22nd International Conference e-Society 2024
Privacy and Digital Literacy in the Internet of Things

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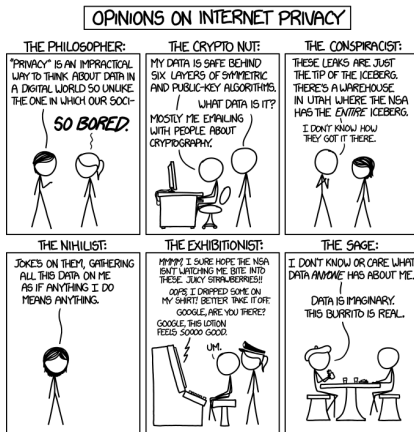
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Introduction
00

State of the Art
000

Methodology
000

Conclusion and Future Work
000

References
000

Table of Contents

OPINIONS ON INTERNET PRIVACY

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diff  privacy.c
        @@ -1,1 +1,1 @@
1  - Privacy
1  + Security
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Introduction

The advent of ubiquitous computing has resulted in the widespread use of Internet of Things devices. These devices open up new avenues for the collection and exploitation of user and non-user personal data. Most end users are not even aware or have little control over the information that is being collected about them by these systems.

Introduction
oo

State of the Art
●oo

Methodology
ooo

Conclusion and Future Work
ooo

References
ooo

Privacy Paradox

The use of a variety of digital devices has numerous advantages, but they also bring the ubiquity of data capturing equipment, therefore, it is understandable why users have serious concerns about the privacy of their personal data. The privacy paradox happens when the opinions stated by the users are radically different from their actions.

Proven to be debased by a number of empirical studies [1, 2].

Introduction
oo

State of the Art
o●o

Methodology
ooo

Conclusion and Future Work
ooo

References
ooo

State of the Art

There are two main ways to provide privacy in IoT systems:

- Through security [3, 4, 5];
- User awareness (eg. privacy notices) [6, 7];

Legislation or a framework/architecture mainly fall into one these two categories.

Introduction
oo

State of the Art
o●o

Methodology
ooo

Conclusion and Future Work
ooo

References
ooo

State of the Art

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Introduction
oo

State of the Art
ooo●

Methodology
ooo

Conclusion and Future Work
ooo

References
ooo

State of the Art

Skirpan et al. (2022) [8] developed an interactive theatre experience as a case study to gather user awareness about digital privacy. The authors noted that after contacting people months after the initial interviews that they did not really changed their behaviour regarding their privacy.

The Carnegie Mellon University CyLab designed a personalized privacy assistant (2020) [9] where users could see IoT devices near their location. The implementation is fragmented with the creation of an application [6] the cannot be interacted with and a webpage [7] where users can actually modify data.
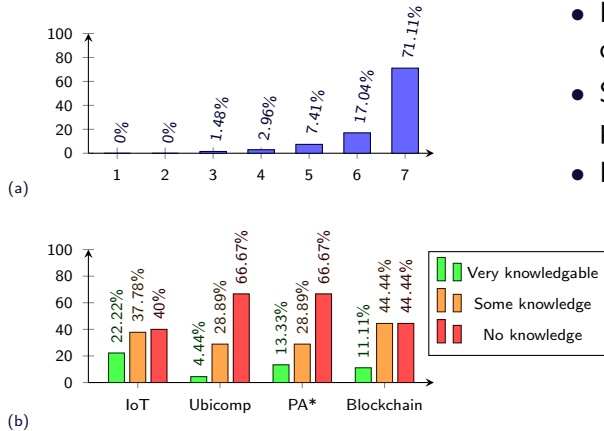
Introduction
OO

State of the Art
OOO

Methodology
●OO

Conclusion and Future Work
OOO

References
OOO

Survey

Survey

86 Questions

- General knowledge and attitudes towards privacy
- Disposition for sharing personal information
- Privacy concerns
- Current online habits and practices
- Profile identification
- Knowledge and habits regarding the Internet of Things
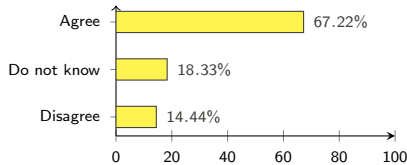- Demographic data

Google Forms, https://www.google.com/images/about/forms-icon.svg

Introduction
oo

State of the Art
ooo

Methodology
o●o

Conclusion and Future Work
ooo

References
ooo

Survey

- High regard for privacy, with some caveats;
- Some difficulty understating digital privacy;
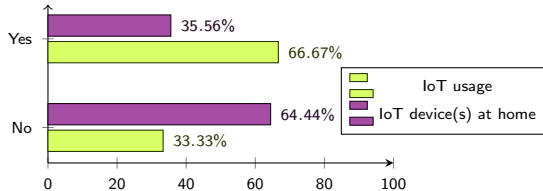- Low literacy of technical jargon;

*PA - Privacy Assistant

Figure 1: Participant responses regarding: (a) participants' privacy importance perception and (b) general IT knowledge. (Section 4)

Introduction
oo

State of the Art
ooo

Methodology
ooe

Conclusion and Future Work
ooo

References
ooo

Survey

- Dismissal of privacy notices due to various factors;
- Some individuals (55%) use fake private data online;
- Some interaction with Internet of Things devices but low knowledge generally;
- Low grasp of IoT privacy;

Figure 2: Participant responses regarding: (a) unwillingness to read privacy notices and (b) IoT usage. (Section 4)

Introduction
OO

State of the Art
OOO

Methodology
OOO

Conclusion and Future Work
●OO

References
OOO

Future Work

Limitations and Future Work

Survey limitations:

- Too dense;
- Limited number of participants.

Topics for further research:

- Privacy literacy in IoT systems;
- Application of privacy in the design/development of IoT systems;
- User-centric approaches to IoT privacy.

Introduction
oo

State of the Art
ooo

Methodology
ooo

Conclusion and Future Work
o●o

References
ooo

Conclusion

Conclusion

- Results from majority viewpoint of portuguese participants;
- Survey results reveal that there is a large privacy knowledge gap;
- There should be more tools focused on privacy literacy.

Introduction
00

State of the Art
000

Methodology
000

Conclusion and Future Work
00●

References
000

Conclusion

Thank you for your attention.

Introduction
00

State of the Art
000

Methodology
000

Conclusion and Future Work
000

References
●●●

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Introduction
oo

State of the Art
ooo

Methodology
ooo

Conclusion and Future Work
ooo

References
●●●

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Introduction
00

State of the Art
000

Methodology
000

Conclusion and Future Work
000

References
●●●

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