One important evolution in software applications is the spread of service-oriented architectures in ubiquitous environments. Such environments are characterized by a wide set of interactive devices, with interactive applications that exploit a number of functionalities developed beforehand and encapsulated in Web services. In this paper, we discuss how a novel model-based UIDL can provide useful support both at design and run time for these types of applications. Web service annotations can also be exploited for providing hints for user interface development at design time. At run-time the language is exploited to support dynamic generation of user interfaces adapted to the different devices at hand during the user interface migration process, which is particularly important in ubiquitous environments.

Categories and Subject Descriptors: H5.2 [Information Interfaces and Presentation]: User Interfaces – User-centered design; Interaction styles; Theory and methods;

General Terms: Design, Experimentation, Human Factors

Additional Key Words and Phrases: Model-based design, User Interface Description Language, Ubiquitous Applications, Multi-device User Interfaces, Web services.