

Youldeco - Exploiting the Power of Online Social Networks for Eco-Friendly Driving

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ABSTRACT

Although eco-friendly driving is universally regarded as a necessity, it remains an open question how to encourage drivers to drive ecologically. The main issues here are lifestyle- and convenience-related decisions of an opposite direction. Youldeco is based on rewards for eco-friendly driving by making it competitive and game-like. We claim that we can persuade especially younger drivers towards more ecological driving.

1. INTRODUCTION

Eco-friendly driving has become a major issue in the automotive field. But even with an enormous progress in eco-friendly technology, its effectiveness is still widely depending on the individual drivers behavior. Informal conversation with Daimler experts showed, that technical progress between car generations account for 1% improvement in ecological driving while the individual driving style can improve it up to 25% to 30%. Persuasion [2] and the impact of the human factor is the focus of our research here.

2. THE YOULDECO APPROACH

Youldeco (short for “you’ll drive eco-friendly”) is an attempt to turn eco-friendly driving in a game-like competitive event and thus making it more desirable. [1] already investigated the acceptance of eco-persuasive interfaces. Social networks have become very popular over the past few years. Their original purpose was to connect to people and stay in touch with your social environments. Nowadays however, they serve additional functions, such as enhanced personal visibility and as a platform for earning digital status symbols like the number of your followers or the amount of positive feedback on your activities. We will use these effects by publishing above-average results in eco-friendly driving on a platform such as facebook, so that drivers can compete in earning points for their driving style. While connecting to a social platform is relatively straightforward, the question where to obtain suitable data of the cars gas consumption while not putting too much (expensive) additional equipment in the car is rather difficult. Furthermore there is the



Figure 1: An animated youldeco character.

decision how and in what way the drivers eco-scores should be measured and published.

We approach these problems as follows:

In a first step, data from personal nomadic devices such as smartphones will be used for an estimate of the driver eco-score. Most modern smartphones have the ability to determine the current GPS position and we can use that in order to determine the driving speed. Although this is just a very rough estimate, we still can tell that driving at a constant speed of 100 mph is not very ecological. Self-reporting could be an alternative, but opens up some confidence issues. Some manufacturers furthermore already offer USB interfaces to download driving information. These data can be processed for a more detailed eco analysis. Based on the assumption that obtaining information from the car will become more and more easy and detailed, we plan on gradually improving the eco score measuring, and we would like to encourage the community to use our prototype and make a joint effort to improve it.

Social networks are just one part of the youldeco concept. Other ideas such as an animated character commenting on the drivers eco score on safe presentation times can be combined with it and seamlessly integrated (see Figure 1).

3. REFERENCES

- [1] A. Meschtscherjakov, D. Wilfinger, T. Scherndl, and M. Tscheligi. Acceptance of future persuasive in-car interfaces towards a more economic driving behaviour. In *AutomotiveUI '09: Proceedings of the 1st International Conference on Automotive User Interfaces and Interactive Vehicular Applications*, pages 81–88, New York, NY, USA, 2009. ACM.
- [2] H. Oinas-Kukkonen and M. Harjumaa. A systematic framework for designing and evaluating persuasive systems. In H. Oinas-Kukkonen, P. F. V. Hasle, M. Harjumaa, K. Segerståhl, and P. Øhrstrøm, editors, *PERSUASIVE*, volume 5033 of *Lecture Notes in Computer Science*, pages 164–176. Springer, 2008.