Watt are you doing
IPC Project - Part 1
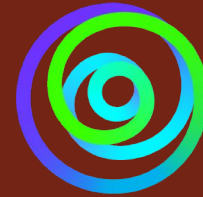
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Description

- **Web platform for energy profiling of household devices**
- Display real-time energy usage
- Pinpoint energy-inefficient devices
- Give suggestions to reduce power consumption
- Specialized monitoring for smart devices
- Device registration (using sensors/software)
- Device search with filtering/sorting by tags and consumption

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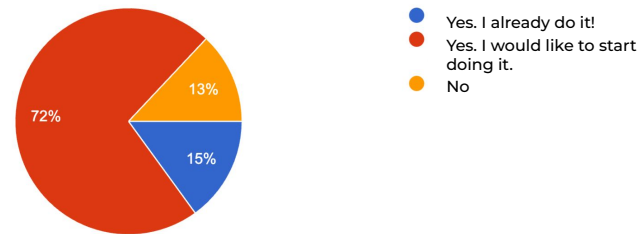UNIVERSIDADE DO PORTO

Related Platforms

- App EDP: Calculador de preço com base nas leituras; Gestão de consumos
- Brightly: Identificação de gastos de energia
- Hark: Gestão e monitorização do consumo de energia
- SMA Energy: Gerir fluxo de energia, útil para painéis solares
- Freedompro: ver o consumo de energia de eletrodomésticos
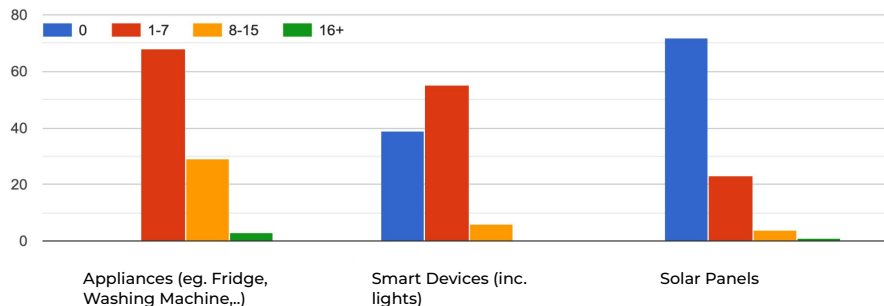- Google Home: Gestão extensiva de uma casa

Questionnaire Highlights
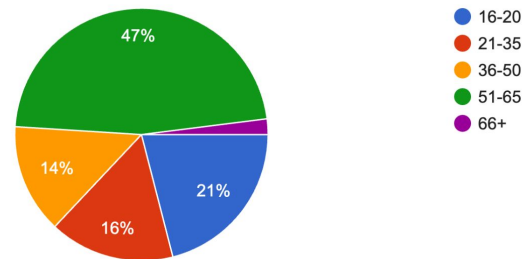
Using Google Forms, we had 100 respondents.

Would you be interested in monitoring your energy consumption?

- 🔵 Yes. I already do it!
- 🔴 Yes. I would like to start doing it.
- 🟠 No

72%
13%
15%

How many of these devices do you have at home

🔵 0   🔴 1-7   🟠 8-15   🟢 16+

Appliances (eg. Fridge, Washing Machine,..)

Smart Devices (inc. lights)

Solar Panels

Age

- 🔵 16-20
- 🔴 21-35
- 🟠 36-50
- 🟢 51-65
- 🟣 66+

47%
21%
16%
14%

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PACT Analysis

People

About 48% of people don't have enough knowledge about their house energy consumption.

72% of people showed their openness to change by stating that they would like to start monitoring their own energy consumption

Activity

Most people (above 80%) believe it's important that information is given in real time.

46% would like to check weekly summaries and 36% monthly summaries.

Context

The majority of the apps people report using are mobile oriented and can be used in several contexts (home/work/..)

Technology

EDP RE:DY uses a box inside clients home to collect data and manage it. This box is connected to the router and is also used to send information to the App.

Most of these solutions use plug extensions appliances to manage how much energy is used and to control the devices.

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Persona

Bernardo Lima

Age: 53
Location: Porto
Job: Accountant
Status: Married, Father of two

Needs

Save money
Being Accomplished
Control Freak

Behaviours

Family time
Play Basketball
Watching Movies

Motivators

Work-life balance
Support network
Health maintenance

Frustrations

Overload responsibilities
Road traffic

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Activity Scenario

Bernardo likes to always be on top of everything. He works a strict corporate job and lives his life on a tight schedule. He lives in a big house with a lot of smart devices. Everyday, during breakfast, he wants to know the **energy consumption of his daily routine**, to make sure he isn't wasting any more energy than he needs to. He opens the application and **takes a look at the overall spending patterns of the last 24 hours**, as well as the **top appliances that spend more money**.

In case he notices that something is off, **he searches and filters through the connected energy consumption items** to find the culprit. Having these kinds of filters is very useful, as he has a lot of different connected devices and wants to quickly find what is causing the issue.

Finally, he has recently entered the market in **renewable energies and solar panels** by installing 6 of those in their home so he would like to see the results of this change in the app.

Functionalities

🔐 Login for personal profile

📅 24 hour / weekly / monthly dashboard

⚡ Top spending appliances

🧐 Detailed analysis by each appliance

📈 History comparison features

➕ Add and remove appliances with ease

🔍 Tag, search, filter and sort the devices

☀️ Information about solar panels

💡 Tips and suggestions to improve spending habits

⚙️ Power control and automatic adjustment of smart devices

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