User-Centric and Intelligent Service Composition in Ubiquitous Computing Environments

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Abstract. The advancement of service-oriented computing and mobile device technologies gives us new challenges to provide intelligent services in ubiquitous computing (ubicom) environments. User-centricity and dynamism support are the most essential requirements to meet those challenges. In this talk, I will introduce a user-centric and intelligent service composition framework that allows users to create their personalized ubicom applications that utilize service resources in a highly dynamic ubicom environments. The main features of our framework include: (1) task-oriented and spontaneous service composition; (2) dynamic service monitoring and reconfiguration; and (3) pervasive service retrieval and management. I will also explain our experiences of applying this framework to urban computing applications and intelligent service robots.