The EVIDENT Platform: Leveraging Crowdsourcing Approaches for Assessing Consumers Behavior

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Agenda

- The EVIDENT Project
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- Conclusion
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EVIDENT Consortium

9 Partners

3 Universities, 2 Research Centers, 2 SMEs, 2 Energy Providers

EVIDENT Scope

I Raise awareness about energy efficiency

EVIDENT designs and proposes interventions based on behavioural analysis

II Provide insights for the role of behavioral biases

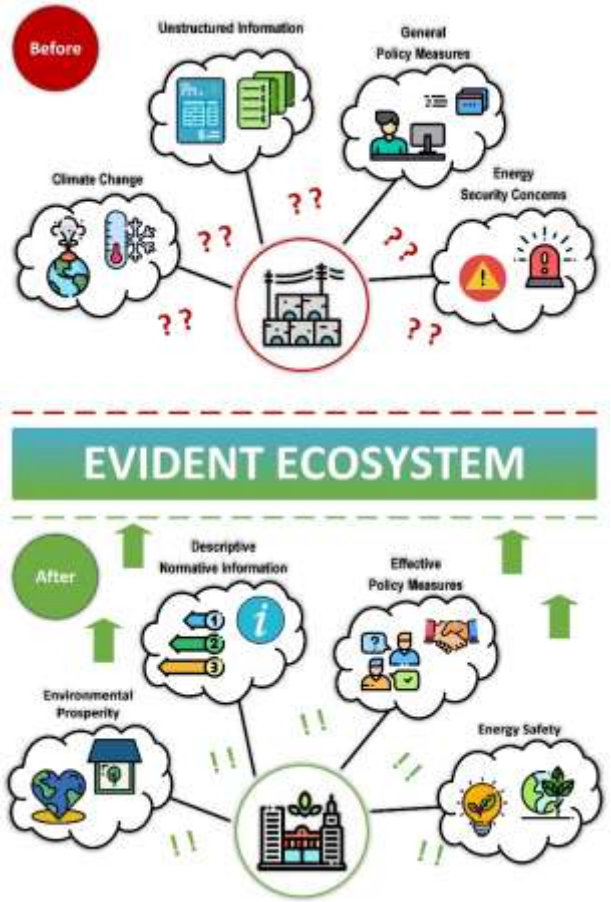
EVIDENT utilizes multiple tools for conducting the empirical research

III Contribute to the empirical research

Analytical methods, Open data and code, Platform

IV Policy implications

Participate in events for raising the importance of behavioral biases in policy design



EVIDENT implements 5 different use cases

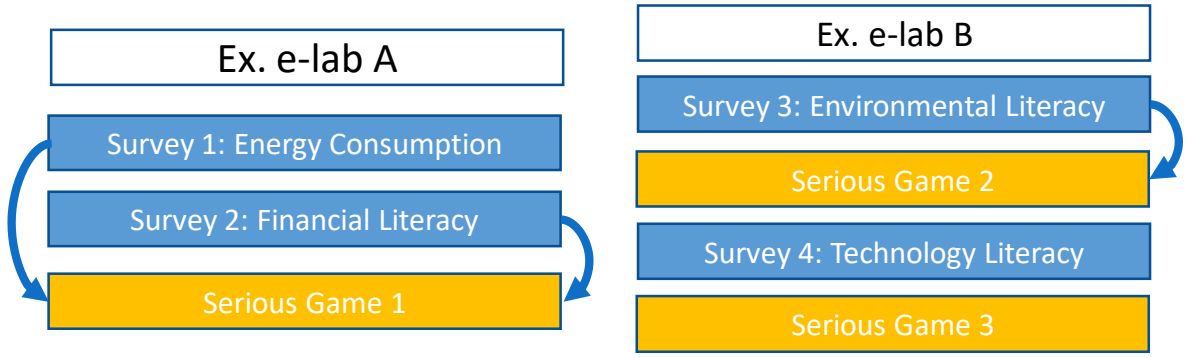
1. Estimate the importance of consumption feedback in residential users
2. Estimate the relative effectiveness of interventions like peer comparison feedback
3. Explore the role of big data in assessing the impact of behavioural insights in energy consumption
4. Relation of energy consumption behavioural biases with consumers' financial literacy level
5. Exploit energy demand curves

The EVIDENT Platform

An ecosystem to design and implement e-lab experiments. The organisers, can create and combine different applications (surveys and games) to form experiments.

Motivation

- Provide a unified endpoint for the resources, services, and tools that will be developed through the project's lifetime
- Provide a non cost solution for organisations to elicit public opinion on different topics
- Provide two kind of applications (surveys and games) as discrete steps of a e-lab experiment
- Use surveys' replies as an input for the games
- Provide data extraction mechanism for collected replies (in an anonymised form)



Examples of two e-lab experiments leveraging dynamic input from participants' replies into the serious games

The EVIDENT Platform in EVIDENT Project

- The platform will be used to implement three quasi experiments incorporating both surveys and serious games
- The EVIDENT project hopes to better understand how to support individuals to make better energy decisions and contribute to policies that promote energy efficiency

1. **Discrete Choice Analysis (DCE):** understand how factors such as financial and environmental literacy might impact decisions to purchase energy efficient appliances
2. **Average Price Bias (APB):** elicit consumers' perceptions about different pricing schemes and relate findings with potential behavioural biases and the participants' financial and environmental literacy level
3. **Repair or Replace (Serious game):** examine how consumers determine whether to repair or replace an appliance based on financial, environmental, behavioural and socioeconomic factors

After the validation of our solution, the platform along with the proper training materials will be offered freely to the public

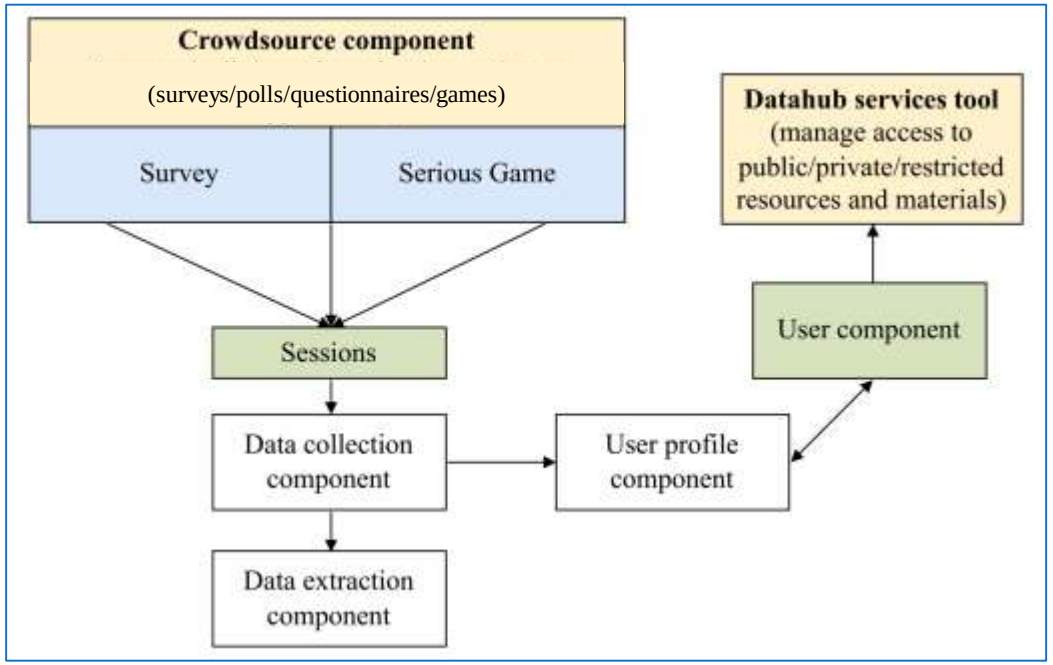
Platform Target Audience

- Organisations
  - Design and implement e-lab experiments
  - Create and combine surveys and serious games to form an e-lab experiment
  - Collect the replies of their e-lab experiments along with participants demographics under an anonymised form

- Participants
  - Participate in available e-lab experiments
  - Provide a set of demographics
  - Learn through participating in serious games

Platform Architecture

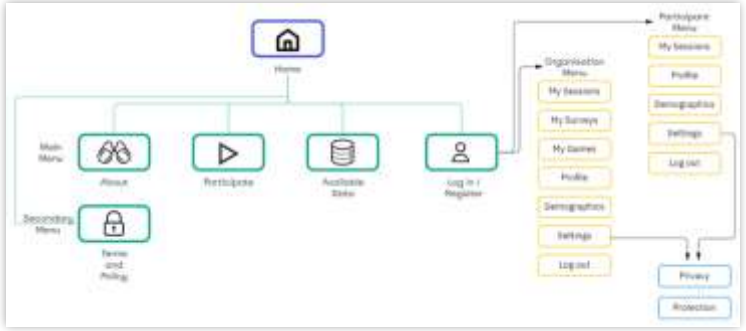
- **Crowdsource component** collects information from the visitors to the platform. It includes the survey and the serious game subcomponents.
- **Data collection component** compiles the information given from the users, proceeds in their anonymisation.
- **Data extraction component** processes the collected data and produces useful insights that are used for both commercial and research purposes.
- **User component** covers all the functionalities that are provided to the platform's users to interact with its services.
- **Datahub component** provides a repository for all the datasets that are used in the context of the EVIDENT project



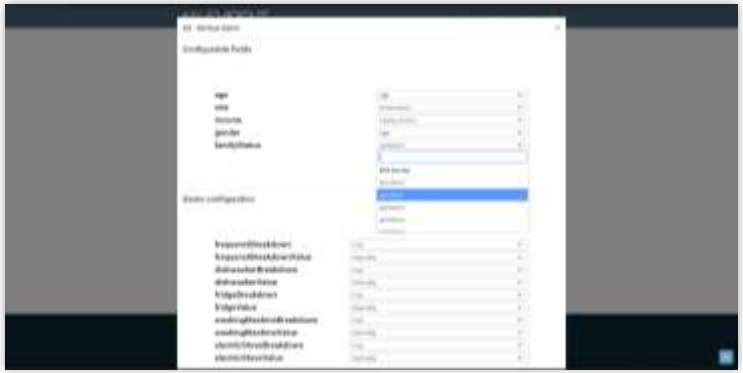
EVIDENT Platform Architecture

Development, Integration and Usage Scenarios

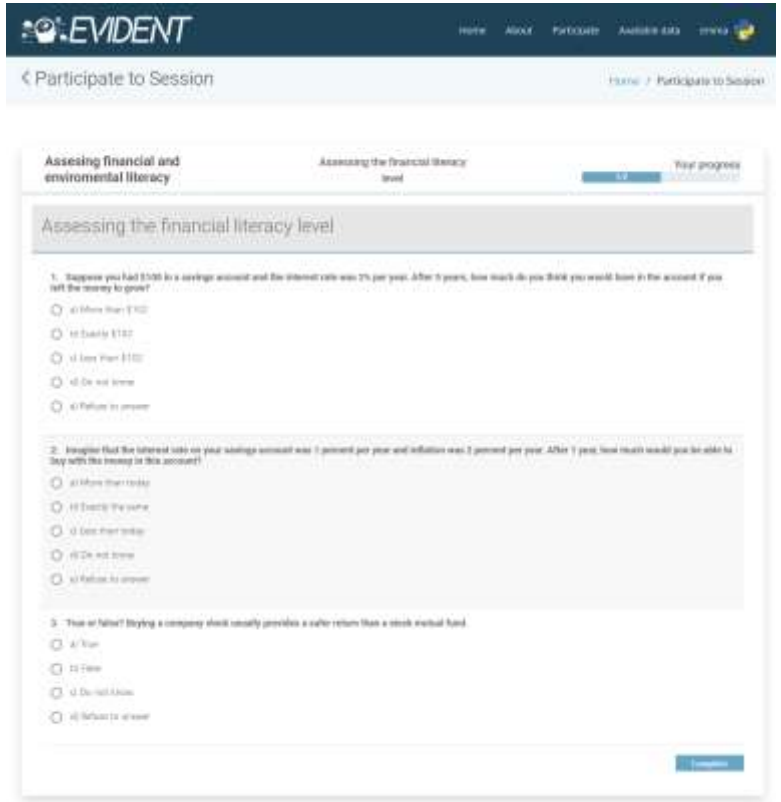
- The development and integration process follows the agile methodology (planning, execution, testing, and integration)
- EVIDENT platform implements a role-based access control (RBAC) while twenty-four use case scenarios providing the consensus around the use of the platform and assisting in the design and development of the platform



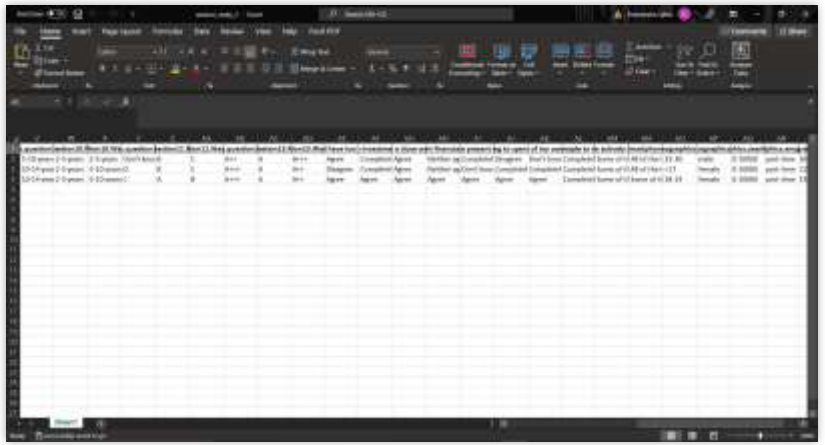
Platform Sitemap



Configuring a Serious Game



Participating to a survey



A snapshot of the collected data in .csv format

Conclusion

- In this work, we presented the design of the EVIDENT platform that was developed within the scope of the EVIDENT research project
- A component-based approach was adopted for the architecture design, while the development and integration of the components followed the agile methodology
- The platform hosts a number of crowdsourcing tools aiming to collect large volumes of data
- **Aim:** The **analysis of the collected data** among with data coming from additional source will **generate useful insights** that can be leveraged for **proposing policy implications**

Thank you!

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