A Metropolis of Ubiquitous Services
FP7 Collaborative Project, ICT Challenge 1.2 (SSAIE)
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EUD4Services workshop
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mCiudad project: Motivation

- Find new ways to **introduce massive mobile applications**:
  - Focused on mobile users' instant needs and interests,
  - Context aware, constantly updated, and economically feasible.
- Promote and Develop the concept of **Mobile User Generated Services**
  - Enabling the User to become a real Mobile Super-prosumer

- Services are executed (both provided and consumed) in the mobile terminal
- The mobile terminal becomes not only “a player” but “a server”
- Easy to search, discover, be recommended, manage
- The user creates the services (even on-the-move)
- Services are shared between users
m:Ciudad project: Goal

- Research and development of a “native” mobile service infrastructure, with all its components:
  - A set of tools in the mobile terminal, for:
    - Creation,
    - Publication,
    - Searching, and
    - Execution.
  - A network platform, for:
    - Service registry,
    - Searching & Discovery,
    - Support for service creation, ontology-based, and
    - User management
**m:Ciudad: What kind of services?**

**U+ Services:**

- **Small, sharply focused applications**, with their own GUI, which allow users to obtain and provide information – like opinions, recommendation, location or speed – to fellow users.
- **Created and consumed by end users** using only their own mobile terminals, encouraging spontaneous and inspired on-the-go creation, execution and consumption.
- **Shareable and downloadable** in order to allow every end user – with a potential for SMEs to act as such – to become a service generator and provider.
- Therefore, **flexible business models** will be implemented to reward service generators and users who provide valuable information using services.
m:Ciudad: Main Innovations

New and disruptive approach for:

- Engineering a complete and native Mobile Platform
  - For Mobile Generated Services
- Researching on new service creation paradigms for mobile devices
  - Supported by Knowledge-based Ontologies
- Design and develop a Mobile Embedded Execution Environment
  - Capable of executing U+ Services
- Creating an optimized knowledge-based Searching and Recommendation Engine

Architecture outline
m:Ciudad: Mobile Embedded Execution Environment

- Executes U+ Services in the mobile terminal:
  - Taking as input part of the U+ Service Description (published by the SCK):
    - Service Logic,
    - Service Rendering, and
    - Service Profile.
  - Both for consuming and for providing:
    - Single-provider U+ Services, and
    - Multi-provider U+ Services.
  - Exploiting all Capabilities available:
    - Internal Capabilities,
    - Surrounding Capabilities, and
    - External (3rd party) Capabilities.
Mobile Blog U+ Service

- Single-provider:
  - Provides MB Entries with text, picture, video and audio

- Consumers:
  - Access to MB for reading/playing entries and contributing with comments.

... a video-demo
**m:Ciudad: Service Creation Kit**

- **Purpose**
  - Service Creation Kit
    - Provides the functionalities to **create mobile to mobile services**, while on the go

- **Interfaces**
  - **3 user levels** to support different user’s expertise
    - Wizard-based Creation
    - Functional-based Creation
    - Block-based Creation
  - Rich search operations

- **Metaphors**
  - **Carousel** for selection
  - **Drag and drop** of functional blocks
  - Functional tree using a **“Lego”** approach for connections
Prototypes
- Wizard-based Creation
- Block-based Development

Usability Tests
- User Interviews
  - 5 collaborators from different backgrounds
  - 3 different scenarios
- Online Survey
  - 52 responses from users invited through mailing lists
  - 38 questions

... Video demo
THANK YOU VERY MUCH FOR YOUR ATTENTION!

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