

iv2splus INFONET

Personenmobilität, MdZ 2. Call (2013)

PONS

Paradigmen zur Optimierung der Nutzerführung im Straßenverkehr

In order to bridge (lat. PONS) the gaps in the mobility chain complicating the footpath of travelers using public means of transportation, new paradigms and technology concepts shall be developed decreasing deficiencies concerning information, orientation, and service. The results shall be provided in a framework for distributed enhancement enabling the development of new user-driven solutions.

While usage of public means of transportation is widely supported by mobile assistance services

calculating routes, notifying delays, or providing online tickets, there is hardly any systemic assistance for the footpath to and between public means of transportation, especially for people with disabilities.

By experience gained in prior projects related to barrier-free navigation, the project consortium has realized that this gap in the mobility chain is due to deficiencies regarding (1) provision of information, (2) orientation, and (2) provision of services for users of public means of transportation. There is a lack of concepts for orientating at traffic nodes and for user guidance by foot, in order to reach the desired vehicle as quickly as possible without detours or individually perceived obstacles.

PONS (lat. ?bridge?) deals with these deficiencies in the mobility chain and develops (based on the results of prior projects) new paradigms and technical systems for user guidance by foot, considering individual requirements for journeys and guiding users context-sensitively. It builds a bridge to existing systems or to recent research results in the field of public transportation

and is considered an emancipated mobility approach serving people with physical disabilities as well as children, elderly people or humans with cognitive impairments.

The focus of research lies in the development of suitable methods (both conceptually and technically supported) closing the identified mobility gaps. (1) The information gap is meant to be narrowed by the definition and development of new information- and maneuver elements for pedestrian navigation, embeddable into map systems and individually utilizable. (2)

The orientation gap is meant to be minimized by innovative methods in the area of inertial navigation in combination with new approaches for indoor tracking, with the objective of more precise localization while reducing infrastructure costs, simultaneously. (3) Eventually, the service gap is meant to be diminished by developing new interaction paradigms for consuming services. In the course of this project, an exemplary implementation for acquiring intermodal tickets by new interaction concepts shall be developed enabling travelers to purchase tickets without manual intervention, just by using public means of transportation.

As a result, we expect new ideas, concepts, and technological solutions simplifying and accelerating

the footpath for users of public means of transportation. Moreover, we expect a framework enabling distributed enhancement of the ideas (crowd sourcing) and the development

of new solutions or products by providing tools for user-driven deployment. In the long run, the results of this research project are considered partial aspects in the mobility chain, the gaps of which have to be closed until 2020+ in consecutive projects, in order to build a complete systemic and emancipated assistance system for travelers using public means of transportation.

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Project coordination

Johannes Kepler Universität Linz - Institut für
Wirtschaftsinformatik - Software Engineering

Dr. Wolfgang Narzt

Tel.: +43-732-2468-4254

E-Mail: wolfgang.narzt@jku.at

Project partners

FH JOANNEUM GmbH
DI Elmar Krajnc

Tel.: +43-316-5453-6332

E-Mail: elmar.krajnc@fh-joanneum.at

Linz - Integriert Studieren

a.Univ.-Prof. Dr. Klaus Miesenberger

Tel.: +43-732-2468-9232

E-Mail: klaus.miesenberger@jku.at

Wiener Linien

Ing. Roland Krpata

Tel.: +43-1-7909-67014

E-Mail: roland.krpata@wienerlinien.at

Hilfsgemeinschaft der Blinden und
Sehgeschwachen Österreichs
Mag. Daniele Marano

Tel.: +43-1-3303545-41

E-Mail: marano@hilfsgemeinschaft.at

Kompetenznetzwerk Informationstechnologie
zur Förderung der Integration von Menschen
mit Behinderung

Dipl.-Ing. Dr. Franz Pühretmair

Tel.: +43-732-2468-3771

E-Mail: fp@ki-i.at

OÖ Verkehrsverbund-Organisations GmbH
Nfg.&Co KG

Ing. Michael Wagner

Tel.: +43-732-661010-230

E-Mail: michael.wagner@ooevg.at

50plus GmbH

Dr. Markus Prucher

Tel.: +43-0662-875685-44

E-Mail: markus.prucher@50plusgmbh.com

ÖBB-Infrastruktur Aktiengesellschaft

DI. Thomas Pipp

Tel.: +43-1-93000-31439

E-Mail: thomas.pipp@bau.oebb.at