

CONTEXT AWARENESS –RELATED RESEARCH CHALLENGES AND REQUIREMENTS EMERGED IN OPEN PROJECT

Collaboration Working Groups
Future Internet Assembly
Bruxelles, 10th June 2009

Carmen Santoro
HIIS Lab, ISTI-CNR, Pisa (Italy)
(OPEN Project)

MIGRATORY USER INTERFACES

(OPEN PROJECT: [HTTP://WWW.ICT-OPEN.EU](http://www.ict-open.eu))

- Need for continuous access to interactive services across multiple devices having different interaction capabilities
- Migratory interactive services can transfer among different devices in order to allow the users to continue their tasks from the point where they left off when they changed device




Migration = Device Change + Adaptation + Continuity

THE MIGRATION PROCESS

- **Device Discovery**
- **When to Migrate:** Migration Trigger (User or System or Mixed initiative)
- **Where to Migrate:** Identification Target and its resources
- **What to Migrate:** User interface and/or applicat. logic
- **How to Migrate:** Adaptation (depending on the type of target)
- **State Persistence:** Source state extraction and association to target version
- **Activation in the target device:** at the point in which the user left off on the source device

EXAMPLES OF REQUIREMENTS/RESEARCH CHALLENGES RAISED WITHIN OPEN PROJECT IN THE AREA OF CONTEXT AWARENESS

- In OPEN we collected more than 150 requirements, grouped into 27 different areas ranging from application to user support
 - Migration and adaptation aim at providing better user experience by enabling a *seamless* usage of services taking into account context information
 - **The UI/application state has to be captured, resumed and possibly adapted in the new context**
 - Context-dependent User Interface Adaptation
 - **The UI has to be adapted to the new context (e.g. by taking into account the characteristics of the new device)**
 - Not only the UI adapts but also the application can change its behaviour depending on the new context (e.g. some application components can be replaced/changed)
 - **Context-dependent application logic reconfiguration**
- 

EXAMPLES OF REQUIREMENTS/RESEARCH CHALLENGES RAISED BY OPEN PROJECT IN CONTEXT AWARENESS

- Migration/Adaptation for supporting better user experience
 - The knowledge of the context should enable **more effective/intuitive/usable interactions** with the environment
- Context-awareness useful for triggering a migration
 - Context-dependent suggestions from the smart environment to the user for **suggesting a possible migration**
 - e.g. a migration is suggested towards a device which is in close proximity to the user, or a migration is suggested towards a device which has better interaction resources, ..
- Public displays involved in migration
 - Context information is needed (e.g. if other persons are around, who can watch the screen,..) for handling **privacy** issues



THANK YOU!

