

## Design of Middleware for Mobile Group Control in Physical Proximity

**Authors :** Moon-Tak Oh, Kyung-Min Park, Tae-Eun Yoon, Hoon Choi, Chil-Woo Lee

**Abstract :** This paper is about middle-ware which enables group-user applications on mobile devices in physical proximity to interact with other devices without intervention of a central server. Requirements of the middle-ware are identified from service usage scenarios, and the functional architecture of the middle-ware is specified. These requirements include group management, synchronization, and resource management. Group Management needs to provide various capabilities to such applications with respect to managing multiple users (e.g., creation of groups, discovery of group or individual users, member join/leave, election of a group manager and service-group association) using D2D communication technology. We designed the middle-ware for the above requirements on the Android platform.

**Keywords :** group user, middleware, mobile service, physical proximity

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