MARIA: A universal, declarative, multiple abstraction-level language for service-oriented applications in ubiquitous environments

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ABSTRACT

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 article, we discuss how a novel model-based UIDL can provide useful support both at design and runtime for these types of applications. Web service annotations can also be exploited for providing hints for user interface development at design time. At runtime 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.