

SECTION 6

SUMMARY OF EXAMPLES FROM OTHER INDUSTRIES

The provision of customer information is not confined to the transit industry. Other industries such as airlines and package delivery services provide time-sensitive customer information. Several nontransit businesses were assessed to learn how they provide customer information and what technologies they use to provide the information. Unfortunately, most of the businesses contacted were reluctant to discuss their current or upcoming systems. The industries investigated include package delivery services, airlines, and wireless content providers.

6.1 PACKAGE DELIVERY SERVICES

6.1.1 United Parcel Service

United Parcel Service (UPS) tracks the location of packages by scanning bar codes on packages each time packages arrive or leave a facility. UPS is able to track between 13 and 15 million packages a day. The evolution of its current tracking system began in the early 1990s when UPS was providing tracking services to corporations. Corporations had a direct link to UPS that enabled them to track their packages. By the late 90s, UPS was offering “real-time” tracking on the Internet allowing all customers, whether corporations or individuals, to have the same access that was once limited to corporations only. In 1999, UPS started providing wireless “real-time” tracking for PDA users.

The decision to provide wireless tracking services was not actually based on research or studies. The decision was made by senior management, who wanted UPS to move forward and to stay current with wireless communication technology. UPS projected that there would be financial benefits for providing wireless services. UPS had determined that tracking through the Internet was reducing costs: each Internet inquiry meant one less 1-800-number call charge for UPS. Hence, going wireless would further reduce UPS’s 1-800-number call charges.

UPS’s Track application allows the user to track up to 25 packages at the same time. The user is prompted to enter the tracking number of his or her packages, and the system then displays the current status of the packages. The user has the option to request more detailed information, such as when the package arrived at and left various facilities en route to its destination (see Figure 66).

UPS is always in the process of improving its infrastructure. Its plans are to improve the estimated arrival time of packages from the current 24 hours down to perhaps ½ hour. Also, UPS has a premium (for fee) service for corporations in which a number of functions and services are bundled together. There is a charge for this service because it provides detailed information on packages and has the ability to produce reports. UPS states that there was resistance to pay for the premium service because subscribers believed that the service should be covered by the shipping costs; however, UPS is not aware if customers’ attitude toward paying for premium service changed after using the service.

6.1.2 Federal Express

Another package delivery company that provides detailed tracking information to any user is Federal Express (FedEx). FedEx offers two tracking services. The first is FedEx Track, which is similar to UPS’s service in which customers are able to track up to 25 packages via the Internet. FedEx’s Track application provides a detailed description of the package’s location throughout the package’s entire trip. The second tracking service offered by FedEx is FedEx InSightSM.

InSight not only tracks inbound, outbound, and third-party payer shipments, but it also automatically notifies the customer of critical shipping events so that the customer can take the necessary action. Notification of these events can be by e-mail, fax, the Internet, or wireless devices. InSight provides status summaries of international and domestic shipments on one report because tracking is based on addresses or account numbers—not on individual tracking numbers. Furthermore, InSight helps pinpoint customs delays and delivery attempts then suggests recommended actions to expedite delivery. Both tracking services are offered to FedEx customers at no charge. Figures 67 and 68 show examples of FedEx InSight.

6.2 AIRLINE NOTIFICATION SERVICES

Airlines continue to invest in technology that automates interactions with customers; this strategy has drawbacks, but it also has benefits for the public. An example of such a

The screenshot shows the UPS tracking detail page. At the top, there are navigation links for Service Guide, E-Business, Customer Service, About UPS, and Site Guide. Below these are icons for TRACK, SHIP, RATES, TRANSIT TIME, PICKUP, DROP-OFF, and SUPPLIES. A search bar contains the tracking number 1Z 291 X61 03 1615 718 4. The main heading is "Tracking Detail".

Status: Delivered
 Delivered on: Oct 23, 2002 10:27 A.M.
 Signed by: BAUSCH
 Location: RECEIVER
 Delivered to: HILLIARD, OH, US

Tracking Number: 1Z 291 X61 03 1615 718 4
 Service Type: GROUND

PACKAGE PROGRESS			
Date	Time	Location	Activity
Oct 23, 2002	10:27 A.M.	COLUMBUS, OH, US	DELIVERY
	5:38 A.M.	COLUMBUS, OH, US	OUT FOR DELIVERY
	1:28 A.M.	COLUMBUS, OH, US	ARRIVAL SCAN
	1:01 A.M.	OBEZ, OH, US	DEPARTURE SCAN
Oct 22, 2002	6:43 P.M.	OBEZ, OH, US	ARRIVAL SCAN
	8:59 A.M.	LAUREL, MD, US	DEPARTURE SCAN
Oct 21, 2002	11:19 P.M.	LAUREL, MD, US	ARRIVAL SCAN
	9:39 P.M.	ALEXANDRIA, VA, US	DEPARTURE SCAN
	6:48 P.M.	ALEXANDRIA, VA, US	ORIGIN SCAN

Tracking results provided by UPS: Dec 2, 2002 8:35 A.M. Eastern Time (USA)

NOTICE: UPS authorizes you to use UPS tracking systems solely to track shipments tendered by or for you to UPS for delivery and for no other purpose. Any other use of UPS tracking systems and information is strictly prohibited.

Figure 66. UPS shipping information.

promising automation technology is the flight-status notification services that are offered by most major United States carriers. The details and sophistication of the services vary by airline, but the basic function is the same: it allows customers to sign up for automatic notification on arrival and departure times, including information about delays, gate changes, and, sometimes, where baggage can be retrieved (1).

Currently, American, Continental, Delta, Northwest, and United Airlines and Travelocity, Orbitz, and Expedia provide flight notification information to a variety of land-line and wireless devices that can receive e-mail or text messages. United's EasyUpdate service (www.ual.com/easyupdate) offers more features than do the other airlines' services, including quiet times when the user does not want to receive any message (e.g., on a home phone between 11 P.M. and 6 A.M.); notification about seat upgrades; and registration for all flights, not for each individual trip. See Figures 69 and 70 for United's service and Figure 71 for American's Flight Status Notification system.

The one drawback to these notification systems is the timeframe within which the airline will send delay notifications. By the time a delay message is sent, the user may have already left for the airport. Also, even if a flight is delayed, the airline may suggest that the user still go to the airport in case the status of the flight changes.

6.3 WIRELESS CONTENT PROVIDERS

6.3.1 Location-Based Advertising

Several companies are now providing advertising and coupons to wireless PDAs and mobile phones based on the devices' locations. The following describes two location-based content services that take advantage of locating these devices (2):

- **Vindigo** provides location-based services in 35 markets in the United States. Free software that is downloaded to PDAs by registered users provides location services, such as directions to local shopping, restaurants, and entertainment. The PDA's location is combined with information on what the user is searching for to send targeted ads and coupons to the user. So, if the user is searching for a movie theater in a particular neighborhood, a coupon discounting the movies in that theater could be provided to the PDA or cell phone user along with directions to the theater.
- **go2Systems** provides location-based information by partnerships with major cellular providers. It provides web portals, such as go2hotels.com and go2jiffy.com. Web-enabled phones, PDAs and Blackberry RIM devices can be used to access go2Systems location-based ser-

FedEx InSightSM
View the shipment status

Use the view screens to see an up-to-the-minute listing of shipments in transit to and from your location.

Each **View** screen contains:

- Status of the shipment
- Tracking number
- Estimated delivery date
- Ship date
- Service type
- Shipper and/or Recipient
- Number of pieces shipped
- Total weight

Click on any underlined item on the screen to see information on different views.
[Inbound View](#) | [Outbound View](#) | [Third Party Favor View](#) | [Next](#)



Figure 67. FedEx InSight screen.

vices. If the user enters “Jiffy Lube,” the go2System will provide the location closest to where the wireless device is being operated.

approximate charge for this type of wireless access is \$15.95 per month (200 minutes) or 20¢ per minute.

6.3.2 Wireless Local Area Networks

High-speed wireless local area networks (WLANs) are becoming commonplace throughout the world as an easy way of “staying connected.” Airline clubs, hotels, and many other businesses are taking advantage of WLANs to provide their customers with Internet and e-mail services away from the office or at home. The wireless Ethernet standard, 802.11b, is being used to provide WLAN services. One commercial version of this standard, called WiFi, is making it possible for consumers to purchase consumer and food items using their mobile phones (3): “If you would like to check your corporate e-mail while sipping a fresh cup of Decaf Mocha Java, you’re probably already a user of MobileStar’s public access points found in 350 Starbucks Coffee locations now and scheduled for 4,000 of the shops by summer’s end” (4). The

6.3.3 Zero-Sixty

While this company does not provide wireless services per se to the transit industry, Zero-Sixty provides transit riders with bus and train schedules specially formatted for PDAs. Zero-Sixty buys the schedules from transit agencies, packages the data, and, in turn, sells the data to its customers. Zero-Sixty receives the schedules from the transit agencies in a spreadsheet format a week in advance of a schedule change. The schedules are re-packaged and e-mailed to the customers. The customers then download the schedules to their PDAs. Customers pay \$12 per schedule per year. Zero-Sixty also offers bundled services (access to more than one schedule) for an annual fee of \$34.95.

The transit schedule application was developed in January 2002 and started operating in April 2002 for the Metro-North and Long Island railroads. Zero-Sixty plans to provide

FedEx InSightSM

Link to shipment details and updates

From the View screen, you can easily link to detailed information that allows you to identify problems or delays, and respond quickly.

[Clearance Delay](#) | [Delivery Attempted](#) | [Shipment Detail](#) | [Tracking Results](#) | [Next](#)

The screenshot shows the FedEx InSight web interface. At the top, there's a navigation bar with links like 'Ship', 'Track', 'Rates', etc. Below that, a search bar and a 'Select More Online Services' dropdown are visible. The main content area is titled 'FedEx InSightSM Clearance Delay' and includes a 'Tracking Number: 470006037724'. A table provides shipment details:

Ship Date	Estimated Delivery Date	Shipper Information	Recipient Information
10/08/2001	10/10/2001	ALICE MPHASIS-BFL TEST ADDRESS LINE1 - SENDER MEMPHIS, TN 38115 US 0005522719	MEENA FEDEX TEST ADDRESS LINE1 - RECIPIENT BEUNOS AIRES, AR 1000 AR 9012627008

Below the table, there's a section for 'Reason for Delay' and 'Recommended Action':

Reason for Delay	Recommended Action
1 Documentation missing. A Radiation Declaration is required.	Shipper or Impeder must provide a complete Radiation Declaration.
2 Shipper/Impeder requires a Multiple Country Declaration.	Shipper or Impeder must provide a Multiple Country Declaration.
3 Documentation missing. Paperwork supporting that quota restraints are not applicable is required. Paperwork must show that no quota charges were paid and that no quota charges are payable.	Shipper or Impeder must provide documentation that no quota restraints are applicable and that quota charges were paid or will be paid.

At the bottom, a note states: 'For more information on clearance delays, please contact International Customer Service at 1-800-247-4747. Please have the tracking number and CER number.'

[Previous](#) | [Next](#)

Figure 68. FedEx InSight screen.

United EasyUpdate

[Log out](#)

Set up one or more contact points

You can add more later.

SELECT TIME ZONE... *Required Quiet Times (you can change times later)

Mobile Phone: - - No calls 11pm to 6am

Home Phone: - - No calls 11pm to 6am

Work Phone: - - ext. (if any) No calls 11pm to 6am

Home Email: Plain text only

Work Email: Plain text only

Fax: - -

Wireless: Check here to add a pager, PDA, or text capable mobile phone. When you click next, we will guide you through the setup process.

Add another contact point (a spouse, relative, friend or your own): Choose a Contact Point

Send a test message to these contact points now.

Figure 69. United Airlines EasyUpdate contact information.

United EasyUpdate

[Logout](#)

Direct messages to your contact points

Check which types of messages you want to receive on each contact point.

Message Types	Contact Points			
	Fax	Home Email	Work Email	Work Phone
Announcements				
<input type="checkbox"/> Travel Tips and New EasyUpdate Announcements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel Alerts				
<input type="checkbox"/> Arrival Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Flight Cancellation Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Delayed Departure Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Departure Reminder Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Flight Rebooking Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Seat Upgrade Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[Next](#)

Figure 70. United Airlines EasyUpdate message types and contact selection.

via wireless media actual estimated arrival times once there is a standard platform for the handheld devices. It currently has 600 commuter rail and 300 subway subscribers to the service, which started in June 2002. Zero-Sixty’s goal is to have 10,000 subscribers by mid-2003.

Zero-Sixty indicated that overall feedback from customers has been positive. Zero-Sixty’s future plans include providing the following:

- More station information such as fare, location, and routes or lines serving particular stations;
- Maps;
- Actual arrival times;
- Alerts of delays; and
- Alerts of a train being X minutes away from a customer’s intended boarding location (this feature is currently under development).

6.3.4 Second Kiss Wireless

Second Kiss Wireless’ product, ShuttleGirl™, is a commercially available platform for wireless and portable transit schedules and delivers information to travelers and commuters via web browsers, handheld devices, Internet-enabled mobile phones, and traditional telephones. As of December 2002, schedules are available for Amtrak’s Acela and Metroliner services; GO Transit’s Stouffville GO Train and Bus Service (in Toronto, Canada); Harvard University Shuttle Services; LIRR’s Port Washington Branch; Massachusetts Bay Transportation Authority’s Commuter Rail Service; Metra’s Electric Line (in the Chicago area); Southeastern Pennsylvania Transportation Authority (SEPTA) Regional Rail R5 and

R7 Lines; and Tri-County Commuter Rail Authority’s South Florida Rail Corridor service.

6.3.5 Weather Channel

The Weather Channel has two wireless services: MyWeather and Notify! MyWeather provides weather information and alerts for a particular area selected by the user. Information such as severe weather watches and warnings is transmitted to PDAs, cell phones, e-mail, or to a combination thereof. There is no charge for MyWeather.

Notify! allows users to get their choice of weather alerts, to select how to receive the alerts, and to select when they want to receive them (see Figures 72 through 74). The user can select the type of weather that is his or her concern (e.g., rain, snow, tornados, etc.); the severity of the condition; how to be notified (i.e., by phone, PDA, fax, or e-mail); and when to be notified. For example, when a tornado warning is issued at 3:00 A.M. in the user’s area, Notify! will call his or her home phone so that he or she can take action for his or her family. One feature of Notify! is the capability to select a “quiet” time period, in which the user does not want to receive any notifications (see Figure 72). Notify! is a free service. Notify! Plus is also available for a charge. Features of this service are shown in Figure 75.

The Weather Channel has recently come out with a new application called Desktop Weather. This new application provides current temperature continuously updated in the user’s system tray; severe weather alerts that can be seen and heard; complete current weather conditions; local radar maps; and 12-hour forecasts. A subscription to Desktop Weather is \$3.99 per month or \$29.99 per year.

AmericanAirlines® Home My Account Contact AA Login FAQ Search GO

Flights On Time
Flights On Time
Flights On Time

Create Flight Status Notification

Reservations
Travel Information
Net SAAver & Special OffersSM
AAAdvantage[®]
Business & Agency Programs
Customer Service
About AA

AA.com can proactively notify you of American Airlines, American Eagle, or AmericanConnection® flight departure or arrival status and gate information. You can choose to receive a voice message to your phone, or a text message to a cell phone*, alphanumeric pager*, personal digital assistant (PDAs) or regular email account.

* Device must be capable of receiving email messages.

Notice About Flight Status Notification:

- We recommend you log in using your AAAdvantage number and password prior to adding flights for notification so you can easily view your notification list the next time you visit AA.com
- Notification request will not reflect any changes to flight number that may occur
- If your flight number changes you will need to delete your current request and then submit a new request using the new flight number
- American Airlines will make all reasonable effort to ensure you receive the requested information in a timely manner; however, the timeliness and reliability of message delivery by your device service provider cannot be guaranteed
- Be sure to check airport monitors for any last minute updates since flight status and gate information may change at any time

Create Flight Status Notification ?

Message Delivery Options

Text Message

Deliver to:
 Device email or text message address:

Voice Message

Phone Number: -
 (United States only)

Flight Information

Forgot your flight number? [View Schedules](#) [View Current Reservations](#)

Notify me of the City/Airport

for Flight Number

(American Airlines, American Eagle, and AmericanConnection® flights only**)

Departure / Arrival Date:

Flight Notifications can be made up to 90 days before a flight.

Notification Preferences - Check all that apply

Send me flight status/gate information scheduled departure/arrival time.

Send me notification if departure/arrival time or gate information changes.***

Click the test button to send a test message to the address or number entered.

**Indicated as AA* on Pages, PDAs and Cell Phones.

***Departure messages are sent when departure time changes more than 15 minutes. Arrival messages are sent when arrival time changes more than 10 minutes. Messaging for flights cancelled or reinstated will be sent starting 2 days prior to the flight. If selected alone, messaging for all other flight status changes will be sent starting 4 hours prior to scheduled departure or arrival time.

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AA.com AA MORE ROOM citi AAAdvantage PRIVACY BBB ON LINE oneworld American Eagle

Figure 71. American Airlines notification registration.

Notify! by The Weather Channel

Personalized Weather Alerts - Anytime, Anywhere

Notify! by The Weather Channel has made it easy for you to get your choice of weather alerts, where you want them, when you need them. Increase your peace of mind by knowing that you and your family will receive severe weather alerts the instant they are issued for your area. For example, when a tornado warning is issued at 3:00 a.m. in your area, Notify! will call your home phone so that you can take action for your family.

In three easy steps you can select:

1 Where Notify! by the The Weather Channel should contact you.

With your zip code, contact phone numbers, and e-mail addresses Notify! will know where to get in touch with you in case of a weather alert.

You can select up to 3 voice phones, 2 email accounts and a wireless text device on which to receive alerts.

2 When the alerts you choose should be delivered.

Customize quiet times to receive phone calls only during the hours you choose, such as overnight for your home phone.

Your quiet times are fully customizable - you control when and where your alerts are delivered.

Figure 72. Notify! contact information.

- ③ **What types of alerts you would like to receive.**
You will only be notified of the severe and predictive alerts that you choose.

Figure 73. Notify! alert features.

Your subscription to Notify! by The Weather Channel includes access to your personal Notify! web page.

- Radar that updates every 5 minutes, focused on the location you specify.
- Zoom in to see specific storms or zoom out to get regional views.
- See the predicted path of storms to have advanced warning of severe weather.
- Access all current weather alerts issued in the U.S.
- Instantly access your alert and contact point settings to make changes to your Notify! service at any time.

Upgrade to Notify! Plus for custom weather forecasts, health alerts, golf & ski forecasts and more.

[Learn more about Notify! Plus](#)



Figure 74. Personal Notify! features.

Air Quality Forecast

Select a reporting station to receive your regional air quality forecasts.

Get a Regional Air Quality Forecast for: Daily EPA air quality forecast for your location

Your Air Quality Reporting Station:

Reporting Station	Add	Reporting Stations	Remove
Atlanta			Remove

My Custom Forecast

Please select your custom weather thresholds for Atlanta, GA.

Rain

Any Rain
 Moderate or Heavy Rain
 Only Heavy Rain
 No Alert

Thunderstorms

Any Thunderstorms
 Scattered, Widespread or Strong Thunderstorms
 Widespread or Strong Thunderstorms
 Only Strong Thunderstorms
 No Alert

Snow

Any Snow
 Moderate or Heavy Snow
 Only Heavy Snow
 No Alert

Winter Frozen Precipitation

Any Winter frozen Precipitation
 Only Freezing Rain
 Only Sleet
 No Alert

Fog

Fog
 No Alert

Windy Conditions

Greater than 15 mph
 Greater than 25 mph
 Greater than 35 mph
 No Alert

Feels Like

Wind Chill

Less than 20 F
 Less than 0 F
 Less than -20 F
 No Alert

Heat Index

Greater than 90 F
 Greater than 105 F
 Greater than 115 F
 No Alert

Whether you want an alert whenever any rain is forecast for your location or only when the forecast calls for heavy rain. Notify! Plus will keep you informed.

Figure 75. Notify! Plus features.

6.4 REFERENCES AND ENDNOTES FOR SECTION 6

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4. Sutherland, E. "Would You Like a WLAN Card with Your Frappuccino, Sir?," *M-Commerce Times* (www.mcommercetimes.com); August 2, 2001.