# The Singing Shower

## *A melody-sensitive interface for physical interaction and efficient energy consumption*

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## Why?

Efficient showering techniques can save over 50,000 liters of water per person per year.

Melody-sensitive machine listening offers hands-free control of the water flow.

With the Singing Shower, users control the flow of water by singing, encouraging efficient water usage through playful engagement.

## How?

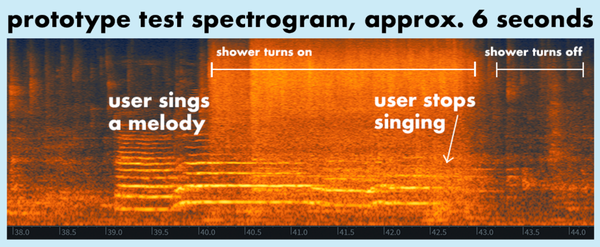
- A microphone listens for melodic input in real time.
- If a melody is detected a solenoid valve is triggered, controlling the flow of water. When the singing stops the water flow is stopped.
- No recordings are made, nothing is stored, and no internet connection is required.

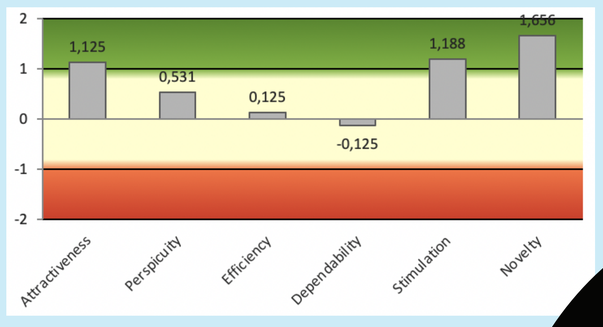
## Testing

Users were asked to control the flow of water by singing. This was evaluated using a User Experience Questionnaire, providing validated scales to measure six factors describing the Pragmatic and Hedonic qualities of an experience.

The prototype scored highly in Attractiveness, Perspicuity, Stimulation, and Novelty, but lower in Pragmatic Qualities. This confirmed the Singing Shower as a playful interface encouraging curiousity and active engagement.

**prototype test spectrogram, approx. 6 seconds**




## Conclusion

The Singing Shower applies playful sonic and physical design interaction to energy efficiency. It leverages an existing behaviour and avoids many of the ethical issues associated with machine listening. Further tests will evaluate how it could be used in a home.

http://www.soundforenergy.net

See the Singing Shower in action!

This work is carried out in the context of the "Sound for Energy"research project funded by Energimyndigheten (Swedish Energy Agency) Project No. 51645-1. Shower graphic by Adrien Cotquet from nounproject.com.