Mobile Devices and Your Business

A white paper from InduSoft

Abstract

Increasingly, businesses are relying on mobile devices to extend their ability to communicate internally and to stay in touch with customers and business partners. Very few companies, however, use these devices to extend their business reach and improve their business operations.

A market is emerging, however, that is quickly changing the current operational paradigm. Rather than limiting computing technology to manage, monitor, and report processes and trends, it is being extended to transform the way employees and organizations work.

Introduction

This paper explains a new and growing trend that exploits the advent of mobile devices and how their use can benefit your business. It presents descriptions of how businesses are currently using PDAs and handheld computers in new and innovative ways that improve customer service and enable greater efficiency.

It also describes basic advantages to incorporating mobile devices in your current operations, which enable a more effective operational implementation.

Mobile Devices Today

The evolution of mobile devices began with simple communication pagers, but other, more sophisticated devices quickly supplanted this simple device. First, cell phones made pagers obsolete and later PDAs eventually combined the functions of the paper Day-Timer$^©$ and cell phones. Today the line that once distinguished computing devices, PDAs, and cell phones is significantly blurred.

Cell phones and PDAs can now access the Internet, they are equipped with alarms and address books, and they often have computing power that once rivaled most desktop computers. Likewise, computers have become completely mobile and have tablet features that once were available only on a PDA.

Wireless computers can now connect to any network over the Internet using wireless hotspots at Internet cafes and other public establishments such as coffee shops and restaurants. Handheld computers now physically resemble some cell phones and PDAs. Tablet PCs allow you to take notes using a stylus while roaming freely around a room or facility.

Although differences do still exist between basic cell phones and desktop computers, it's clear that the convergence of computing devices, PDAs, and cell phones is inevitable.

Both the consumer and business markets are moving toward mobile devices with exceptional computing power and multiple communication protocols.

To many of us, this fact is obvious. What might not be so obvious is how this convergence will inevitably be used for significant business gain.

Untapped Markets—New Solutions to Old Problems

With the mobile convergence, new applications of the technology will emerge that were simply not possible before the convergence. A seemingly innocuous example of this is the elimination of the common clipboard.

Believe it or not, the replacement of the clipboard represents a potential transfiguration of the operational implementation of many industries. Law enforcement, security, and even wait-staff at local restaurants could completely change the way they operate.

Previously arduous tasks such as filling out required forms, writing reports, and order taking could be automated and streamlined. Depending on the business, the resulting benefit can range from better customer service to reduced administrative overhead.

Safer Law Enforcement

In the case of law enforcement, a mobile device could perform the multitasking that officers are often asked to do. In a routine traffic stop, police officers are required to execute a long list of activities.

Primary requirements during any stop include checking the license plate, driver's license, registration, and proof of insurance. This enables the officer to determine whether the car is stolen, whether the driver has an outstanding warrant, and whether the driver is properly insured.

The challenge is that officer is required to perform these duties while visually inspecting the car, the driver, any passengers—all while remaining alert to the surrounding area. A mobile, handheld computer could streamline that process so that a police officer can better focus on the primary task at hand: citing the driver if necessary and recording the incident.

Using a PDA, an officer could first record the license number on a single electronic form at the outset of the stop. Using the same form the officer could then record the driver's license number, registration, and insurance information. After submitting the form, the information could be transmitted back to a centralized database. A cross-check could then be performed on both driver and vehicle—all without the officer returning to his car and turning his back on the vehicle.

If there is a problem, the officer could immediately be notified and take the proper action. If not, the officer would have the option of citing the driver from a menu of violations. A ticket could be printed, and a report automatically filed with the central database. Most of the process would take place without the officer's attention being diverted from the scene. The added benefit is that fewer administrative personnel are required to process each citation. The information can also be available in real time at the central database and therefore accessible to other officers.

Better Public Security

Another potential application is public security and detention operations. In large public facilities such as arenas and enclosed shopping malls, security is a primary concern. Along with security cameras, alarm systems are commonly in place to monitor for things such as fire and security breaches.

One of the challenges security personnel face is the possibility of false alarms. In an emergency, the public must be notified to evacuate, but it is the mission of security personnel to confirm that an emergency condition exists.

Evacuations can be dangerous, and they certainly disrupt business activities. Mobile devices can expedite alarm confirmations, which is the first step in assessing a potential emergency.

Mobile personnel can be assigned an area that allows them to be in a local proximity to several alarms. If an alarm is triggered a security officer can be automatically notified and quickly dispatched to the required location. The event can be automatically documented along with any action that was taken such as disabling or resetting the alarm.

This same paradigm can be applied to detention centers where guards must constantly monitor inmates. Being able to immediately report any security breaches, and to automatically document any incident is invaluable to administrators of such facilities.

Improved Customer Service

Customer facing industries can also benefit from the mobile convergence in the form of improved customer service—which translates to a competitive advantage. A big challenge in the restaurant industry, for example, is ensuring that wait staff can tend to customers while simultaneously communicating with kitchen staff.

Sometimes an establishment is unexpectedly busy, or for some reason is short-staffed. In such cases it can be challenging to ensure that customers are properly serviced and that orders are efficiently communicated to the kitchen. This unavoidable reality of the restaurant industry can have a negative affect on both sales and staffing turn-over.

Mobile devices can be used to improve the efficiency of communicating with the kitchen, and keep wait staff in front of customers longer. Orders can be taken on a PDA and immediately transmitted to the kitchen and bar. When the order is ready, the wait staff can be notified Using WiFi on their PDAs and dedicated servers can bring the food or drink order directly to the customer. This improved operational capability, would enable the wait staff to be in front of the customer longer and tend to their needs more effectively.

At the end of the meal, a check can be printed directly from the PDA, and for customers paying with a credit card, a card reader attached to the PDA can be used to process the payment. Restaurant managers estimate that at high-end establishments the number of customers paying by credit card is often as high as 90%. The ability to settle the tab on the spot means better service for customers and few, if any, dedicated cashiers.

Then there's the added bonus of being able to automatically track menu activity and inventory. Managers can obtain a report to determine which items are most popular and which are not. Inventories can be checked against customer orders and purchase orders can be automatically generated and transmitted to vendors.

The result is less waste, reduced staffing costs, and a more enjoyable dining experience—which is the restaurateur's stock in trade.

Traditional Markets—Industrial and IT Solutions

One of the main challenges faced by every organization is ensuring peak productivity. This challenge is particularly critical in the manufacturing industry. Lost productivity corresponds directly to diminished profits because it increases the per-unit cost of every product on the line.

Likewise, downtime in your IT infrastructure directly affects customer service and revenue. That's because today, the vast majority of communication with current and prospective customers and business partners occurs electronically. Customer research, direct sales, purchasing, and invoicing all happen over the Internet, and corporate extranets and intranets.

But how can moving to a mobile computing paradigm improve manufacturing productivity or diminish downtime? The answer resides in the mobile capability itself.

Industrial Solutions and benefits

In industrial settings, preventive maintenance and continual monitoring is a key element to fine-tuning performance. It can be difficult in some settings to have stationary monitoring points to collect data for the purpose of achieving optimal production levels.

In many cases manufacturing equipment is used to produce more than one product. Depending on what's being produced, plant engineers monitor different parts of the process, take different measurements, and alarms are triggered by different conditions.

In such cases it's not always practical to have a fixed station to monitor and record valuable production data. In fact, to meet production demand, some useful data might go unrecorded because tearing down and setting up fixed monitoring and measuring stations might be too cumbersome.

With a mobile solution you can take the application where it needs to go. 360 degree inspections are not only possible, they become practical. And in the event of an alarm you can take the application to where the problem is physically located.

IT Solutions and benefits

IT solutions, while distinct from industrial solutions, solve many of the same types of problems. IT administrators aren't concerned with how many widgets are produced in a certain time and how non-optimal production rates can increase the per-unit cost of widgets. They are, however, concerned with things such as how quickly customers can download software hot-fixes and product add-ons.

If customers can't access the corporate Web site, administrators need to know immediately, and they need to understand why quickly. Likewise, if accounting can't invoice customers through their CRM system, administrators need to be able to quickly distinguish whether the problem is with the infrastructure or the application.

But like industrial solutions, it isn't entirely obvious how mobile technology can ensure service levels or improve day-to-day operations. The answer again lies in the ability of administrators to be where they need to be with the application in-hand.

If, for example, a server isn't responding, a physical inspection is necessary to determine whether the server is hung-up or if a power failure has occurred. With a mobile solution an administrator can be stationed in the vicinity of specific server clusters and be notified on a handheld device about the alarm. A physical inspection can then be made, and the correct action can be taken right away. The onsite administrator can then have the application restart and resynchronize the down server—all from the palm of his hand.

Without mobile capability, the IT organization would have to rely strictly on voice communication, which would invariably introduce delays.

The InduSoft Solution: CEView

Armed with the understanding of just how valuable mobile technology can be, InduSoft© long ago developed and continues to offer the industry's premier mobile solution.

InduSoft was the first company to provide a Rapid Application Configuration Environment for easily developing applications and solutions for a PDA. The company dubbed the innovation CEView, because it runs on Microsoft Windows CE®. CEView was introduced in 1997 and to date, no other viable mobile solution exists.

And coupled with the InduSoft development environment, InduSoft Web Studio, CEView is a powerful tool. CEView has interfaces to relational databases and has all the latest protocols to communicate using WiFI, BlueTooth, wireless infrared, RFID and more. Engineers can develop applications using InduSoft Web Studio on their desktop and then simply download the application to a Windows CE or Windows Mobile device using built in remote management capabilities.

With InduSoft Web Studio, development and implementation is reduced to a fraction of the time required for larger more expensive systems that don't fully support a mobile solution. All-in-all, the CEView mobile solution provides significant bang for your buck. Mobile solutions that are affordable and effective. That's InduSoft.

For more information, to arrange for a demonstration, or to have a consultant determine how InduSoft can benefit your operations, contact us at 877-INDUSOFT or 512-349-0334 or e-mail us at info@indusoft.com.

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