

Project “Business Intelligence for Renewable Energy Systems”

(4 SWS / 6 ECTS)

WS 2016, Energy Efficient Systems Group (EESYS)

This year’s theme: Behavioral Analytics for Energy Efficiency

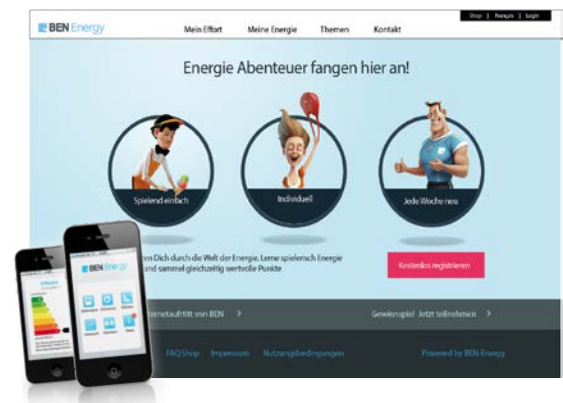
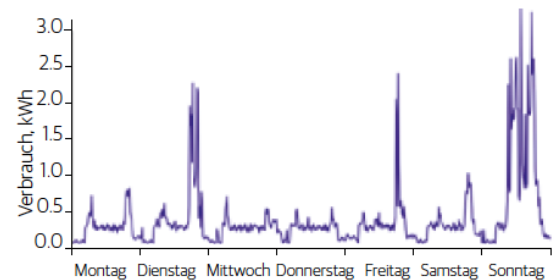
Background

Customer behavior analytics aims at automatic prediction and understanding of human behavior based on the data trail people leave behind. This emerging area of business intelligence is becoming especially important due to the advancing digitalization of industries, which leads to the collection of enormous data volumes by the service companies about their customers. In the energy sector, the rollout of smart metering and collection of high-resolution electricity consumption data will revolutionize relationships between the utility companies and residential energy users. In combination with analytical tools, this data will enable individualized motivational interventions toward enhanced energy efficiency.

Task

You will design and build a productive online system that motivates large-scale energy savings among residential households. The system will use consumption information from an existing smart-meter database and automatically generate a well-conceived “engagement email” that is made available to the registered users. Similar concepts (e.g., by OPOWER, USA or BEN Energy, CH) are gaining much importance as effective behavioral interventions that empower users to live up to their ideals without patronizing the citizens. Further details will be outlined in the first classroom meetings.

The project combines agile management (20%) and development tasks (40%) with conceptual work (40%), covering selected important psychological, social, cognitive, and emotional factors that need to be considered in state-of-the-art IS design. Along the way, you will become (more) familiar with up-to-date frameworks for software design and with concepts to “nudge” users into a more sustainable lifestyle.



Target Group

Master Students in Information Systems and Applied Computer Science

Prerequisites

Some background in R, PHP, HTML, CSS, and database access would be a plus. Participants should also be interested in consumer behavior and applied psychology (no prior knowledge necessary).

Course schedule and organization

Time: Monday, 12:15- 13:45, plus one session per week at your discretion. Most of the time, you will be able to schedule the work yourself - it's your project, our lab is open, and we are around to help you.

Location: EESYS-lab, WE5 02.059.

Mandatory meetings:

- 1) Kickoff: The kickoff will take place in week on Monday
- 2) Planning meeting: You will be asked to present your project plan or, if you want to use scrum, briefly outline your workflow in week three.
- 3) Mid-term report: In week 7, a presentation of the status quo is scheduled
- 4) Final presentation: You will demo your results around Week 12

Teams: you can pair up in teams of two or three, but you can also work on your own.

Instructors and support

Dr. Mariya Sodenkamp (mariya.sodenkamp@uni-bamberg.de)
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We are looking forward to your participation and successful, fun project!

The EESys-Team

