

## ***Information System - Ethics***

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**<http://jpaulgibson.synology.me/~jpaulgibson/TSP/Teaching/CSC4104/CSC4104-InformationSystemEthicsCaseStudies.pdf>**

## OUTLINE and MOTIVATION

1. Computer Ethics (introduction)
2. Ethical Case Studies (Some PBL) - OPTIONAL BONUS
3. Ethical Issues with the *Carnet d'absence* Project



# Computer Ethics : common issues

For more information:

*Computing Ethics: a bibliography*

J Paul Gibson

<https://jpaulgibson.synology.me/~jpaulgibson/TSP/Teaching/CSC4104/ComputingEthicsBibliography.pdf>

- Autonomy
- Bias
- Fairness
- Transparency
- Discrimination
- Environment - Energy/Pollution/ ...
- Intellectual Property
- Inclusion - Accessibility
- Privacy
  - Data Protection
  - Face recognition
  - GDPR
  - Tracking
- Safety
- Security
- Society
- Technical Debt



# PBL Case Study - Choose one of the following examples, or propose one yourself

**Note** - you can submit your work on this as an optional bonus

## 3.2 Some ethical case studies

-  [Post Office IT system that ruined lives 'still faulty', MPs told, source - BBC.](#)
-  [The apps you use on your phone could help diagnose your cognitive health, source - MIT technical review](#)
-  [New facial recognition cameras get green light in London , source - Irish Independent](#)
-  [Bluetooth-Related Flaws Threaten Dozens of Medical Devices, source - Wired](#)
-  [Twelve Million Phones, One Dataset, Zero Privacy , source - New York Times](#)
-  [Tesla Autopilot System Found Probably at Fault in 2018 Crash, source - New York Times](#)
-  [Volkswagen emissions scandal: mass lawsuit opens in Germany, source - The Guardian](#)
-  [Catastrophic software errors doomed Boeing's airplanes ..., source - Business Insider](#)
-  [Can you use apps to track coronavirus and protect privacy? Europe's going to try, source - CNN](#)
-  [NJ's 40-year-old system increases delays for unemployment checks amid coronavirus crisis, source - NorthJersey.com](#)
-  [« Mon Master » : des « bugs » sur la nouvelle plateforme perturbent la finalisation des candidatures, source - ouest-france.fr](#)
-  [Hôpital de l'Essonne cyberattaqué: les hackers ont diffusé des données, source - lefigaro.fr](#)
-  [Après un énorme bug de Parcoursup, délai rallongé pour compléter ses vœux, source - marianne.net](#)
-  [Bitcoin Uses More Electricity Than Many Countries. How Is That Possible?, source - nytimes.com](#)



# Post Office IT system that ruined lives 'still faulty', MPs told

🕒 10 March 2020



| Public confidence in sub-Post Offices has been damaged, MPs were told

**By Brian Wheeler**  
Political reporter

<https://www.bbc.com/news/uk-politics-51817918>

ARTIFICIAL INTELLIGENCE

# The apps you use on your phone could help diagnose your cognitive health

By Karen Hao

January 10, 2020

Differences in the way healthy and cognitively impaired individuals used their smartphones were enough to tell them apart.

<https://www.technologyreview.com/2020/01/10/130946/the-apps-you-use-on-your-phone-could-help-diagnose-your-cognitive-health/>



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## New facial recognition cameras get green light in London



Facial recognition cameras have been deployed in other British cities and shopping centres but their use has prompted privacy concerns and opponents have questioned the accuracy of the technology. (stock photo)

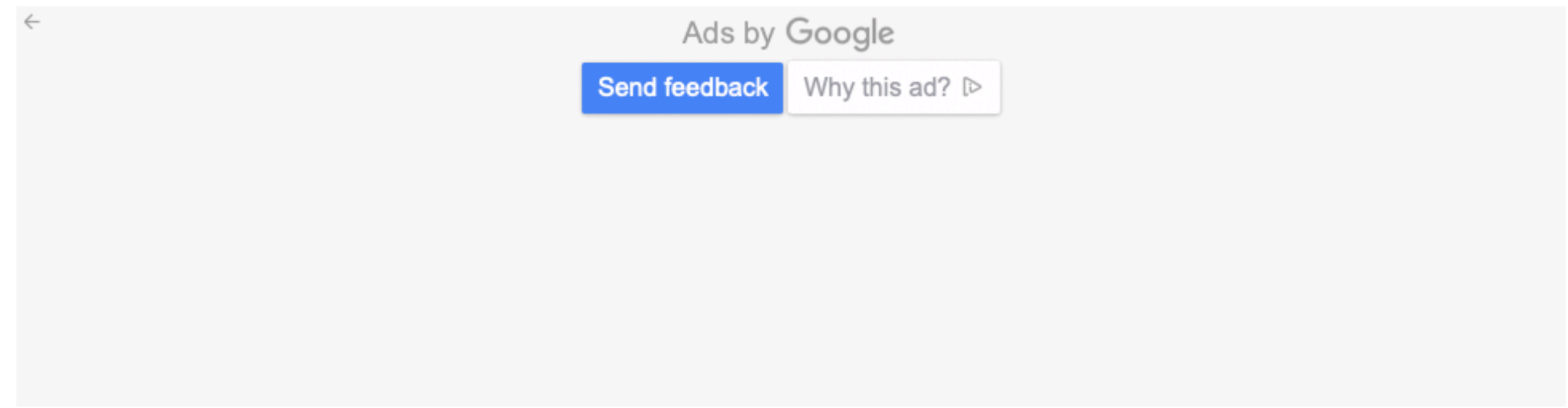
**Elizabeth Howcroft**

Sat 25 Jan 2020 at 03:30



Police officers are to start operational use of live facial recognition (LFR) cameras in London, despite warnings over privacy from rights groups and concerns expressed by the government's own surveillance watchdog.

<https://www.independent.ie/news/new-facial-recognition-cameras-get-green-light-in-london/38894038.html>



LILY HAY NEWMAN SECURITY FEB 20, 2020 7:00 AM

# Bluetooth-Related Flaws Threaten Dozens of Medical Devices

Hundreds of smart devices—including pacemakers—are exposed thanks to a series of vulnerabilities in the Bluetooth Low Energy protocol.



<https://www.wired.com/story/bluetooth-flaws-ble-internet-of-things-pacemakers/>





These are the actual locations  
for millions of Americans. At the New York  
Stock Exchange ...

Opinion | **THE PRIVACY PROJECT**

# Twelve Million Phones, One Dataset, Zero Privacy

By Stuart A. Thompson and Charlie Warzel

DEC. 19, 2019

<https://www.nytimes.com/interactive/2019/12/19/opinion/location-tracking-cell-phone.html>



The New York Times

## Tesla Autopilot System Found Probably at Fault in 2018 Crash

The National Transportation Safety Board called for improvements in the electric-car company's driver-assistance feature and cited failures by other agencies.

Share full article



A National Transportation Safety Board investigation concerned a 2018 accident in Mountain View, Calif., that killed the driver of a Tesla Model X sport utility vehicle. KTVU-TV, via Associated Press

<https://www.nytimes.com/2020/02/25/business/tesla-autopilot-ntsb.html>



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Environment ▶ Climate crisis Wildlife Energy **Pollution**

**Volkswagen (VW)**

• This article is more than 4 years old

# Volkswagen emissions scandal: mass lawsuit opens in Germany

**Hundreds of thousands of diesel car owners take action in first-of-its-kind claim**

**Jasper Jolly and agencies**

Mon 30 Sep 2019 19.01 CEST



📷 Judges have to decide whether Volkswagen caused harm by acting 'dishonestly'. Photograph: Fabian Bimmer/Reuters

<https://www.theguardian.com/business/2019/sep/30/volkswagen-emissions-scandal-mass-lawsuit-opens-in-germany>

SCIENCE

# Catastrophic software errors doomed Boeing's airplanes and nearly destroyed its NASA spaceship. Experts blame the leadership's 'lack of engineering culture.'

Morgan McFall-Johnsen Feb 29, 2020, 2:07 PM CET

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Left: Right: The CST-100 Starliner spacecraft is prepared for Boeing's Orbital Flight Test, November 2, 2019.  
Jason Redmond/Reuters; Boeing

<https://www.businessinsider.com/boeing-software-errors-jeopardized-starliner-spaceship-737-max-planes-2020-2?r=US&IR=T>



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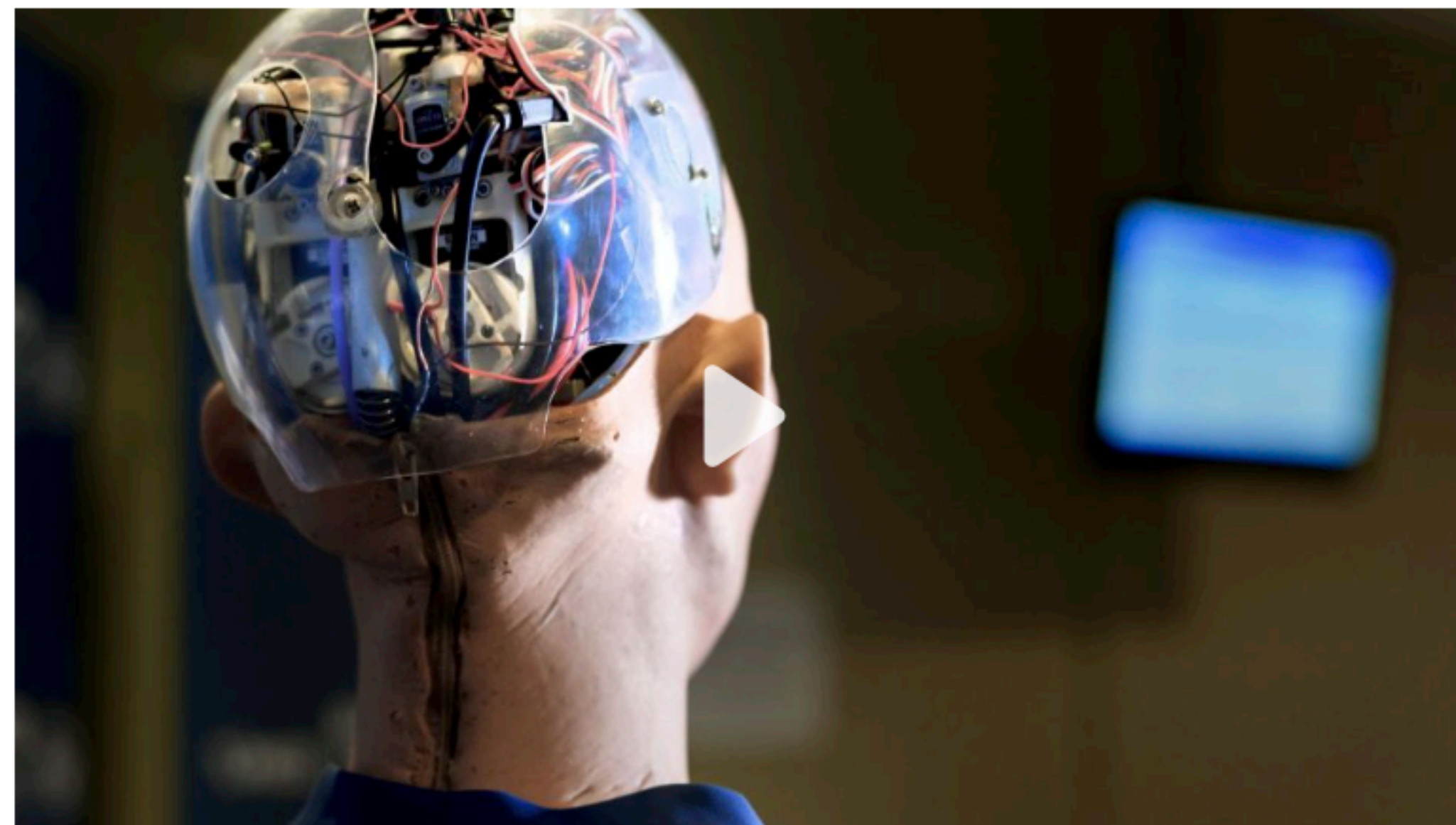
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- What is catfishing and what can you
- Harvard student groups issued an an
- Interest rates are still high. These are

## Can you use apps to track coronavirus and protect privacy? Europe's going to try

By Hadas Gold, CNN Business  
5 minute read · Updated 9:42 AM EDT, Fri April 3, 2020



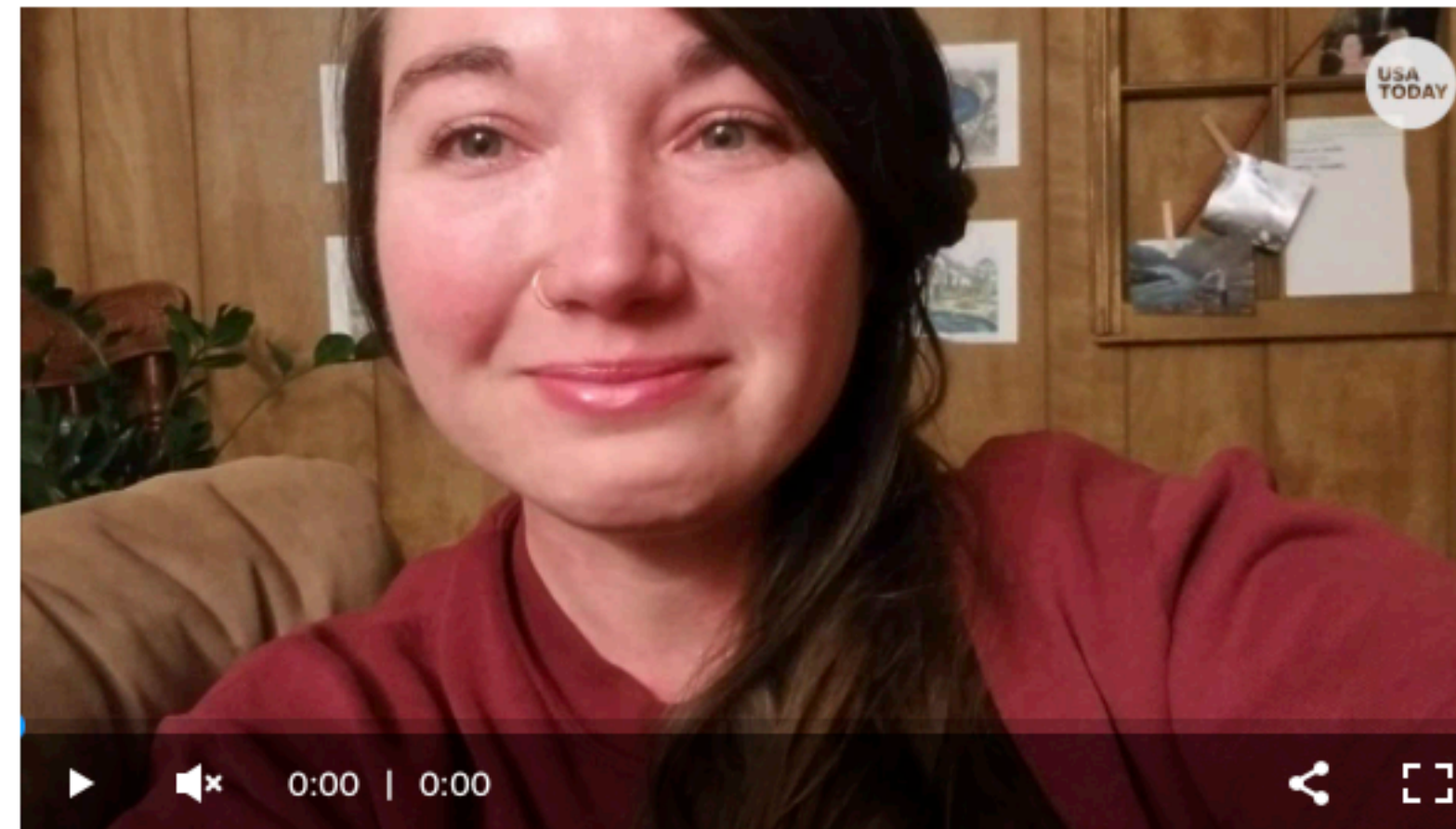
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<https://edition.cnn.com/2020/04/03/tech/coronavirus-tracing-app-uk-europe/index.html>

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### NJ's 40-year-old system increases delays for unemployment checks amid coronavirus crisis

[ASHLEY BALCERZAK](#) , [SCOTT FALLON](#) | NorthJersey.com

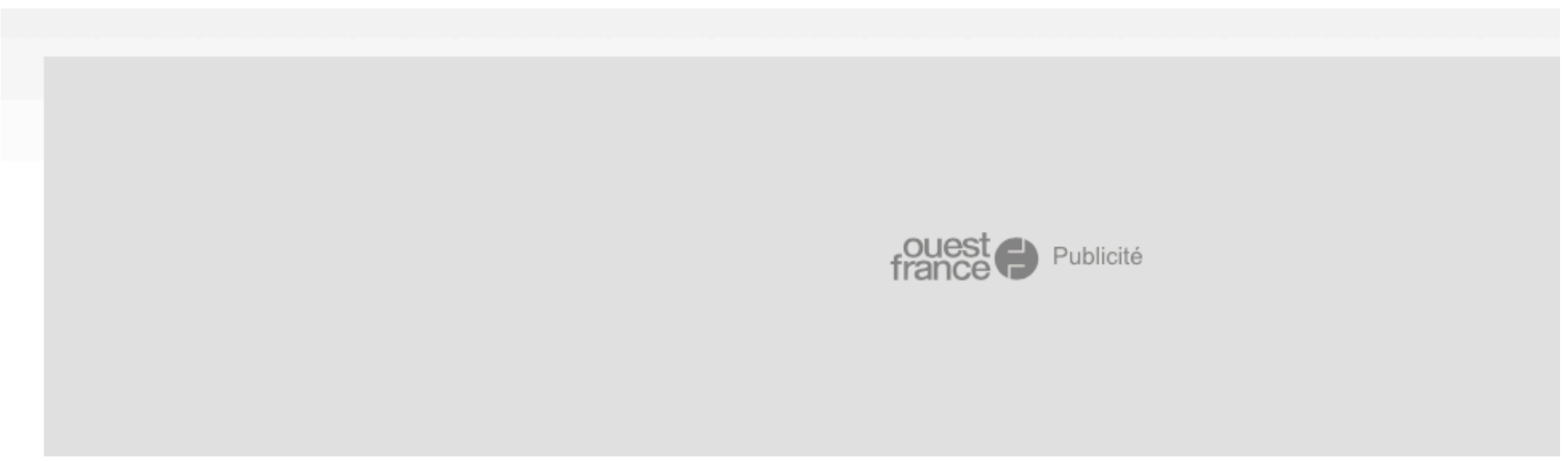


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New Jersey officials vowed Saturday to speed up the processing of unemployment claims despite relying on a 40-year-old computer system that has been overwhelmed by the record number of requests due to the coronavirus crisis.

<https://eu.northjersey.com/story/news/new-jersey/2020/04/04/coronavirus-nj-40-year-old-system-adds-delay-unemployment-checks/2944985001/>





ouest france Publicité

Accueil > Éducation > Étudiant

## « Mon Master » : des « bugs » sur la nouvelle plateforme perturbent la finalisation des candidatures

La deadline était fixée à mardi. Finalement, les étudiants qui candidatent en master sur la nouvelle plateforme ont eu une rallonge de 48 heures après des problèmes techniques constatés sur le site. Les dossiers sont à finaliser pour ce jeudi 20 avril, avant minuit. Lancé en mars pour harmoniser les dossiers de candidature et les calendriers des universités, « Mon Master » peine à convaincre.

Ouest-France  
Johan BESCOND.  
Publié le 19/04/2023 à 18h57



<https://www.ouest-france.fr/education/etudiant/mon-master-des-bugs-sur-la-nouvelle-plateforme-perturbent-la-finalisation-des-candidatures-a6d1f4d6-dea2-11ed-83ea-d6585ef0e4e2>

# Hôpital de l'Essonne cyberattaqué: les hackers ont diffusé des données

Par **Éric De La Chesnais**

Publié le 25/09/2022 à 10:08, mis à jour le 25/09/2022 à 19:44

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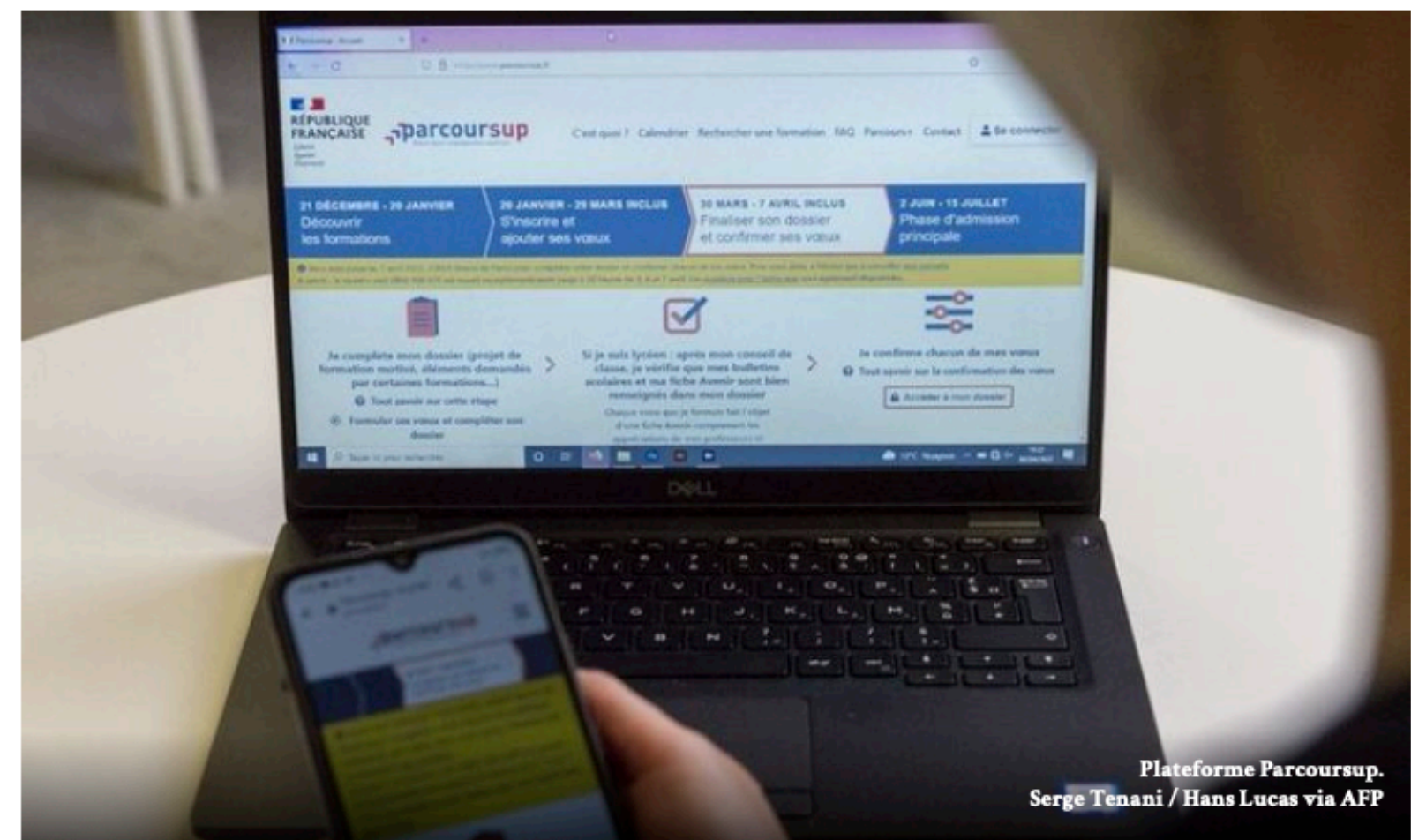
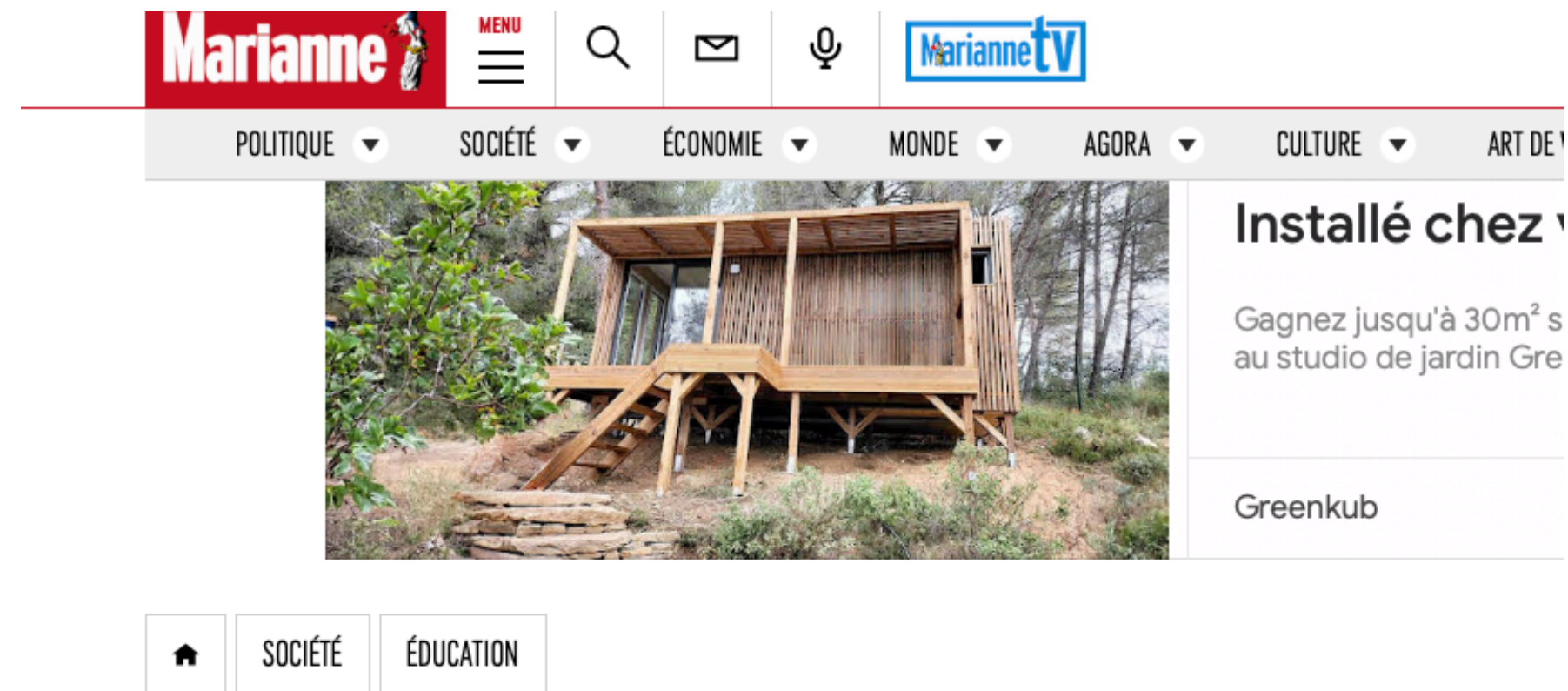
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Le Centre hospitalier sud-francilien de Corbeil-Essonnes, victime d'une cyberattaque. AFP

<https://www.lefigaro.fr/actualite-france/hopital-de-l-essonne-cyberattaque-les-hackers-ont-diffuse-des-donnees-20220925>





Plantage

## Après un énorme bug de Parcoursup, délai rallongé pour compléter ses VŒUX

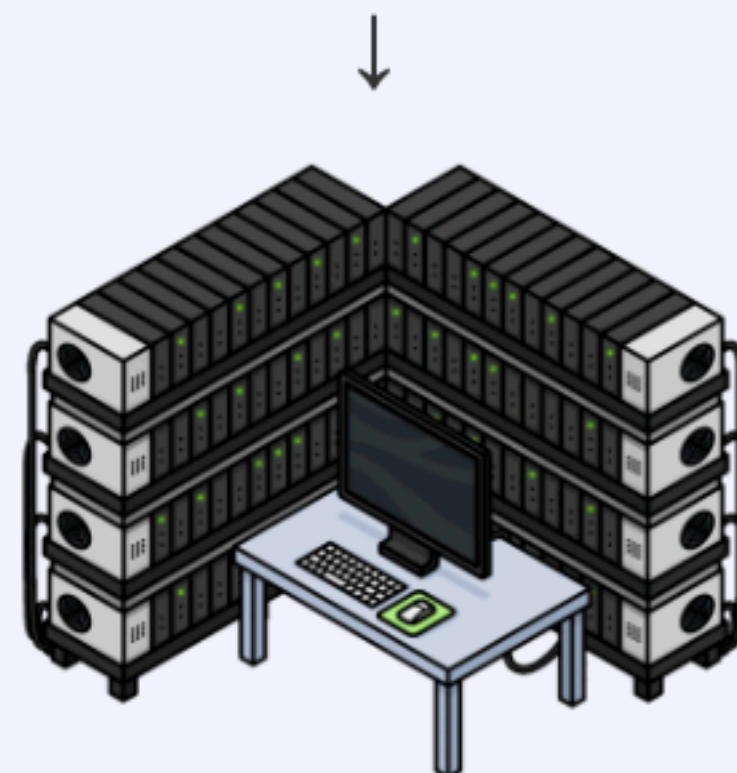
<https://www.marianne.net/societe/education/apres-un-enorme-bug-de-parcoursup-delai-rallonge-pour-completer-ses-voux>

# Bitcoin Uses More Electricity Than Many Countries. How Is That Possible?

**In 2009**, you could mine one Bitcoin using a setup like this in your living room.



**Today**, you'd need a room full of specialized machines, each costing thousands of dollars.



<https://www.nytimes.com/interactive/2021/09/03/climate/bitcoin-carbon-footprint-electricity.html>



# PBL Case Study - STEPS TO FOLLOW

- Gather information
- What was the problem?
- Who/What caused the problem?
- Who was impacted by the problem?
- How severe was the impact? (The *cost*?)
- Could the problem have been avoided?
- What should be done so that the problem doesn't happen again

# STEPS TO FOLLOW

## Gather information

- As wide as possible
- Information needs to be structured/organised
- Is it directly concerned by the case?
- Is it a similar case?
- Does it add context to the case?
- Is it needed to answer the other questions (has it value in your analysis)?
- Can the sources (information) be trusted?



## What was the problem?

- From the point of view of the users of the system
- What % of users did it impact?
- Did it result in something illegal occurring?

# STEPS TO FOLLOW

## Who/What caused the problem?

A single person

A group of people

A company

The user(s)

Something out of control of the above?

Its not clear

What evidence exists to: ?

make an accusation

defend against an accusation



# STEPS TO FOLLOW

## Who was impacted by the problem?

1 person ... the whole world?

just (wo)men?

just rich/poor?

just coloured?

just old/young?

etc..

# STEPS TO FOLLOW

**How severe was the impact?**

Financial Cost

Reputational Cost

Personal Cost



## STEPS TO FOLLOW

### **Should/Could the problem have been avoided?**

Be careful not to fall into the trap of ... “with hindsight ...”

Be careful when attributing blame

Be careful to clarify when your analysis is your opinion, that may not be shared with others

Try to estimate the cost of avoidance

## STEPS TO FOLLOW

**What should be done so that the problem doesn't happen again?**

Make multiple, alternative, complementary suggestions : there is usually more than one solution.

How much will it cost to implement?

What guarantees can we make?



## Ethical Issues : the *Carnet d'absence* Project

What are the ethical issues related to this **Information System**?

What analysis needs to be done to inform the development of the **IS** so that it addresses the ethical issues?

What could/should we do to make sure that these issues are correctly addressed in the delivered **IS**?

**NOTE:** This work is part of the *cahier de charges*