

A Comprehensive Study on GDPR-Oriented Analysis of Privacy Policies: Taxonomy, Corpus and GDPR Concept Classifiers

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A Quick Overview

Who did the research?



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 - ¹School of Computer Science, Shanghai Jiao Tong University, China
 - ²Birmingham Law School, University of Birmingham, UK
 - ³iCSS & Kent Law School, University of Kent, UK
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 - ⁵iCSS & School of Computing, University of Kent, UK
 - ***Corresponding co-authors**



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BIRMINGHAM

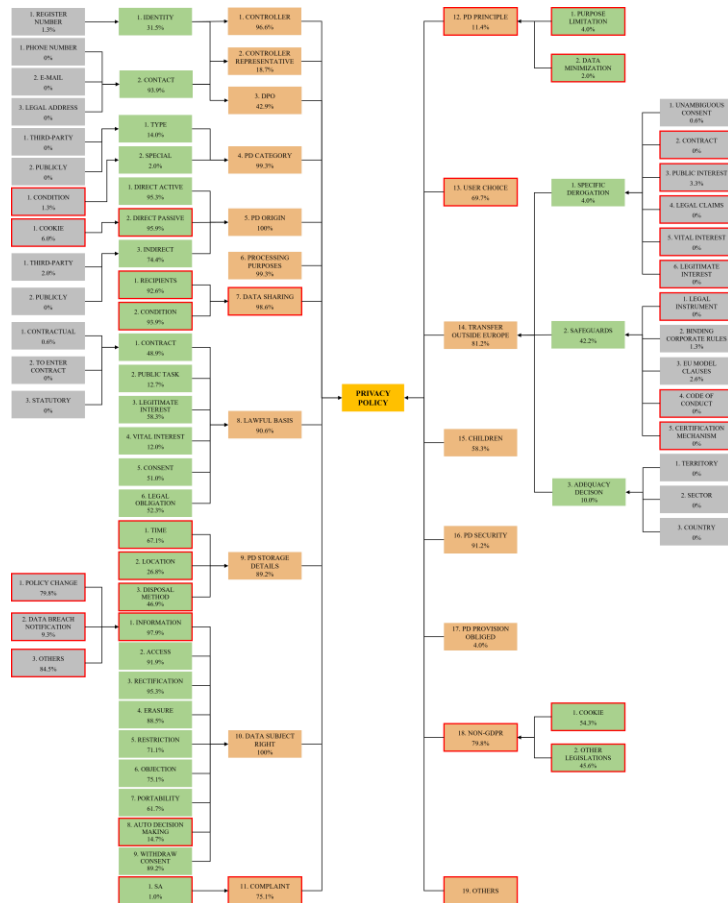


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University of
Kent

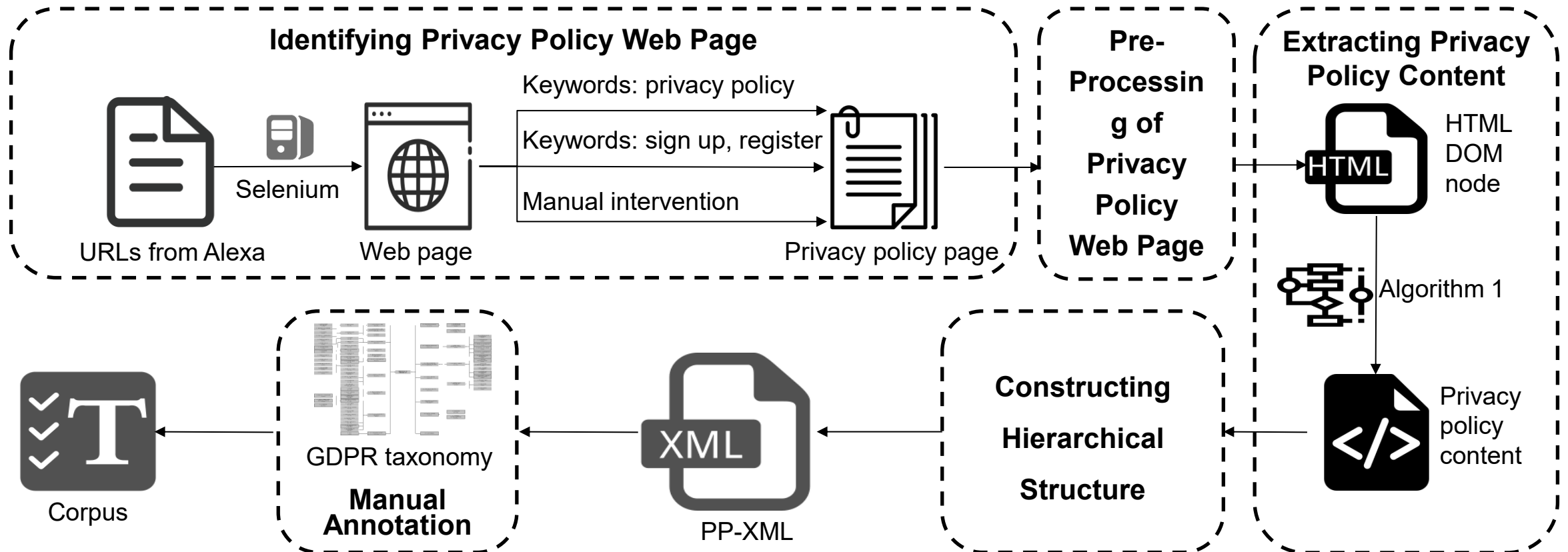
What is the research about?

1. An extended **taxonomy** for **GDPR-oriented analysis of privacy policies**: 96 nodes (39.1% more than the largest in the literature)



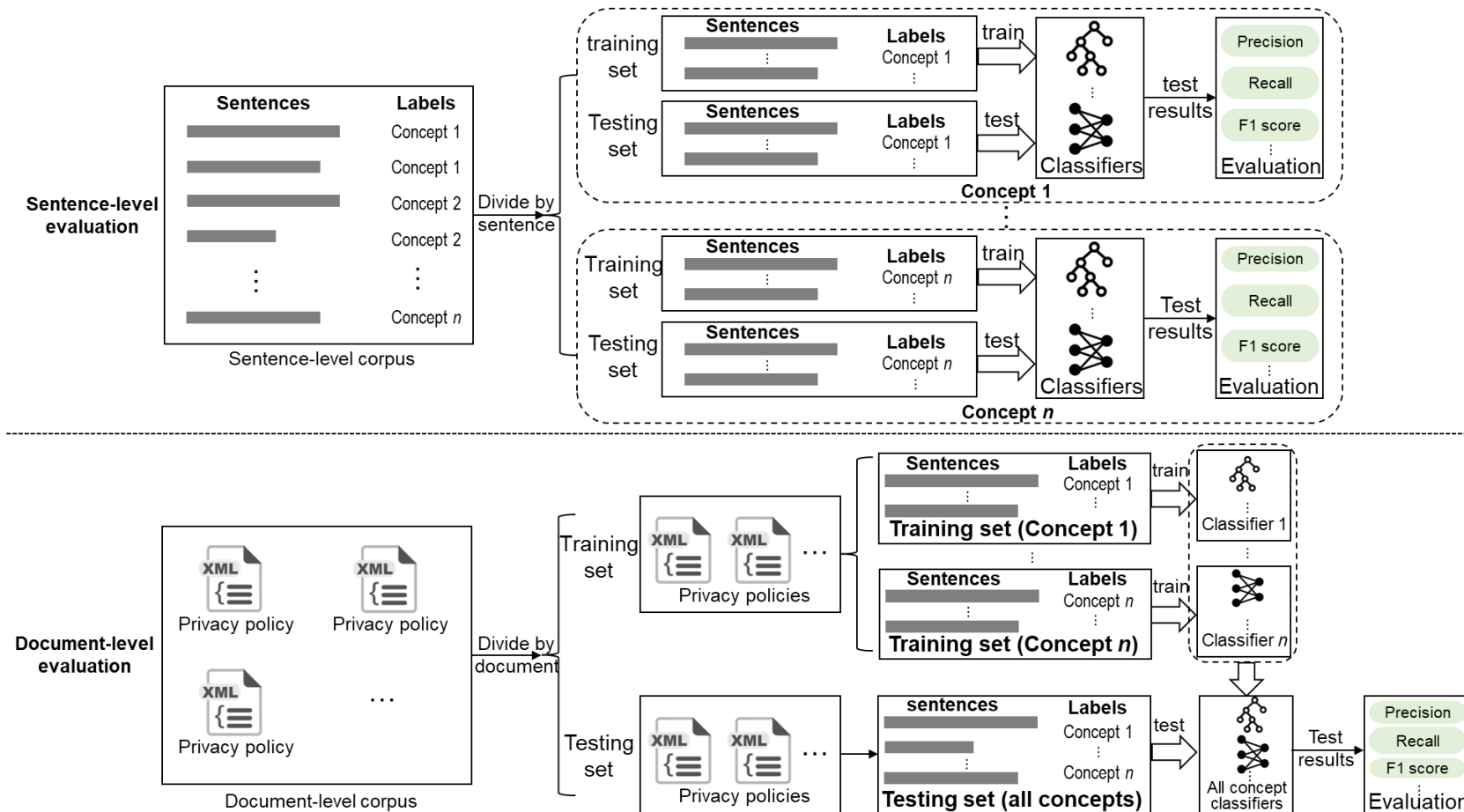
What is the research about?

2. A new privacy policy corpus construction **framework** \Rightarrow The **first fully hierarchically encoded GDPR-oriented privacy policy corpus** (GoPPC-150)



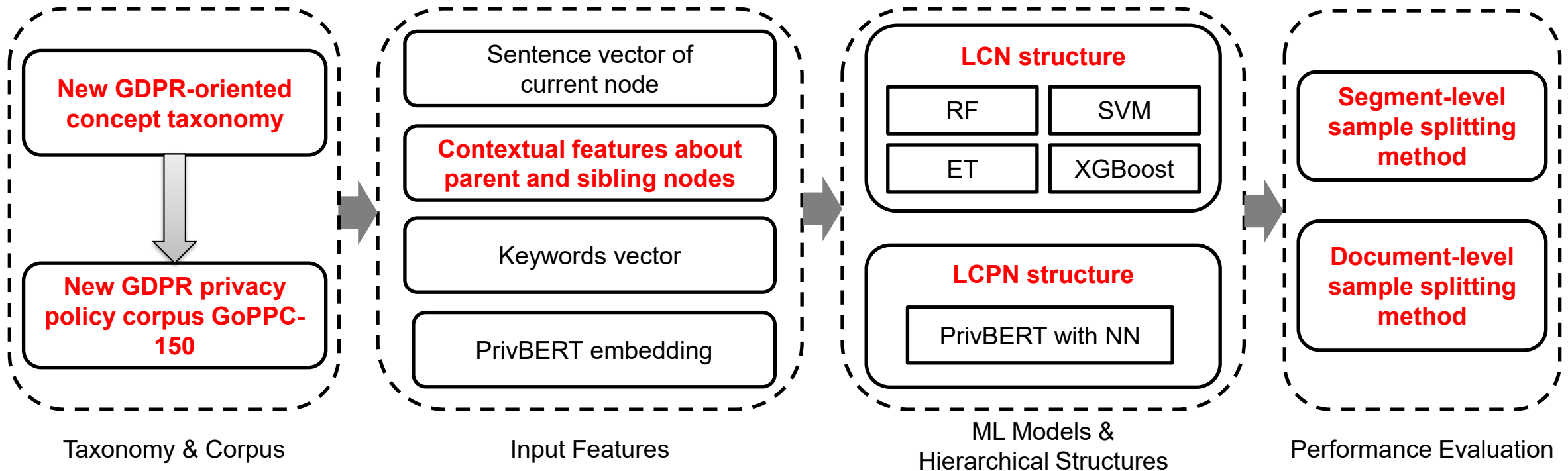
What is the research about?

3. The most comprehensive performance evaluation study on **GDPR concept classifiers** ⇒ **New findings and insights**



What is the research about?

- Putting all together and adding a bit more details



https://github.com/tp-sh/GDPR_privacy_policies

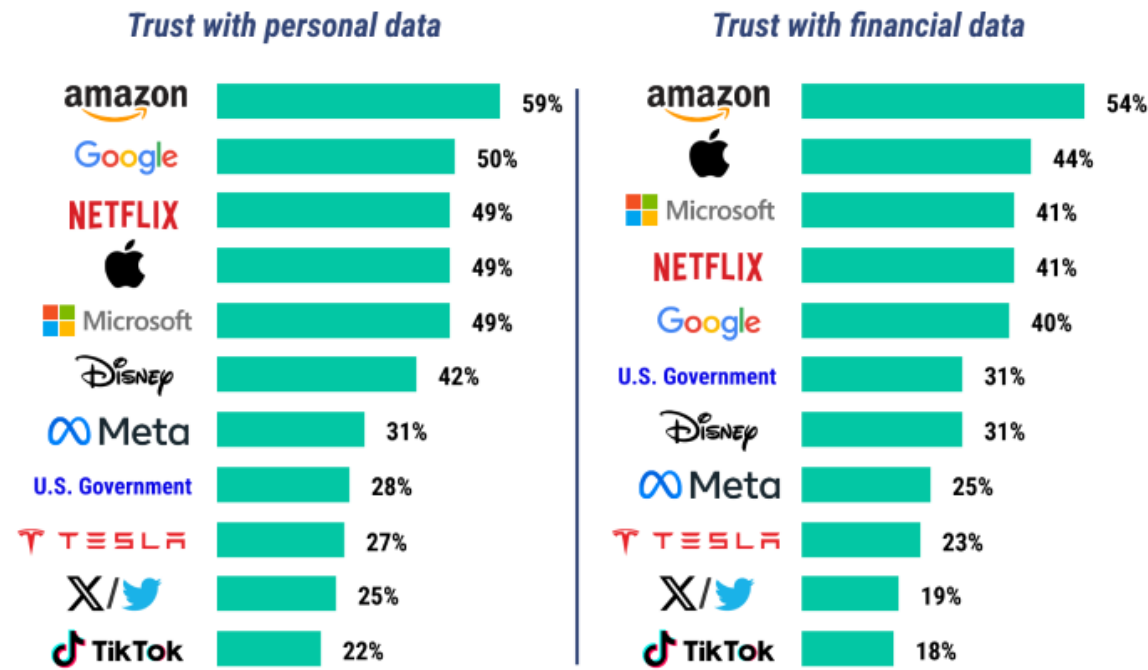
The Privacy Problem and The Laws

Big data ⇒ Big privacy concerns

- Big data consumers lead to big privacy concerns.

Do You Trust Tech Companies With Your Data?

Which companies are people most and least confident can keep their personal and financial data safe? We found how many people trust different companies when it comes to data security.

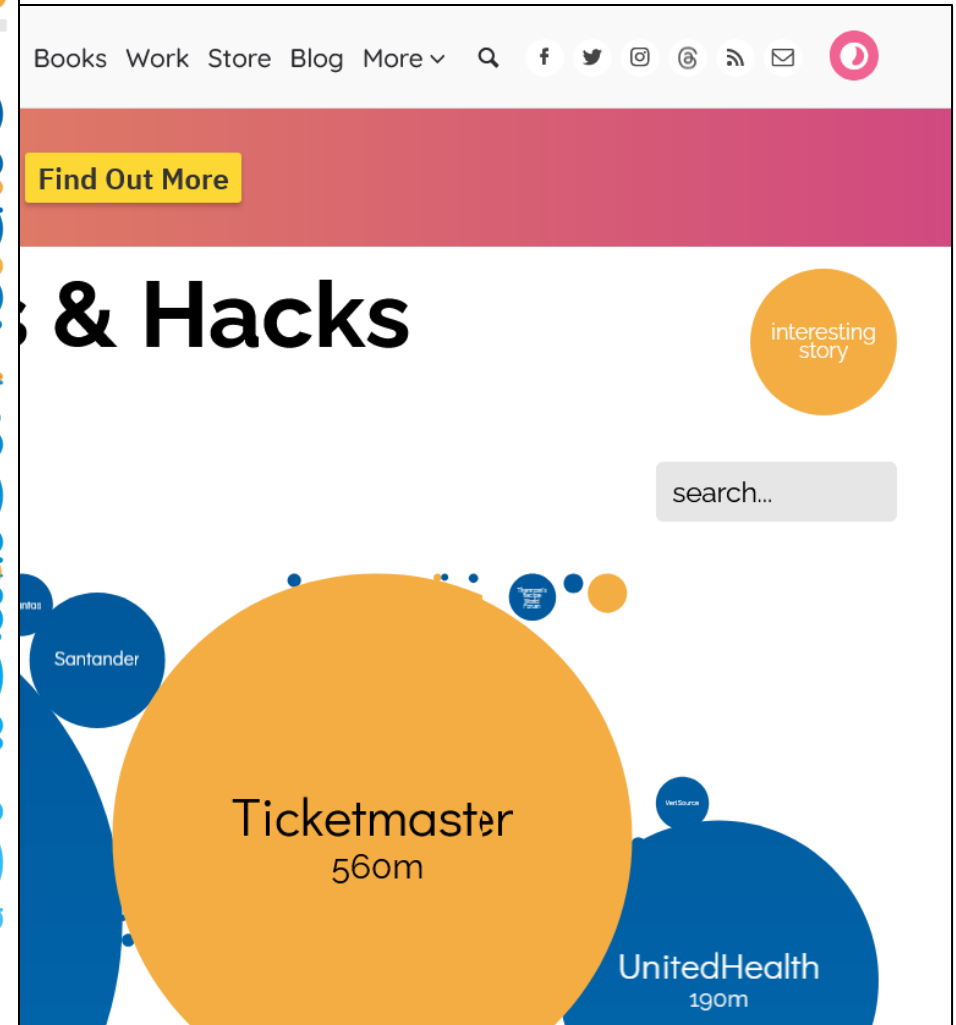
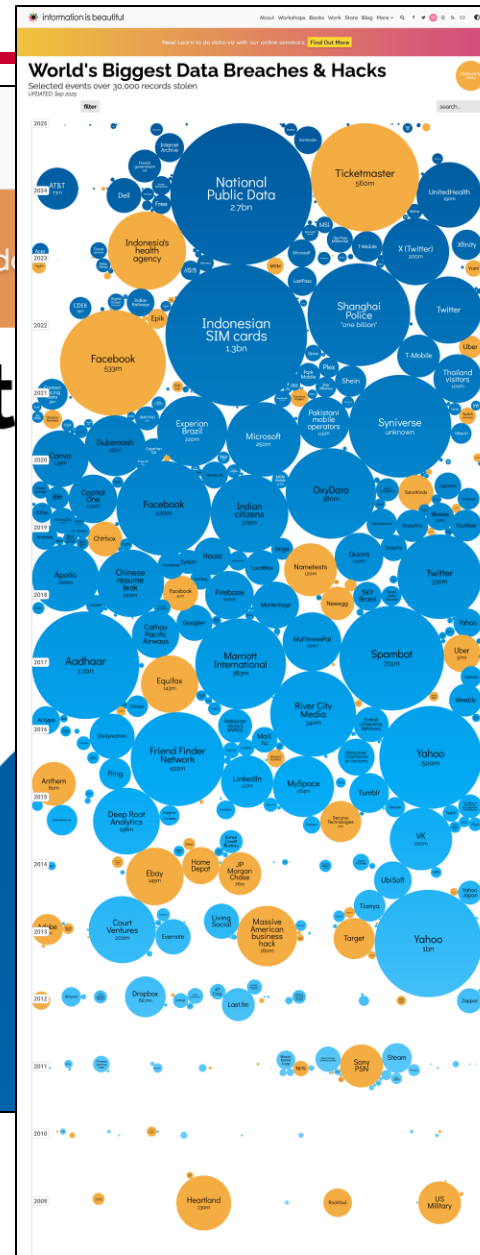
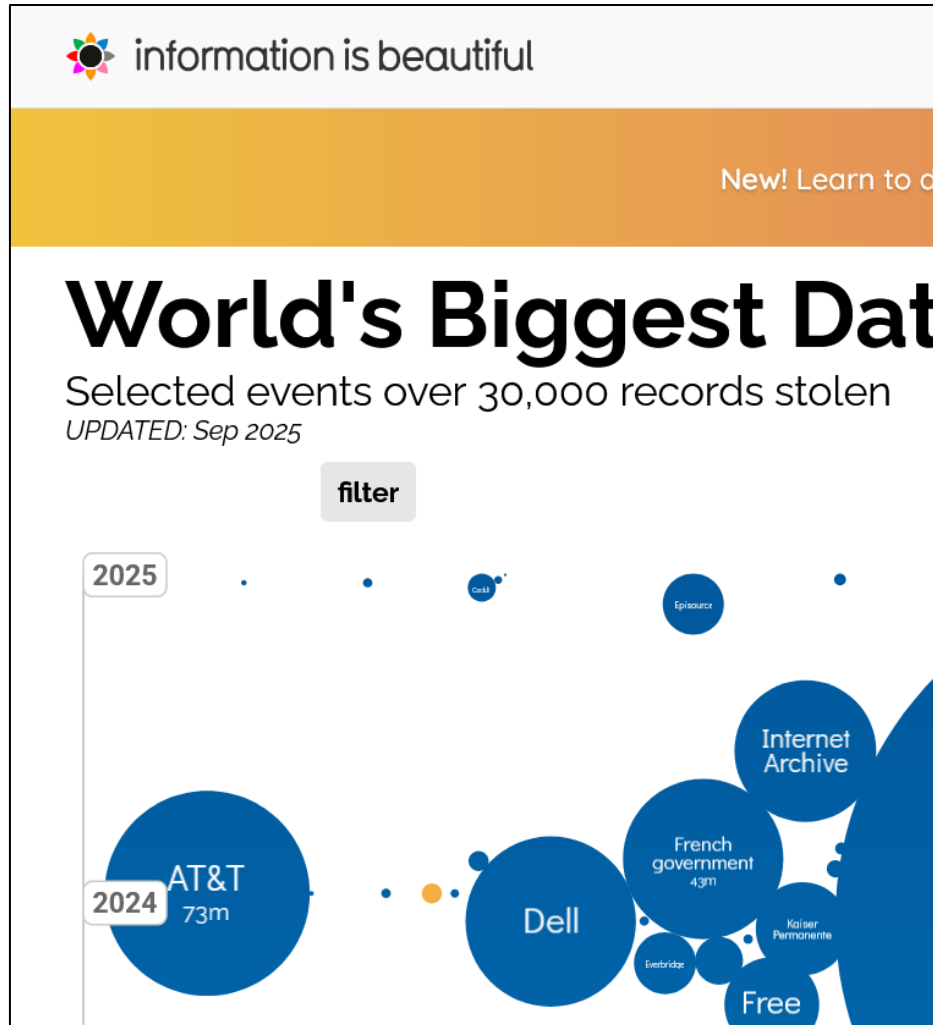


Based on a survey of 1,000 U.S. adults.



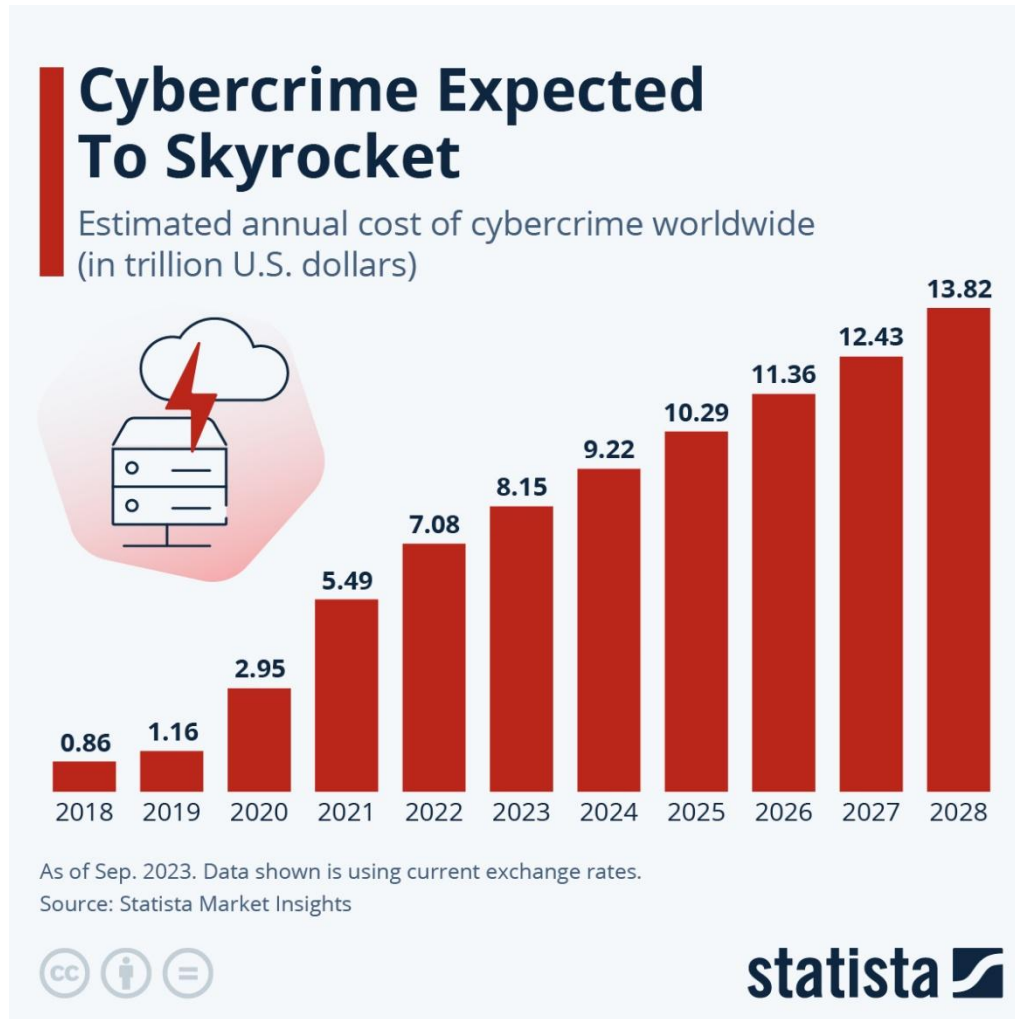
Source: <https://allaboutcookies.org/big-tech-trust>

Big (centralised) data ⇒ Big data breaches



Big data breaches ⇒ Big cybercrime problems

- Cyber criminals have access to more data and can do more harms!

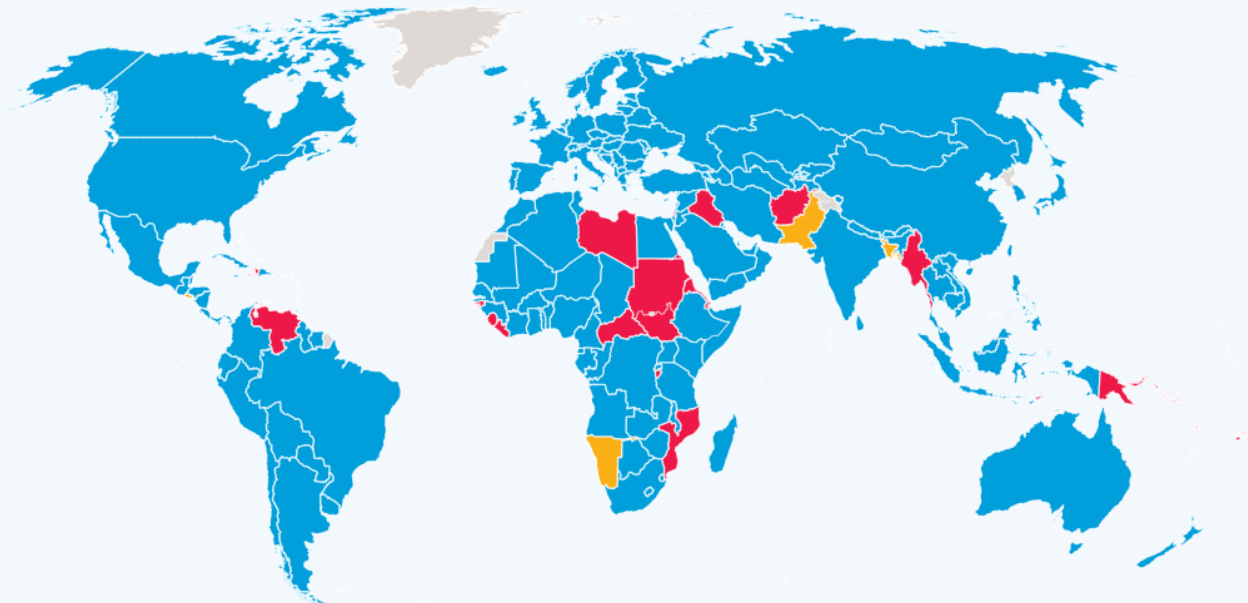


Source:
<https://www.statista.com/chart/28878/expected-cost-of-cybercrime-until-2027/>

Privacy and data protection laws: global



● Legislation ● Draft legislation ● No legislation ● No data



Country group	Privacy and Data Protection
World	79%
Africa	76%
Asia and Oceania	77%
Developed countries	98%
Developing countries	73%
Landlocked developing countries	88%
Latin America and Caribbean	88%
Least developed countries	57%
Small island	51%

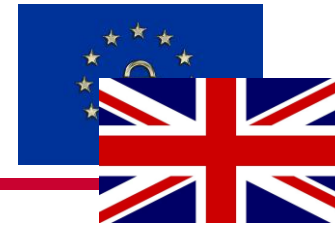
Source: UN Trade and Development (UNCTAD). Updated 17 February 2026.

Note: The Cyberlaw Tracker is the result of a collaborative effort and rely on the data provided by member states, various organizations such as UNCITRAL and individuals such as Graham Greenleaf, Professor of Law and Information Systems at UNSW Australia Faculty of Law. [Map disclaimer.](#)

[Get the data](#)

Source: <https://unctad.org/page/data-protection-and-privacy-legislation-worldwide>

Privacy and data protection laws: EU/UK

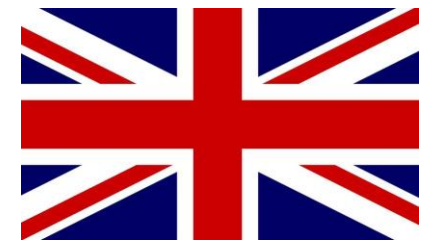


- 1948: [UN Universal Declaration of Human Rights \(UDHR\)](#)
- 1950: [European Convention on Human Rights \(ECHR, formerly Convention for the Protection of Human Rights and Fundamental Freedoms\)](#) ⇒ [UK Human Rights Act 1998](#)
- **1995: [EU Data Protection Directive \(DPD\)](#) ⇒ [UK Data Protection Act \(DPA\) 1998](#)**
- 2000: [Charter of Fundamental Rights of the European Union](#)
- 2002: [EU ePrivacy Directive](#) ⇒ [UK Privacy and Electronic Communications \(EC Directive\) Regulations \(PECR\) 2003](#)
 - ~~[EU ePrivacy Regulation](#) (originally proposed in January 2017 but has not materialised; withdrawn in 2025)~~
- **2016: [EU General Data Protection Regulation \(GDPR\)](#) ⇒ [UK DPA 2018](#) + [UK GDPR \(2021-\)](#) + [Data \(Use and Access\) Act \(DUAA\) 2025](#)**



Privacy and data protection laws: UK

- 17 December 2015: [European Union Referendum Act 2015](#)
- 14 April 2016: [EU GDPR](#) passed
- 23 June 2016: UK Brexit referendum \Rightarrow 51.89% voted for Brexit
- 23 May 2018: [UK DPA 2018](#) passed
- **25 May 2018: EU GDPR + UK DPA 2018 came into effect**
- 26 June 2018: [European Union \(Withdrawal\) Act 2018](#)
- 28 February 2019: [Data Protection, Privacy and Electronic Communications \(Amendments etc\) \(EU Exit\) Regulations 2019](#) passed (for amending EU GDPR into UK GDPR)
- 17 December 2020: [Data Protection, Privacy and Electronic Communications \(Amendments etc\) \(EU Exit\) Regulations 2020](#) passed (EU GDPR \Rightarrow UK GDPR)
- **1 January 2021: UK GDPR + UK DPA 2018 (with amendments) came into effect**
- 19 June 2025: [UK DUAA 2025](#) passed (for amending UK GDPR and DPA 2018)
- June 2026: full implementation of UK DUAA 2025





- The (EU and then UK) GDPR has been part of the UK law since 25th May 2018.
- DPA (Data Protection Act) 2018 is a **supplement**.
 - It adapts the EU GDPR, e.g., specific conditions for processing sensitive data, UK-specific exemptions, ICO's functions and powers, and enforcement in the UK.
 - It implements another EU law in the UK, the EU Law Enforcement Directive (LED) 2016.
 - It covers additional data protection areas not in the GDPR/LED.
 - It creates a specific data protection regime for the intelligence services.
- Loosely speaking, UK DPA 2018 =
 - EU GDPR++ (2018-20) \Rightarrow UK GDPR++ (2021-present)

UK DUAA 2025: Selected changes to UK GDPR & UK DPA 2018

- Automated decision-making (ADM) (Section 80)
 - “... a more permissive framework ...”
- Subject access (SARs) (Section 76)
 - “... a ‘stop the clock’ rule, allowing organisations to pause the response time ...”
- Children’s data protection (Section 81)
 - “... require certain online services likely to be accessed by children to consider how to ...”
- Scientific research (Section 67)
 - “... scientific research may include commercial research.”
- Recognised legitimate interests (Schedule 4, ANNEX 1)
 - “... a new lawful ground for processing personal data, giving businesses more confidence ...”
- International data transfers (Section 85, Schedules 7-9)
 - “... simplifies the rules ... for transferring personal data internationally.”
- Responding to complaints (Section 103)
 - “... requires organisations to handle complaints from individuals ...”
- ...



**Be prepared for more
changes in the future!**

- UK GDPR (Article 4)
 - **(Data) Controller**: “*the natural or legal person, public authority, agency or other body which, **alone or jointly** with others, **determines the purposes and means of the processing** of personal data*”
 - **(Data) Processor**: “*a natural or legal person, public authority, agency or other body which **processes** personal data on behalf of the controller*”
- **(Data) Sub-Processors** (not defined formally in the law)
 - According to ICO: “*A processor might wish to sub-contract all or some of the processing to another processor. For shorthand this is sometimes referred to as using a ‘sub-processor’, ...*”

- EU/UK GDPR (Article 4)
 - **Personal data:** “any information relating to an identified or identifiable natural person (**data subject**); an identifiable natural person is one who can be identified, **directly or indirectly**, in particular by reference to *an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person;*”
- EU DPD 1995 (Article 2a)
 - “any information relating to an identified or identifiable natural person (‘data subject’); an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity”

Blue texts are new changes introduced by EU/UK GDPR vs. EU DPD 1995/UK DPA 1998.

- EU/UK GDPR (Article 9)
 - “*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** shall be prohibited.*”
- EU DPD 1995 (Article 8)
 - “*personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, trade-union membership, and the processing of data concerning health or sex life.*”
- EU/UK GDPR (Article 10)
 - **Crime-related personal data** continue to be treated with special conditions.

**Sensitive
personal data**



- EU/UK GDPR (Article 4)
 - **Processing (of personal data)**: “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”
- EU DPD 1995 (Article 2)
 - “any operation or set of operations which is performed upon personal data, whether or not by automatic means, such as collection, recording, organization, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, blocking, erasure or destruction;”

- **Lawful bases (conditions)** of processing any personal data (EU/UK GDPR Article 6; UK ICO guidelines)
 - (a) Consent: Added focus on consent being given more **explicitly** via “**a clear affirmative act**” and highlighted “**pre-ticked boxes or inactivity should not therefore constitute consent**” (Recital 32)
 - UK DPA 1998 / EU DPD 1995: pre-ticked boxes were allowed and used by many.
 - (b) Contract
 - (c) Legal obligation
 - (d) Vital interests
 - (e) Public task
 - (f) Legitimate interests

- **Lawful bases (conditions)** of processing special categories of personal data (EU/UK GDPR Article 9; UK ICO guidelines)
 - (a) Explicit consent
 - (b) Employment, social security and social protection law
 - (c) Vital interests
 - (d) Not-for-profit bodies
 - (e) Made public by the data subject
 - (f) Legal claims and judicial acts
 - (g) Substantial public interest conditions
 - (h) Health or social care
 - (i) Public health
 - (j) Archiving, research and statistics

- EU/UK GDPR (Article 5) and UK ICO guidelines
 1. 'Lawfulness, fairness and **transparency**'
 2. 'Purpose limitation': Processed only for specified, **explicit** and legitimate purposes
 3. 'Data minimisation': Adequate, relevant **and not excessive limited to what is necessary**
 4. 'Accuracy': Accurate (and up to date where necessary)
 5. 'Storage limitation': Not kept for longer than is necessary
 - ~~6. **Processed in line with your rights**~~
 6. 'Integrity and confidentiality' (= data 'security', Principle 7 in UK DPA 1998): Measures against unauthorised / unlawful processing and against accidental data loss / destruction / damage
 - ~~8. **International transfer**~~
 7. '**Accountability**' (a new principle)

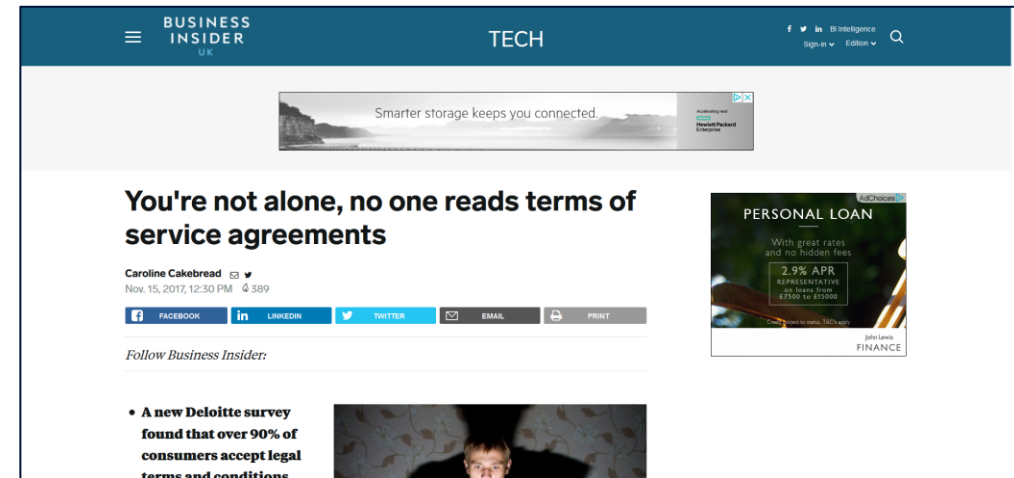
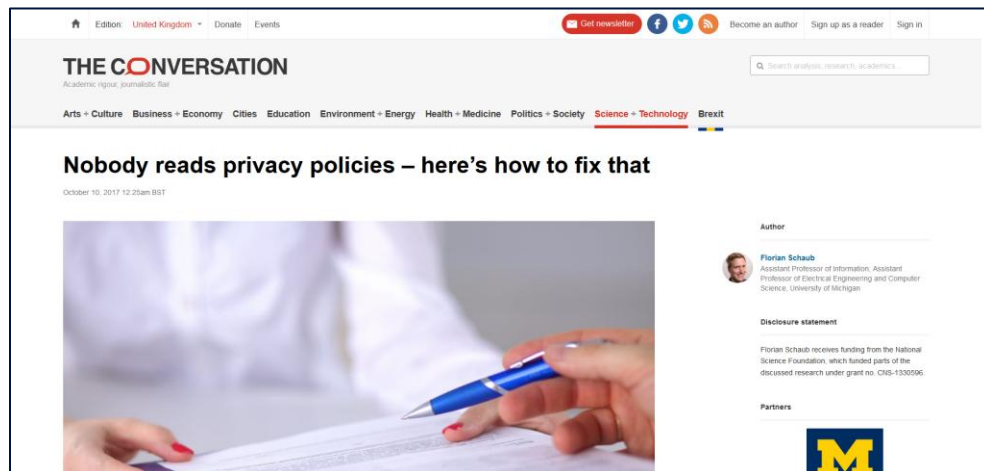
- EU/UK GDPR (Chapter III; UK ICO guidelines)
 1. Right to be informed
 2. Right of access
 3. Right to rectification
 4. Right to erasure
("Right to be forgotten")
 5. Right to restrict processing
 6. Right to data portability
 7. Right to object
 8. Rights related to automated decision making including profiling
- UK DPA 1998
 1. Right of access to personal data
 2. Right to prevent processing likely to cause damage or distress
 3. Right to prevent processing for purposes of direct marketing
 4. Rights in relation to automated decision-taking
 5. (Rights to request) Compensation for failure to comply with certain requirements
 6. (Right to request) Rectification, blocking, erasure and destruction (of inaccurate personal data)

- EU/UK GDPR (Articles 33 and 34)
 - **Data breach notifications** to the authority and the data subject: a reflection of the data subject's right to be informed
- EU/UK GDPR (Article 27)
 - “Where Article 3(2) applies, the controller or the processor shall designate in writing a **representative** in the [Union OR United Kingdom].”
- EU/UK GDPR (Article 37)
 - A **data protection officer (DPO)** sometimes required (Article 37)
 - (a) the data controller/process is a public authority or body (except for courts acting in their judicial capacity)
 - (b) regular/systematic monitoring of data subjects on a large scale
 - (c) processing on a large scale of special categories of personal data and crime-related personal data
- ...

Privacy Policies

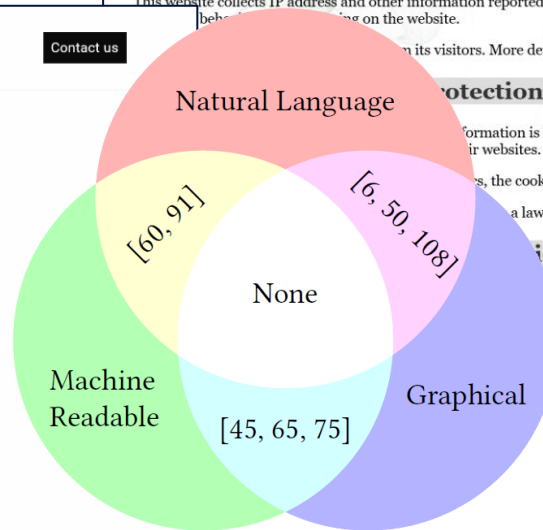
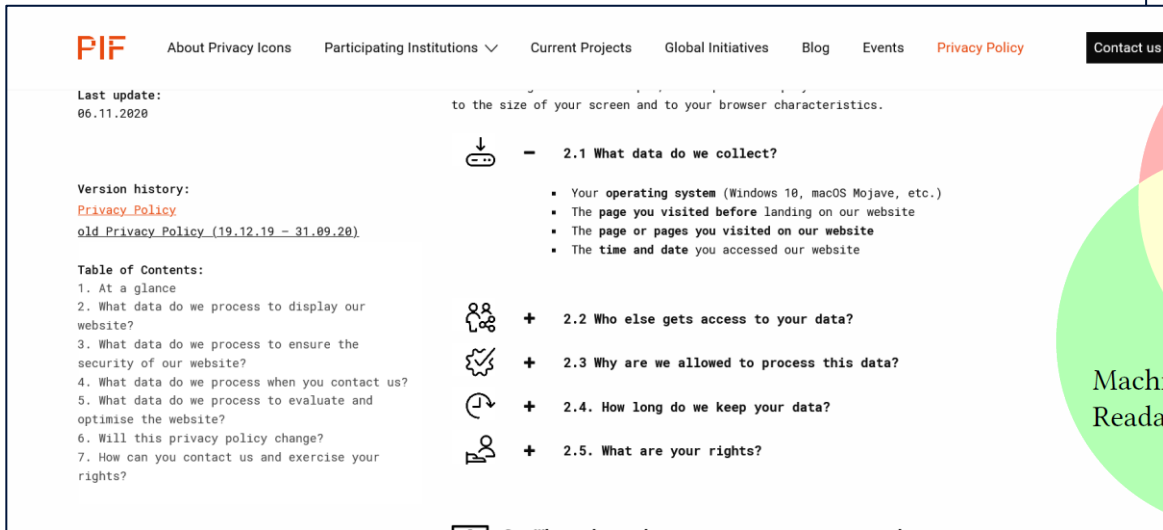
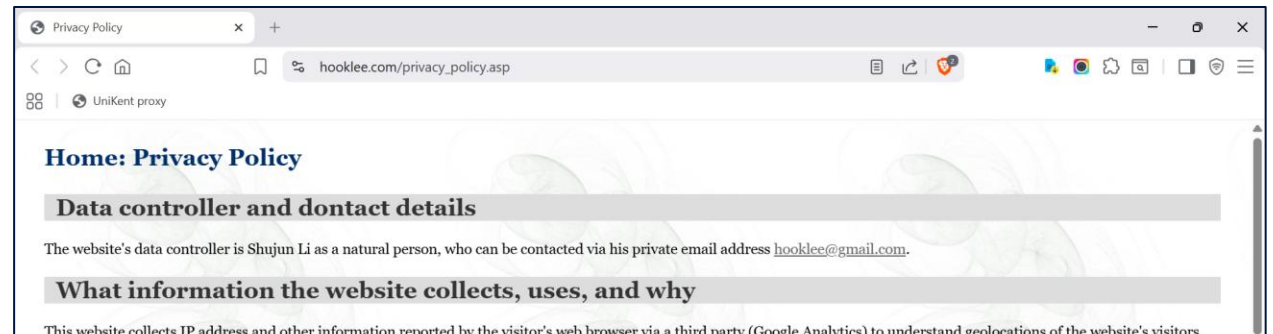
Privacy policies: Some basics

- A **legal compliance** problem
 - A legal document that discloses the way the data controller processes data subject's data, required by the GDPR (**the right to be informed**).
 - Used for websites, online services, mobile apps, etc.
- A **psychological (usability)** problem
 - “**Nobody** reads privacy policies!”



Different types of privacy policies

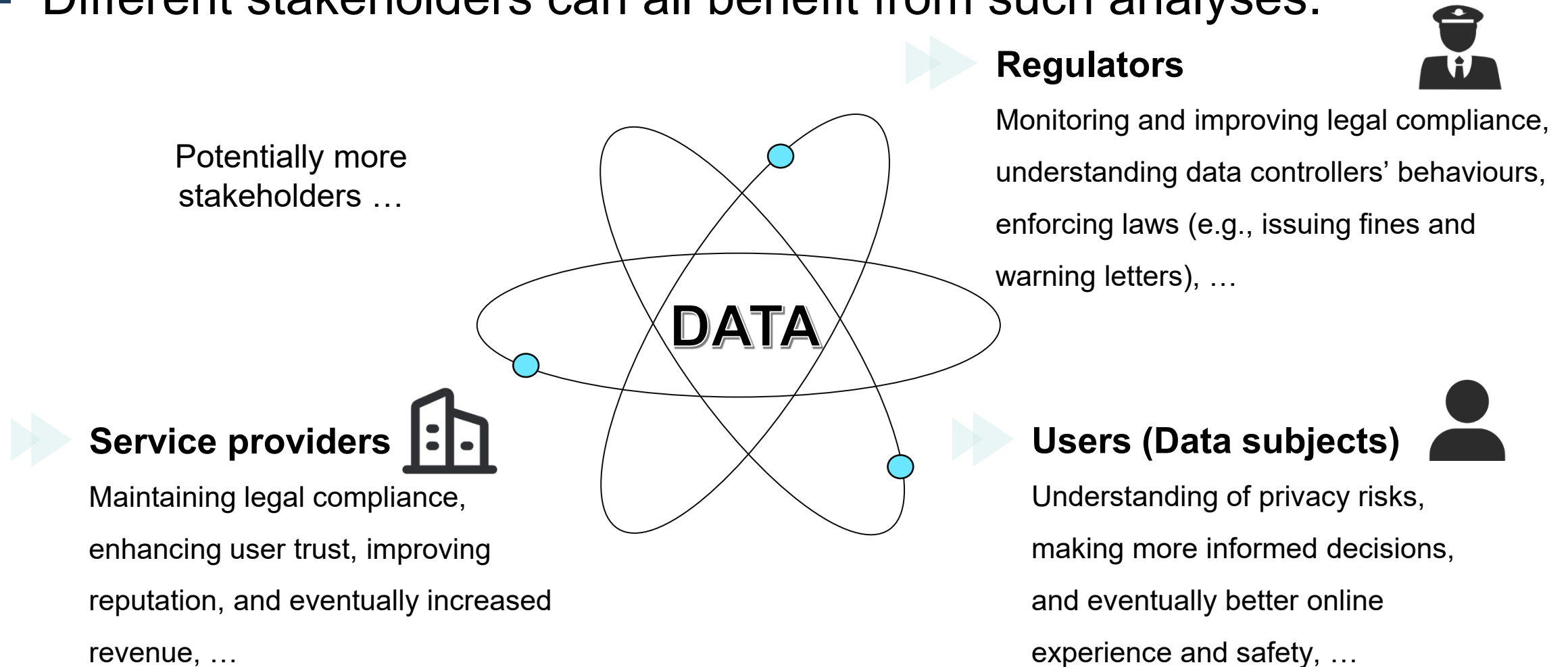
- An SoK (systematization of knowledge) paper on privacy policies (Victor Morel & Raúl Pardo, “[SoK: Three Facets of Privacy Policies](#),” WPES 2020)
 - Three facets (types) of privacy policies
 - **Natural language privacy policies**
 - Graphical privacy policies
 - Machine-readable privacy policies



	Usability	Syntax	Enforcement	Implemented	Tools	DS	DC	Time	Space	1 st party	3 rd party	DS signals	Data security	Data Retention
P3P [27]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CPEXchange [18]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PMML [115]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
APPEL [64]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
E-P3P [12]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ret [58]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
XpreD [7]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
XACML [9]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EPAL [11]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CI [16]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SIMPL [65]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
S4P [17]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Jeeves [112]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P3U [56]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
QFDL [107]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BRAC [94]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
OSL [51]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
GeoXACML [66]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A-FPL [13]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
LPL [45]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PrivacyAPIs [67]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PrivacyLFP [33]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PILOT [75]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Why analysing privacy policies?

- Different stakeholders can all benefit from such analyses.

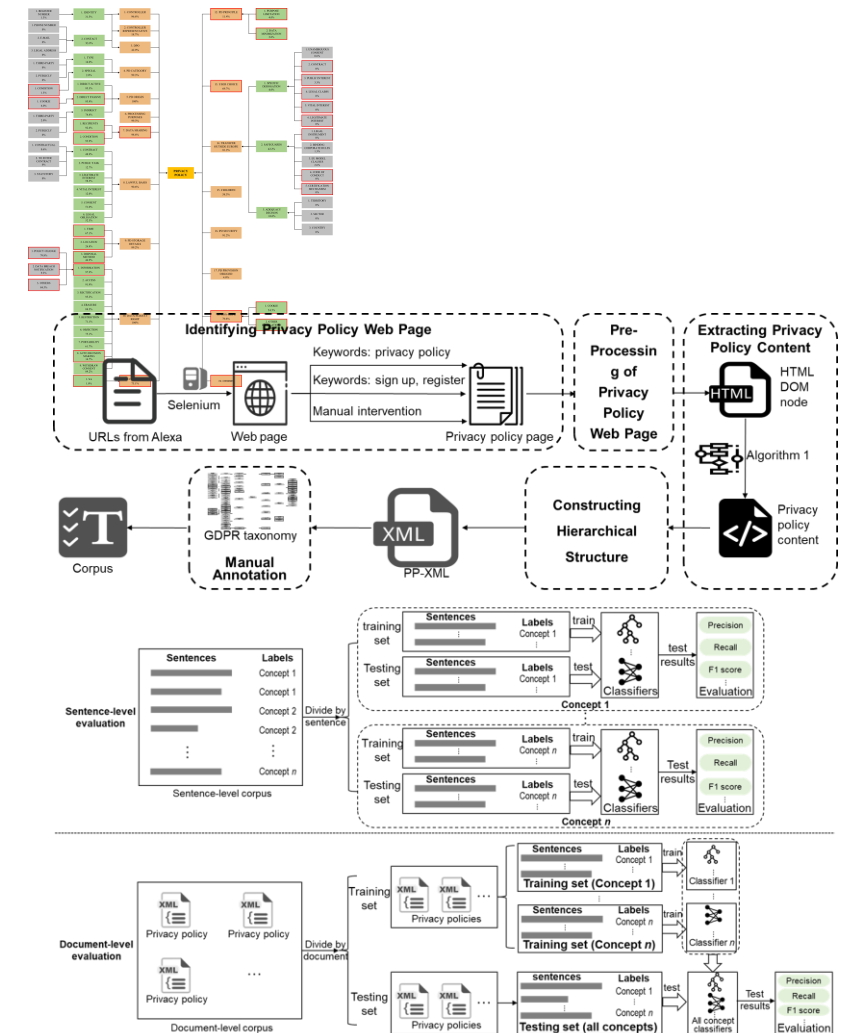


What has been done by researchers?

- Constructing taxonomies of data protection and privacy laws
 - Torre et al.'s GDPR privacy policy taxonomy ([RE 2020](#)), ...
 - Producing privacy policy corpora to support research
 - [OPP-115](#) ([ACL 2016](#)), [APP-350](#) ([PETS 2019](#)), [CAPP-130](#) ([NeurIPS 2023](#)), ...
 - Developing methods and frameworks for automating privacy policy analysis
 - [Privee](#) ([USENIX Security 2014](#)), [Polisis](#) ([USENIX Security 2018](#)), PrivGuard ([USENIX Security 2022](#)), [PoliGraph](#) ([USENIX Security 2023](#)), [CHKPLUG](#) ([NDSS 2023](#)), ExtPrivA ([IEEE S&P 2023](#)), ...
 - Developing smarter ways to assisting users to understand privacy policies
 - PriBots ([SOUPS 2016](#)), PrivCAP/PrivCAPTCHA ([CHI 2025](#)), ...
 - Automating generation of legally compliant privacy policies
 - [PrivacyFlash Pro](#) ([NDSS 2021](#)), ...
 - ...
- Detecting privacy/data protection related concepts is at the core of such work.**

Identified research gaps

1. Existing taxonomies are not complete enough to cover all concepts relevant for GDPR-oriented privacy policy analysis
2. No existing privacy policy corpora include complete hierarchical information
3. Although many machine learning-based GDPR (or privacy policy in general) concept classifiers have been developed, most comparative studies on their performance lack comprehensiveness, e.g., hierarchical contextual features have not been tested.



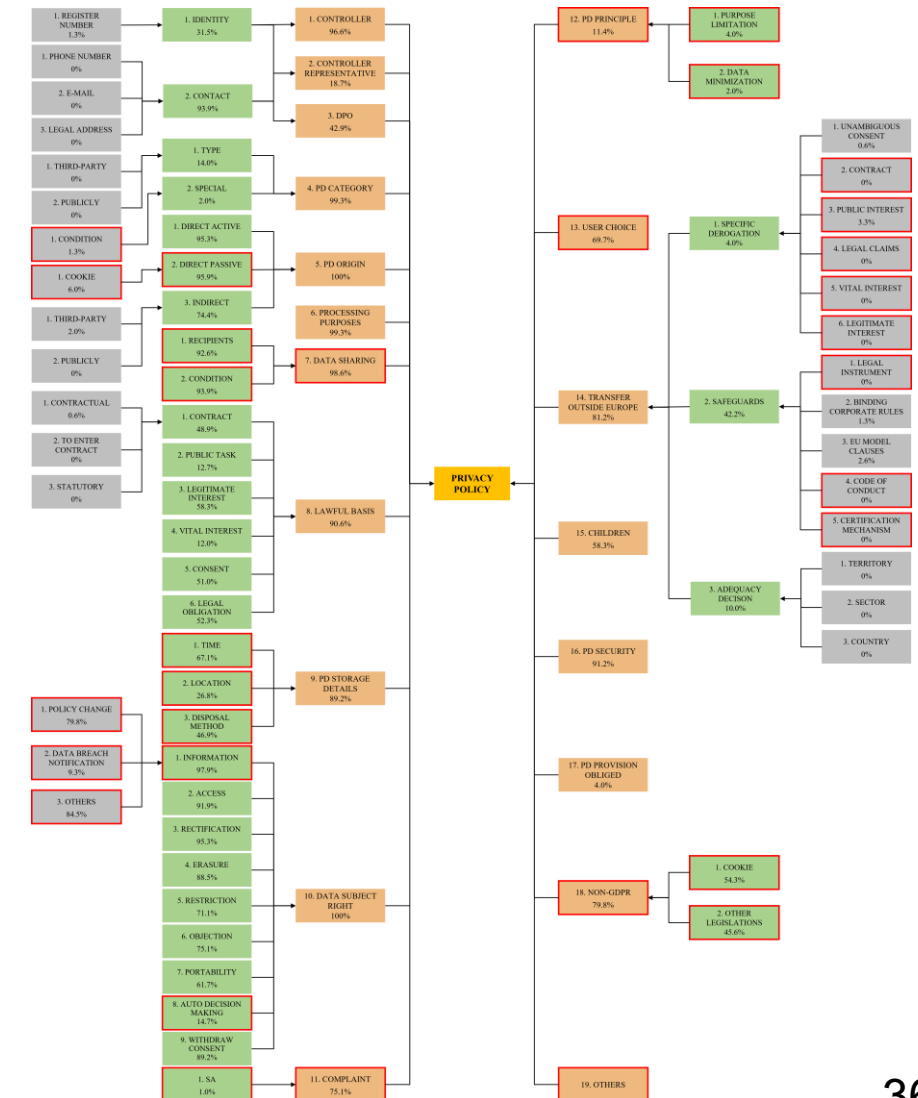
Our GDPR Privacy Policy Taxonomy

Main changes to Torre et al.'s taxonomy

1. Swapped 'AUTO DECISION MAKING' and 'DATA SUBJECT RIGHT.COMPLAINT'.
2. A new 'CONDITION' node was added, which was combined with the original 'RECIPIENTS' under the new first-level node 'DATA SHARING'.
3. Changed 'PD TIME STORED' node to 'TIME,' and merged the newly added 'LOCATION' node and 'DISPOSAL METHOD' node into the new first-level node 'PD STORAGE DETAILS'.
4. Split the 'DIRECT' sub-node of 'PD ORIGIN' into 'DIRECT ACTIVE' and 'DIRECT PASSIVE,' and added third-level node 'COOKIE' under 'INDIRECT' to the scope of 'DIRECT PASSIVE'.
5. Added the 'INFORMATION' node to the 'DATA SUBJECT RIGHT'.
6. Changes inspired by the IAPP mapping chart, e.g., added a new first-level node called 'DP PRINCIPLE,' containing 'PURPOSE LIMITATION' and 'DATA MINIMIZATION'.
7. For concepts that go beyond the GDPR, we added two new first-level nodes to the taxonomy: 'NON-GDPR' and 'OTHERS'.

The extended taxonomy

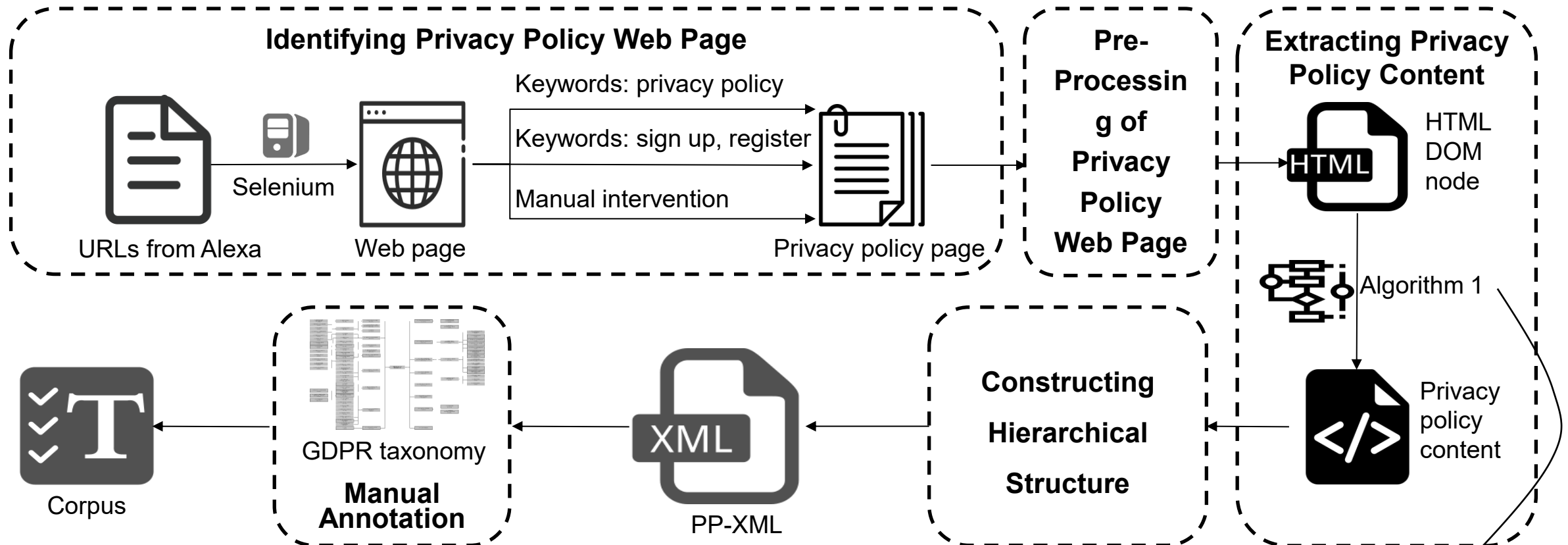
- Red nodes were newly added or changed.
- The percentage below the name of each node indicates the frequency of the corresponding concept in GoPPC-150, the new corpus we constructed.
- The taxonomy likely needs further amendment in the future, especially to cover non-GDPR data protection and privacy laws.



The New Corpus GoPPC-150

The frame for constructing privacy policy corpora

- A semi-automated computational framework was developed to facilitate the construction of GoPPC-150.



Algorithm 1: An HTML DOM node => An HTML element containing the privacy policy's relevant content fully

- Testin (<https://www.testin.net/>), a commercial annotation company providing a dedicated service on AI-oriented data annotation, was paid to absorb most of the substantial annotation workload.
- A multi-step quality assurance procedure
 - Step 1: One author (Xin Li) trained four annotators of Testin, and then the trained annotators attempted 20 documents as a pilot.
 - Step 2: The results of the pilot was checked by the first author (Peng Tang) and feedback was given.
 - Step 3: The four annotators went ahead to code all documents.
 - Step 4: A random subset of the annotation results were checked by three authors (Xin Li, Haochen Mei, and Peng Tang), who then discuss to resolve any conflicting opinions.
- Inter-rater agreement of the four annotators: Cohen's Kappa (κ) = 0.75 (a substantial level of agreement)

The corpus GoPPC-150

- 150 privacy policies from 150 websites selected based on Alexa.com
- 8,356 fine-grained paragraphs
- 5,347 titles

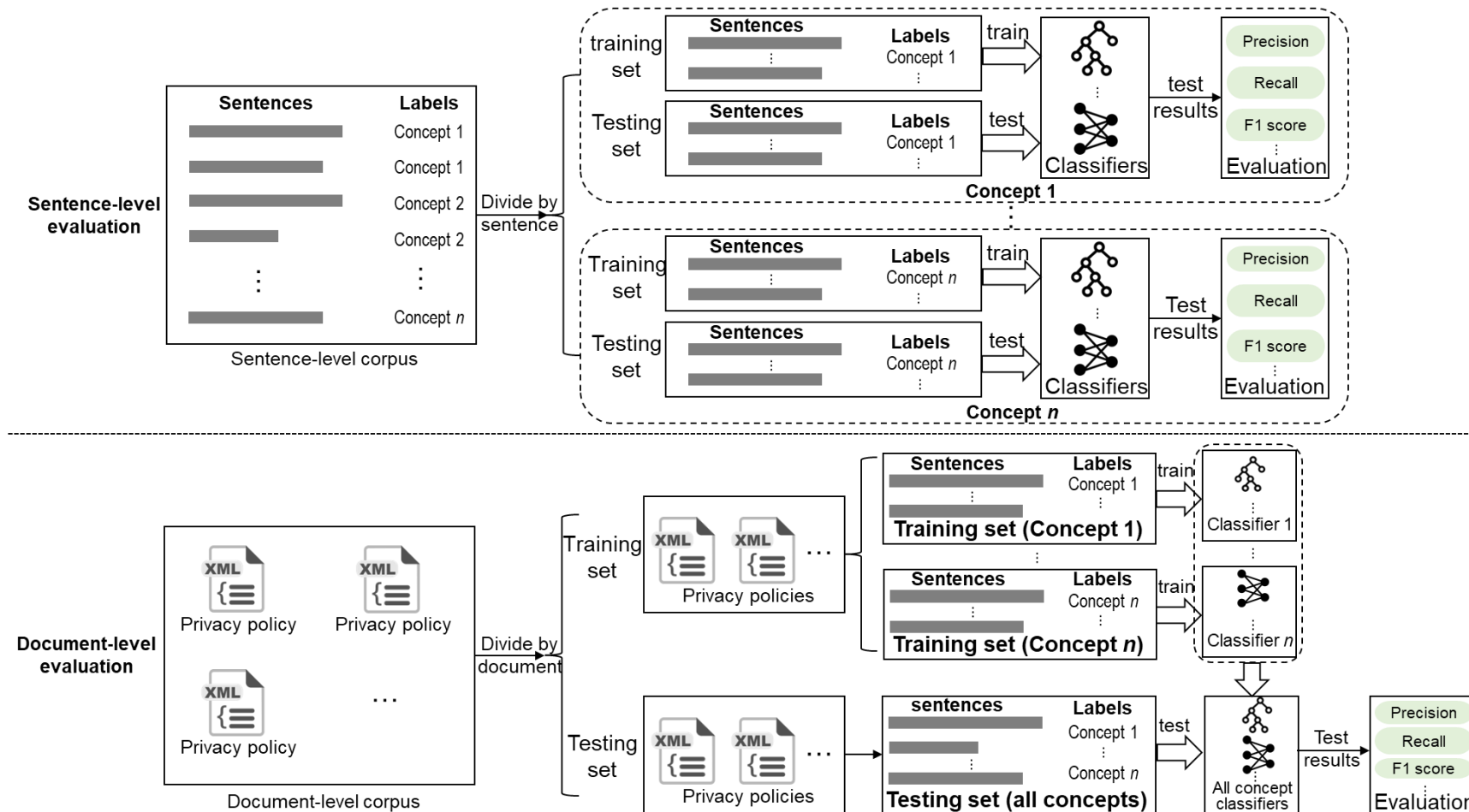
The image shows a file explorer on the left and a data preview window on the right. The file explorer displays a directory structure with 'GoPPC-150' selected. The preview window shows a table with columns 'Number', 'Web', and 'Update_time'.

Number	Web	Update_time
1	Google.com	4-Feb-21
2	Facebook.com	21-Aug-20
3	Bbc.com	Aug-19
4	Flipkart.com	6-Oct-20
5	Microsoft.com	Mar-21
6	Reddit.com	15-Sep-20
7	Netflix.com	1-Jan-21
8	Overstock.com	1-Jan-20
9	Walmart.com	1-Jul-20
10	Thestartmagazine.com	26-Aug-20
11	Shopify.com	3-Mar-21
12	Twitch.tv	15-Oct-20

Comparing Performance of Machine Learning- Based GDPR Concept Classifiers

The performance comparison pipelines

- We considered two different sampling methods.



- Corpus: GoPPC-150 since it is the only one with hierarchical information.
 - Not all 96 nodes have enough data, so we used only 14 level-1 concepts and 21 level-2 concepts, leading to 35 concepts in total.
- Hierarchical structures of classifiers considered
 - Local classifier per node (LCN): a binary classifier per concept
 - Local classifier per parent node (LCPN): a multi-class classifier per parent node
- Features considered
 - Vector embeddings of the paragraph or title: TF-IDF, GloVe, and fastText
 - Vector embeddings of the already processed parent and sibling node (contextual features representing the hierarchical structure of a privacy policy)
 - A binary vector representing some pre-defined keywords
- Machine learning models tested
 - LCN: random forest, SVM, XGBoost, ET (extra trees or extremely randomized trees)
 - LCPN: neural networks

The classifiers tested

- 12 different types of classifiers

Type	Input Features	Structure	ML Model
1	300-D GloVe features of the current node	LCN	Binary RF
2	300-D GloVe features of the current, parent and sibling nodes	LCN	Binary RF
3	300-D GloVe features of the current node, keyword occurrences	LCN	Binary RF
4	300-D GloVe features of the current, parent and sibling nodes, keyword occurrences	LCN	Binary RF
5	PrivBERT embeddings of the current node	LCN	Binary RF
6	PrivBERT embeddings of the current, parent and sibling nodes	LCN	Binary RF
7	300-D GloVe features of the current node	LCPN	Multi-class neural network
8	300-D GloVe features of the current, parent and sibling nodes	LCPN	Multi-class neural network
9	300-D GloVe features of the current node, keyword occurrences	LCPN	Multi-class neural network
10	300-D GloVe features of the current, parent and sibling nodes, keyword occurrences	LCPN	Multi-class neural network
11	PrivBERT embeddings of the current node	LCPN	Multi-class neural network
12	PrivBERT embeddings of the current, parent and sibling nodes	LCPN	Multi-class neural network

- Type-12 classifiers seem a winner + document-level sampling should be used.

Evaluation	Segment-level sample splitting						Document-level sample splitting					
	Type 1	Type 2	Type 3	Type 4	Type 11	Type 12	Type 1	Type 2	Type 3	Type 4	Type 11	Type 12
Macro averages of level-1 nodes	0.524	0.642	0.563	0.672	0.706	0.747	0.500	0.566	0.548	0.603	0.673	0.699
Macro averages of all nodes	0.454	0.498	0.500	0.537	0.598	0.614	0.431	0.452	0.487	0.497	0.566	0.577
Ratio of maximum F1-score in level-1 nodes	0/14	1/14	0/14	0/14	0/14	7/14	0/14	0/14	1/14	0/14	1/14	5/14
Ratio of maximum F1-score in all nodes	0/35	1/35	1/35	0/35	8/35	15/35	0/35	0/35	3/35	1/35	8/35	11/35

- It is more complicated: no single type is always the best.

Level	Concept Name	Type 1	Type 2	Type 3	Type 4	Type 11	Type 12
1	CONTROLLER	0.514 (0.540)	0.486 (0.514)	0.547 (0.562)	0.534 (0.564)	0.613 (0.656)	0.611 (0.679)
	COMPLAINT	0.608 (0.608)	0.563 (0.581)	0.829 (0.816)	0.800 (0.816)	0.809 (0.802)	0.764 (0.797)
	TRANSFER OUTSIDE EUROPE	0.686 (0.704)	0.707 (0.781)	0.674 (0.698)	0.708 (0.755)	0.785 (0.811)	0.777 (0.827)
	PD SECURITY	0.656 (0.663)	0.705 (0.761)	0.661 (0.658)	0.720 (0.744)	0.729 (0.748)	0.738 (0.760)
	DATA SHARING	0.571 (0.597)	0.683 (0.736)	0.691 (0.695)	0.753 (0.774)	0.740 (0.772)	0.789 (0.825)
2	DSR.ACCESS	0.435 (0.458)	0.422 (0.411)	0.517 (0.524)	0.473 (0.495)	0.591 (0.598)	0.568 (0.579)
	DSR.OBJECT	0.374 (0.368)	0.342 (0.268)	0.471 (0.449)	0.405 (0.366)	0.481 (0.467)	0.468 (0.405)
	LB.LEGAL OBLIGATION	0.347 (0.371)	0.351 (0.376)	0.363 (0.378)	0.355 (0.346)	0.327 (0.349)	0.286 (0.293)
	LB.CONSENT	0.227 (0.231)	0.184 (0.194)	0.266 (0.274)	0.281 (0.279)	0.246 (0.255)	0.226 (0.275)
	DS.RECIPIENT	0.478 (0.481)	0.554 (0.591)	0.531 (0.534)	0.567 (0.615)	0.565 (0.610)	0.616 (0.644)

Future Work?

LLMs?!

- All the work can be improved by the use of LLMs?

