

JOINT ELECTRICITY PREDICTOR AND CONTROLLER

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BACKGROUND

Forecasting accurate utility consumption such as electricity, gas, and water or waste generation is a challenge. However, failure to predict accurately can lead to insufficient supply and penalties for excess consumption / generation. Consider electricity for example, in order to perform this task, electricity suppliers today are using aggregate prediction due to the lack of information about individual electricity usage and behavior. While if they could predict energy consumption at the scale of the individual service subscriber, they would better manage their electricity grid, optimize their energy production (by using more renewable energy for example) and improve its distribution.

Accordingly, it would be beneficial to provide a system that can jointly predict a consumer's energy consumption, and at the same time provide management. By adjusting wisely the consumer's appliances and its Heating Ventilation and Air Conditioning (HVAC), the system can maximize the fit with the performed prediction, where significant deviations from plan or consumptions above certain thresholds lead to increased costs. With such a system, the predicted individual usage details can be transmitted to the energy supplier as a commitment in a structured format that can be processed automatically.

TECHNOLOGY

Joint electricity predictor and controller is a system that allows energy suppliers to better predict their electricity grid activities, and then better plan energy production, management and distribution. It consists of a smart electronic device that collects information about individual energy consumption, learning its routine and exceptions in order to predict its future energy consumption. The smart thermostat produces an energy consumption

commitment based on its user consumption prediction. It then adjusts the HVAC appliances in order to respect the prediction and sends the prediction content to the energy provider, who can later reward the user if the prediction was respected.

COMPETITIVE ADVANTAGES

- Forecasting electricity consumption combined with the control of appliances in order to respect forecast is an advantage for BOTH the energy provider and the user.
- Device could contribute to the emergence of a new electricity economy where the energy suppliers can offer rewards to their users based on their respect of the prediction provided.

APPLICATIONS

- Prediction, control and management of electricity consumption, gas, water or waste generation, combined with a reward system.
- Any utility consumption can be managed.

TECHNOLOGY DEVELOPMENTAL STAGE

- Proof-of-concept software prototype, needs to be adapted to a specific application.

PATENT STATUS

- Patent pending

BUSINESS OPPORTUNITY

- Licensing/Partnering/Co-development

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