

Privacy in Software

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DIGITAL NAÏVES

Hi Mom!? Have you seen my privacy?

ME ME ME

MSc Student in Advanced Computing

Specializing in Cryptography and Security

Research in privacy for current internet protocols

Teach High School Students about Privacy and Internet self-defense

Occasional blogger at www.amagerhalshug.dk and a DJ specializing in disco, funk and “baby-makers”



DIGITAL NATIVES



**CRINGE
WARNING**



BORN MOBILE

DIGITAL "NATIVES"

... are quick at adapting to new technology

... trust technology and do not question media

... are perceived as experts by adults and their parents

THE "FARMOR" EFFECT



Source: @andershemmingsendk

Everyone around them perceive them as experts - so can or should we teach them anything?

DIGITAL "NATIVES"

... are quick at adapting new technology













... trust technology and do not question media

... are perceived as experts by adults and their parents

... born in the 00s

FINANCIALLY IRRESPONSIBLE

MOM! CAN I BORROW MONEY FOR A VPN SERVICE!?* *

1		Acappella from PicPlayPost Music ★★★★☆ (290)	+ GET	6		Numbers Productivity ★★★★☆ (72)	+ GET
2		Messenger Social Networking	+ OPEN	7		Keynote Productivity ★★★★☆ (108)	+ GET
3		Instagram Photo & Video ★★★★☆ (3,784)	OPEN	8		GarageBand Music ★★★★☆ (625)	⬇
4		Pages Productivity ★★★★☆ (285)	⬇	9		iTunes U Education ★★★★☆ (37)	⬇
5		Facebook Social Networking ★★★★☆ (654)	+ OPEN	10		YouTube Photo & Video ★★★★☆ (3,625)	+ OPEN
6		Numbers Productivity ★★★★☆ (72)	+ GET	11		Snapchat Photo & Video ★★★★☆ (738)	OPEN

*said no teenager
ever

LAZY

SNAPCHAT TERMS & CONDITIONS

For all Services [...], you grant Snapchat a worldwide, royalty-free, sublicensable, and transferable license to host, store, use, display, reproduce, modify, adapt, edit, publish, and distribute that content. [...]

Because Live, Local, and any other crowd-sourced Services are inherently public and chronicle matters of public interest, the license you grant us for content submitted to those Services is broader. In addition to the rights you grant us in connection with other Services, you also grant us a perpetual license to create derivative works from, promote, exhibit, broadcast, syndicate, publicly perform, and publicly display content [...] in any form and in any and all media or distribution methods (now known or later developed). To the extent it's necessary, you also grant Snapchat and our business partners the **unrestricted, worldwide, perpetual right and license to use your name, likeness, and voice [...]**

[Log out](#)



We've updated our Terms of Service and Privacy Policy

Please read both! That's the only way to make sure you know about changes that may be important to you. But to get you going, here are a few of the changes you'll find:

- We've reorganized and rewritten our terms and privacy policy to make them easier to understand.
- We've clarified what information—like your name—will be visible to other Snapchatters. You can update your name in Settings.
- We've added some general terms for in-app purchases.

By tapping Accept, you agree to the [Terms of Service](#) and [Privacy Policy](#).

ACCEPT

GULLIBLE











APPS AND SERVICES VIA FACEBOOK


App Settings

Logged in with Facebook 10


Search apps

On Facebook, your name, profile picture, cover photo, gender, networks, username and user ID are always publicly available to both people and apps. [Learn why](#). Apps also have access to your Friends list and any information that you choose to make public.


 Airbnb 🔒 Only me	 Billettero 🔒 Only me	 Coursera 🔒 Only me
 Developer ⚙ Custom	 Duolingo 🔒 Only me	 GoMore + Amovens 🔒 Only me
 Instagram 👤 Friends	 Medium 🔒 Only me	 Spotify 🔒 Only me
 Twitter 👤 Friends		

 iMovie


×


App visibility 


This setting controls who on Facebook can see that you use this app. [Learn More](#)


 Only me ▾


INFO YOU PROVIDE TO THIS APP:

Public profile (required) 

Relationships (required) 

Relationship interests (required) 

Date of birth (required) 


Chat status 

Notes (required)


[App Privacy Policy](#) · [Remove App](#) · [Report App](#)

Cancel


Save


 iMovie

×


Notes (required) 


Your notes.

Work history (required) 


Status updates (required) 

Your status updates.


Education history (required) 

Events (required) 


Your events.

Groups (required) 

Your groups.

Home town (required) 

Your home town.

Interests (required) 

Your interests.

[App Privacy Policy](#) · [Remove App](#) · [Report App](#)

Cancel

Save

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×

Current city (required)

✓

Photos (required)

Photos uploaded by you (8), photos you're tagged in (1)

✓

Religious and political views (required)

Your religious and political views.

✓

Videos (required)

Your videos.

✓

Website (required)

✓

Personal description (required)

About you.

✓

Likes (required)

DR1, Bevar Amager Fælled and 225 others

✓

Email address (required)

✓

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Cancel

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×

Friends list (required)

Julia I Anders i and 363 others

✓

Your friends' relationships (required)

Friends' relationship statuses.

✓

Your friends' relationship interests (required)

Friends' relationship details.

✓

Your friends' birthdays (required)

Friends' birthdays.

✓

Your friends' chat statuses

Friends' online presence.

✓

Your friends' notes (required)

Notes shared with you.

✓

Your friends' work histories (required)

Friends' work histories.

✓

App Privacy Policy · Remove App · Report App

Cancel

Save



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Your friends' status updates (required)

Status updates shared with you.



Your friends' education histories (required)

Friends' education histories.



Your friends' events (required)

Events shared with you.



Your friends' groups (required)

Friends' groups.



Your friends' hometowns (required)

Friends' hometowns.



Your friends' interests (required)

Friends' interests.



Your friends' current cities (required)

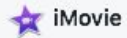
Friends' locations.



[App Privacy Policy](#) · [Remove App](#) · [Report App](#)

Cancel

Save



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Your friends' photos (required)

Photos shared with you.



Your friends' religious and political views (required)

Friends' religious and political views.



Your friends' videos (required)

Videos shared with you.



Your friends' websites (required)

Friends' websites.



Your friends' personal description (required)

Friends' descriptions.



Your friends' likes (required)

Friends' likes.



THIS APP CAN:

Notifications are off for all apps

Turn on notifications

[App Privacy Policy](#) · [Remove App](#) · [Report App](#)

Cancel

Save

... AND YOU WONDER WHY TEENAGER
MIGHT DEVELOP TRUST-ISSUES?

SO WHAT SHOULD WE TEACH THEM?

1. If you are not paying you may be the product that is sold
2. If terms and conditions are too long to read, you should read them
3. Never believe what strangers on the Internet tell you
4. Use protection (!!)

When you're on facebook and you forgot to tape your webcam



PRIVACY IN SOFTWARE

Is security the same as privacy?

SECURE

HTTPS*

PRIVATE

A Facebook message will be encrypted from your device to Facebook's server. But it is not encrypted on Facebook's server.

This is **secure**, but is it private?

*DISCLAIMER: They *might* be a later time on this track, where **someone** will claim that HTTPS is actually insecure. Terrifying. But for now, you do not know this. Apologizes for spoilers.

IF PRIVACY IS
DERIVED FROM SOCIAL
CONCEPTS...

... shouldn't we look at
sociological concepts for
measurements?

INFORMATIONAL INEQUALITY

CREATE A BALANCE BETWEEN YOU AND YOUR USERS



Users should know what
information you have about them

INFORMATIONAL INJUSTICE

NOBODY LIKES A SNITCH(!)

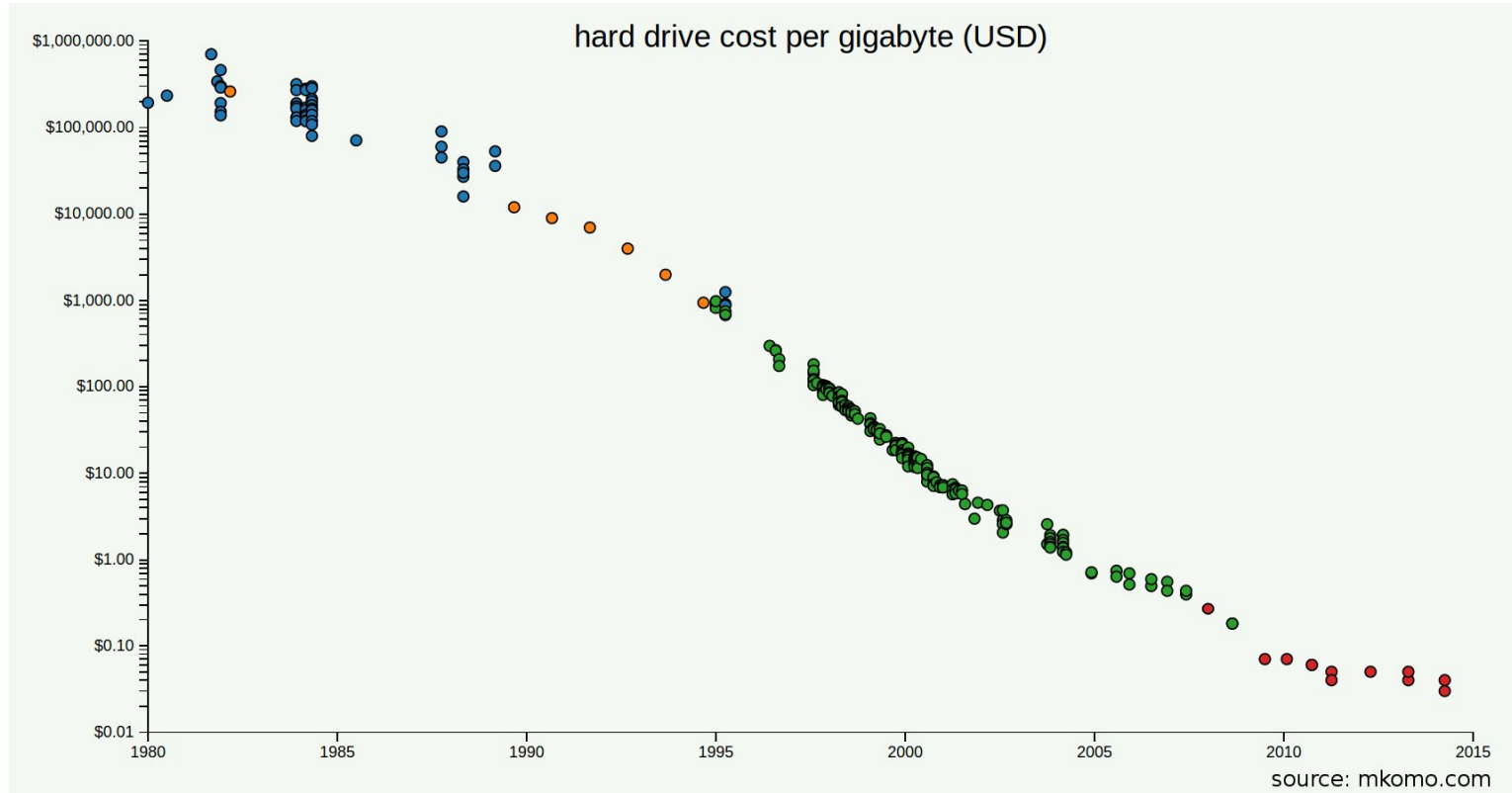


Do not use information that was
created in one place in another

INFORMATIONAL DECAY

SHOULD WE ALWAYS SAVE DATA, JUST
BECAUSE WE CAN?

... "IT WAS ON SALE!"



ARE CURRENT STANDARDS
PRIVACY PRESERVING?

STANDARD

- Remember everything
- Make long and inhuman terms and conditions
- “Ask for forgiveness, not permission”

ALTERNATIVE

Let users set a “timeout” on data

If you need a lawyer to make your terms and conditions, they are already too complicated

Do not ask for data that you don't need - If you need to save data, can you save it encrypted?

... but think about your solution!

THANK YOU!

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