Cleanweb Gamified Energy Disaggregation
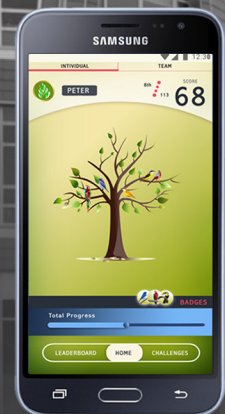
Play, learn and contribute for Energy Efficiency!

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www.charged-project.eu

About charged

charged addresses energy consumption in public buildings and proposes a framework to achieve greater energy efficiency. The framework leverages IoT enabled, low-cost devices (NFC or iBeacons) to improve energy disaggregation mechanisms that provide energy use and -consequently- wastages at the device, area and end user level. These wastages are targeted by a gamified application that feeds personalized real-time recommendations to each individual end user. The design of the game follows a cleanweb approach and implements a novel social innovation process based on human incentive factors to help users understand the environmental implications of their actions and adopt a more green, active and responsible behaviour.

Charged system

GAME CHARACTERISTICS

- Tree persona
- Team player, Individual player
- Achieve Challenges
- Leaderboards (team based, individual based)
- Game elements: points, levels, badges, roles
- Score, team status, current challenge are included in UI
- Onboarding process
- Suggested actions -> actions performed -> rewards devices/energy are visible -> players see their energy performance per device they interact with

GAME TEAMS & CHALLENGES

Forming Teams
Game Administrator defines teams
Geographical
Role-oriented, Device-oriented
Scores: individual + team

Challenges
Personal challenges
Team challenges
Challenge accomplished -> points
for personal, as well as team profile

Morning Challenges
e.g. "Lights on",
"Coffee on" challenge
Daily Challenges
e.g. "Windows" challenge
Evening Challenges
e.g. "Lights off",
"elevator down"
Weekly/Monthly/Yearly Challenges

ENERGY MEASURING TO SUPPORT DISAGGREGATION AT THE USER /DEVICE LEVEL

- NFCs
- BLEs
- Fibaro Smart Plugs
- Raspberry Pi 3 with
- USB Zwave Plus
- Multi-channel
- measuring devices

BACKEND & ENERGY DISAGGREGATION

- Cloud backend
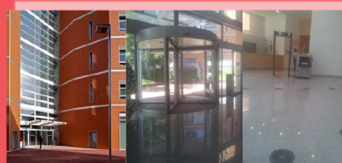- Energy Disaggregation and Analytics
- Rule Engine (Game Engine)
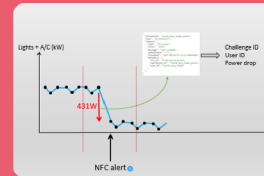
Pilot Public Buildings

City of Athens IT Company

Barcelona EcoUrbanBuilding, Catalan Institute of Energy

Luxembourg National Museum of History and Art

Consortium