Context Mobile Electronic Personality

Presentation Proposal

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Abstract

The evolution of services and increasing demands for personalised service instances reinforce the involvement of users' context in mobile services. Unconditional disclosure of personal and context data to service providers raises legitimate privacy concerns. We model and implement an application addressing these privacy concerns by minimising personal data users disclose to services while remaining relevant. Our privacy framework, mandates services to disclose information needs and requests motive in advance.

I. INTRODUCTION

The maturity of mobile computing facilitated by advancements in mobile telephony, devices and terminals has broken previous confinements of users to their desktop, at fixed locations.This mobility exposes users and their mobile computations to intricate, ever-changing environmental situations. Efforts to keep services useful have resulted in applications taking into account prevailing situations and adapting their functionality to the context. Progressively, service enhancements have expanded beyond catering for the limited user interfaces and processing footprints, to automation and personalisation of service behaviour to prevailing context.

Context Mobile E-Personality (cME) is a continuation of the Mobile E-personality (ME) by incorporating context and privacy in its core [1]. The cME application executes on users' personal devices interacting with transparent services (e.g. information screens) on their hosts behalf. Interactions involve responding to requests for their hosts personal information and preferences by services in order to display information most relevant to the viewers. Preferences include favourite news, sports, music and television/films shows. Personal data e.g. name, gender, birthdate and preferred language are used to tailor screened content specific users.

cME has been implemented using python programming language on a mobile phone (Nokia N95) and a desktop computer with a projector. Privacy policies are defined in XML notation. Service providers privacy policy detail their identities, operating domains, requested personal and context data and how they intend to process them (i.e. purpose, retention, disclosure). Partitioning of users personal information and providing control on the various partitions attempts to curb privacy leaks in context aware services. Users solely determine what information pieces they wish to trade with specific service providers in particular domains for a particular benefit e.g. latest news, weather forecast or stock markets closing [2], [3].

REFERENCES

[1] Pekka J.appinen, "Mobile Electronic Personality", Lappeenranta University Of Technology, 2004.

[2] Were Oyomno and Pekka J.appinen, “Security and Privacy in a Ubiquitous Information Screen”, 7th Minema Workshop, WAWC08 confrence., 2, 2008, 133–143, Acta Universitatis Lappeenrantaensis, Lappeenranta, Finland.

[3] Were Oyomno, Pekka J.ppinen and Esa Kerttula, “Privacy Implications of Context-Aware Services”, COMSWARE 09 June 16-19 Dublin, Ireland. 2009 ACM.