

# An Architecture for a Mobile Collaborative Environment

With the rapid development of computer and internet/intranet technology, collaboration between person and person, between person and enterprise, between enterprise and enterprise more and more relate on internet/intranet. As the mobile devices have been used broadly today, there is an urgent requirement to implement collaboration on a mobile device. Key issues in collaboration are group awareness, monitoring and control, communication and coordination within the group, data sharing and representation, and the support of a heterogeneous, open environment. Figure 1 shows topology of a Mobile Collaborative Environment.

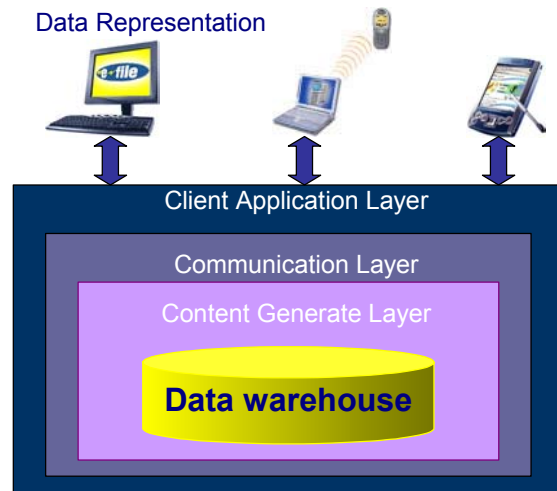


Figure 1. Topology of a mobile collaborative environment

To implement a collaborative design system on mobile devices, we should consider about several issues. These issues include the limited resource of a mobile device (such as screen size, memory, frequency of CPU, etc.), the weakness of wireless connection and security (this also be a more and more important issue). Figure 2 is architecture for a mobile collaborative system.

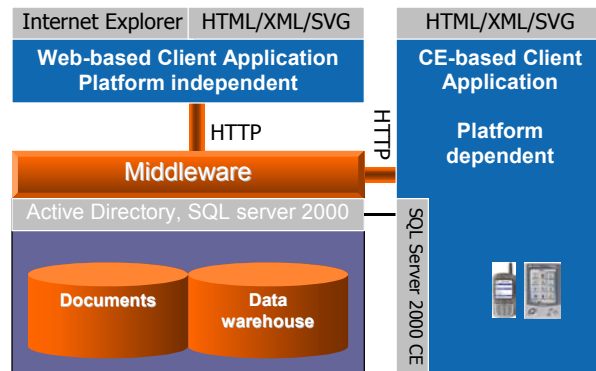


Figure 2. Architecture of a mobile collaboration system

In this mobile collaboration system, mobile user can communicate with group members, exchange information, share documents and access enterprise database, etc. The basic modules of the system including Process Monitoring, Work Assignment, Member Management, Documents Sharing/Representation and Communication. Processing Monitoring is a module that a group leader can use it to monitor progress of a project or design and make some actions. Group leader use work assignment and member management to manage members, create schedule and assign duty to members. Documents Sharing/Presentation is the key in this system. XML and SVG are effective ways for using to represent various engineering Documents, text documents and other documents. There are several ways for communication, which include chat, voice message and email. All these modules are based on wireless connection and an mobile middleware.

Two different types of applications exist in this system. One is the mobile device based application, and the other one is web-based application. Both of them are Client-Server application. Server side consists of SQL Server 2000 Database, SQL Server 2000 CE Agent and middleware, which provide content to client. Client offer read, write, manipulate data and communication functions through agents.