

CASE STUDY (Handheld PDA Development)

Organization: Houston Airport Systems (*Public Safety Department*)

Industry

International Airport Systems

Scenario

Windows Mobile Application

Products and Technologies

Windows Server 2003
Windows Mobile Application SDK
.net Compact Framework
SQL Server 2000
SQL Server CE 2.0
RSA Encryption
Visual Studio 2003
Wise Installation systems

Interested in knowing more about this project please send an email to dl-Sales@complete-solutions.com

Organization Overview

Houston Airport Systems (HAS) provides air services to Houston's population of more than four million. Houston Airport System has three facilities; George Bush Intercontinental Airport, William P. Hobby Airport, and Ellington Field.

Together they form one of North America's largest public airport systems and position Houston as the international gateway to the south central United States.

Challenge

Currently there is a paper process to log daily activities of Public Safety Workers. The user's logged activities will be composed in Excel spreadsheet for supervisor review. All logged activity data will be Consolidated/Synchronized into other systems on daily/weekly basis. This system has tedious manual procedures & efficiency issues such as:

- Log activities twice a day (in Paper and Excel spreadsheet as well).
- Logged activities can only be reviewed when Excel spreadsheet is ready.
- Security Issues. Open access since the data is tracked without any secured process
- Consolidation/Synchronization process to other system can only be happen at the end of the day/week.

Objective

Public Safety Department of Houston Airport System decided to develop a system for mobile devices that would help their users log daily work activities. The System also requires data synchronization function between mobile devices & a central database using wired or wireless connections. Additionally, the system needs to include export functionality for specific date ranges.

All the above functions should work seamlessly with existing security model in Houston Airport System and Public Safety Department.

Solution

Public Safety Activities Log is a Windows Mobile Application developed using .net Compact Framework and SQL CE 2.0. The user logs on to the system, enters activities, exports the data into comma delimited files and synchronizes the data with a central database.

The sync processes are developed using Microsoft .Net Compact Framework and C#. This process uses Remote Data Access (RDA-PULL Method) Technology. Thereafter, the logged activities will be stored into a compact database that resides in the mobile device. Upon Re-Synchronization (RDA-PUSH Method), all the changes will be stored into an enterprise SQL Server 2000 database.

The user sensitive system data (like passwords) are encrypted using Rivest Shamir and Adleman Algorithm (RSA) for pocket pc.

Benefit

Houston Airport System now has the state-of-art technology using window mobile and .net compact framework which enable users to log the daily activities on their windows mobile handhelds and synchronize the data into SQL Server Database. This system is another example of how technology can be used as a force multiplier to improve efficiency that results in higher productivity.