Mobility Schemes Ensuring ACCESSibility of Public Transport for ALL Users

Access 2all

"New mobility concepts for passengers ensuring accessibility for all"
Coordination Action

www.access-to—all.eu

Partners

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Romania

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Germany

LUND
Department of Technology and Society
Lund University
Sweden

SEVENTH FRAMEWORK PROGRAMME

Address for correspondence
INRETS case 24, 25 avenue F. Mitterrand
F69675 Bron cedex - FRANCE
For further information about Access2All: info@access-to-all.eu
Project Coordinator, Stephane Laporte: stephane.laporte@ert-sas.fr
Project Technical Manager, Evangelos Bekiaris: abek@certh.gr

Goals of the project

ACCESS2ALL aims at defining concrete mobility schemes, guidelines and policy recommendations, ensuring accessibility of Public Transport to ALL users, through the coordination of current research efforts, the production of common research roadmaps, the identification of best practice models and the appropriate use of ICT aids and networks.

Main achievements

ACCESS2ALL's main findings; what new solutions are brought to you:

A set of online services, available through the ACCESS2ALL website www.access-to-all.eu.

- A database of best practices in public transport accessibility applications.
- A decision support tool, based on the TRANSPORTABILITY model elaborated within the project and linked with the best practices database.
- A user forum, for discussion and ideas exchange on accessibility topics.
- An eLearning platform [available at http://access2all. bluepoint-it.ro].

⊙ Safety considerations for travellers with disabilities in public transport and pedestrians.

⊙ Vehicle, Infrastructure, Information and Cooperative concepts as part of the barrier free travel chain.

⊙ Innovative service provision and interface concepts.

⊙ Design guidelines, HMI, Standardisation, Social and Policy Recommendations towards an accessible PT framework.

⊙ Research roadmap towards an accessible PT.

Stakeholders and users consultation

⊙ 1st Workshop – 29 September 2009, Porto, Portugal.

- 30 participants representing key stakeholders.
- Project's preliminary results presentation.
- Interactive sessions and feedback from participants on scenarios prioritisation, usability checklist, HMI concepts, risk analysis etc.

Workshop 2009 - Porto, Portugal

⊙ 2nd Workshop – 1 June 2010, Hong-Kong, China

[in the framework of the 12th TRANSED Conference]

- Presentation of project's intermediate results.
- Discussion with stakeholders and users from 15 countries worldwide on current problems and solutions regarding PT accessibility.

Workshop 2010 - Hong-Kong, China

⊙ Final Conference – 18-19 November 2010, London, UK

[shared event with Mediate FP7 project]

- Presentation of project final results.
- Feedback on PT service provision MoU.
- Discussion and feedback on needed future research in the area.

Final workshop 2010 - London, UK

Design guidelines and policy recommendations

- A total of 46 design guidelines regarding PT infrastructure, vehicles and information systems are proposed.

- More than 50 policy recommendations available deriving from project results and addressing all key actors in the public transport chain and accessibility area.

- Standardization needs are identified and new standards are proposed, along with recommendations for modifications in existing ones.

- Gaps in guidelines which might lead to misunderstandings during implementation are identified.

- Cooperation on previous and ongoing research activities with related projects like OASIS FP7 IP [www.oasis-project.eu].

- Identification of existing research activities and research gaps and recommendation on a low to medium research roadmap on Public Transport accessibility.

Cooperation with Mediate

So as to optimize our results and increase our dissemination efforts, ACCESS2ALL has signed a MoU with another European project dealing with similar issues, Mediate [Methodology for Describing the Accessibility of Transport in Europe].

The Mediate project is a Coordination and Support Action with the objective to establish a common European methodology for assessing, describing and measuring accessibility to transport.

ACCESS2ALL has cooperated and exchange ideas and project results with the Mediate Consortium.

*For more information on Mediate please contact Tone Oderud at:*

Tone.Oderud@sintef.no
http://mediate.euregio.net

User needs and wants

The overall picture of the accessibility in public transport is illustrated, addressing all users' categories and all modes of transportation, by:

- Clustering of the involved users, resulting to 12 main categories and relevant sub-groups [including stakeholders].

- Performing a user needs and preferences survey with the collection and analysis of more than 55 references.

- Creating a best practices database.

- Developing a functional requirements model [TRANSPORTABILITY model] and verification with users.

- Developing a software tool resulting from the functional modeling [TRANSPORTABILITY s/w tool] for stakeholders consulting.

- Defining and prioritizing 30 implementation scenarios.

TRANSPORTABILITY model
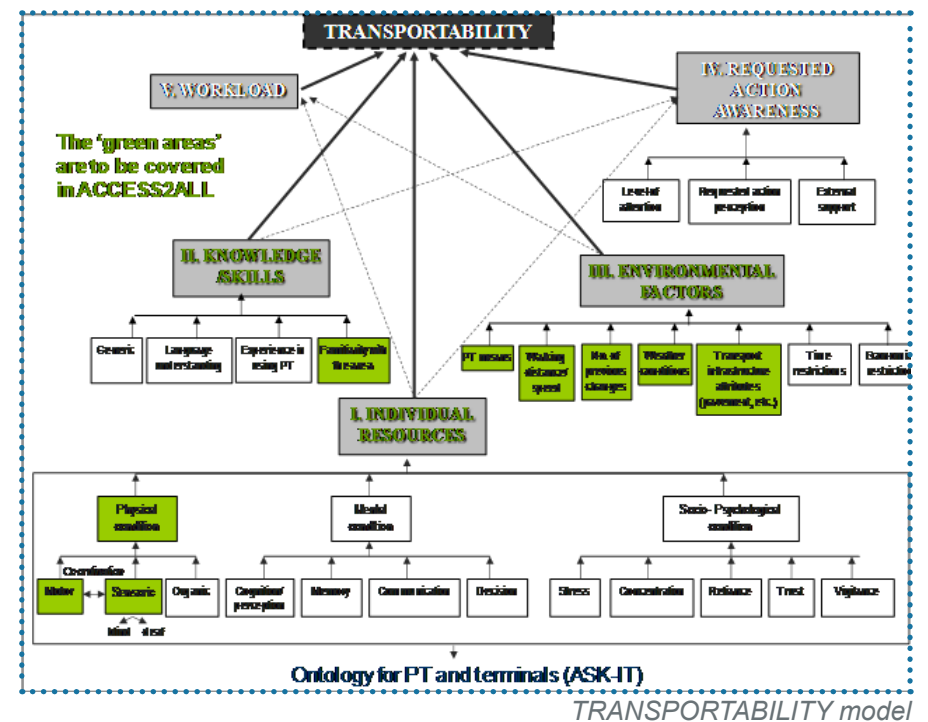
Trends between accessibility and safety

Several critical accessible safety issues are highlighted, such as:

- Boarding and alighting vehicles - a critical situation for several user groups.
- Movement inside vehicles in motion - changes of speed / direction cause critical incidents.
- Wheelchair as seats in vehicles - wheelchair structure critical in crash situation.
- Wheelchair and occupant restraints - often used incorrectly.
- Pedestrian crossings or "shared space" areas - mixed traffic situation critical for older people and persons with visual or cognitive impairments.
- Railway and metro: detection of platform end through tactile warning surfaces.

Moreover, the ACCESS2ALL risk assessment framework delineates safety improvements from:

- A technical perspective: design of devices to facilitate the boarding and alighting of trains and buses; increased use of low floor vehicles; self-explaining design of streets and junctions; docking strategy for urban buses.
- A human perspective: staff training is an important resource to further use and develop; travel training is slowly emerging and shows promising results.

Usability, social and cross-cultural concepts

- Definition of recommendations for HMI design in PT systems and identification of innovative HMI concepts.
- Creation of an HMI design checklist for PT systems.
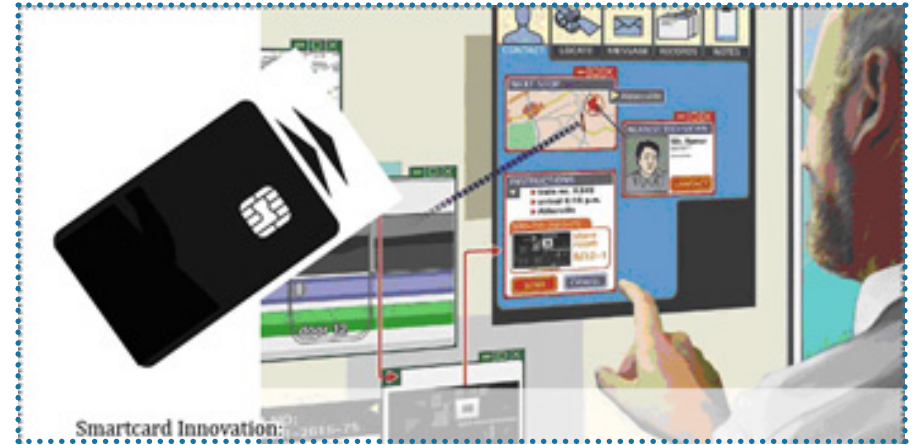
Personalised service provision via smartcards

- Development of a methodology for pre-assessment, enhancement and monitoring of the usability of PT information and operation systems.
- Creation of a PT Usability checklist [and relevant questionnaire], composed of the following parts: pedestrian accessibility; usability of information and ticketing system; infrastructure accessibility; vehicle accessibility, safety and comfort; service availability and affordability; and social inclusion.
- Development of a shortlist of 29 key cross-cultural, cross-generational and social issues affecting MI users of PT.and proposal of 47 solutions for the main topics along with relevant recommendations.
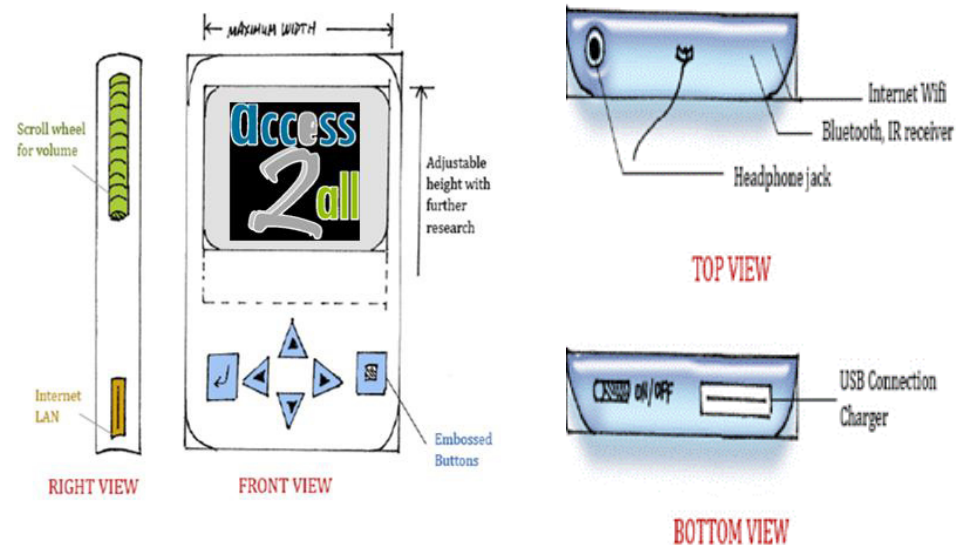
Innovative HMI concept for nomadic device– Design overview

Innovative service provision and interface concepts

⊙ Definition of a QoS framework including quality criteria and the corresponding indicators to evaluate the quality of service of a PT system, methods and tools for implementation.

   ⊙ Development of a MoU in QoS of PT services between users and service providers.

   ⊙ State of the art review and proposal of solutions in personalized services and technologies as well as service operation for pedestrian, car and multi-modal route guidance.

   ⊙ Analysis and description of different localization technologies, algorithms and relevant applications; presentation of the benefits of emerging hybrid localization methods aiming to promote the MI users seamless support in public transport operations.

   ⊙ Issuing of recommendations on how to integrate standardised maintenance processes in public transport operations, as well as on software and service expandability, for up-to-date information provision and compliance with standards.

Innovative Technological concepts

New concepts in the field of public transport are investigated and proposed, aiming at increasing the mobility of people in cities.

More specifically:

⊙ Existing best practices in vehicle technologies, infrastructure concepts, travel information and cooperative systems identified and critically evaluated e.g. low floor vehicles in PT vehicles, tactile guiding paths.

⊙ A case study compares different existing boarding aids for regional trains.

⊙ New technological concepts for accessible vehicles, infrastructure, travel information and cooperative systems identified e.g.:

   • Cabin hoisting lift for the "long-distance and high-speed trains".

   • New escalator design for wheelchair users, indoor navigation systems.

   • Interactive, sound-based information system for mobility impaired or blind people in Public Transport.
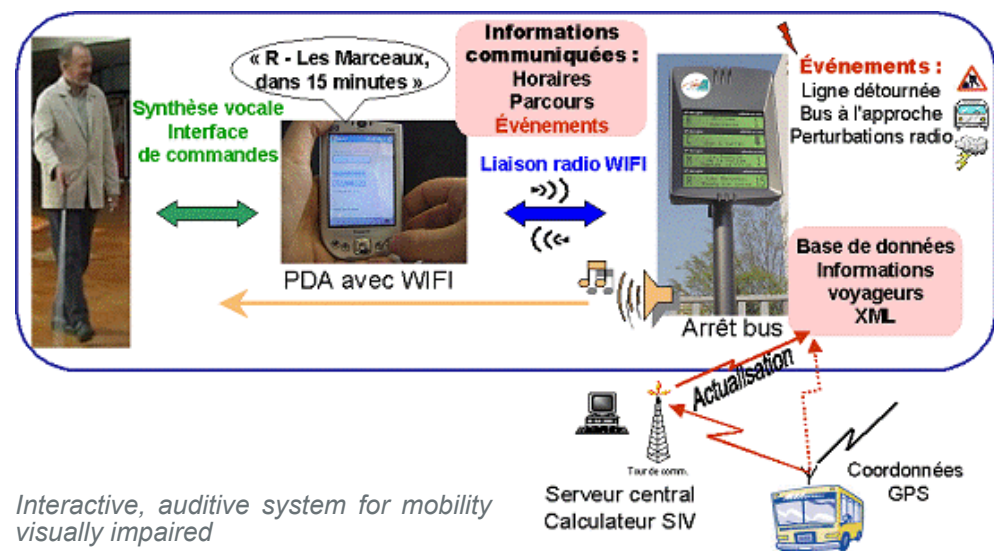
   • Intelligent bus stop.

New Escalator design for wheelchair users

Cabin hoisting lift for the "long-distance and high-speed trains"
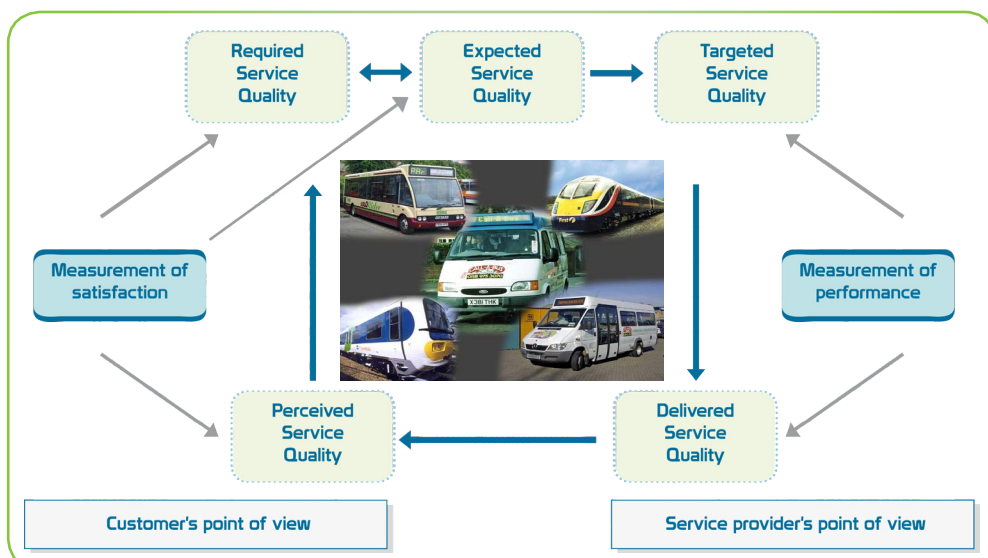
The revised quality loop of the service as the user perceives a QoS that is different from the required and expected one

Interactive, auditive system for mobility visually impaired

Best practices Database

An on-line best practices benchmarking database is developed, including so far more than 50 good and bad practices from 10 countries and 60 more are under evaluation for the final version.

www.access-to–all.eu

Search page of the best practices database

The database gives the possibility to perform searches by different criteria [country, user group, transportation mode, etc.] and provides information on existing good and bad practices that have already been applied.

Transportability tool

An online tool is developed which allows PT planners and operators to assess the level of accessibility of their service and be guided to the most relevant best practices in the database, including two functionalities:

- ⊙ Pedestrian route guidance.
- ⊙ Accessibility level of PT vehicles, stations and hubs.

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Training Platform

An online eLearning platform is developed, addressing to public transport planners, operators, maintenance personnel and drivers, as well as system providers.

Training curricula are defined, including material from project results and external sources.

http://access2all.bluepoint-it.ro

Layout of the online platform

By accessing the training material the users can find valuable information and decision making support through the best practices database and the transportability tool.

The training content includes new concepts, usability assessment and accessible HMI development checklists, design guidelines, policy recommendations, etc.

Online User Forum

An online User Forum area has been created for discussion and ideas exchange on several public transport accessibility related issues.

www.access-to–all.eu

The access is free and requires a simple registration, while anyone can raise a new discussion issue.