

Abstract

The expansion of wireless communication and mobile hand-held devices allows the deployment of a broad range of applications on mobile terminals such as PDAs and mobile phones. Execution context of applications in mobile environments undergoes constant changes due to the variation of the user location, his network connection, the characteristics of his terminal and other parameters of his physical environment. These context changes lead the user to carry out several times many deployment tasks of the same application such as its configuration, installation and uninstallation, in order to obtain an application whose configuration satisfies the context requirements. The difficulty and the frequency of these deployment tasks lead us to study the application deployment in a mobile environment and to look for a solution for the automation of the deployment adaptation to the context.

This thesis proposes a platform for the deployment adaptation of component-based applications to the context, entitled CADeComp. CADeComp is conceived with a platform independent model which consists of a data model and an execution model. The data model describes méta-information used to adapt the deployment to the context. This méta-information describes the deployment context as well as the rules which define the variations of the deployment parameters according to this context. The execution model specifies the entities that incarnate adaptive mechanisms. It defines algorithms which use this the deployment méta-information. This thesis proposes a projection of CADeComp model on the CCM model. CADeComp was implemented and evaluated on this platform.

Key words : Deployment, components, context-awareness, distributed applications, CCM.