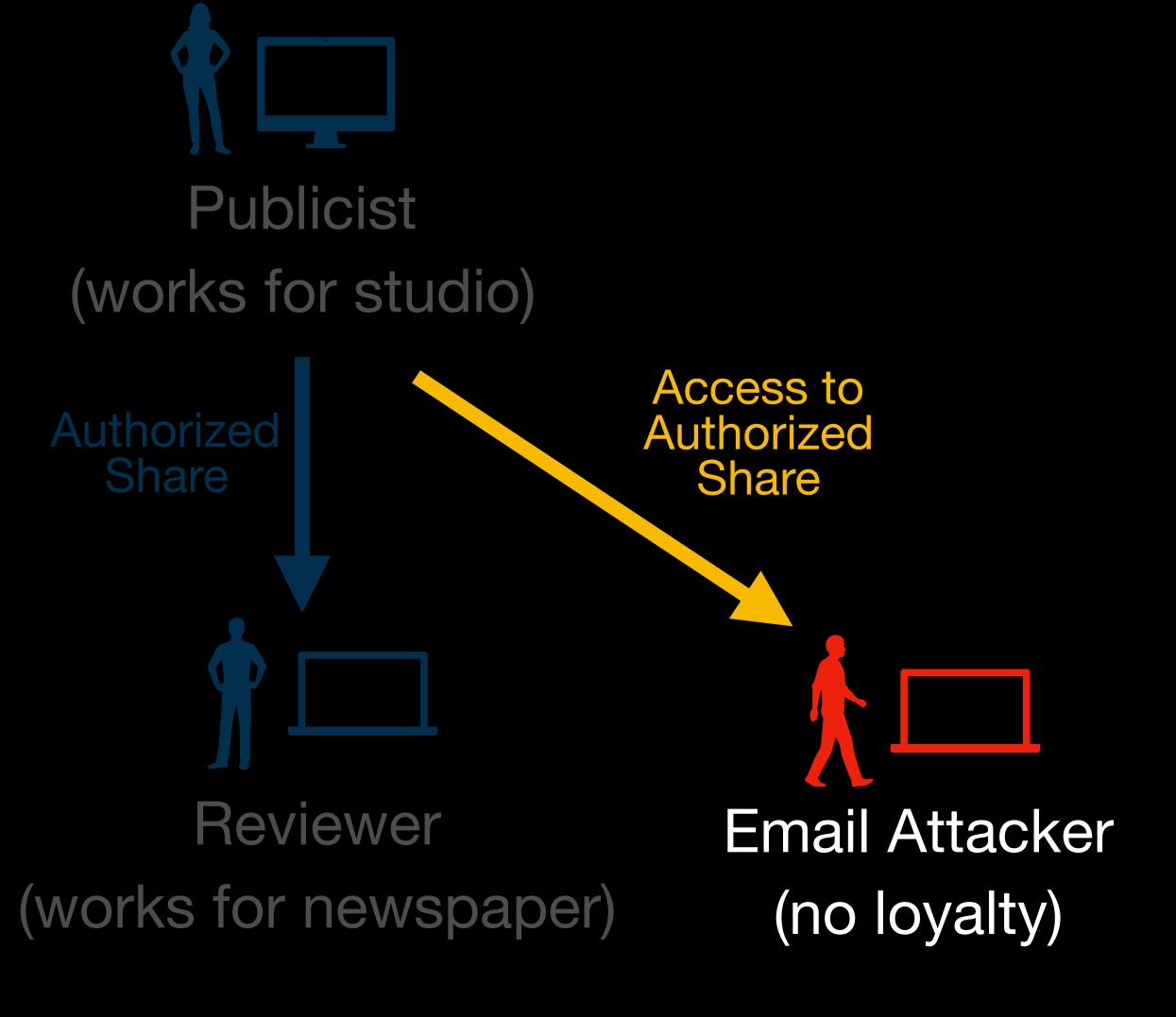
Biometrics: TouchID, FaceID, Face Unlock

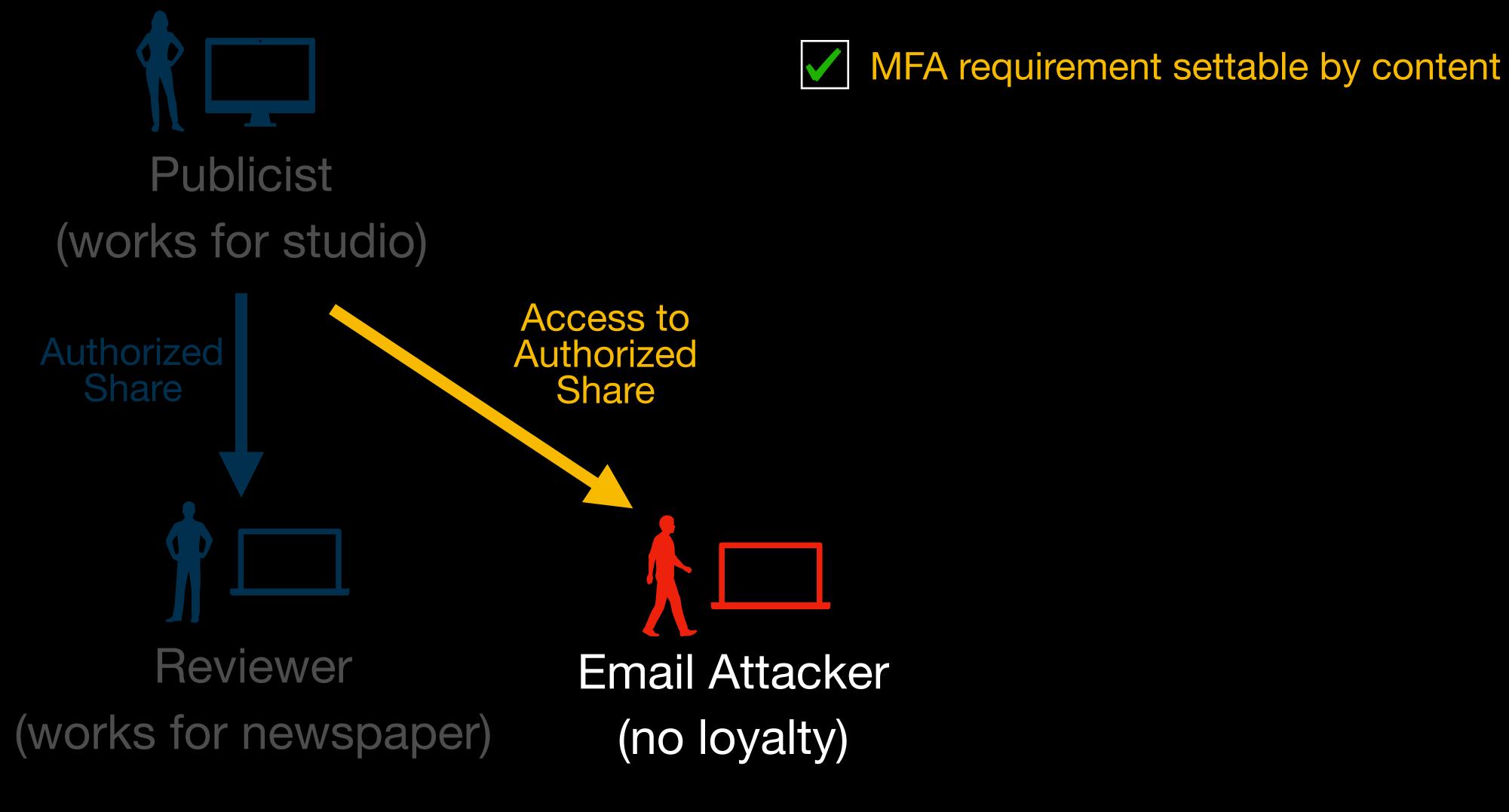
- Hard to share widely, beyond family
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- Availability varies
- Quality varies (iOS is ahead)

Physical factor: U2F (YubiKey)

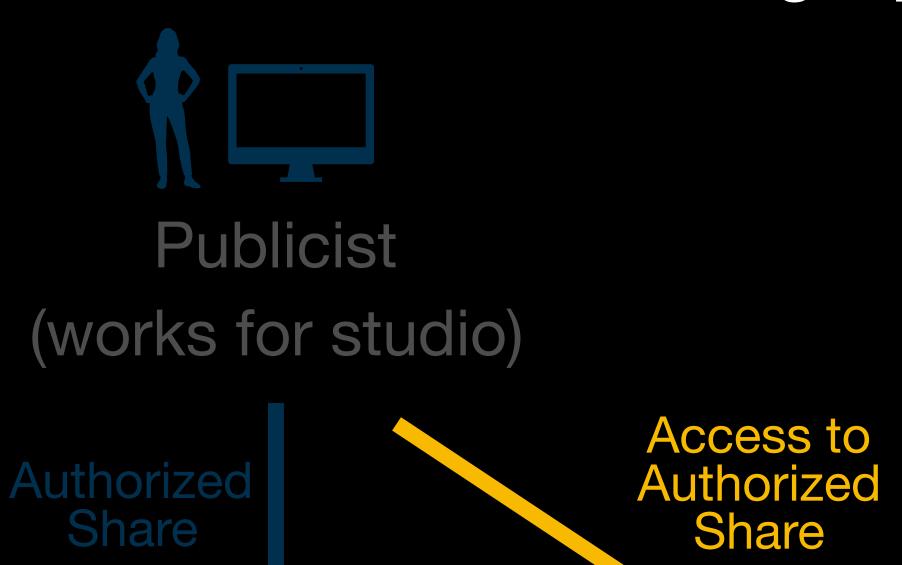
- Hard to share, beyond a shared device
- Hard to steal
- Availability varies (iOS is behind)

Our industry might have to do both





Code Name: "You've got pwned"



Reviewer

(works for newspaper)

✓ MF/

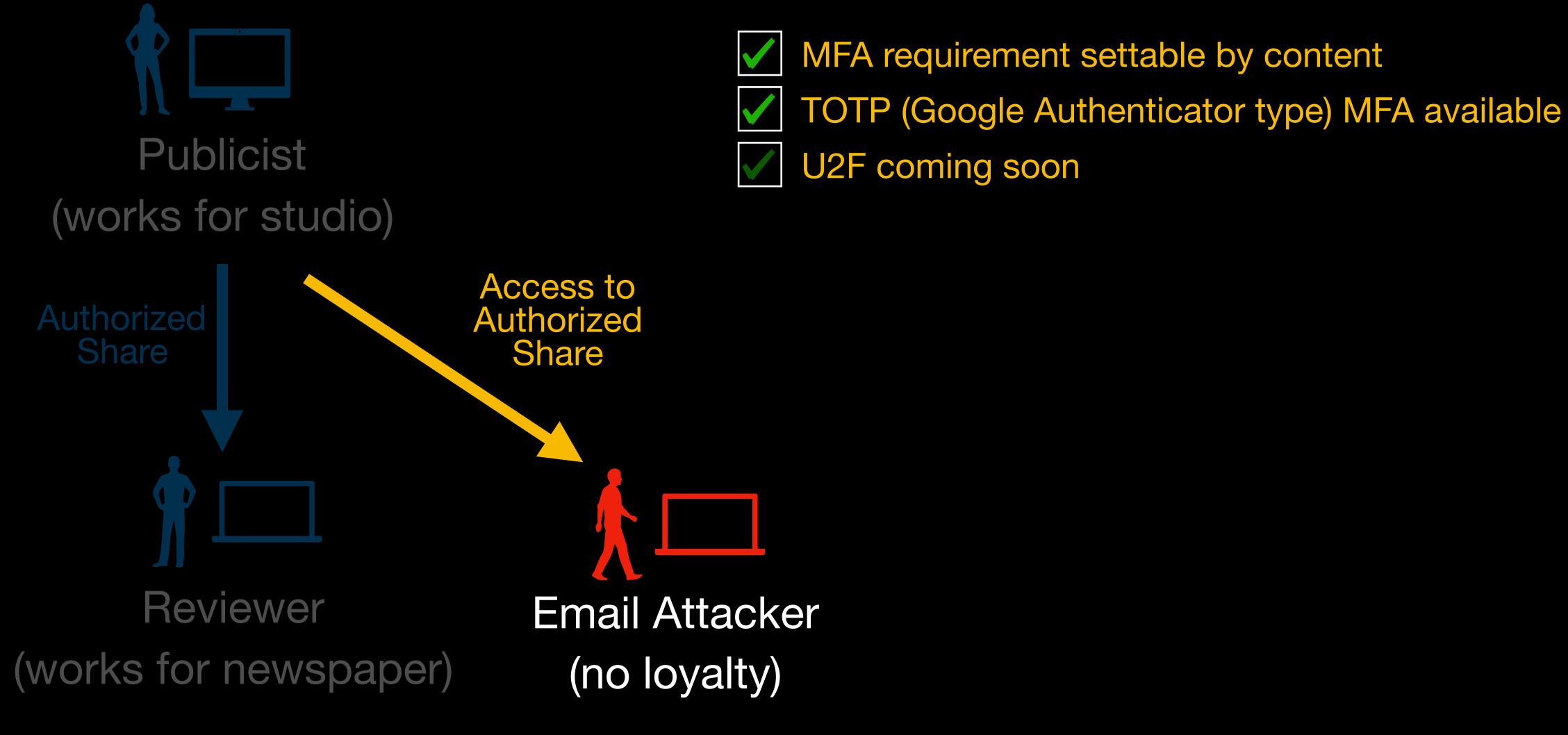
MFA requirement settable by content

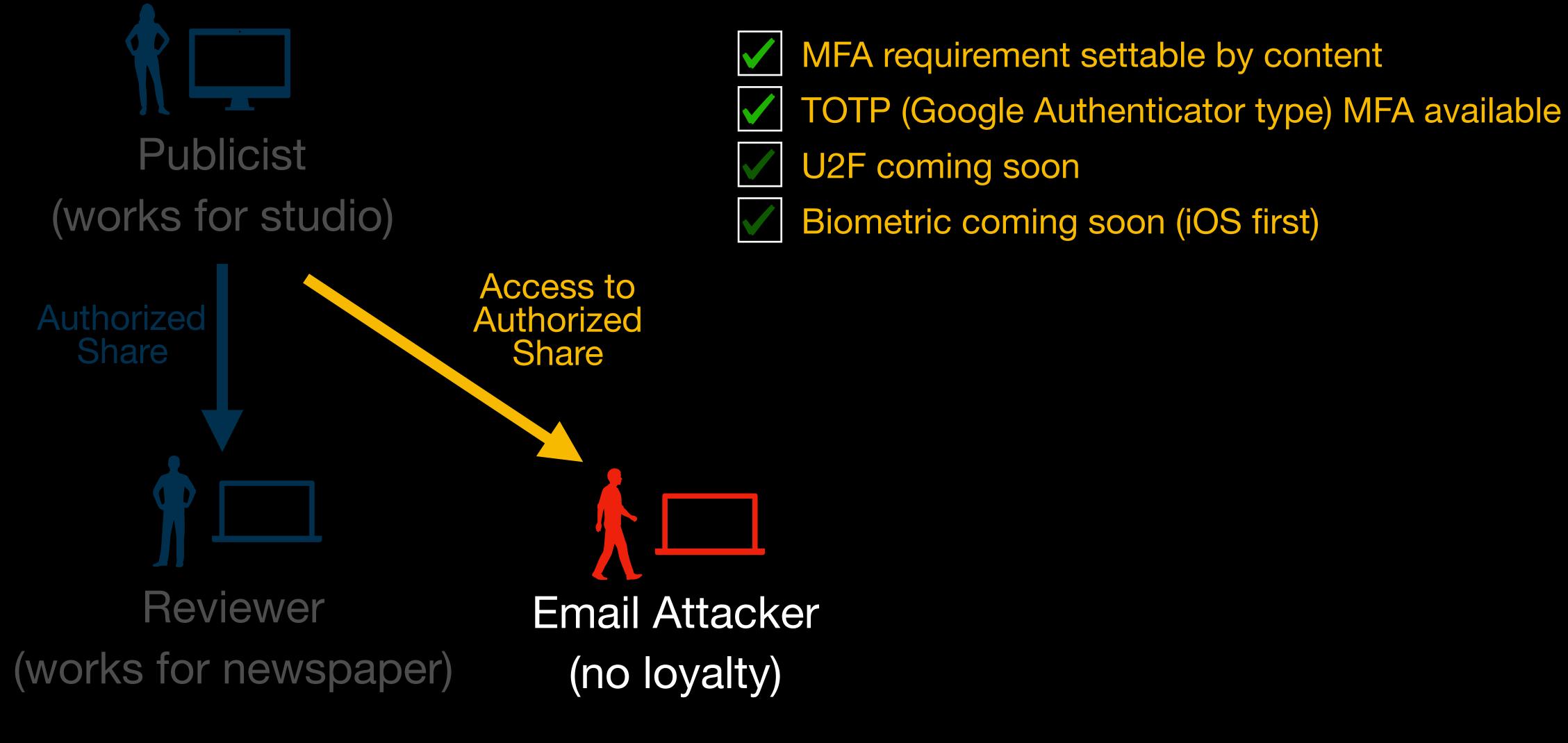


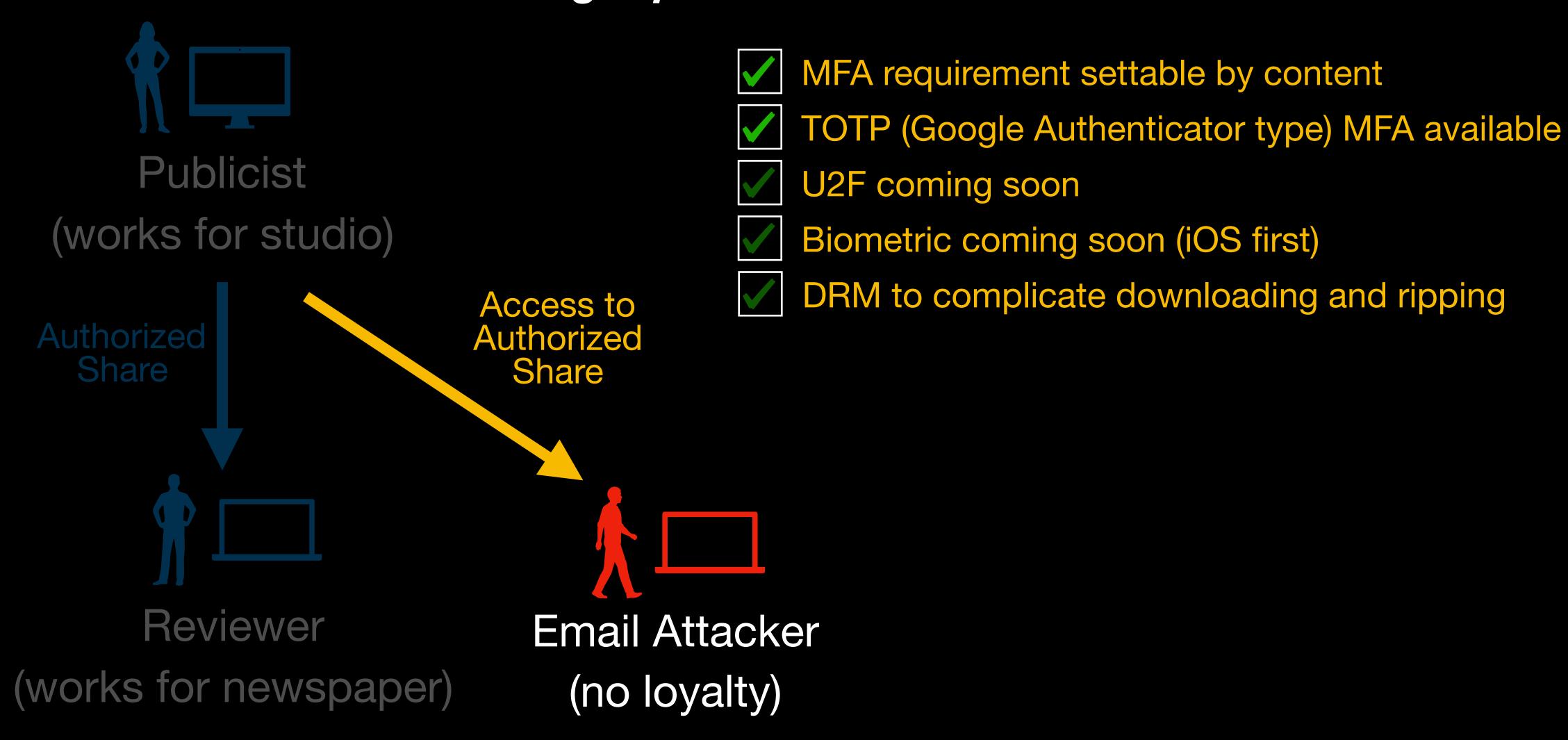
Email Attacker

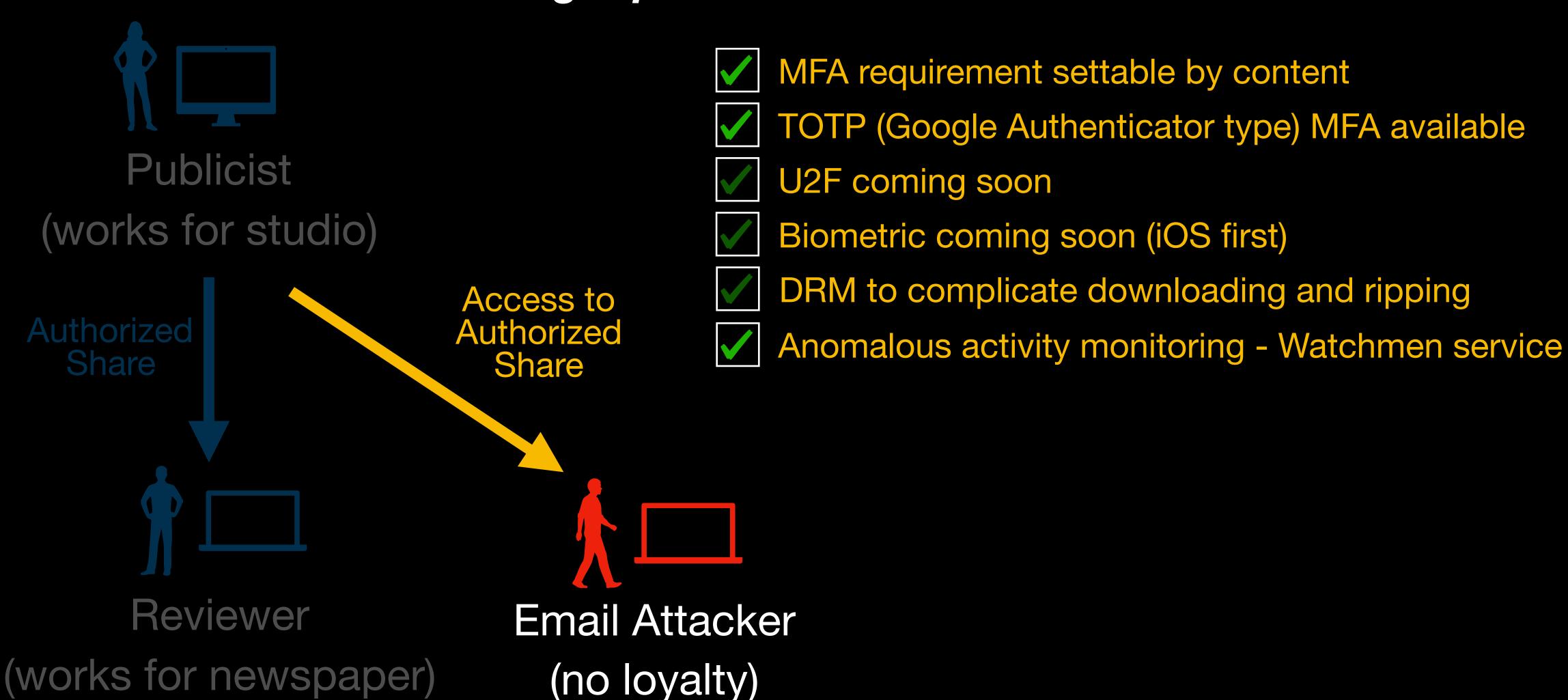
(no loyalty)

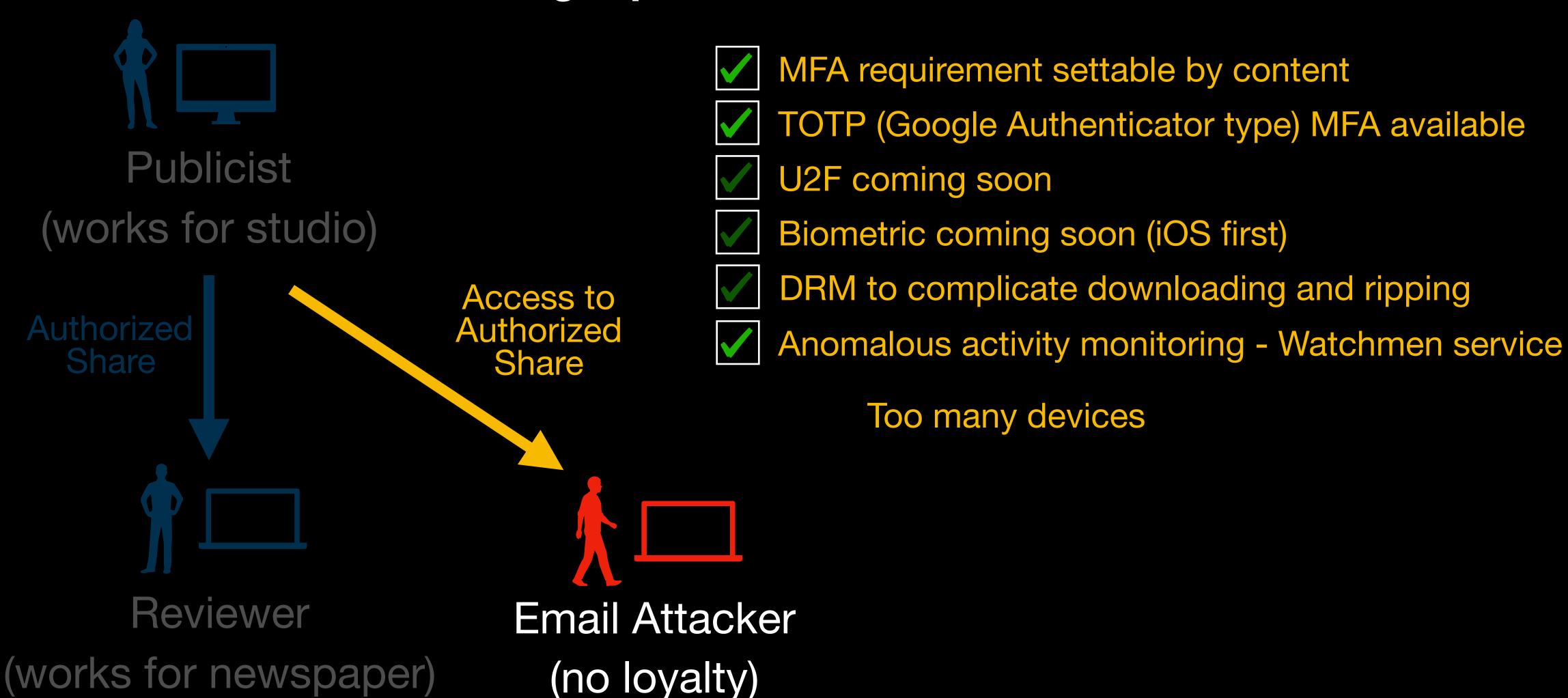
TOTP (Google Authenticator type) MFA available



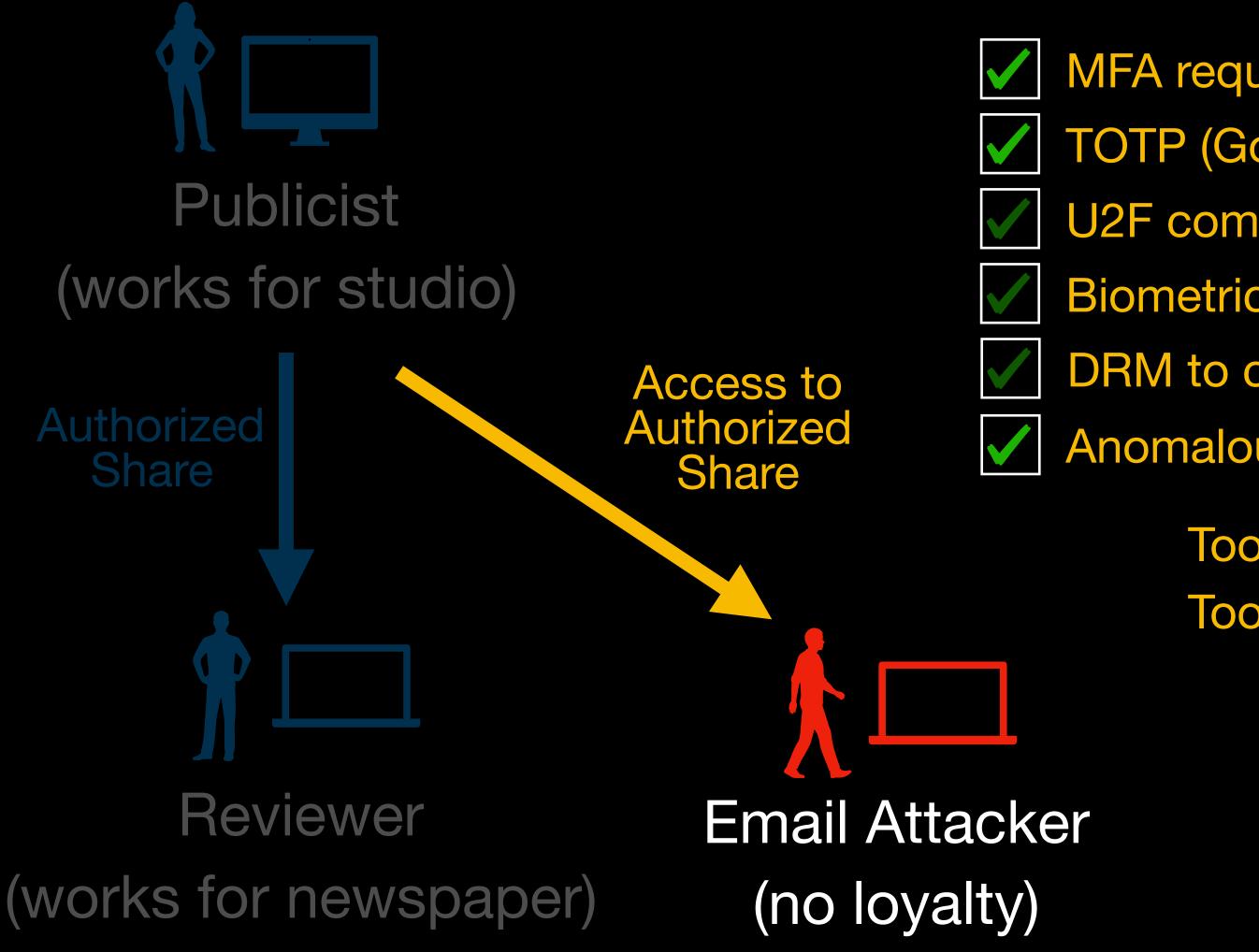






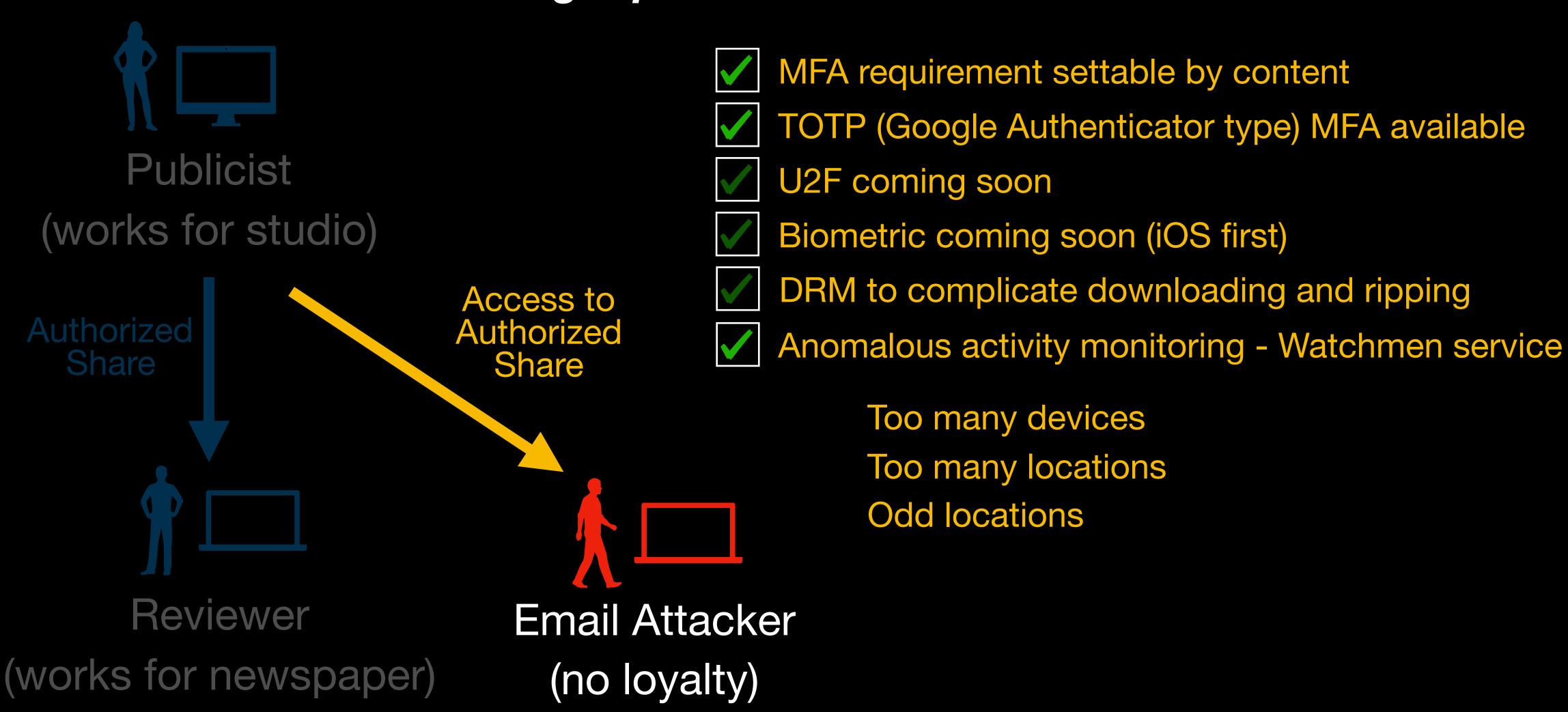


Code Name: "You've got pwned"

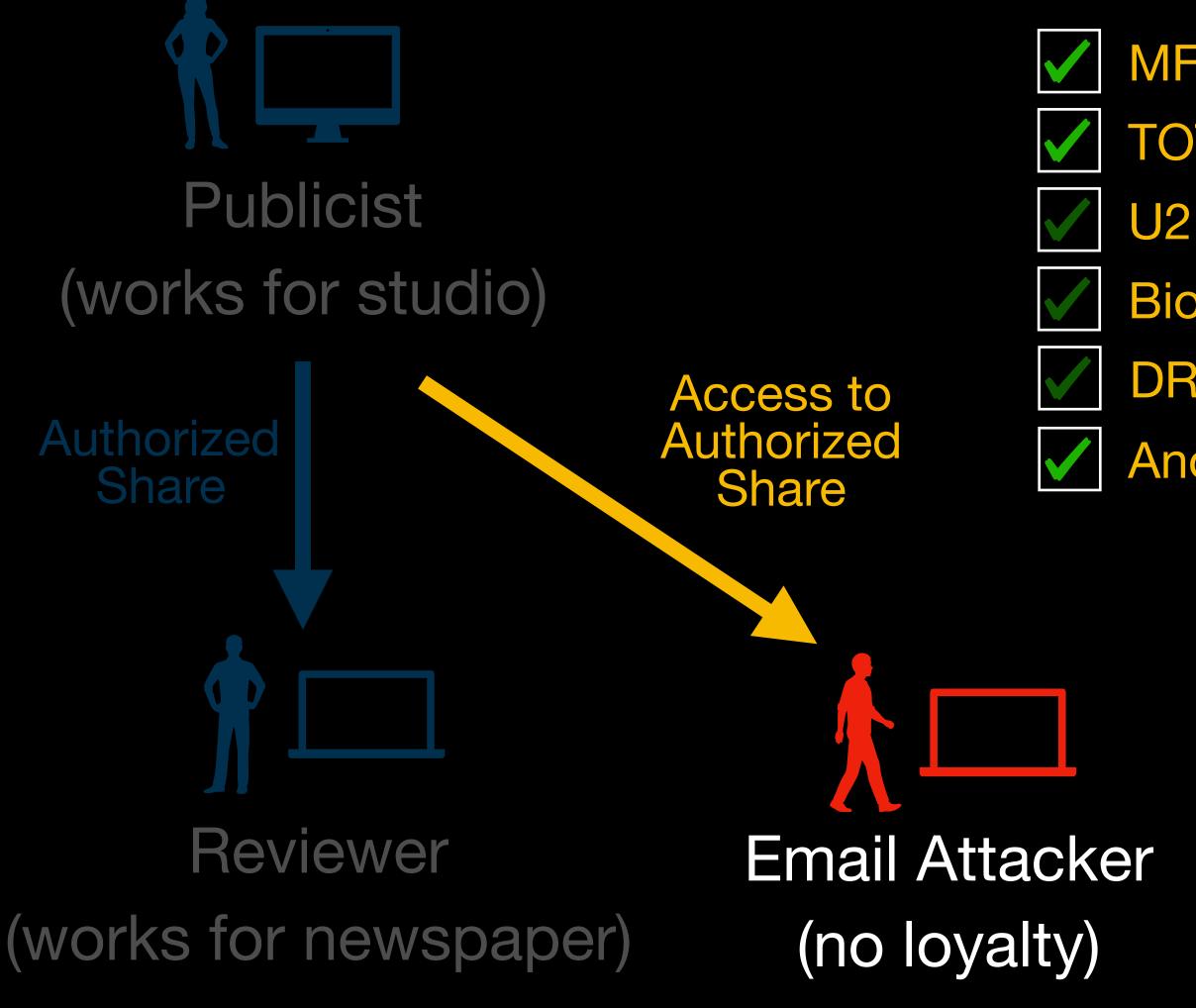


- MFA requirement settable by content
- TOTP (Google Authenticator type) MFA available
- U2F coming soon
- Biometric coming soon (iOS first)
- DRM to complicate downloading and ripping
- Anomalous activity monitoring Watchmen service

Too many devices Too many locations



Code Name: "You've got pwned"



MFA requirement settable by content

✓ TOTP (Google Authenticator type) MFA available

U2F coming soon

Biometric coming soon (iOS first)

DRM to complicate downloading and ripping

Anomalous activity monitoring - Watchmen service

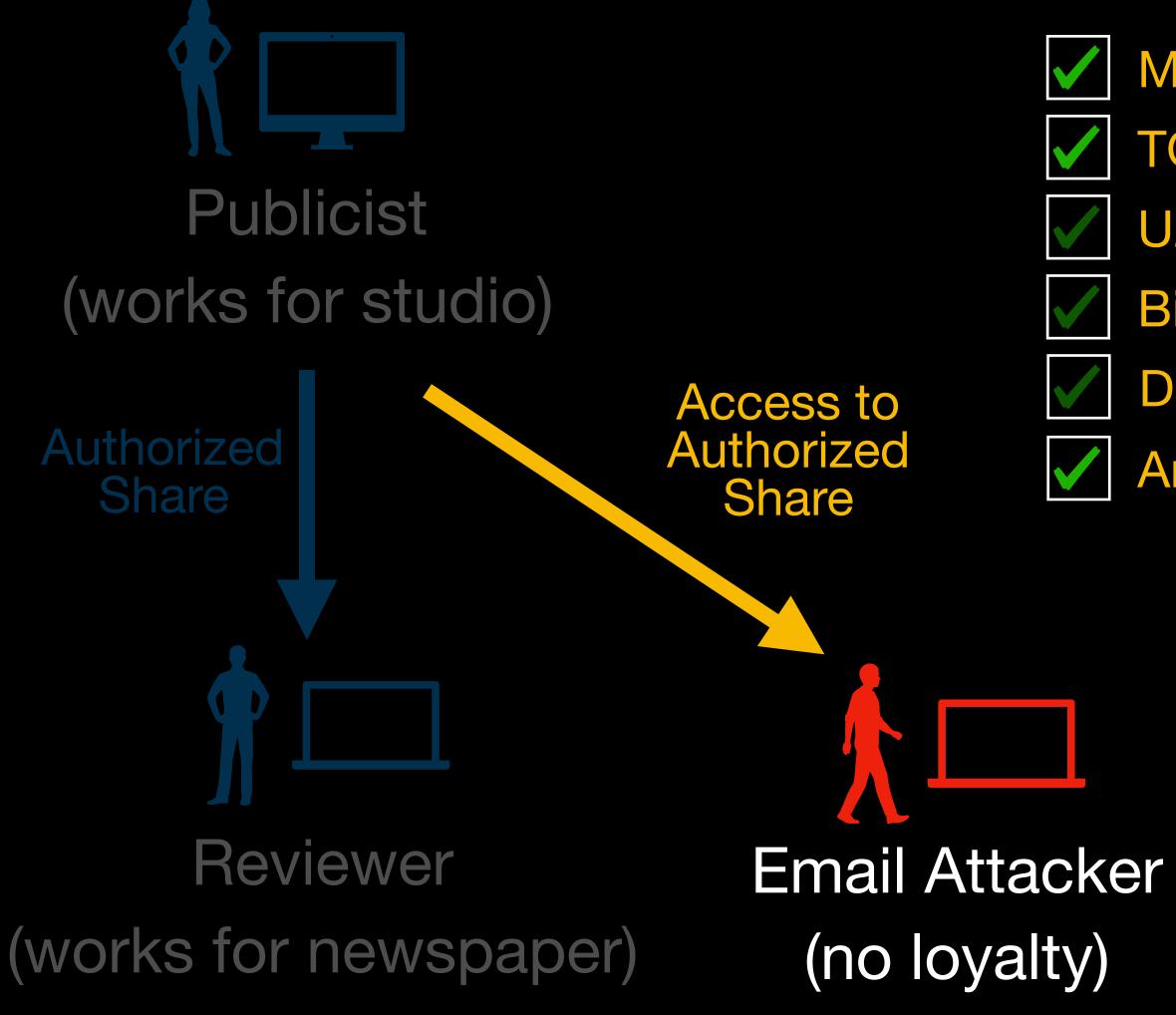
Too many devices

Too many locations

Odd locations

Simultaneous viewing from multiple devices

Code Name: "You've got pwned"



- MFA requirement settable by content
- ✓ TOTP (Google Authenticator type) MFA available
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Too many devices

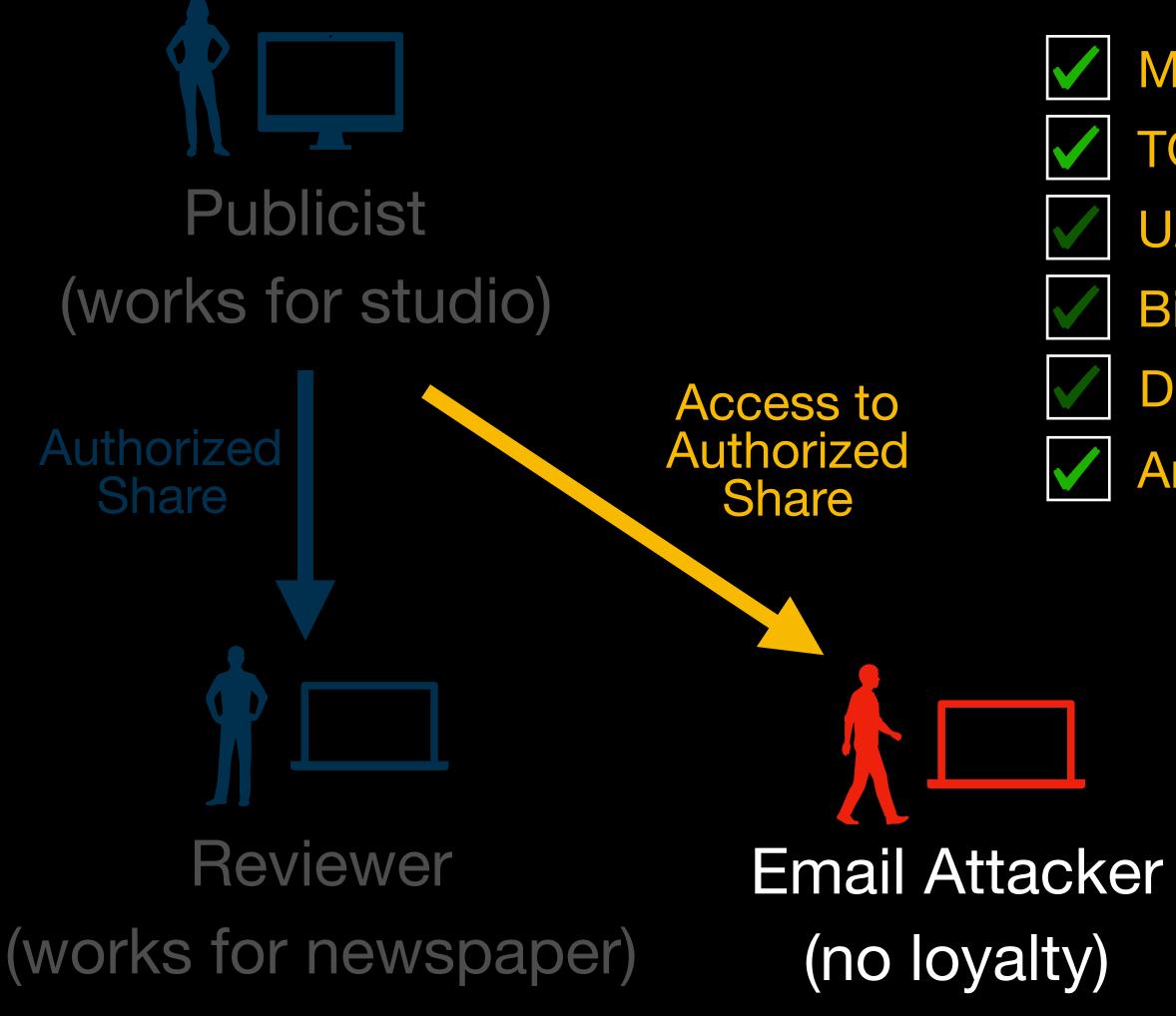
Too many locations

Odd locations

Simultaneous viewing from multiple devices

Watching too much content

Code Name: "You've got pwned"



MFA requirement settable by content

✓ TOTP (Google Authenticator type) MFA available

U2F coming soon

Biometric coming soon (iOS first)

/ DRM to complicate downloading and ripping

Anomalous activity monitoring - Watchmen service

Too many devices

Too many locations

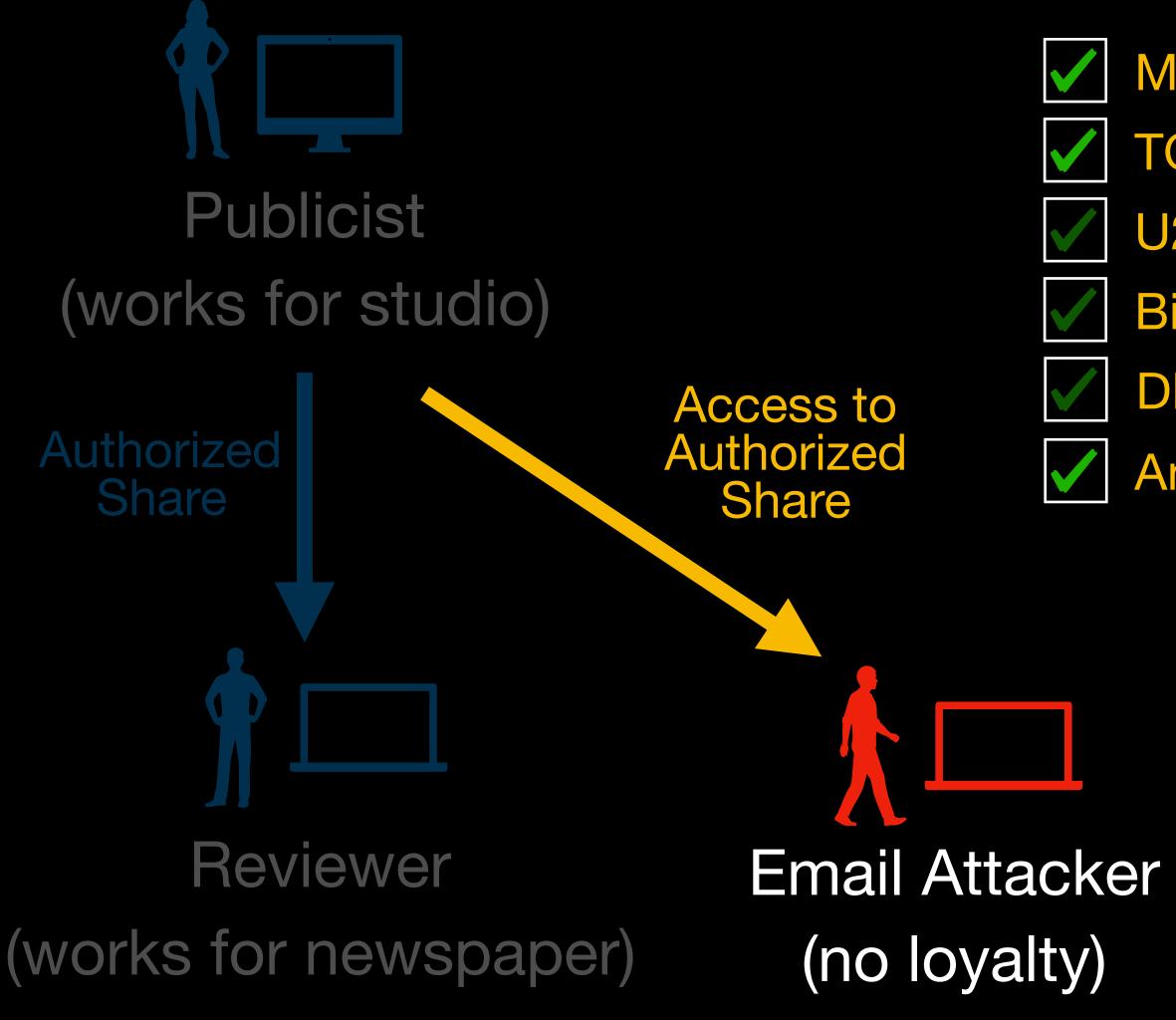
Odd locations

Simultaneous viewing from multiple devices

Watching too much content

Watching all the same content twice from two devices

Code Name: "You've got pwned"



- MFA requirement settable by content
- ✓ TOTP (Google Authenticator type) MFA available
- U2F coming soon
- Biometric coming soon (iOS first)
- DRM to complicate downloading and ripping
- Anomalous activity monitoring Watchmen service

Too many devices

Too many locations

Odd locations

Simultaneous viewing from multiple devices

Watching too much content

Watching all the same content twice from two devices

Etc. and the list is growing

Thank you!

And remember to share safely





Alex Nauda CTO, SHIFT

