Designing an evidence-based user-centric approach to influence mobility behaviour change

Dr Kate Pangbourne

Department of Computing Science, University of Aberdeen

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Scope of Presentation

- Introduction to MyWay

- Architecture and main services

- Potential conflicts of interest

  - Partners and Stakeholder Perspectives

  - User-centric approach

- Strategy for influencing behaviour

- Practical exercise

- Discussion

MyWay

EUROPEAN SMART MOBILITY RESOURCE MANAGER

ABOUT MyWay

The European project MyWay will enhance journey planning and mobile user services facilitating personalised seamless integration of public and private transport modes into a single trip and making travelling around the city effortless, swift and pleasurable. Along with integrated ticket information and real-time updates, all possible transport modes available will be displayed to the user in an integrated fashion, thus encouraging the use of cleaner modes of transport.

THE OBJECTIVES OF MYWAY ARE TO:

- ENABLE A BETTER BALANCE BETWEEN PUBLIC AND PRIVATE TRANSPORT MODES;
- STIMULATE SERVICE COOPERATION AND MARKET DEVELOPMENT;
- ENHANCE THE PERSONALISATION AND USER ADAPTATION OF MOBILITY SERVICES;
- FOSTER ICT TRANSFORMATIVE TECHNOLOGIES IN SMART MOBILITY.

MyWay runs until February 2016 and is supported through the Seventh Framework Programme for Research and Development of the European Union. During the two and a half years of the project, the journey planning and mobile user services will be developed and tested by three living labs, aft er which they will also be available for other local and regional authorities to be implemented and travellers to be used.

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LIVING LABS

MyWay will be tested in three living labs in Catalonia (Spain), Berlin (Germany) and Trikala (Greece). The combination of large and dense cities along with smaller MyWay test sites is a reflection on the ambition for the European Smart Mobility Resource Manager to be tested in varying urban conditions and produce more in-depth data analysis. The Barcelona and Berlin living labs will be examples of large and densely populated cities with a large mix of transport modes, whereas Trikala will be used as an example of a smaller urban area with a population 76,000 with fewer transport options.

CATALONIA population
7.75 MILLION

BERLIN population
3.5 MILLION

TRIKALA population
76.000
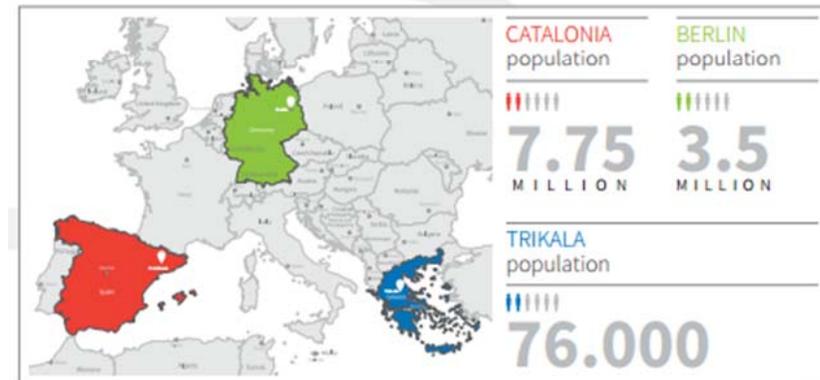
© Autoritat del Transport Metropolità CATALONIA

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© e-trikala TRIKALA

MyWay
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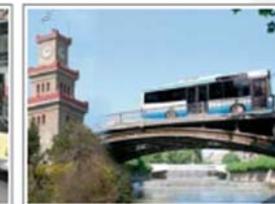
Main services

- Dynamic transport information and services, accessible to end users through V2I and HMI interfaces, including:

  - Multimodal, resource aware journey planning

  - Real time journey monitoring

  - Integrated ticketing and payment

  - Journey feedback and evaluation

- MyWay will be able to provide travel suggestions that are better optimised to the user's egocentric perspective, as well as that of society as a whole.

- Two way feedback between mobility services/transport system and user by incorporating user experiences, social networking and crowd sourcing in service planning and use.

Expected Results

MyWay is expected to increase the travellers' usage of greener mobility services by allowing the traveller to make a more informed choice between different transport modes and indicating the most suitable journey plan under certain conditions and according to predefined parameters. This enhances the attractiveness, comfort and efficiency of the transport networks and minimises transport GHG emissions as users will be encouraged to switch to more sustainable mobility choices and travel patterns.

MYWAY AIMS TO DELIVER CONCRETE TRAVEL IMPROVEMENTS:

10% SHIFT IN TRAVEL CHOICE FROM PRIVATE MODES (CARS/MOTORBIKES) TO COLLECTIVE (PUBLIC TRANSPORT) AND FLEXIBLE MODES (FLEXIBLE TRANSPORT, SHARED E-SCOOTERS, BIKES).
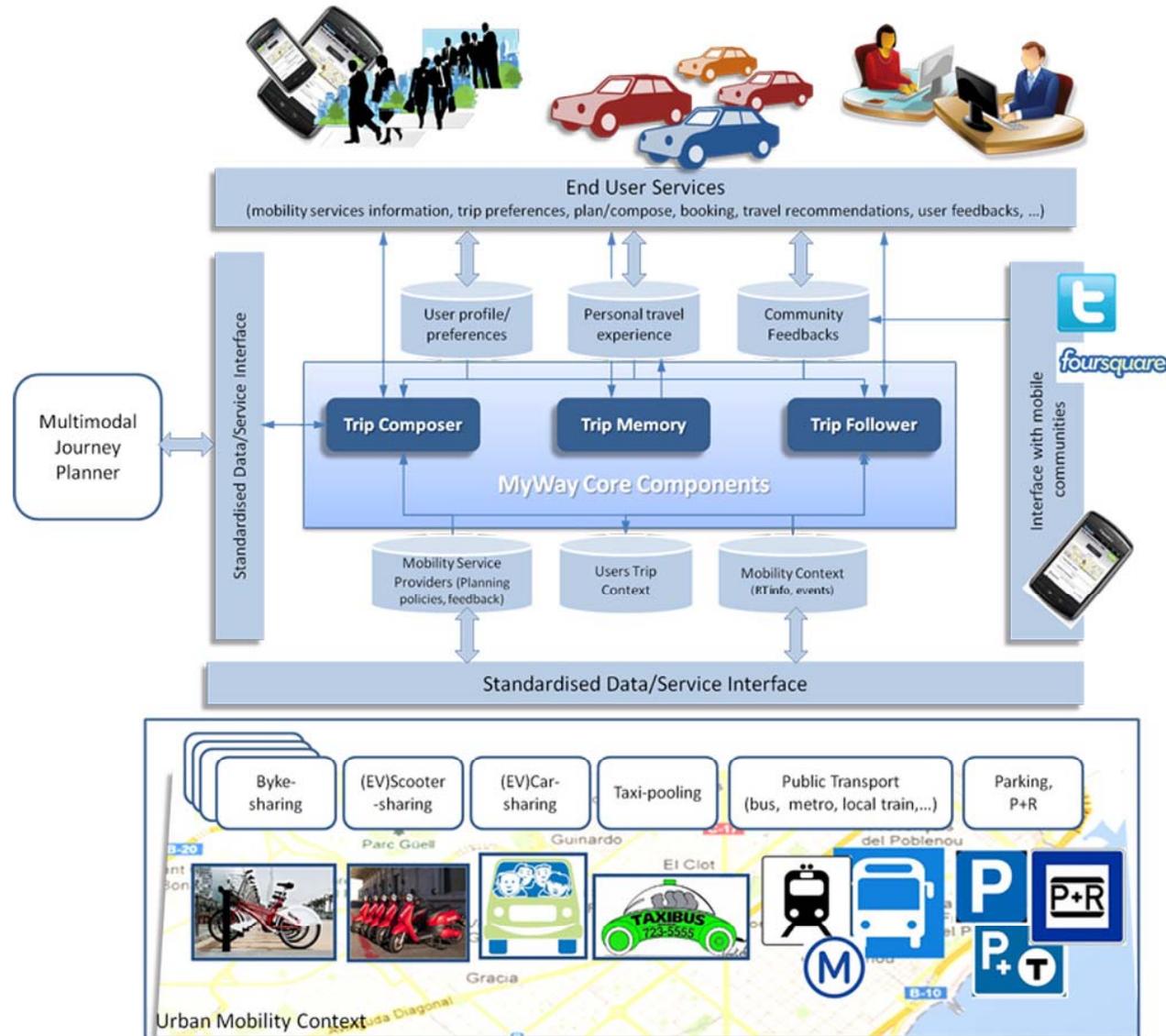
AT LEAST **5%** IMPROVEMENT IN MEAN JOURNEY TIMES.

5% CONGESTION REDUCTION.

MyWay
EUROPEAN SMART MOBILITY RESOURCE MANAGER

End User Services
(mobility services information, trip preferences, plan/compose, booking, travel recommendations, user feedbacks, ...)

Standardised Data/Service Interface

User profile/ preferences

Personal travel experience

Community Feedbacks

Multimodal Journey Planner

Trip Composer

Trip Memory

Trip Follower

MyWay Core Components

Interface with mobile communities

Mobility Service Providers (Planning policies, feedback)

Users Trip Context

Mobility Context (RTinfo, events)

Standardised Data/Service Interface

Byke-sharing

(EV)Scooter-sharing

(EV)Car-sharing

Taxi-pooling

Public Transport (bus, metro, local train,...)

Parking, P+R

Urban Mobility Context

- Identified target user groups across Living Labs
  - Students (accessing college/university, leisure activities)
  - Commuters (primarily office workers driving cars or with multimodal journeys)
  - Retired elderly people (possibly with reduced mobility or confidence, accessing healthcare)
- Developed 16 scenarios (stories about how MyWay can be used) in a participatory way
  - First versions drafted by project partners and stakeholders
  - Target user groups discussed them in Focus Groups
- Results from the Focus Groups
  - Informed by segmenting the participants and having demographic information (questionnaire)
  - Lists of liked/disliked features and requirements
  - Overall the scenarios were seen as largely realistic and did not need to be changed
- Results fed back to partners responsible for implementation (i.e. software development and Living Labs roll-out) and checked against requirements list.

- 'Persuasion' could be said to conflict with 'user-centric' vision

- 'User-centric' vision could conflict with transport efficiency and emissions reductions aims

- Solution: transparency, opt-in approach, optional features in completing profile

- The user-centric approach needs understanding of users (through segmentation by travel attitudes and analysis of profile entries) to enable journey plan optimisation

  - User preferences (hierarchy of modes)

  - Resource availability (no point suggesting something that is not available for any reason)

- Segmentation assists identification of user types open to change

  - Living Labs will identify their priorities for change

  - Messages will be targeted accordingly

- Our segmentation approach comes from the SEGMENT project and the work of Anable (2005)

- Research Task: optimise messages for effectiveness

  - for each mode

  - by personal characteristics, including preferences

Attitude Segments

Segment number and name	Summary Descriptor
Segment 1: Devoted Driver	Prefers the car over any other mode and has no interest in changing behaviour.
Segment 2: Image Improver	Likes driving, doesn't want to be restricted but recognises that it might be good to drive a little less for various reasons. Doesn't relate to bus-users
Segment 3: Malcontented Motorist	Drives a lot but finds it stressful. Finds it difficult to cut down.
Segment 4: Active Aspirer	Wants to cut down car use, especially for short journeys. More likely to walk or cycle than use the bus, because these active modes are healthier. Environmental issues may be a motivator.
Segment 5: Practical Traveller	Mode choice is driven by practicality; bus may be considered inferior as it is slower. This person thinks they have already optimised their travel.
Segment 6: Car Contemplator	Doesn't have a car but aspires to have one soon. This person has quite negative perceptions of cycling.
Segment 7: PT Dependent	Not opposed to cars, but dependent on public transport. Doesn't identify as a cyclist and not very interested in environmental issues.
Segment 8: Car-free Chooser	Opposed to car driving, and committed to healthier, more environmentally friendly modes.

Attitude Segments in Barcelona Focus Groups
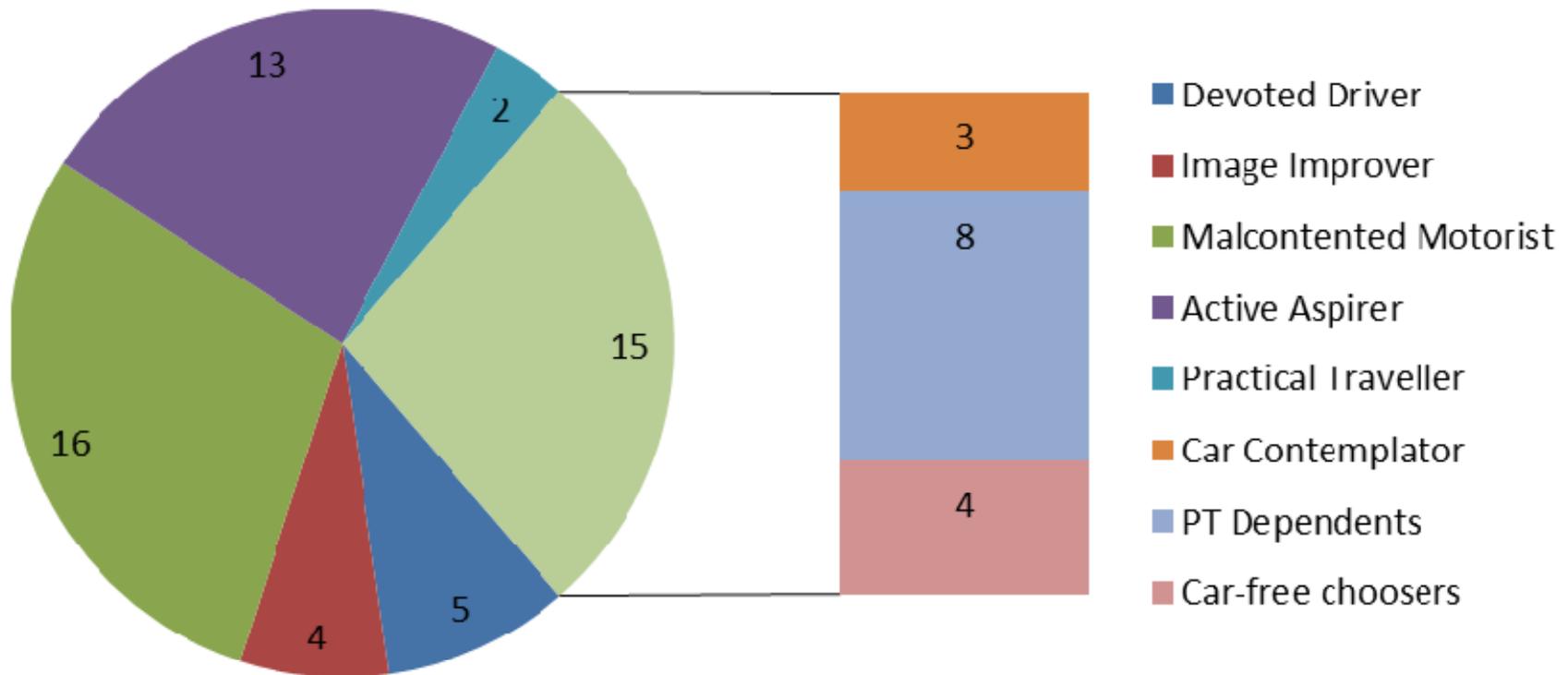
- For MyWay all information needs to be viewable on mobile devices & should be

  – Short

  – Clear

  – Personalised

- Passive methods of influencing behaviour include modifying the algorithm that governs the order of journey plan recommendations (e.g. to match local policy priorities)

- Messages that are intended to actively influence a change in travel behaviour need to be

  – Mostly only shown when user has not opted out

  – Tailored to personality/attitude (assessed by profile and segment)

  – Light touch

Open card-sorting

- Messages are from real life

- No categories are given

- Group sorts messages into their own categories

Closed card-sorting

- Messages are from real life

- Categories are given

- Group sorts messages into the given categories

- All messages are from real life - I have a record of their sources

- Understanding the results – easier if you complete the segmentation questionnaire!

- Closed groups: what difficulties did you have agreeing on the categories?

- Open groups: what kind of categories did you pick – user, operator or authority oriented?

- How would YOU improve these messages?

- How useful might this method be for pre-testing/validating the effectiveness of messages?

Thank you!

Dr Kate Pangbourne   01224 272348   k.pangbourne@abdn.ac.uk