Project TwoPager | EuroTeQaThon III

Our third EuroTeQathon will be hosted in Prague (CTU) from Saturday June 10th until Monday June 12th 2023. In preparation of this event every (selected) Collider project is asked to submit a TwoPager on their project according to the locally communicated deadline and procedure. This document will be used by the jury to complement the final presentation on Monday and have a good overview of all the different projects

PROJECT DETAILS

Challenge Collaborator: E4C (Save energy, Save the world)

Team name: Energize Savings
Team slogan: Save with Intelligence
Team members (full name | study program | university)

Malo LE GALL	Engineering	Ecole Polytechnique
Marc YOUNES	BSc Mathematics & Physics	Ecole Polytechnique
Chang LIU	Energy and power engineering	ENSTA Paris

What is the target problem for your project (in one sentence)?

Present solutions and advice to reduce daily energy consumption of households by over 70%, by taking into account feasibility and cost.

How do you solve it (in max. three sentences)?

1. Define a present scenario (e.g. define realistic power and usage time of equipment and lifestyle (mobility mode…) in a family).
2. Present feasible and original advice to reduce energy consumption of each component, or at least improve efficiency.

3. Design an innovative AI-based application using present technology and infrastructure to track energy usage, give reminders and advice, and encourage competition and involvement between social groups.

Potential for impact

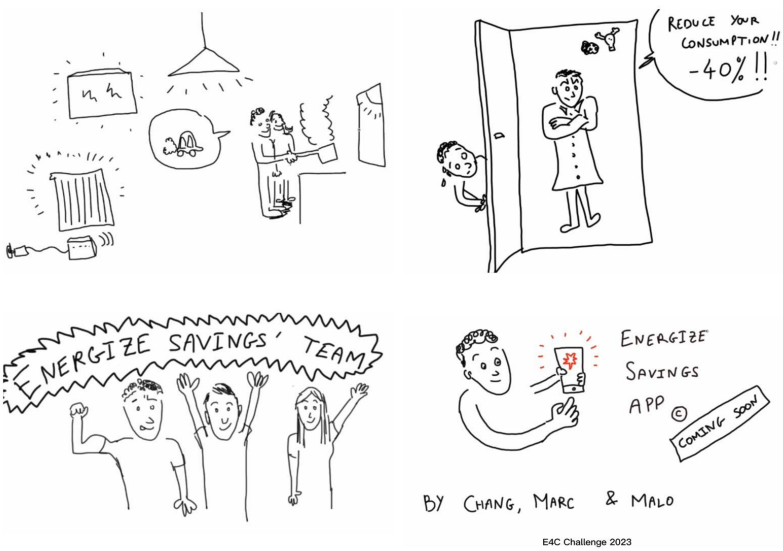
How does it contribute to a more sustainable future from an environmental, social and/or economic perspective? On what scale and what range of the population could your project have an impact? (regional, national, European, only a small group of people, a wide range of the population etc.)

Ever since the industrial revolution, and especially with the concerns about climate change as well as the current geopolitical crisis, energy usage has clearly been a primary problem.
Our aim is to provide solutions that reduce energy consumption while saving money (from bills, maintenance, etc) and most importantly, ensuring involvement, through the interactive application interface.
Our solutions are universal, adaptable, and feasible for anyone worldwide from an individual level, to big scale (families*/companies,etc)*.

Innovation

How is the solution innovative compared to existing ones (if exist) from an application area, business model, technological and/or customer experience perspective? Who are the main competitors?

One of our ideas is to design an intelligent and sociable application that records and reports users' energy consumption (without need of new infrastructure), provides reminders and tips to reduce energy usage for each equipment, and fosters a social network of energy reduction competition. By analyzing the signature of the user's usage of devices and appliances, the application can easily identify and prevent unnecessary energy consumption (e.g. household, multimedia equipment can be shut off instead of being in sleep/standby mode while not in use). The social network aspect of the application will allow users to compete with friends and family to reduce their energy usage (e.g.steps count fitness app energy consumption count). Our goal is to encourage people to become more mindful of their energy usage and reduce their energy consumption.



Insert team picture

We also introduce innovative solutions to reduce energy consumption (like solar oven, winter natural fridge, etc.) in our project.

Feasibility

To what extent can your project be self-sustainable? Are the means available to realize your innovations? What would be your ambition/the next steps with the project?

Our application has great potential for development and commercialization. With the increasing awareness and concern for environmental sustainability, there is a growing demand for tools that help individuals reduce their energy consumption. It will be self-sustainable by generating revenue through subscriptions, advertising, and partnerships. As the user base expands, it will become a valuable platform for businesses to connect with environmentally-conscious customers and promote sustainable products and services. The application's unique features and data collection capabilities could also provide valuable insights for research and development in the energy, environment and sustainability sectors.

There are many simple tips for using equipment that are often overlooked by people. By using the application, these tips can be easily implemented and monitored. With personalized reminders and tips, users can develop more mindful energy usage habits and reduce their overall energy consumption. The application makes it more feasible and controllable to identify and prevent unnecessary energy consumption, such as leaving devices plugged in or in standby mode when not in use.

Inclusivity

Are the stakeholders (industry partners, governmental bodies, societal stakeholders, potential users, etc.) involved in the process of the solution development? How did you take them and their feedback into account? What disciplines (engineering perspective, sociological perspective, etc.) are taken into consideration in the development of the solution?

Some applications to enable people control their consumption are currently developed, using different types of technology and different interfaces. This shows there is demand for this kind of application.
We took advice from members of the Energy4Climate Interdisciplinary Center (researchers from IP Paris, CNRS, CEA,etc.) and we presented our idea to some entrepreneurs and experts in the field during an entrepreneurship night at Telecom Paris.

The most considered discipline is the engineering perspective since the solution relies on data analysis and application development. And the social network aspect comes from an analysis of current trends among society.