

# Alongside but separate: Lessons from interdisciplinary research on PETs

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# UCL

# Structure

- Part 1: Background
- Part 2: Project planning and scheduling
- Part 3: Different understanding of the same concepts and terms
- Part 4: Recommendations

# Part 1: Background


PETs and PbD

*“This will require substantial cooperation between social scientists, computer engineers, lawyers and policy makers with a clear understanding of what is at stake in terms of democracy and the rule of law”. (Hildebrandt, Profiling and the rule of law, 2008, p. 69)*

# Part 1: Background

- No perfect recipe for this type of cooperation
- ‘Privacy engineering’ is carried out in an intuitive manner - no blueprint for effective collaboration among members of different fields
- Challenges – from the perspective of a solicitor





## Part 2: Project planning and scheduling

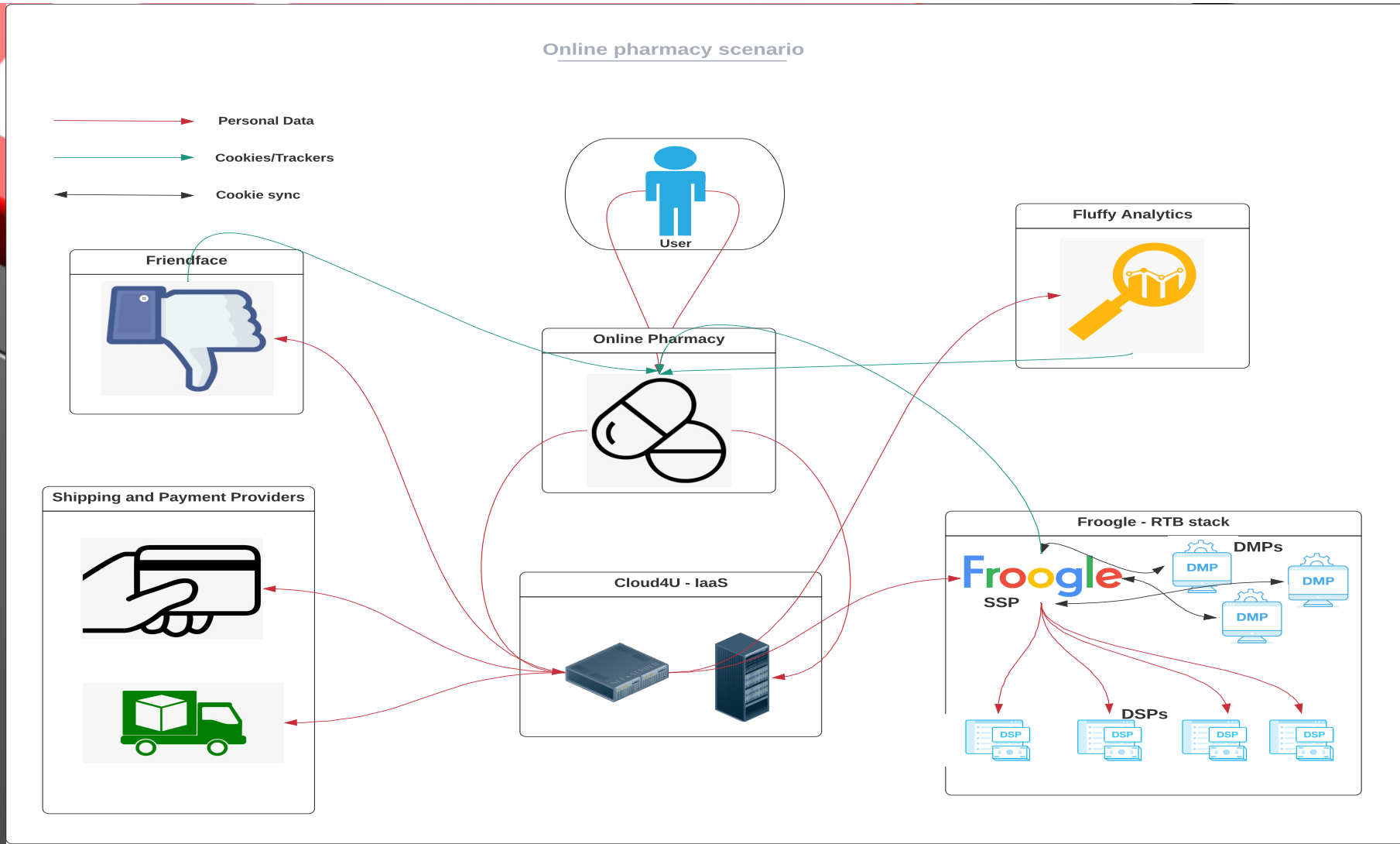
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## Part 2: Project planning and scheduling

- Privacy engineering is a subfield of computer science. Thus, a computer scientist/software engineer normally takes the lead.
- Blockchain expert, machine learning expert, and so on
- Then other scholars are invited to make contributions to an already-defined solution
- Sometimes, the intended functionality requires input from other disciplines at the design stage

# Part 2: Project planning and scheduling



## Part 2: Project planning and scheduling

- Blockchain experts designed a solution to address GDPR issues in the cloud
- 3-year long project: the legal scholars started working on year two
- The PET was run on the Ethereum network (which is a public, permissionless blockchain)



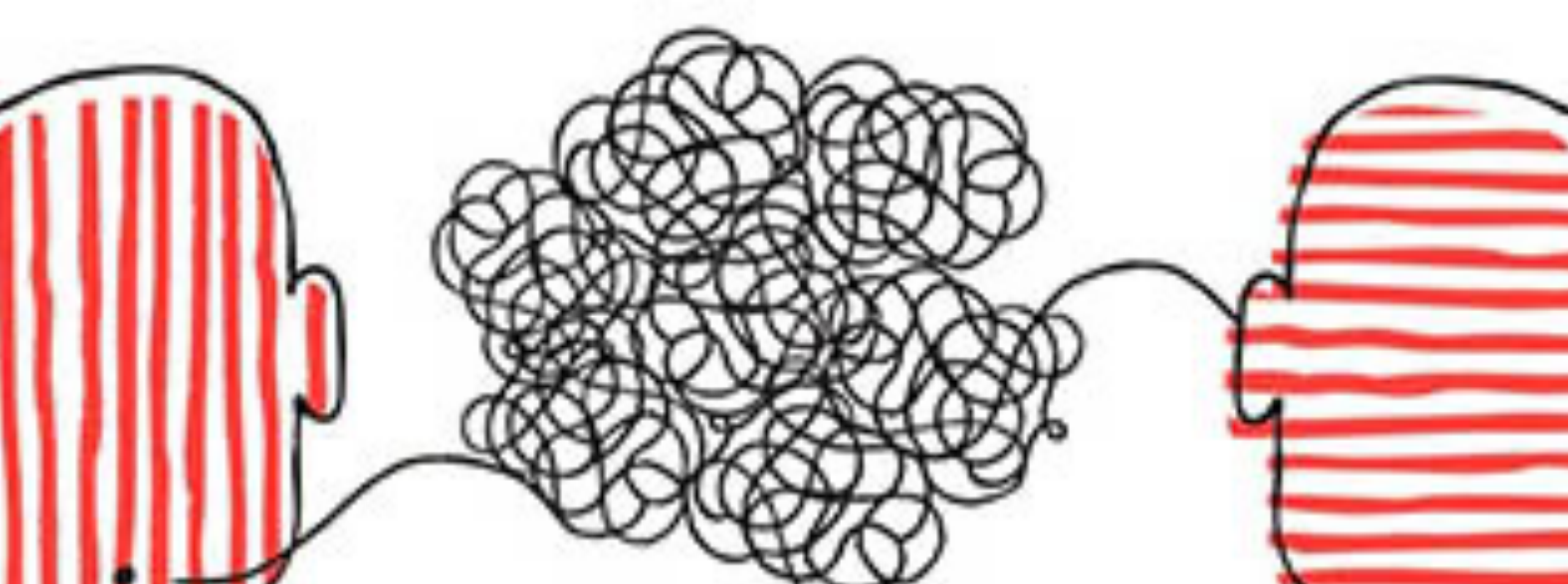
## Part 2: Project planning and scheduling

### **CNIL (French Data Protection Authority, 2018)**

- a blockchain is not necessarily the most suitable technology for all data processing; it can be a source of difficulties for data controllers in terms of compliance with the obligations set out by the GDPR.
- Permissioned blockchains should be favoured as they allow a better control over personal data governance

## Part 2: Project planning and scheduling

- **Fitting a round peg into a square hole**
- **Many other decisions were made on the basis of a computer science-understanding of legal (GDPR) concepts at the design stage**



**Part 3:** Different understanding  
of the same concepts and terms

“laws and regulations [can] be programmed into the blockchain itself, so that they are enforced automatically” (Guy Zyskind and Oz Nathan, ‘Decentralizing Privacy: Using Blockchain to Protect Personal Data’, 2015 IEEE Security and Privacy Workshops (IEEE 2015) 184)

**Part 3:** Different understanding of the same concepts and terms



# GDPR – main concepts and elements

Personal Data: "any information relating to an identified or identifiable natural person"

Special categories: personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation

Controller: natural or legal person which, alone or jointly with others, determines the purposes and means of the processing of personal data.

Processor: natural or legal person which processes personal data on behalf of the controller

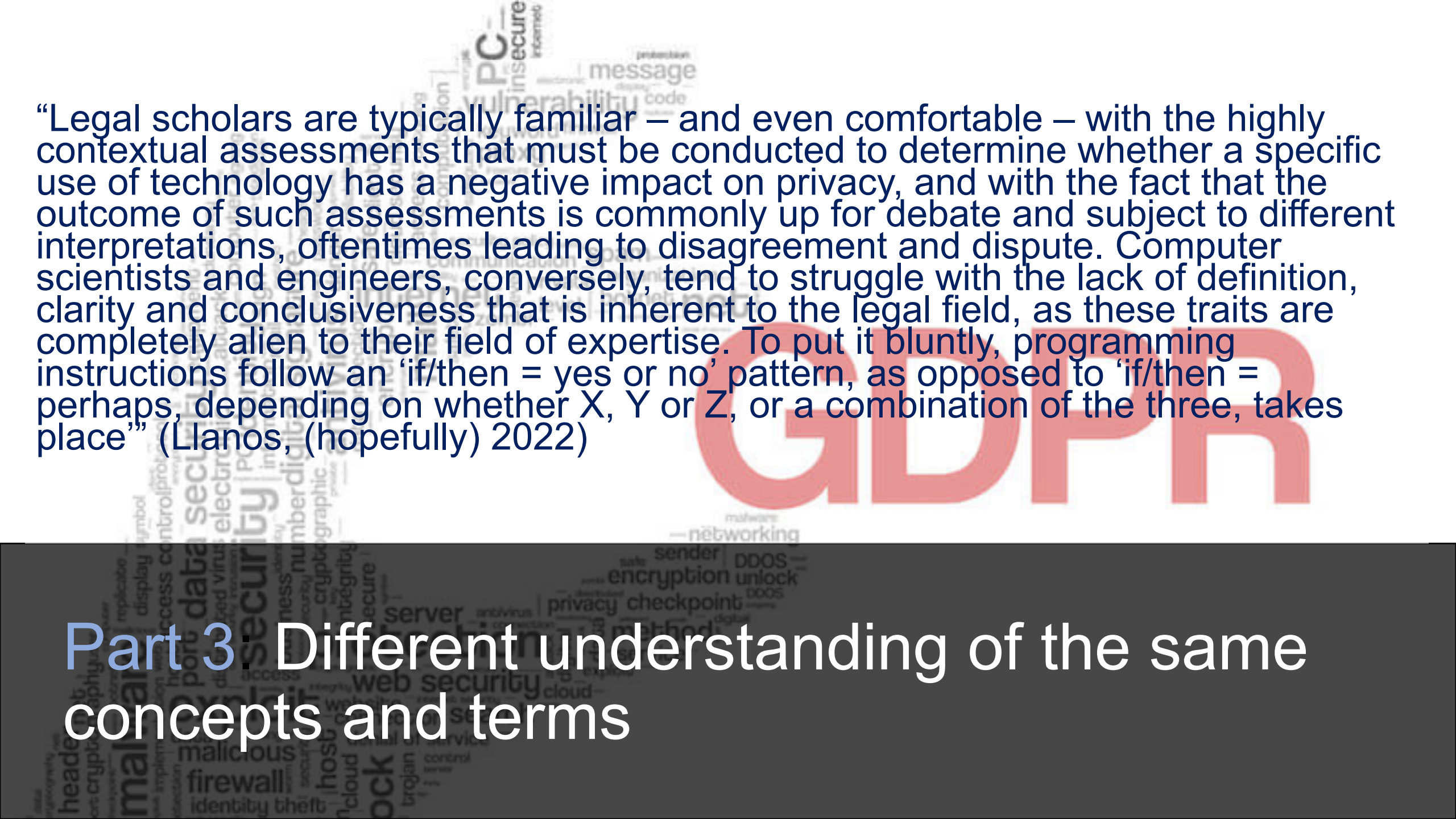
Processing: any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as

- collection, recording, organisation, structuring, storage, adaptation or alteration,
- retrieval, consultation, use, disclosure by transmission, dissemination
- or otherwise making available, alignment or combination, restriction, erasure or destruction.

Lawful Bases

Data quality principles

Data subject Rights



“Legal scholars are typically familiar – and even comfortable – with the highly contextual assessments that must be conducted to determine whether a specific use of technology has a negative impact on privacy, and with the fact that the outcome of such assessments is commonly up for debate and subject to different interpretations, oftentimes leading to disagreement and dispute. Computer scientists and engineers, conversely, tend to struggle with the lack of definition, clarity and conclusiveness that is inherent to the legal field, as these traits are completely alien to their field of expertise. To put it bluntly, programming instructions follow an ‘if/then = yes or no’ pattern, as opposed to ‘if/then = perhaps, depending on whether X, Y or Z, or a combination of the three, takes place” (Llanos, (hopefully) 2022)

## Part 3: Different understanding of the same concepts and terms

- CS solution: there is no personal data, as it is encrypted
- Law rebuttal: “reasonable likelihood of identification” test: if the computer scientists have or are reasonably likely to gain access to the encryption key or identifiers, the data in question is pseudonymous instead of anonymous
- This clash occurred over and over again
- Frustration, apathy, siloed collaboration

## Part 3: Different understanding of the same concepts and terms



# Part 4: Recommendations





## Pre-project Workshop

- Case for support should be assessed by external experts in the concerned fields
- Consideration of alternative approaches
- Elimination of unattainable ideas
- Substantial time and effort saving

## Part 4: Recommendations

## Inter-disciplinary teaching and training

- Course on data privacy especially tailored to computer scientists
- Interpretative thinking and context-dependent reasoning
- Working with law students as part of the assessment, e.g.
  - Devising a privacy-preserving IT solution
  - DPIA

## Part 4: Recommendations

A close-up photograph of a computer keyboard. The central focus is a large, rectangular blue key with the words "Thank you!" printed in white, italicized font. Surrounding this key are several standard black keys with white symbols: a key with "M" is at the top left; a key with "%" and "ù" is to the right of "M"; a key with "£" and "," is to the right of "%"; a large key with a curved arrow is at the top right; a key with "+" and "=" is to the left of the blue key; and two arrow keys (one pointing up, one pointing down) are at the bottom. The keyboard has a white frame, and the lighting creates soft shadows on the keys.

*Thank you!*