UNIVERSIDADE da MADEIRA

# Master's Thesis Preparation

## Empowering Users' Privacy Rights in the Internet of Things

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# Introduction

Internet of things (IoT) devices are everywhere, since the birth of ubiquitous computing that human every day life is envisioned containing millions of devices that control every aspect of our lives. Today we have smart cars, smart houses, smart cities, wearables among other things that use various types of devices and various types of networks to communicate. These devices create new ways of collecting and process personal data from users and non-users. Most end users are not even aware or have little control over the information that is being collected by these systems. This work takes an holistic approach to this problem by first doing a literature review, then by doing a survey to gather information about the general knowledge of Portugal's population in this very topic and then,

# What is Beamer?

The beamer classes for LaTeX are used to create presentations that are to be shown with a beamer. The text typesetting system creates PDF files that can be shown by a large number of programmes.
The present theme was adapted from HSRM theme by Benjamin Weiss and it makes the creation of slides (assuming basic knowledge of LaTeX ) child's play.

# System requirements

In order to successfully create presentations with this theme, the following requirements must be met by the system:

- LuaLaTeX must be used to typeset the slides.
- Besides some standard packages, the packages `beamer`, `pgf` and `xcolor` must be installed.
- The fonts Flama-Light, Flama-Book and Flama-Medium should be installed. Alternative: Arial
  `http://www.felicianotypefoundry.com/`

# Theme options

To customize the presentation, the following options can be selected.

| Option | Effect |
|---|---|
| `noflama` | If you do not have the Flama font you can switch to the Arial font with this option. |
| `noserifmath` | Formulas are also set sans serif. |
| `nosectionpages` | The section introduction pages will be hidden. |

# Slide structure

Structure in Beamer is the same as in LaTeX using section, subsection, etc. For slides the frame environment is defined. The slide title can be passed directly to the frame environment or set within the environment using s

# Enumerations

Enumerations are possible with the enumerate and the itemize environment.

1. item 1
2. item 2
   - point 1
   - point 2
3. point 3

# Emphasis

In the Beamer class, the function \alert is defined to highlight individual words. Example:

- highlighted text

Additionally, \quoted and \doublequoted can be used, resulting in the following outputs:

'single quotation marks'

"Double quotation marks"

# Simple block with enumeration

Block environments are defined in Beamer for structuring purposes.

## Block with an enumeration

- point 1
- point 2

## block with a bullet

- point 1
- point 2

# Alert Block

**Alert Block**

An Alert Block is coloured with the first primary colour.

**alert block**

An Alert Block is coloured with the first primary colour.

# Example Block

**Example Block**

An Example Block is coloured with the first secondary colour.

**Example Block**

An example block is coloured with the first secondary colour.

# block with other colour

**Block with other colour**

Another secondary colour is used in this block.

**block with other colour**

# Other examples

Below are more example slides attached without additional explanation. Just have a look at the source code to see how the slides were created.

# Photo with copyright

# Plot with caption

Figure: LFE channel frequency spectrum

# Table

Table: Selection of window function and their properties

| **Window** | **First side lobe** | **3 dB bandwidth** | **Roll-off** |
|---|---|---|---|
| Rectangular | 13.2 dB | 0.886 Hz/bin | 6 dB/oct |
| Triangular | 26.4 dB | 1.276 Hz/bin | 12 dB/oct |
| Hann | 31.0 dB | 1.442 Hz/bin | 18 dB/oct |
| Hamming | 41.0 dB | 1.300 Hz/bin | 6 dB/oct |

# Formulas

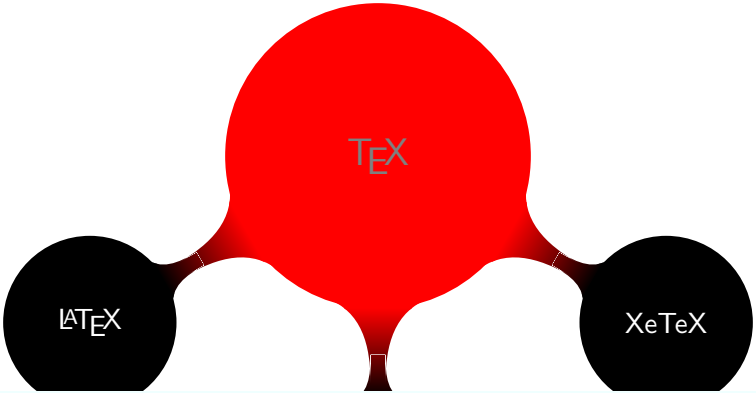
## Fourier Integral

$$F(\mathrm{j}\omega) = \int_{-\infty}^{\infty} f(t) \cdot \mathrm{e}^{-\mathrm{j}\omega t} dt$$

## Factorial

$$n! = 1 \cdot 2 \cdot 3 \cdot \ldots \cdot n = \prod_{k=1}^{n} k$$

# Mindmap with TikZ



# Footnotes

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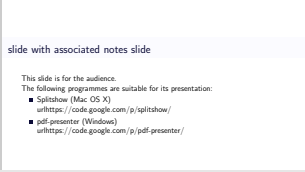
# slide with associated notes slide

This slide is for the audience.
The following programmes are suitable for its presentation:

- Splitshow (Mac OS X)
  urlhttps://code.google.com/p/splitshow/
- pdf-presenter (Windows)
  urlhttps://code.google.com/p/pdf-presenter/


slide with associated notes slide

This slide is for the audience.
The following programmes are suitable for its presentation:
- Splitshow (Mac OS X)
  urlhttps://code.google.com/p/splitshow/
- pdf-presenter (Windows)
  urlhttps://code.google.com/p/pdf-presenter/

Use this slide for your notes on the presentation.
The following programmes are suitable for your presentation:

- Splitshow (Mac OS X)
  `https://code.google.com/p/splitshow/`
- pdf-presenter (Windows)
  `https://code.google.com/p/pdf-presenter/`

# Two columns

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- one entry
- another entry

# Column break

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- one entry
- another entry

# Future Work

- Do this
- Do that

# Conclusion

In this thesis I explored people's perception of privacy of IoT systems and made an application that aims to create more awareness in users about their environment and the IoT devices that inhabit it.

# Questions and Comments

Thank you for your attention. Any questions?

# References


Alan V. Oppenheim
Discrete-Time Signal Processing
Prentice Hall Press, 2009


European Broadcasting Union
Specification of the Broadcast Wave Format (BWF)
2011