

Location-based Services in Ubiquitous Computing Environments

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Abstract. This paper presents a framework for providing dynamically deployable services in ubiquitous computing settings. The framework attaches physical entities and spaces with application-specific services to support and annotate them. By using RFID-based tracking systems, it detects the locations of physical entities, such as people or things, and deploys services bound to the entities at proper computing devices near the locations of the entities. It enables location-based services to be implemented as mobile agents and operated at stationary or mobile computing devices, which are at appropriate locations, even if the services do not have any location-information. The paper also describes a prototype implementation of the framework and several practical applications.