

Technologies to support socially connected journeys: Designing to encourage user acceptance and utilisation

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Abstract

Financial, practical and environmental incentives are increasingly encouraging people to seek opportunities to share journeys taken by car. Location-enabled mobile technologies provide opportunities for real-time dynamic communications to support transport decision making in general and car sharing in particular. Theories such as the Technology Acceptance Model (TAM, Venkatesh & Davis, 2000) and Theory of Planned Behaviour (TPB, Ajzen, 1991) have provided insight into the factors that can affect user behaviour with technologies in a range of contexts. This paper presents the emerging priorities from a series of human factors studies that were conducted to investigate user attitudes to and requirements for technologies to support car sharing. Methods applied included: user interviews, mobile diary studies and evaluations of prototype dynamic car and taxi share technologies. A model to inform the design of technologies to support socially connected travel, that highlights issues of privacy, security, flexibility, planning and social context of use is presented.

Introduction

With increased fuel costs and long-term concerns about the impact of automotive travel on the environment, the concept of car sharing, or car pooling, is of increasing interest and value. Much car sharing happens on an ad-hoc and informal basis, where friends, families or colleagues coordinate journey plans. However, formal systems including paper based notice boards to facilitate matching, and, more recently, web based 'buddying' systems (e.g. liftshare) have also been used to enable people to plan shared journeys with other system users. Increasing prevalence of ubiquitous, location based and mobile computing, in particular smart phone technologies, provide an opportunity to extend the functionality of such systems to enable more ad-hoc arrangements of car sharing, and also introduce the potential to link such systems with other social networking systems such as Facebook.

The use and design of technologies to support such applications needs careful thought. Previous research, such as the Technology Acceptance Model (TAM) (Venkatesh & Davis, 2000) has demonstrated that a number of factors combine to

In D. de Waard, N. Merat, A.H. Jamson, Y. Barnard, and O.M.J. Carsten (Eds.) (2012). *Human Factors of Systems and Technology* (pp. 385 - 395). Maastricht, the Netherlands: Shaker Publishing.