

## **NEXOF-RA**

*NESSI Open Framework – Reference Architecture*

**IST- FP7-216446**



**Open Architecture Specification Process  
Open Construction Cycle #1**

**Declarative UI Authoring  
Position Paper**

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## 1 DETAILS ABOUT THE CONTRIBUTORS

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### Projects Represented

- Project: MyMobileWeb
- Programme: Eureka CELTIC (Call 4)

## 2 TOPIC OF POSITION PAPER

### 2.1 Title

Declarative UI Authoring Languages

### 2.2 Dependencies

Context Model and Universal APIs

## 3 SUMMARY

Our contribution to this topic is the IDEAL language [1]. IDEAL is an standards-based declarative language for creating context-aware applications and contents for the ubiquitous web.

### 3.1 Background

IDEAL is the result of 4 years of engineering / research experience in this area. The language has been developed under the MyMobileWeb project to respond to the necessities of dealing with multiple mobile delivery contexts.

After developing the first IDEAL generation (implemented in MyMobileWeb v3.2) [2], we have come up with a new specification, IDEAL 2.0, that leverages the previous one by allowing to create applications for the ubiquitous web. Although IDEAL was created with the web platform in mind, we think that the language is so abstract and powerful that it can be extended to support other platforms or modalities.

### 3.2 Details

IDEAL 2.0 has been designed taking into account the following principles:

- Simple things should be easy (typically the 80%), complex things should be possible (the remaining 20%).
- Don't reinvent the wheel, reuse as much as existing markup as possible.
- Existing standards don't cover everything, but, they can be "wisely" extended and integrated. In fact we integrate /embrace the following standards:
  - XForms 1
  - XML Events 1
  - Role Attribute Module
  - Access Module
  - XHTML Modularization
  - DISelect
  - RDFa
  - XBL 2

- Be modular and extensible, allowing third parties to define their own (domain-specific) abstractions.
- It should cover the necessities of both data-driven and content-driven applications.
- Have a good compromise between abstraction and concreteness, while at the same time maintaining a rigorous approach to deal with multiple delivery contexts
- Concern separation :
  - UI Structure
  - UI Components / Binding with the target toolkit, for example, DoJo
  - UI Behaviour
  - UI Data / Content Model Definition & Restrictions
  - UI Data / Content Binding (including repetitions)
  - UI Layout
  - UI Theming (Look & Feel)
  - UI Adaptation / Selection Policies (to deal with multiple DCs)
  - UI Accessibility
  - UI Content / Data Semantic Annotations
- Language / platform neutrality, while at the same time making things easier for the mass market of languages / platforms.
- Conventional web developers should be able to learn the language without much effort.

Last but not least, IDEAL is compatible with a new draft (soon to be published) of the Device Independent Authoring Language (DIAL).

## REFERENCES

- [1] IDEAL Language, José M. Cantera et al. <http://mymobileweb.morfeo-project.org/specs/ideal>
- [2] MyMobileWeb v 3.2, Telefónica I+D, <http://mymobileweb.morfeo-project.org>