

Mobile Devices General Overview

Prepared for
IT Partners

By Andrew Yu (Mobile Devices Platform Coordinator)
12/04/2006



Information Services & Technology



Massachusetts
Institute of
Technology

Agenda

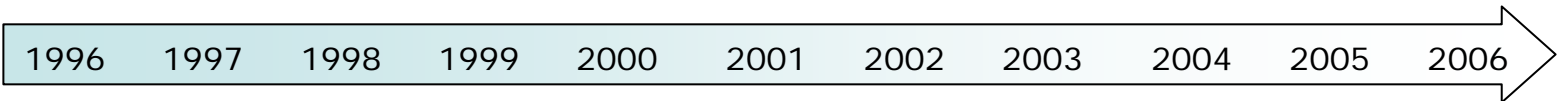
Disclaimer: Only Palm OS is supported by IS&T today

- Mobile Device Platforms
- History
- Devices
- Carrier Support
- Comparisons
- Using Mobile Devices at MIT
- Q&A

Mobile Device Platforms

- 4 Major Platforms: Palm OS, Windows Mobile, BlackBerry, & Symbian
- 2006 U.S. Market evenly split between Palm OS, Windows Mobile and BlackBerry. 2007 U.S. Market will likely see further growth of Windows Mobile and BlackBerry
- Carriers providing sales, marketing, support
- Trend: Phone Centric, Persistent Storage (Flash), “Office Mobile”, Push-Email, Mobile Web, High Speed Data, Multimedia, etc.

History



Palm OS

US Robotics
3Com
Palm,
Handspring
PalmOne/Palm
Source
Palm, Inc.



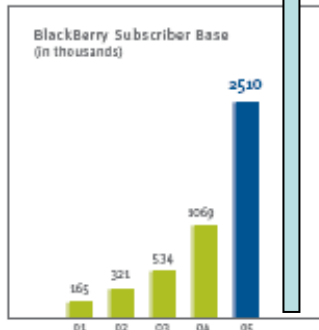
Windows Mobile

Microsoft
Philips, Casio,
LG, Samsung,
Motorola, HP,
HTC, Palm



BlackBerry

Research In
Motion
Palm,
Samsung,
Nokia



Current Devices – Palm OS

(November 2006)

Verizon Wireless	Sprint	T-Mobile	Cingular	Others
 <p>Treo 700p</p>	 <p>Treo 700p</p>	<p>NONE</p>	<p>Treo 650</p>   <p>Treo 680</p>	 <p>TIX</p>  <p>Z22</p>

Current Devices – Windows Mobile

(November 2006)

Windows Mobile	Verizon Wireless	Sprint/Nextel	T-Mobile	Cingular	Others
<p data-bbox="142 496 365 529">Smartphone</p>	 <p data-bbox="474 662 592 682">Motorola Q</p>	 <p data-bbox="744 695 852 715">i920/i930</p>	 <p data-bbox="997 695 1049 715">SDA</p> <p data-bbox="1125 704 1182 723">Dash</p>	 <p data-bbox="1283 695 1340 715">2125</p> <p data-bbox="1410 695 1467 715">3125</p>	
<p data-bbox="142 762 325 795">Pocket PC</p>	 <p data-bbox="411 952 529 972">Treo 700W</p> <p data-bbox="521 982 624 1002">Samsung</p> <p data-bbox="458 1158 611 1178">VZW XV 6700</p>	 <p data-bbox="681 952 788 972">PPC 6700</p> <p data-bbox="852 952 934 972">Treo 700WX</p> <p data-bbox="700 1158 801 1178">Samsung</p>	 <p data-bbox="1062 1011 1115 1031">MDA</p>	 <p data-bbox="1271 933 1321 953">iPaq</p> <p data-bbox="1397 933 1506 953">BlackJack</p> <p data-bbox="1252 1172 1353 1192">Treo 750</p> <p data-bbox="1443 1158 1506 1178">8525</p>	

Current Devices – BlackBerry

(November 2006)

Verizon Wireless	Sprint	T-Mobile	Cingular
 <p>7250</p>  <p>7130e</p>  <p>8703e</p>	<p>8703e</p>   <p>7130e</p>  <p>7100i</p>  <p>7520</p>	<p>7290</p>   <p>7105t</p>  <p>Pearl</p>  <p>8700g</p>	<p>7290</p>   <p>7130c</p>  <p>Pearl</p>  <p>8700c</p>

Mobile Platform Comparisons

MIT Environment	Palm OS	Windows Mobile		BlackBerry (BIS)
		Pocket PC	Smartphone	
Email	Good	Good	Useable	Better
PIM Synchronization (wireless)				
Calendar	Useable	Good	Good	Useable
Contacts	Good	Useable	Useable	Useable
Tasks	Good	Good	Good	Useable
PIM Synchronization (Cable)	Useable	Good	Good	Useable
Web Browsing	Good	Good	Good	Useable
Device Price	\$200 - \$400 (avg: \$285)	\$140 - \$410 (avg: \$273)	\$100 - \$260 (avg: \$166)	\$0 - \$300 (avg: \$153)
Data Plan Price (monthly cost)	\$11.25 - \$44.99	\$11.25 - \$44.99	\$11.25 - \$44.99	\$19.99 - \$44.99
Carrier Support/Device Choices	4	12	7	15
Document Viewing	Better	Good	Good	Useable
Document Editing	Better	Good	n/a	n/a
Certificates (Secured Sites)	n/a	Better	Better	Better
Wi-Fi Enabled Devices	1	15+	2	n/a
Additional Monthly Fee for Dial-up Networking/Tether	\$15 - \$30	\$15 - \$30	\$15 - \$30	\$15 - \$75

Carrier Support

	Palm OS	Windows Mobile	BlackBerry	Symbian
Verizon Wireless (CDMA/EVDO)	Palm Treo 650 (\$120) Palm Treo 700p (\$270)	Motorola Q (\$100) Samsung i730 (\$140) Samsung i830 (\$240) Palm Treo 700w (\$270) VZW XV6700 (\$270) W	7250 (\$30) 7130e (\$50) 8703e (\$120)	n/a
Sprint/Nextel (CDMA/EVDO)	Palm Treo 650 (\$259) Palm Treo 700p (\$350)	Sprint PPC-6601 (\$259) Nextel i930 (\$259) Sprint PPC-6700 (\$289) W Palm Treo 700wx (\$350) Samsung IP-830W (\$411)	7250 (\$150) 7520 (\$150) 7130e (\$200) 8703e (\$250)	n/a
Cingular (GSM/EDGE/ HSDPA)	Palm Treo 680 (\$200) Palm Treo 650 (\$250)	Cingular 2125 (\$100) Cingular 3125 (\$150) Samsung BlackJack (\$200) Cingular 8125 (\$250) W HP iPAQ hw6925 (\$400) Cingular 8525 (\$400) W	7290 (\$100) 7130c (\$200) 8700c (\$250)	Nokia E62 (\$100) W Nokia 9300 (\$300) W
T-Mobile (GSM/EDGE/ HSDPA*) *US HSDPA Expected in 2007	n/a	T-Mobile SDA (\$150) W T-Mobile Dash (\$200) W T-Mobile MDA (\$250) W	7105t (FREE) 7100t (\$70) 7290 (\$100) Pearl (\$200) 8700g (\$300)	n/a
PDA's (wi-fi)	Palm T X (\$300) W	HP iPAQ hx4700 W HP iPAQ rx1955 W Dell Axim X51v W Pharos Traveler GPS W Symbol MC70 W , MC9000 Dolphin 7900 W , 9500 W , 9550 W		

Note: Prices for smartphone devices reflect MIT discount and additional discount where applicable with 2-year contract. Prices are rounded up. Prices as of 11/2006. **W** denotes built-in wi-fi. Prices for Windows Mobile PDA's vary greatly, but they generally start at \$200.



Carrier Comparisons

	Verizon Wireless	Sprint/Nextel	T-Mobile	Cingular
Voice Plan Monthly Cost	\$34 – \$170 (450 – 6000 min)	\$23 – \$75 (200 – 2000 min)	\$30 – \$130 (200 – 2000 min)	\$40 – \$200 (450 – 6000 min)
Data Plan Monthly Cost (Palm OS & Windows Mobile)	\$25 – \$45 (10 MB- unlimited)	\$11.25 (unlimited)	\$30 (unlimited)	\$5 – \$40 (10 MB- unlimited)
Data Plan Monthly Cost (BlackBerry)	\$25 – \$45 (10 MB- unlimited)	\$30 – \$38 (5MB- unlimited)	\$20 – \$30 (unlimited)	\$35 (unlimited)
Dial-up Networking/Tether Monthly Cost	+\$15	+\$30	n/a	\$75 (BlackBerry)
High Speed Data Type	EVDO	EVDO	EDGE	EDGE/HSDPA
Data Speed	Better (400 – 600 kbps)	Better (400 – 600 kbps)	Usable (~100 kbps)	Better (~600 kbps)
Wi-Fi Availability	1	1	3	4
International Roaming	Usable	Usable	Better	Better
MIT Status/Discount	Preferred 15% Corp./Per.	Preferred 22%/15% Corp./Per.	8% Corp./Per.	15%/10% Corp./Per.

MIT's preferred vendors for corporately liable phones are Sprint/Nextel and Verizon Wireless. If neither of these vendor's products or services meets the customer's needs, we've established some reduced pricing with other vendors.

Using Mobile Devices @ MIT

- Email
- Calendar & Contacts
- PIM (Calendar/Contacts/Tasks Synchronization)
- Password Protection
- Certificates: MIT CA & Personal Certificates
- Accessing Secured Web Sites
- Document (View/Edit): Office Mobile & PDF
- Mobile Web Examples

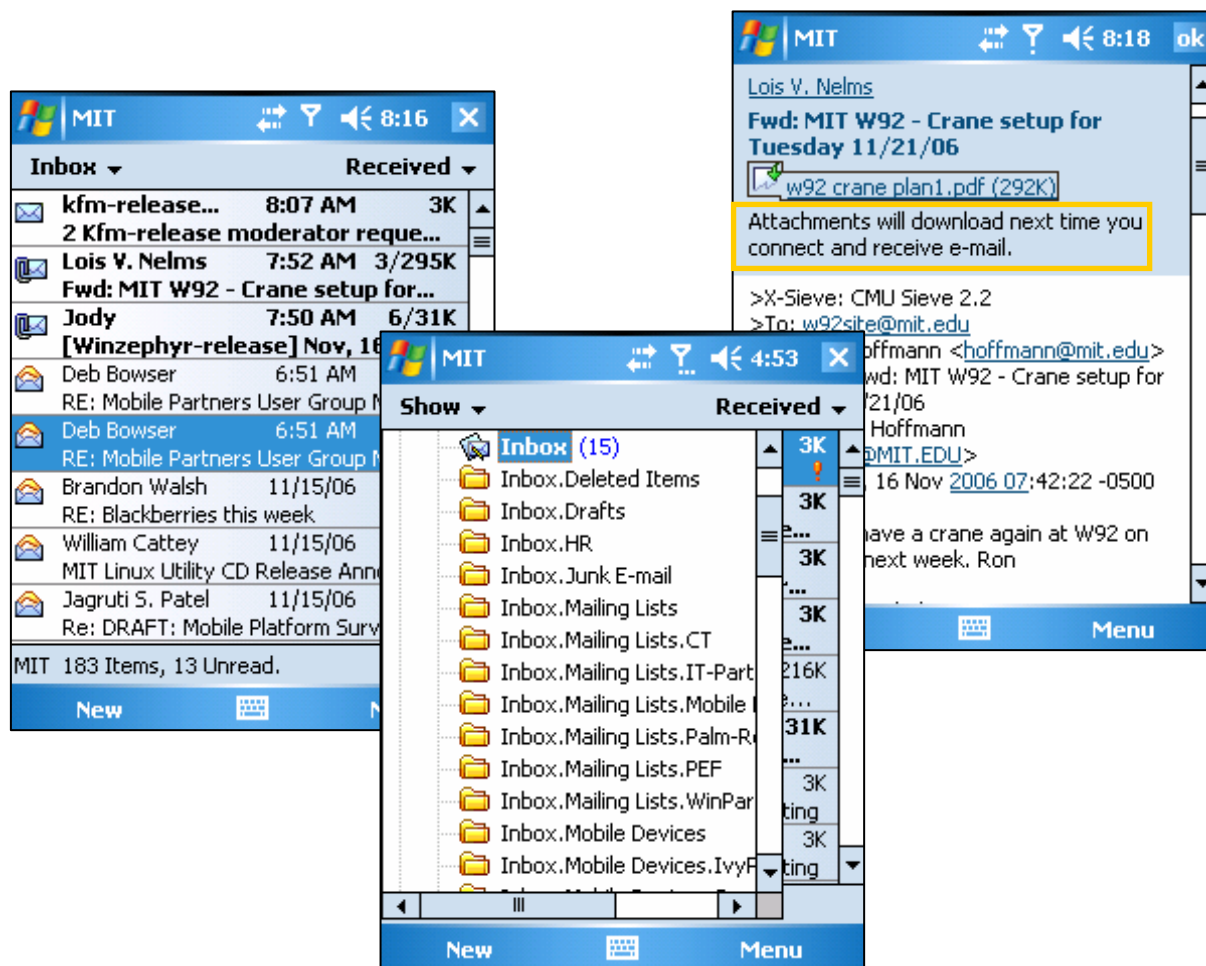
Windows Mobile Email: Outlook Mobile

Pros:

- Native support for IMAP including “synchronization” of folders
- Attachment support
- Scheduled “pull”
- Multi-threading

Cons:

- Attachment/Long Message Retrieving cumbersome
- UI can be improved
- Searching is difficult



Palm OS Email: VersaMail

Pros:

- Native support for IMAP
- Attachment support easy to use
- Scheduled “pull”
- Usable Search via Find application

Cons:

- No native support for IMAP folders
- No Multi-threading

The image displays four screenshots of the VersaMail email application interface on a Palm OS device. The top-left screenshot shows an inbox list with a selected email from Andrew Yu. The top-right screenshot shows the email content, including the sender's name and subject. The bottom-left screenshot shows a 'Get Message' dialog box asking if the user wants to download a 361K attachment. The bottom-right screenshot shows the email content with the attachment 'BlackBerry_Internet_Ser...' highlighted.

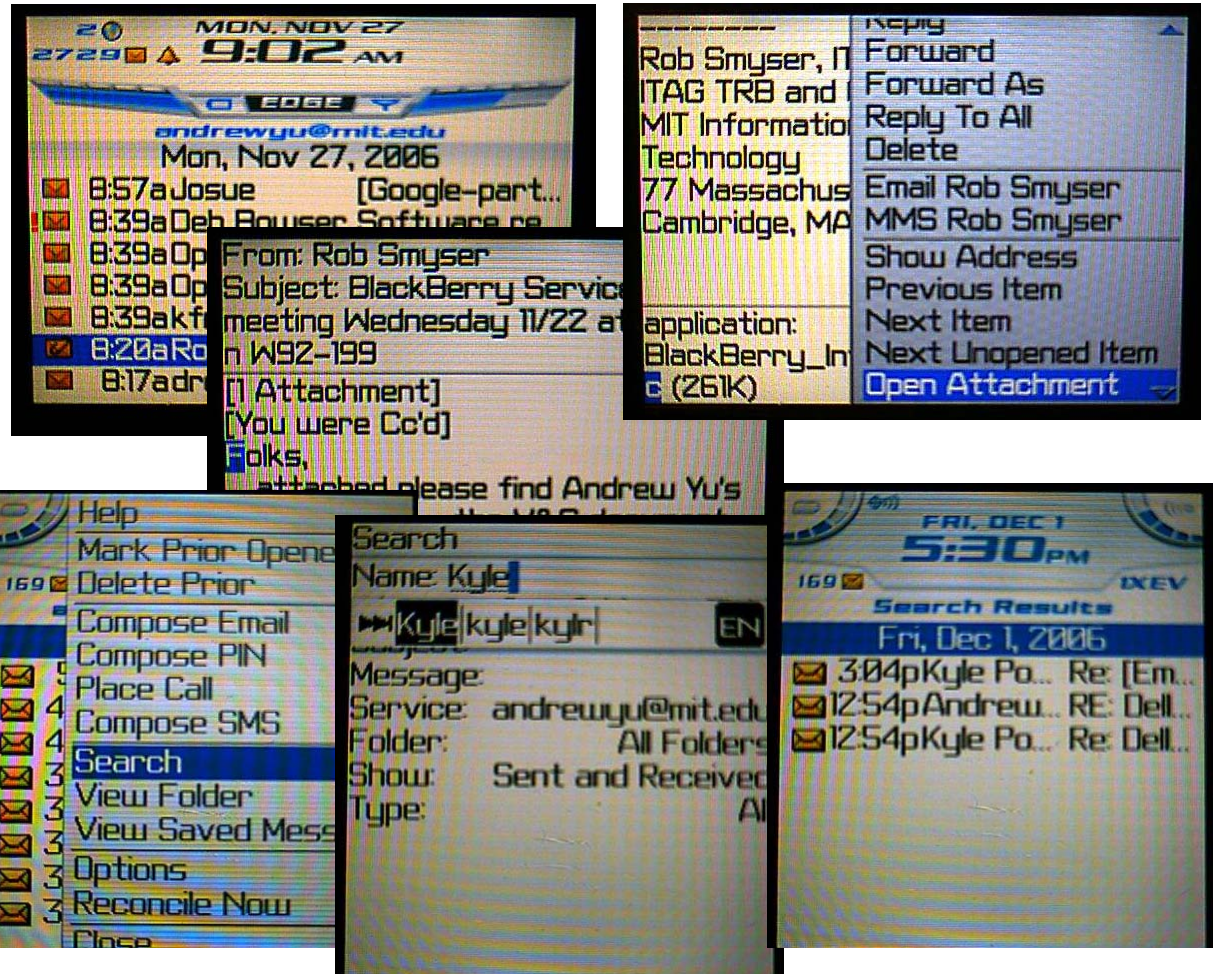
BlackBerry Email: BIS

Pros:

- Scheduled “push”
- Native support for IMAP
- Attachment support easy to use
- Fast Search options
- Extensive Shortcut Keys
- “Multi-threading”

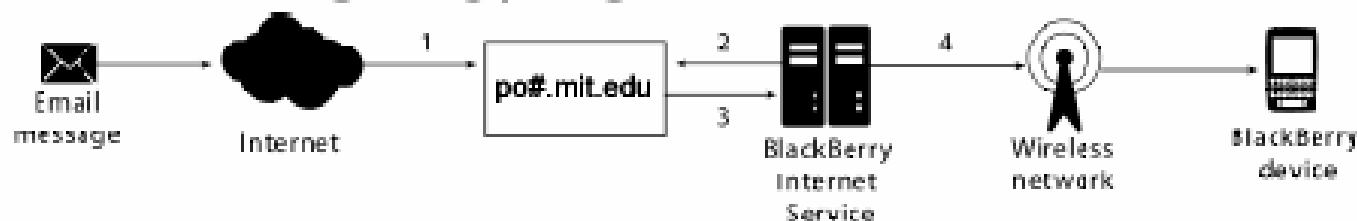
Cons:

- No native support for IMAP folders
- One-way IMAP Sync
- New Message Idiosyncrasy



BlackBerry Email: BIS Message Flow

Message flow: Send a message using polling



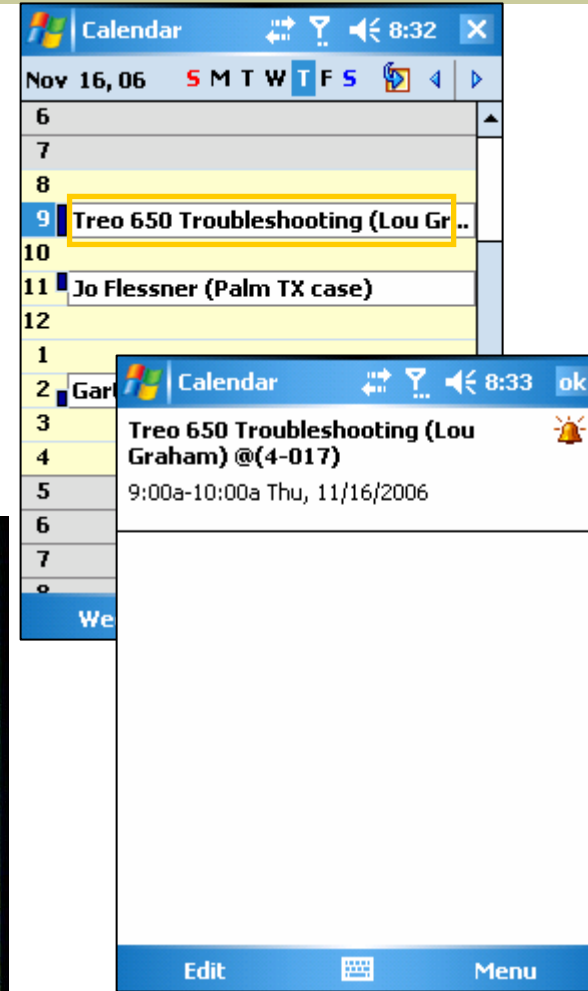
1. The subscriber's email account receives a new email message from the Internet.
2. The BlackBerry® Internet Service checks the email account for new email messages every 15 minutes.
3. When the BlackBerry Internet Service finds a new email message, it downloads the email message.
4. The BlackBerry Internet Service sends the message to the subscriber's BlackBerry device over the wireless network.

The approximate delivery time is 15 minutes.

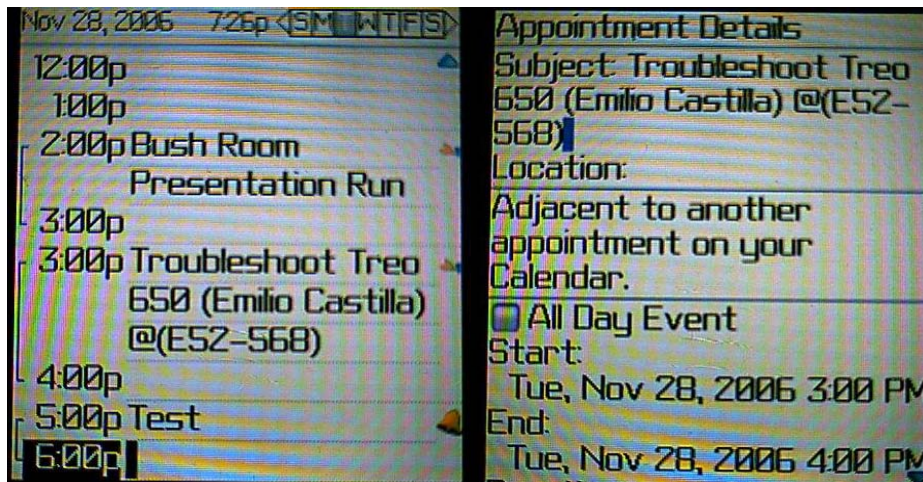
Calendar



Windows
Mobile
Pocket PC



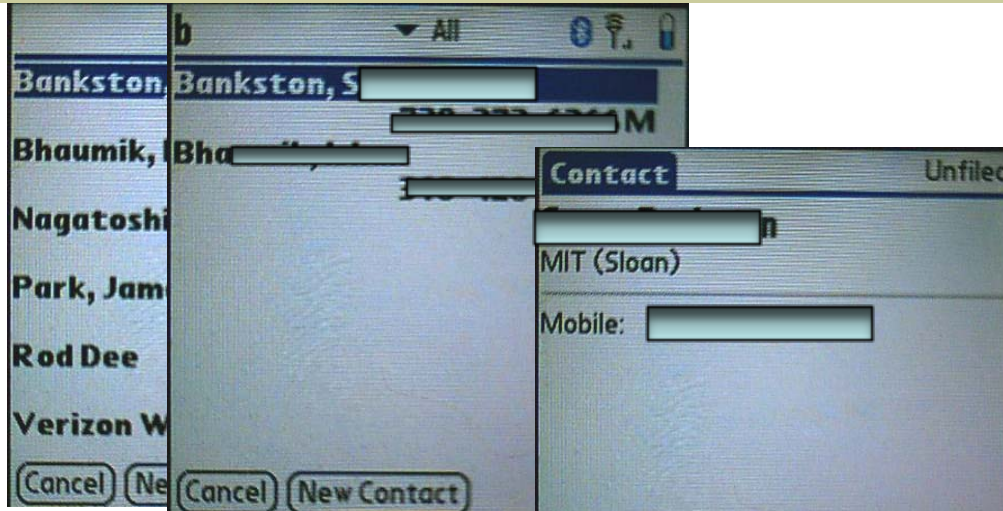
Palm OS



BlackBerry

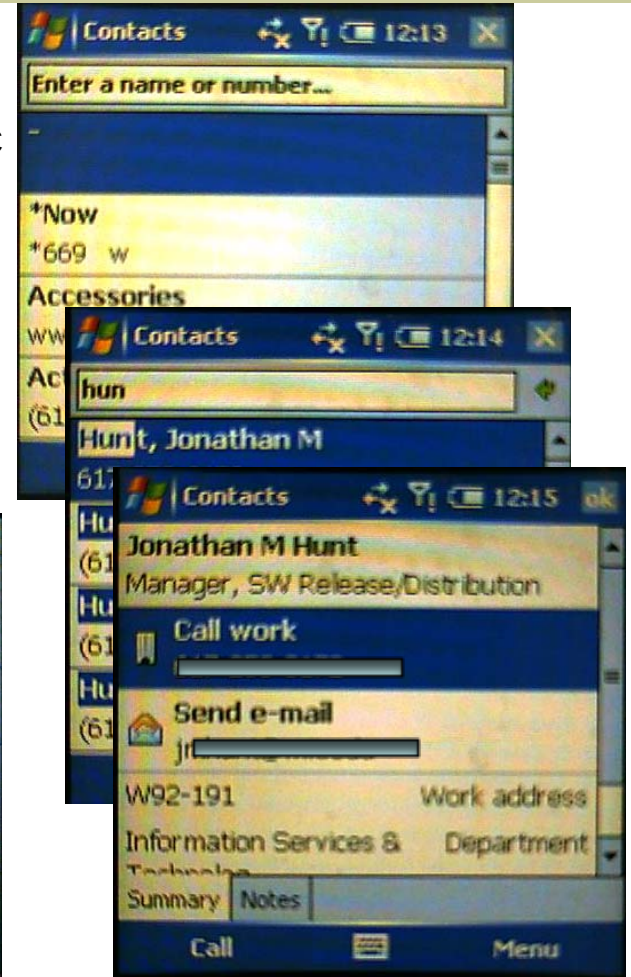


Contacts

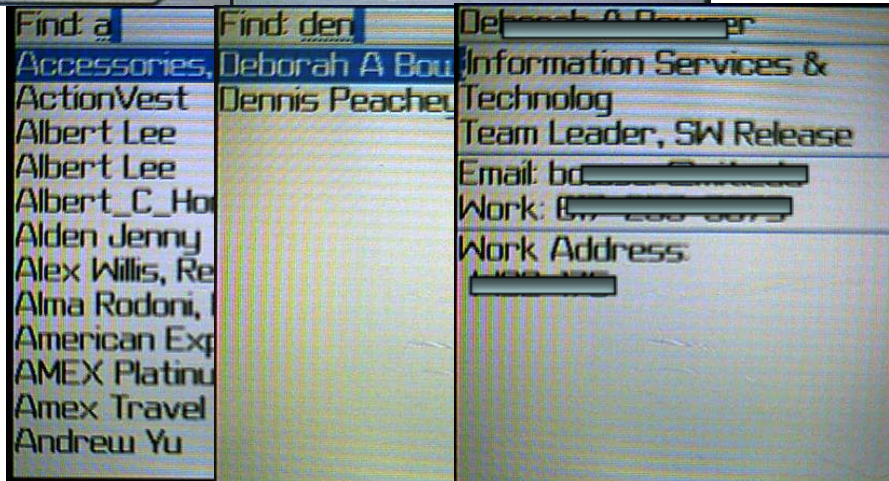


Palm OS

Windows
Mobile
Pocket PC



BlackBerry



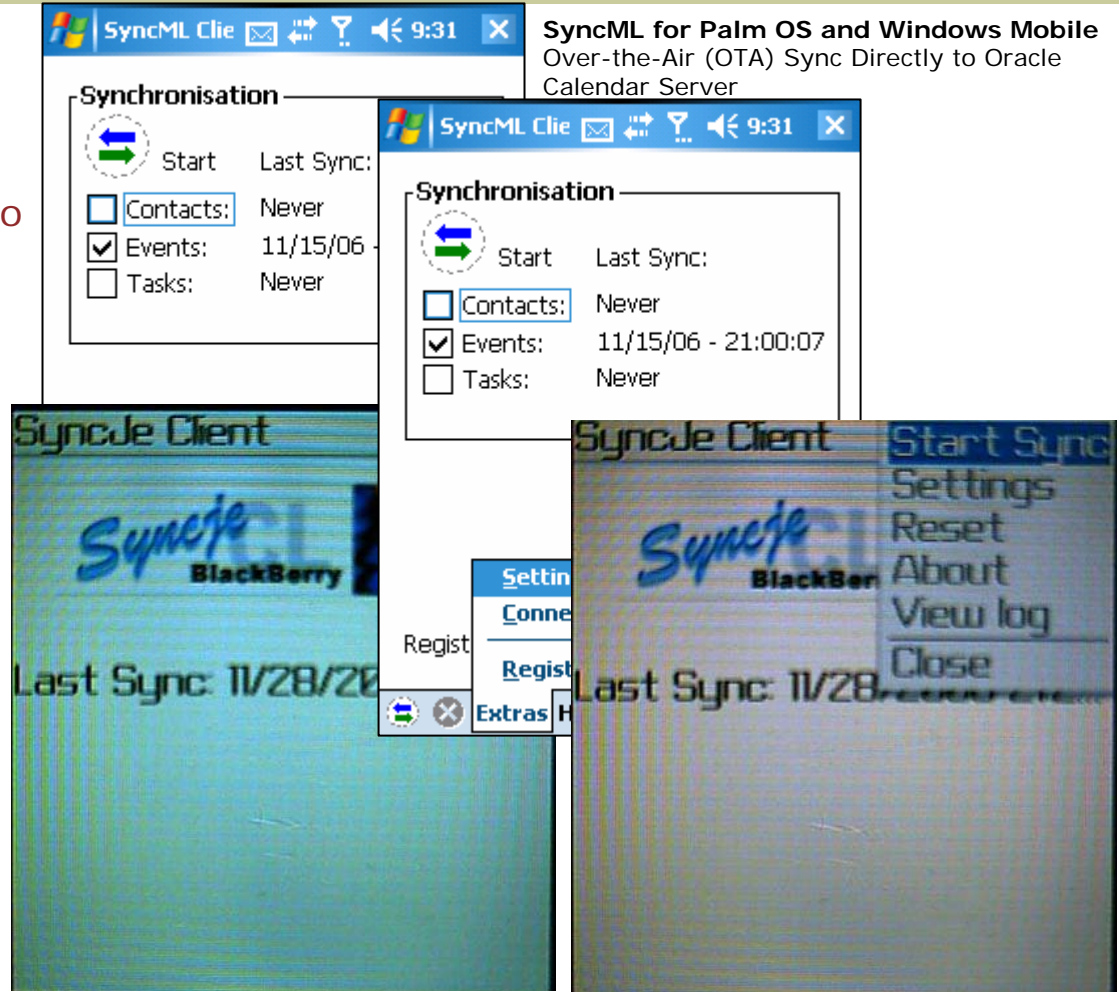
Desktop Sync vs Wireless Sync

Desktop Sync:

- Pros:
 - More accurate data field mapping
 - Ability to transfer larger data to device at faster speeds
 - *Necessary to install applications, certificates, etc.*
- Cons:
 - Cannot sync away from computer
 - Too many points of potential failure

Wireless Sync:

- Pros:
 - PIM Sync from anywhere
 - Direct to Oracle Calendar
- Cons:
 - Requires Wireless Data Connection
 - Inaccurate data field mapping for some platforms



Password Protection

Owner: Andrew Yu

BlackBerry™
Enter Password:

Settings
Buttons Input Lock
Menus MSN Options Owner Information
Phone Sounds & Notifications Today

System Lock

Enter password to access this device:

OK Make Emergency Call

Security

Lock Device

Automatically lock device:
Never
On power off
At a preset time
After a preset delay

Your device will lock when it is turned off.

OK Cancel

Certificates

Windows Mobile:

- Installing Personal Certificates requires 3rd Party Software

BlackBerry:

- Built-in Personal & Root Certificate Installer via Desktop Sync
- Usage requires entering password each time

Palm OS:

- No facilities to import personal certificates
- Root certificates cannot be installed by users easily

The image displays two screenshots of mobile device settings. The top screenshot shows the Windows Mobile 'Manage Certificates' screen, which is divided into 'Personal' and 'Root' tabs. The 'Personal' tab is active, showing a table with columns 'Issued By' and 'Expires'. The table contains one entry: 'Client CA v1' with an expiration date of '7/31/07'. The bottom screenshot shows the BlackBerry 'Manage Certificates' screen, which lists various certificates under the 'Root' tab. The list includes 'Andrew J Yu, Client CA...', 'Vinny Way WAP Root', 'Baltimore CyberTrust...', 'Baltimore CyberTrust R...', 'Certicom MobileTrust R...', 'Diversinet Root', 'Entrustnet CA (2048)', 'Entrustnet Client CA', 'Entrustnet Global Clien...', 'Entrustnet Global Secu...', 'Entrustnet Secure Se...', and 'Entrustnet WAP Serv...'. Each entry in the BlackBerry list has a green checkmark to its left.

Issued By	Expires
Client CA v1	7/31/07

Issued By	Expires
Client CA v1	7/31/07
MIT Certification Auth...	8/1/26
Thawte Server CA	12/31/20
Thawte Premium Serv...	12/31/20
Secure Server Certific...	1/7/10
http://www.valicert.c...	6/25/19
GTE CyberTrust Root	2/23/06

Accessing Secured MIT Web Sites

Windows Mobile Pocket PC

MIT | ecat Web-based Office DEPOT Business Solutions Division

Home

Order *MIT Best Value Items, MIT Specific, and Recycled Products* via "My Shopping Lists"

Welcome **Andrew J Yu**. Please Enter the following information to specify the name and address of the person to whom this order will be delivered:

LOG IN / SIGN ON

Back Menu

BlackBerry

Office DEPOT Business Solutions Division

Home

Order *MIT Best Value Items, MIT Specific, and Recycled Products* via "My Shopping Lists"

Welcome **Andrew J Yu**. Please Enter the following information to specify the name and address of the person to whom this order will be delivered:

LOG IN / SIGN ON

Back Menu

Word & Excel

Word Mobile 11:57

Mobile Platform Support Recommendations for MIT

Prepared by Andrew Yu
(Mobile Devices Platform Coordinator)
Date: October 27, 2006

View Menu

Word Mobile 11:58

CONVERGED MOBILE DEVICE (SMARTPHONE) SHIPMENTS

Synthesis of all rules on smartphones, whose rules are set to expire this year, although Microsoft is extending its reach.

- Microsoft Pocket PC Phone Edition
- Microsoft Smartphone
- Linux
- Palm OS
- Symbian (pre-based UIQ, S60, S60v2)
- Symbian (keypad-only UIQ, Series 60)
- Other

2004: TOTAL 21,039,293

2005: TOTAL 19,731,478

2005 Global Smartphone Device Shipments: IDC

View Menu

Mobile Platform... [40%]

Mobile Platform Support Recommendations for MIT

Prepared by Andrew Yu
(Mobile Devices Platform Coordinator)
Date: October 27, 2006

Summary 12-04-06

	A	B	C	D
1				
2				
3	Co..			
4	Pla.. Tot..			
5	Bla.. 11		28%	
6	Pal.. 18		46%	
7	Win.. 10		26%	
8	Gra.. 39			

Excel Mobile 12:01

D13 =B13/C13

	A	B	C	D
4	9/16/06	226	16.099	14.007
5	9/24/06	184	14.973	12.282
6	9/29/06	119	10.427	11.384
7	9/30/06	189	10.76	17.565
8	10/6/06	158	11.704	13.508
9	10/6/06	208	16.6	12.506
10	10/22/06	198	15.702	12.616
11	10/28/06	179	13.673	13.055
12	11/4/06	134	12.996	10.295
13	11/10/06	157	12.202	12.842
14				
15				

Ready Sheet1 Sum=12.842157

View Menu

Excel Mobile 12:02

C14

	A	B	C	D
8	10/6/06	158	11.704	13.508
9	10/6/06	208	16.6	12.506
10	10/22/06	198	15.702	12.616
11	10/28/06	179	13.673	13.055
12	11/4/06	134	12.996	10.295
13	11/10/06	157	12.202	12.842

Full Screen
Zoom
Sheet
Split
Freeze Panes
Toolbar
Status Bar
Show

View Menu

DataViz Sheet To Go

	A	B	C
1			
2			
3	Count of Name		
4	Platform	Total	
5	BlackBerry	11	
6	Palm OS	18	
7	Windows	10	
8	Grand Total	39	
9			
10			
11			
12			

Summary_10...
Summary_11...
Summary_12...
Customers
Sheet2
Sheet3
Insert Sheet...

Count of Name

PowerPoint & PDF

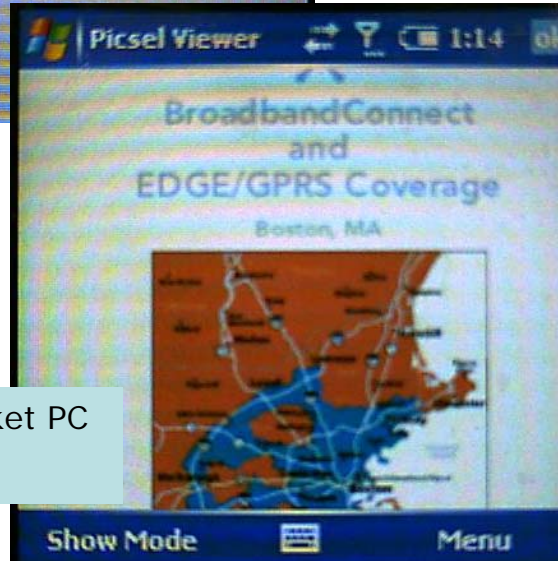
BlackBerry
PowerPoint

Palm OS

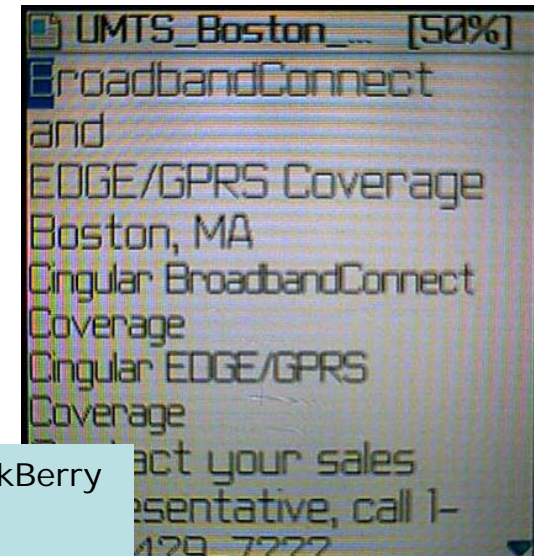


Windows Mobile Pocket PC
PowerPoint

Windows Mobile Devices
Overview



Windows Mobile Pocket PC
PDF



BlackBerry
PDF

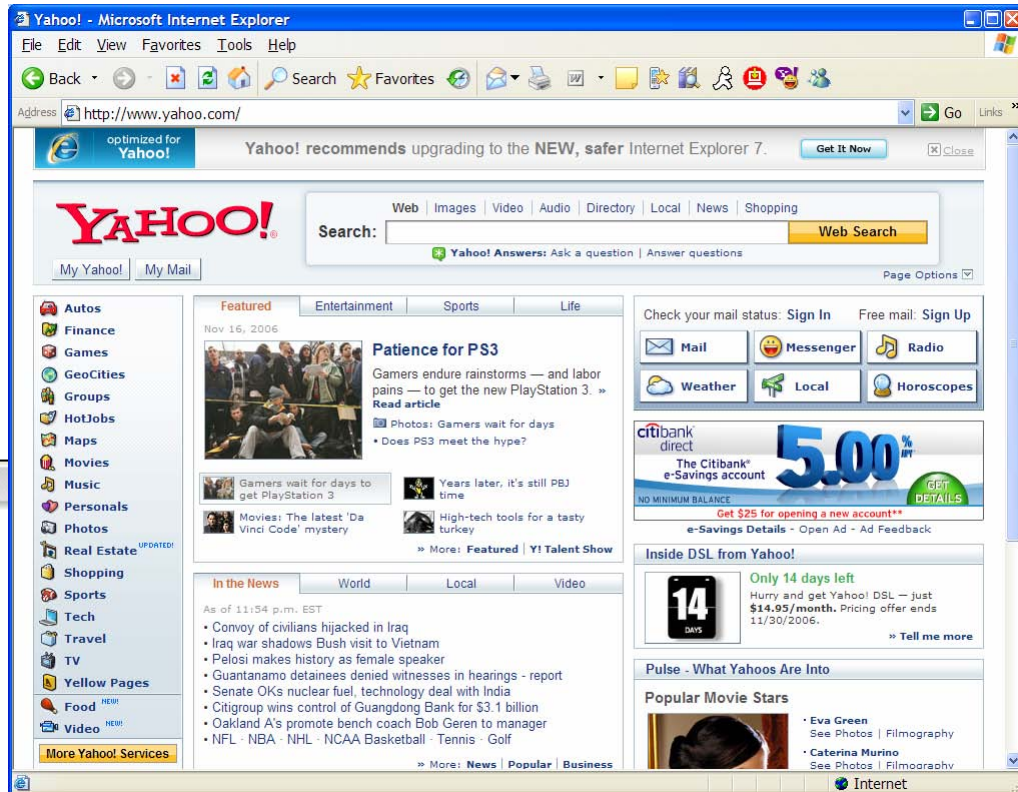
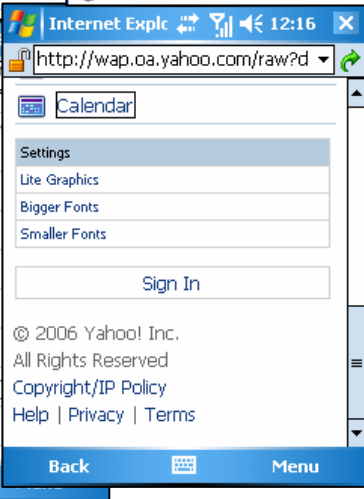
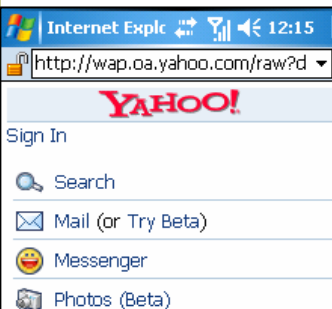
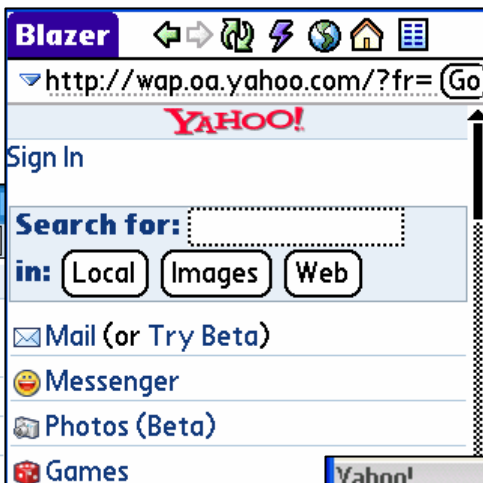
Mobile Web Sites (External)

- **News:** BBC News, Canadian Broadcast Corp., CNET, Financial Times, Google News, Guardian UK, Infospace, MSN Mobile, Reuters, USA Today, Yahoo News, Slashdot, Wall Street Journal, Boston Globe, Business Week, Wired, ...
- **Finance:** E*TRADE, Ameritrade, Fidelity, Schwab, Scottrade, TD Waterhouse , Bigcharts, Bloomberg, CBS Marketwatch, Financial Times, Stockcharts.com, Yahoo Finance, Motley Fool, ...
- **Weather:** Weather Channel, Yahoo Weather, IWIN NOAA, Weather Underground, AccuWeather...
- **Travel:** Google Local, Mapquest Maps & Directions, Rovenet, American Airlines, British Airways, Cathay Pacific, Continental Airlines, Delta Airlines, Northwest Airlines, Qantas, United Airlines, UK Rail, Dollar car rental, ...
- **Portals/Search Engine:** Google, Yahoo, MSN, AOL, Lycos, InfoSpace, MobilePlay, ...
- **Other Categories:** Sports, Pictures, Audio, Video, Movies, Blogs, Shopping, ...

Mobile Web Example (Yahoo)

Palm OS

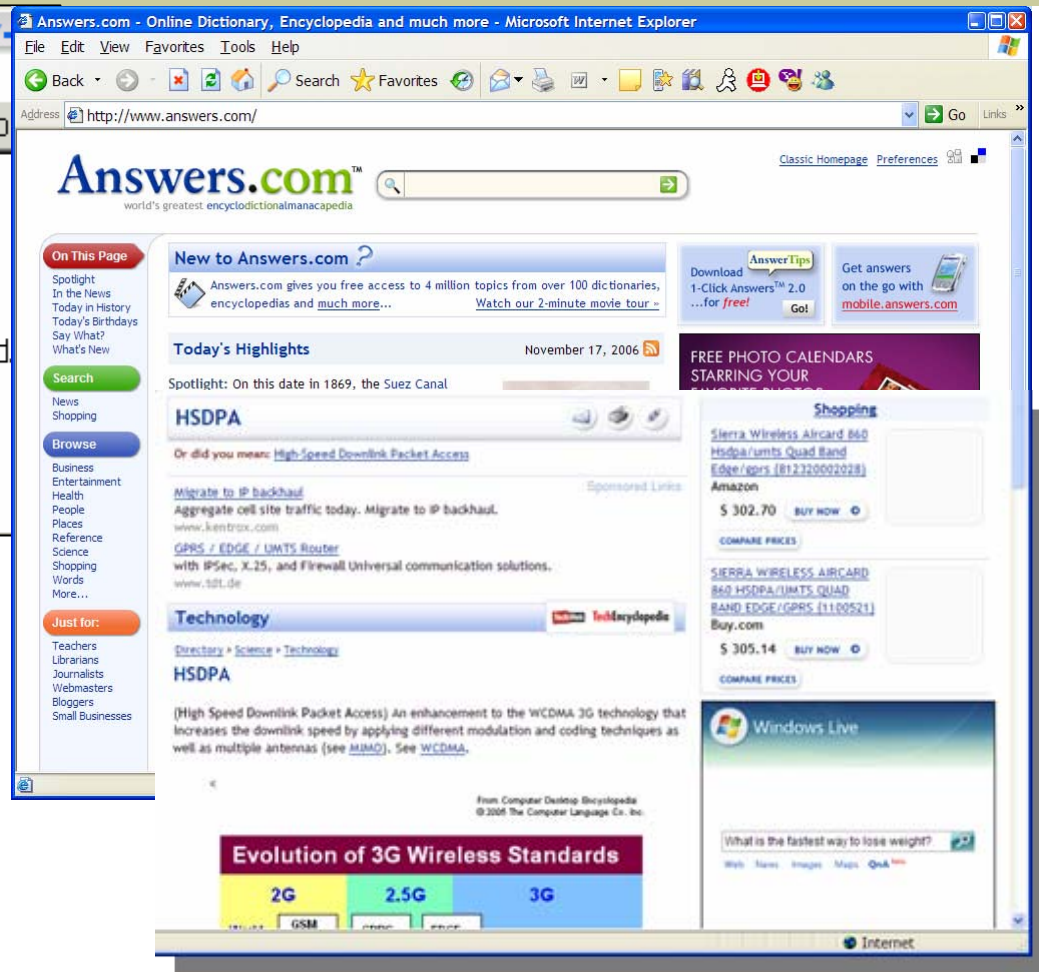
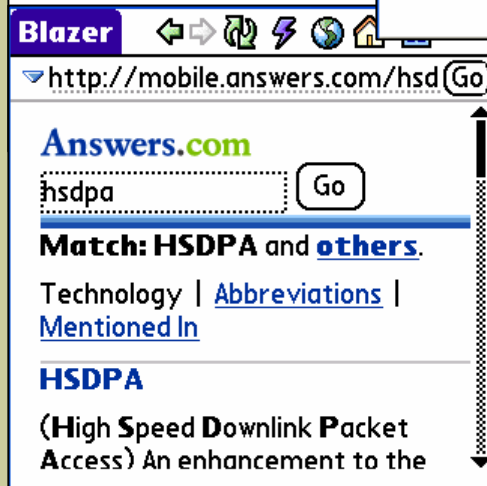
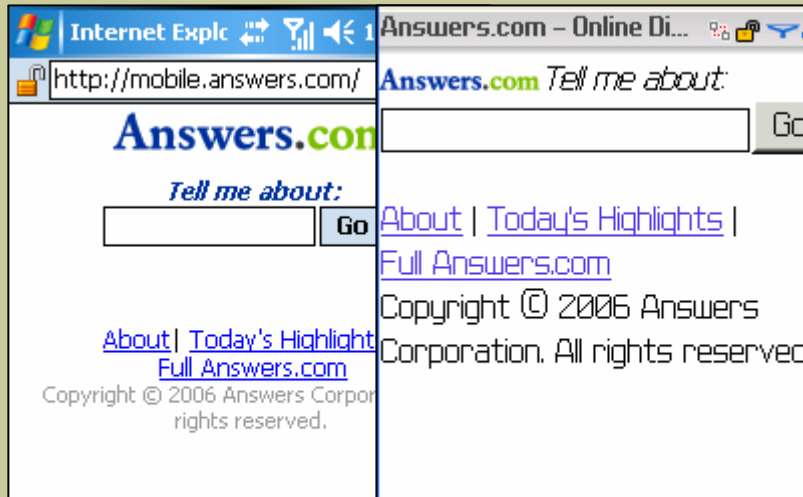
Windows
Mobile
Pocket PC



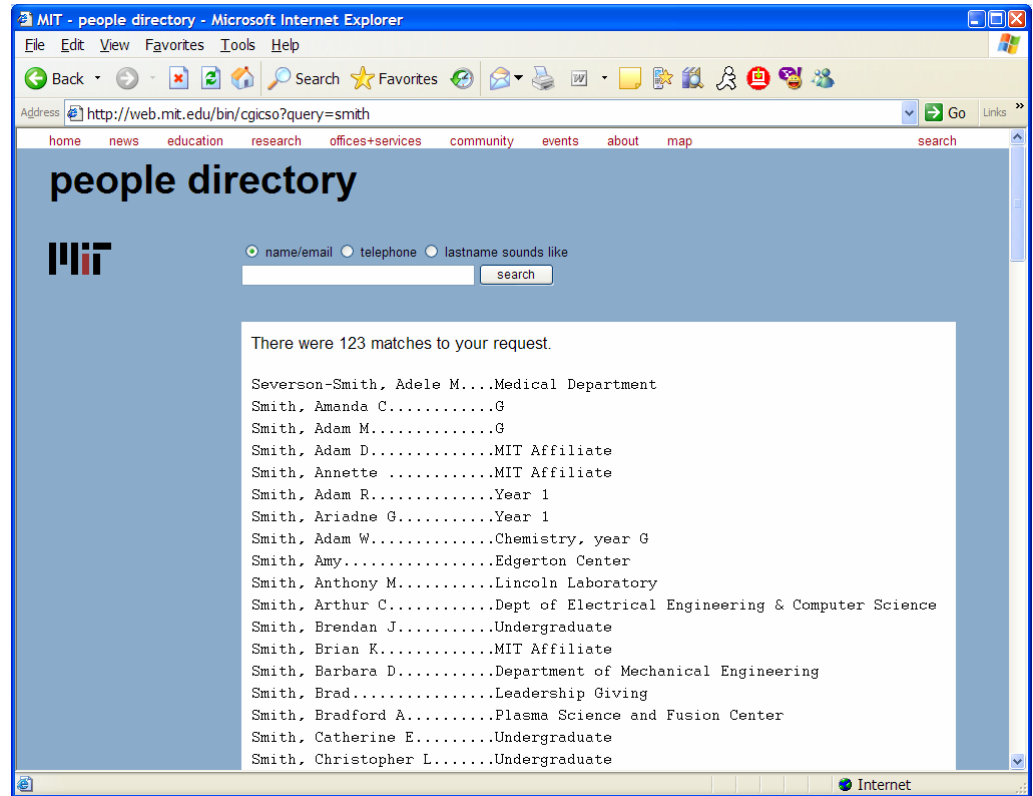
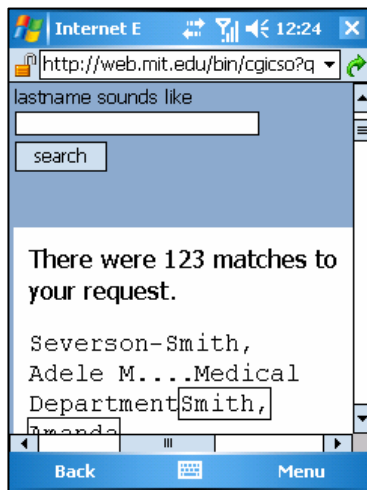
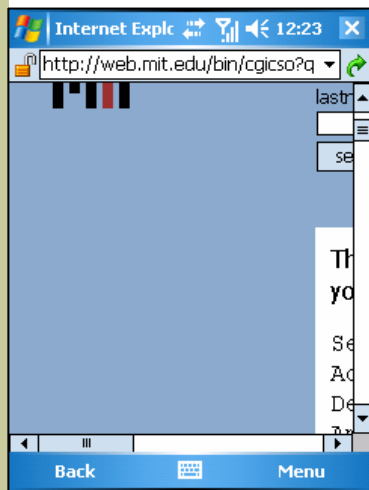
BlackBerry



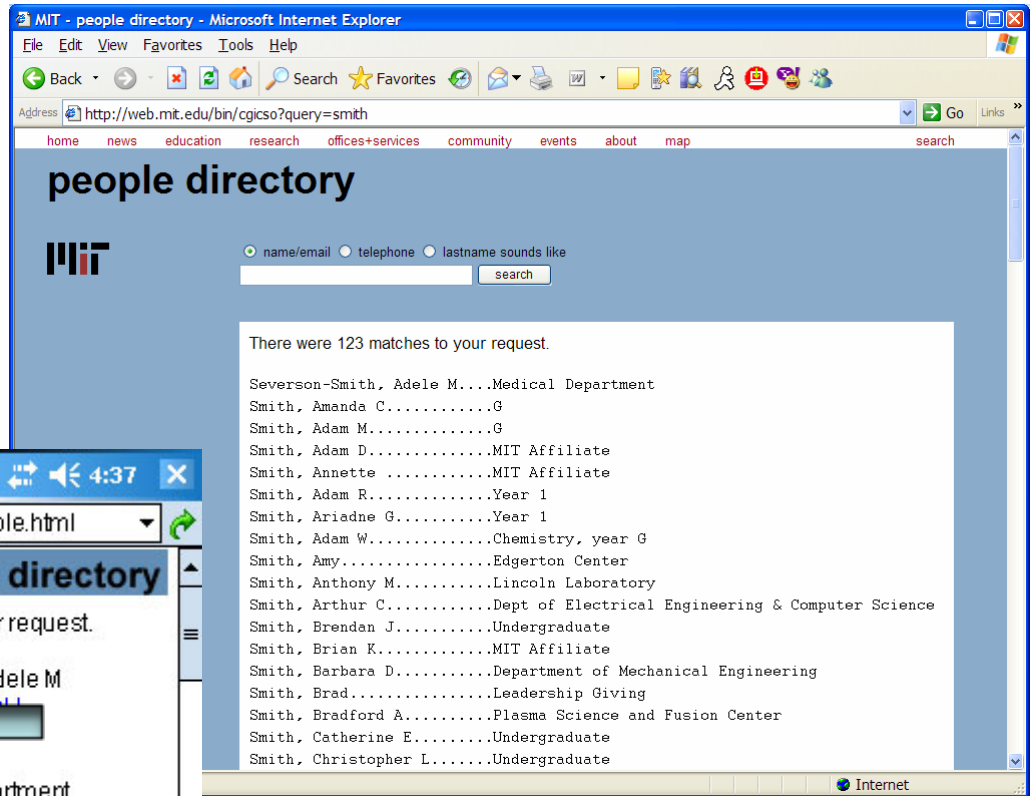
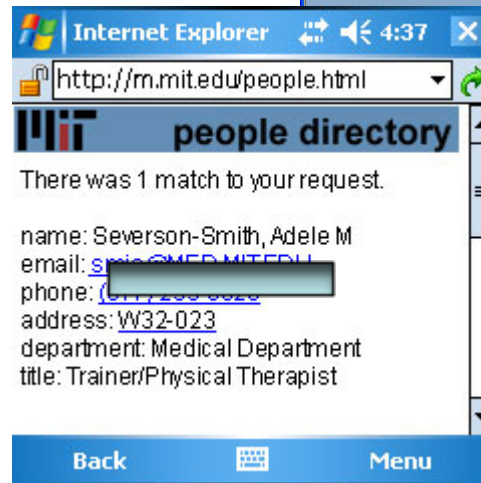
Mobile Web Example (Answers.com)



Mobile Web Example (MIT) [Before]



Mobile Web Example (MIT) [After]



Mobile Web Example (IS&T) [Before]

The image displays a collage of three mobile device screens and a desktop browser window, illustrating the MIT Information Services and Technology website's appearance on different platforms.

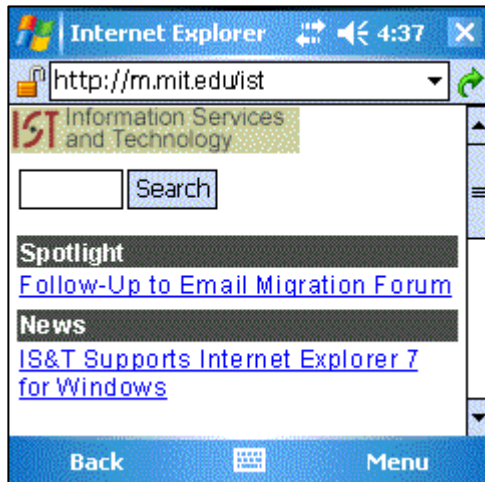
Mobile Screens (Blazer Browser):

- Top screen: Shows the URL `http://mit.edu/ist/` and a "Virus Protection" warning. Below the warning, it says "3-DOWN: Review status of major MIT services." and "Learn the basics of computing and communications." with a circular image of a person.
- Middle screen: Shows the "Getting Started" section with the same circular image and text.
- Bottom screen: Shows a "Quick Links" menu with items: Accessibility Info, Buying, Certificates, Email, Network/Connectivity, Request Tracker, Software, Telephone Services, Training, and Virus Protection.

Desktop Browser Window:

- Browser: MIT: Information Services and Technology - Information Services and Technology for the MIT Communi...
- Address Bar: `http://mit.edu/ist/`
- Navigation: Getting Started, Latest Headlines
- Search: Google search bar with "Search" button and "GO" button.
- Navigation Links: About IS&T, Contact IS&T, Site Map, Search, GO, Advanced Search
- Page Title: Information Services and Technology
- Page Description: Information services and technology for MIT
- Content Sections:
 - Quick Links:** Accessibility Info, Buying, Certificates, Email, Network/Connectivity, Request Tracker, Software, Telephone Services, Training, Virus Protection
 - Getting Started:** Learn the basics of computing and communications. (with circular image)
 - Getting Services:** Find information and services [by topic](#) or listed [alphabetically](#). (with circular image)
 - Getting Help:** Contact IS&T Help Desks. (with circular image)
 - Services Status:** 3-DOWN: Review status of major MIT services.
 - Spotlight:** Follow-Up to Email Migration Forum
 - News:** IS&T Supports Internet Explorer 7 for Windows, IS&T and CSAIL Deliver In-building Cellular Solutions to Stata and Broad, Prioritize Options When Buying a Computer [IS&T in the News: Boston Globe], IS&T Doubles Default Email Quota to 1 GB, More News...
- Footer: MIT logo, Information Services and Technology | 617.253.1101 | istweb@mit.edu | 77 Massachusetts Avenue Cambridge, MA 02139-4307

Mobile Web Example (IS&T) [After]



Mobile Web Example (Tech Shuttle)

Blazer

http://mit.edu/andrewyu/www

MIT Tech Shuttle Schedule

1- Kendall Square T

AM: 7:15 7:35 7:55 8:05 8:15 8:25 8:35
 8:45 8:55 9:05 9:15 9:25 9:35 9:45 9:55
 10:15 10:35 10:55 11:15 11:35 11:55

PM: 12:15 12:35 12:55 1:15 1:35 1:55
 2:15 2:35 2:55 3:15 3:35 3:55 4:15 4:35
 4:55 5:15 5:35 5:55 6:15 6:35 6:55

3- Building 39 (Vassar Street)

http://web.mit.edu/facilities/forms/TechShuttle_8_06.pdf - Windows Internet Explorer

http://web.mit.edu/facilities/forms/TechShuttle_8_06.pdf

Schedules

The Tech Shuttle operates weekdays from 7:15AM to 7:15PM.

The Northwest Shuttle operates weekdays from 7:15AM to 6:42PM. See web site for exact schedule.

The Tech and Northwest Shuttles do not operate on weekends and MIT holidays.

Schedules and Route Maps on <http://web.mit.edu/facilities/transportation/>

Tech Shuttle schedule
 RUNS THE ENTIRE CALENDAR YEAR

	7:15	7:35	7:55	8:05	8:15	8:25	8:35	8:45	8:55	9:05	9:15	9:25	9:35	9:45	9:55	10:05	10:15	10:35	10:55	11:15	11:35	11:55	12:15	12:35	12:55	1:15	1:35	1:55	2:15	2:35	2:55	3:15	3:35	3:55	4:15	4:35	4:55	5:15	5:35	5:55	6:15	6:35	6:55
Kendall Square T	7:17	7:37	7:57	8:07	8:17	8:27	8:37	8:47	8:57	9:07	9:17	9:27	9:37	9:47	9:57	10:07	10:17	10:37	10:57	11:17	11:37	11:57	12:17	12:37	12:57	1:17	1:37	1:57	2:17	2:37	2:57	3:17	3:37	3:57	4:17	4:37	4:57	5:17	5:37	5:57	6:17	6:37	6:57
Building 39	7:20	7:40	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:40	11:00	11:20	11:40	12:00	12:20	12:40	1:00	1:20	1:40	2:00	2:20	2:40	3:00	3:20	3:40	4:00	4:20	4:40	5:00	5:20	5:40	6:00	6:20	6:40	7:00

1:TechShuttle Scl

http://mit.edu/andrewyu/

MIT Tech Shuttle Schedule

1- Kendall Square T

AM: 7:15 7:35 7:55 8:05
 8:15 8:25 8:35 8:45 8:55
 9:05 9:15 9:25 9:35 9:45

PM: 12:15 12:35 12:55 1:15 1:35 1:55 2:15 2:35 2:55
 3:15 3:35 3:55 4:15 4:35 4:55 5:15 5:35 5:55 6:15

Action Menu

TechShuttle Schedule

MIT Tech Shuttle Schedule

1- Kendall Square T

AM: 7:15 7:35 7:55 8:05 8:15 8:25 8:35 8:45
 8:55 9:05 9:15 9:25 9:35 9:45 9:55 10:15 10:35
 10:55 11:15 11:35 11:55

PM: 12:15 12:35 12:55 1:15 1:35 1:55 2:15 2:35 2:55
 3:15 3:35 3:55 4:15 4:35 4:55 5:15 5:35 5:55 6:15



I S&T Mobile Device Support

- To Be Determined
- Questions to IT Partners
 - What type of support for mobile devices would benefit your users and the MIT community?
 - What type of issues related to mobile devices would be better supported locally and we can refer your users to you?
 - Given limited resources, some support for mobile devices might have to be fee based. What levels of support do you feel your users would see as premium and thus justify fees being charged?

Useful External Sites

- Palm OS:
 - www.palm.com
- Windows Mobile:
 - www.microsoft.com/windowsmobile
- BlackBerry:
 - www.rim.net
- Third-Party Software:
 - www.handango.com
- Mobile Web Sites:
 - wurfl.sourceforge.net
 - mobile.palmone.com/us/

Q&A

- Questions?
- Join Mobile Partners User Group
 - Web: <http://mit.edu/mobilepartners/>
- Please send feedback and additional questions to:
 - Andrew Yu (andrewyu@mit.edu)

Additional Slides

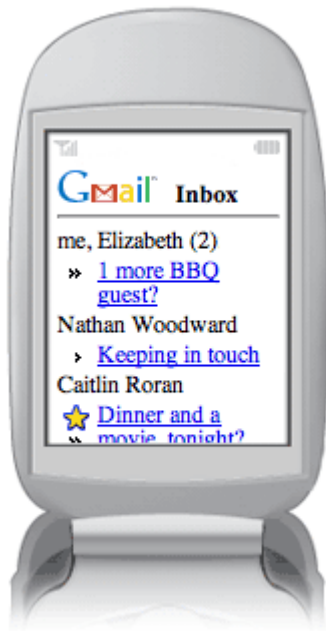
Fun Facts (1 Year Comparison)



Fun Facts (5 Year Comparison)



Mobile Web Example (Google)



arobase@gmail.com | [Contacts](#) | [Settings](#) | [Help](#) | [Sign out](#)

Gmail by Google BETA

Search Mail Search the Web [Show search options](#) [Create a filter](#)

Compose Mail Archive Repeat Spam More actions... Refresh 1 - 9 of 9

Select: All, Read, Unread, Starred, Unstarred, None

<input type="checkbox"/>	<input type="checkbox"/>	beth sabbat	Copains rich van duessen's party - Hey are you coming t...	3:25pm
<input type="checkbox"/>	<input type="checkbox"/>	Enquête nationale	Monsieur Roussel, votre avis est important! - Allez sur ...	3:17pm
<input type="checkbox"/>	<input type="checkbox"/>	Janil Hijazi [EOS M.	contact avec le Guide des Services Multimédia Mobiles ...	3:16pm
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Arobase.org	Inscription - Arobase.org ;) - Bonjour Nous venons de ...	3:13pm
<input type="checkbox"/>	<input type="checkbox"/>	Splo ListServer	Inscription "Arobase.org" - Splo ListServer) Bonjour M...	3:12pm
<input type="checkbox"/>	<input type="checkbox"/>	Winadoo La Newslatt.	Le point sur les virus 1 - 1125113.jpg 1125222.jpg Septe...	3:11pm
<input type="checkbox"/>	<input type="checkbox"/>	Luce Avérous	information de la part d'un utilisateur mac - contr...	3:10pm
<input type="checkbox"/>	<input type="checkbox"/>	Daniel Gagnon	Vous voulez des infos sur gmail ? - Vous voulez ...	2:37pm
<input type="checkbox"/>	<input type="checkbox"/>	Gmail Team	Gmail is different. Here's what you need to know. - Fir...	Jul 5

Select: All, Read, Unread, Starred, Unstarred, None

Archive Repeat Spam More actions... 1 - 9 of 9

Visit [settings](#) to save time with keyboard shortcuts!

You are currently using 1 MB (9%) of your 100 MB.

[Terms of Use](#) - [Privacy Policy](#) - [Program Policies](#) (updated on 4/09) - [Google Home](#)

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Email: Outlook Mobile (Setup)

The image displays a sequence of screenshots from the Outlook Mobile application, illustrating the setup process for an email account. The screenshots are arranged in a grid, showing the progression from account selection to final configuration and a certificate warning.

- Top Row:** Shows the initial account selection screen with a list of accounts. A yellow box highlights the "New Account..." option. This is followed by four "E-mail Setup" screens (1/5 to 4/5) for configuring an account for "mobile1@mit.edu".
 - E-mail Setup (1/5):** Shows the "E-mail address" field with "mobile1@mit.edu" entered.
 - E-mail Setup (2/5):** Shows "Auto configuration" options. A "Download..." button is highlighted.
 - E-mail Setup (3/5):** Shows "User information" fields: "Your name" (Andrew Yu), "User name" (mobile1), and "Password" (masked).
 - E-mail Setup (4/5):** Shows "Account information" fields: "Account type" (IMAP4) and "Name" (MIT 2).
- Bottom Row:** Shows the "Options" configuration screens (1/3 to 3/3) and a final confirmation dialog.
 - Options (1/3):** Shows "Server information" fields: "Incoming mail" (po11@mit.edu), "Outgoing mail" (outgoing.mit.edu), and "Domain". An "Options" button is highlighted.
 - Options (2/3):** Shows connection options: "Only display messages from the last 30 days", "Require SSL connection", and "Outgoing mail requires authentication".
 - Options (3/3):** Shows message retrieval options: "Get message headers only", "Include 2 KB of message body", and "Only if smaller than 25 KB".
 - Final Dialog:** A "Messaging" dialog asks "Would you like to download mail for this new account now?" with "Yes" and "No" buttons.
- Bottom Center:** A "Warning" dialog box states "The server certificate is invalid. Continue anyway?" with "Yes" and "No" buttons.

The interface includes a virtual QWERTY keyboard and a navigation bar at the bottom of each screen. The MIT logo is visible in the top left corner of each screenshot.

December 5, 2006



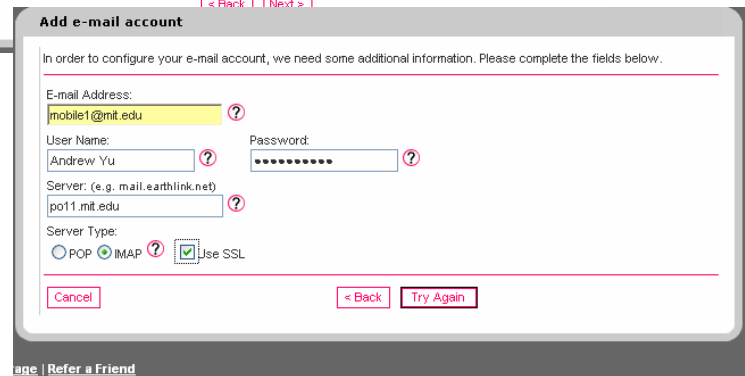
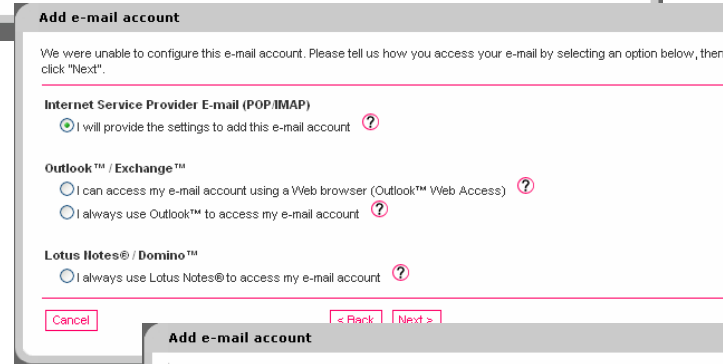
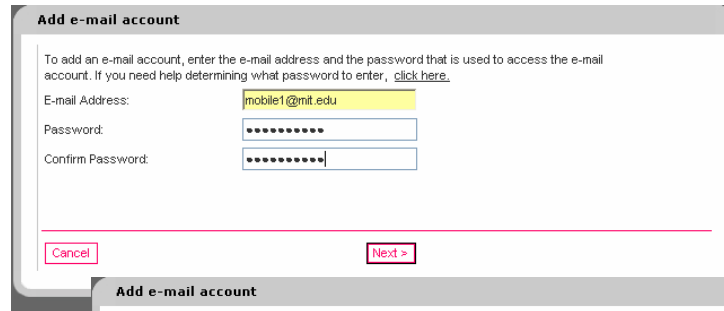
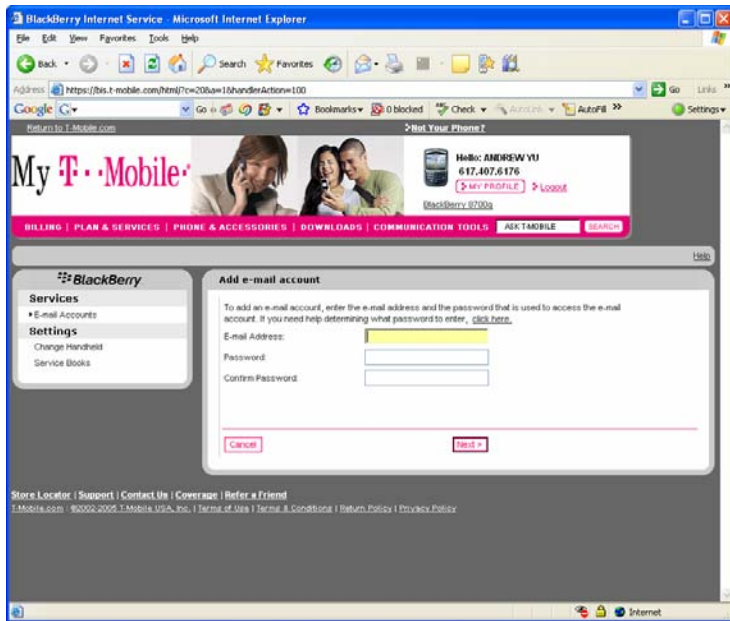
Palm OS Email: SnapperMail

The image is a collage of several screenshots from the SnapperMail application on a Palm OS device. The top-left screenshot shows the main menu with options like 'Send...', 'Receive...', and 'Edit Accounts...'. The top-middle screenshot shows the 'Edit Accounts' screen with a 'Compose new messages with:' dropdown and an 'Edit IMAP4 Account' dialog box. The dialog box contains fields for 'Identity' (MIT 1), 'Server' (po9.mit.edu), 'Username' (andrewyu), and 'Password' (-Assigned-). The top-right screenshot shows the 'E-mail Setup (3/5)' and 'E-mail Setup (4/5)' screens, with fields for 'Your name', 'User name', and 'Password'. The middle-left screenshot shows the 'E-mail Setup (4/4)' screen with 'Server information' fields for 'Incoming mail', 'Outgoing mail', and 'Domain'. The middle-middle screenshot shows the 'Options (1/3)' screen with checkboxes for 'Only display messages from the last 30 days', 'Require SSL connection', and 'Outgoing mail requires authentication'. The middle-right screenshot shows the 'Options (3/3)' screen with a dropdown for 'Get message headers only' and checkboxes for 'Include 2 KB of message body' and 'Only if smaller than 25 KB'. The bottom-left screenshot shows a keyboard overlay. The bottom-middle screenshot shows a 'Warning' dialog box: 'The server certificate is invalid. Continue anyway?' with 'Yes' and 'No' buttons. The bottom-right screenshot shows a 'Messaging' dialog box: 'Would you like to download mail for this new account now?' with 'Yes' and 'No' buttons. The SnapperMail logo is visible in the top-left screenshot. The IST logo is in the bottom-right corner.

December 5, 2006

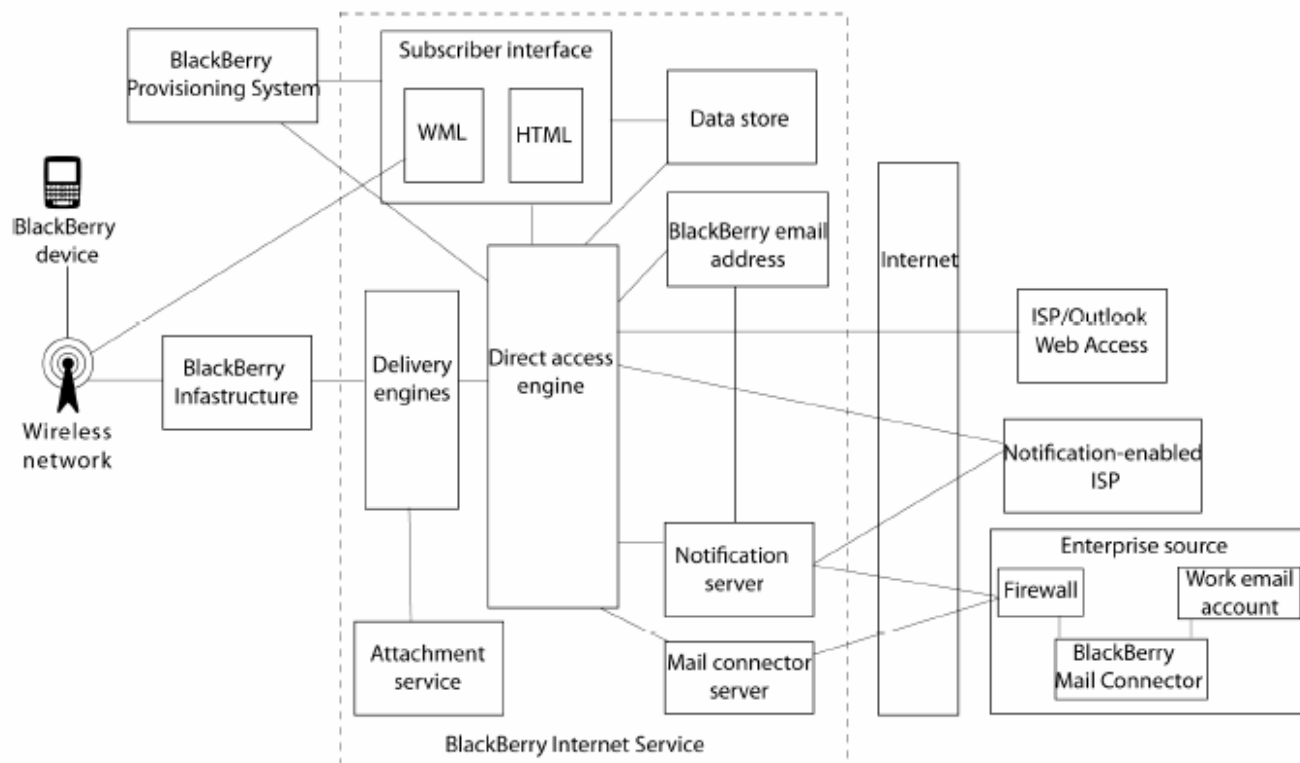


Email Setup (BIS) via Carrier Web Site

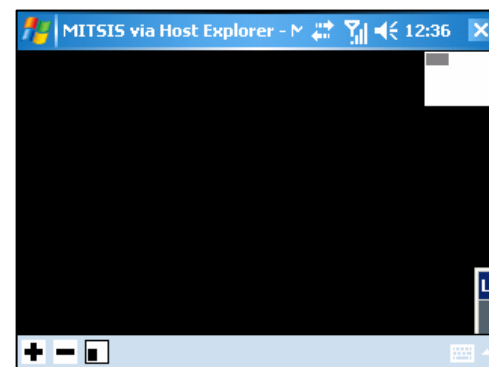
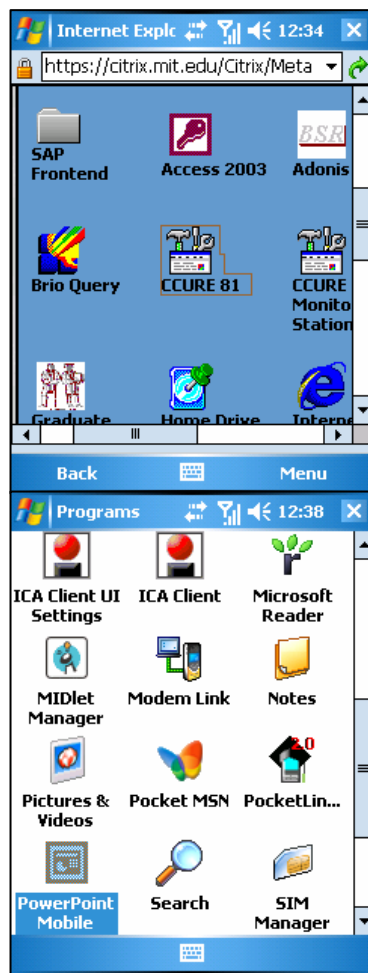
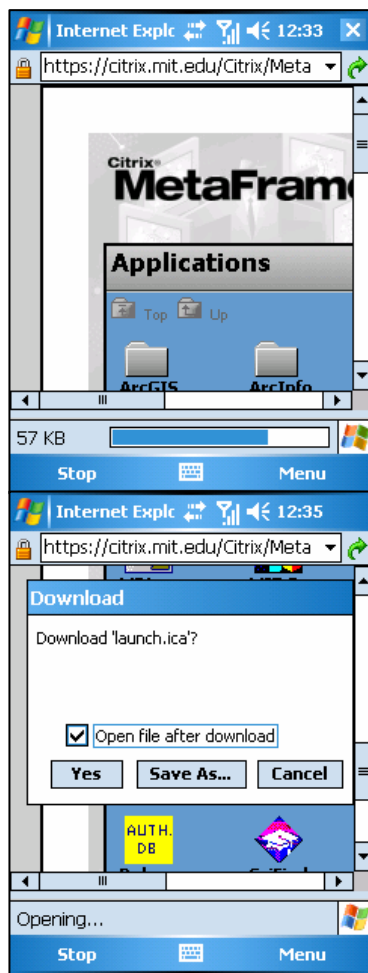
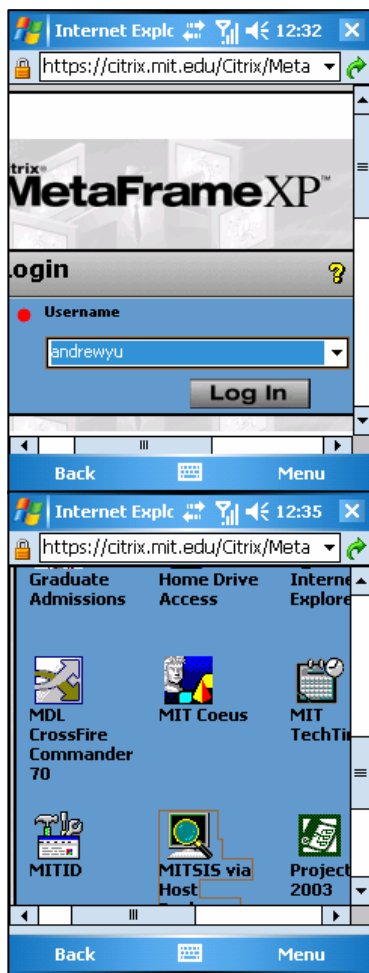


BIS Architecture Overview

Architecture overview



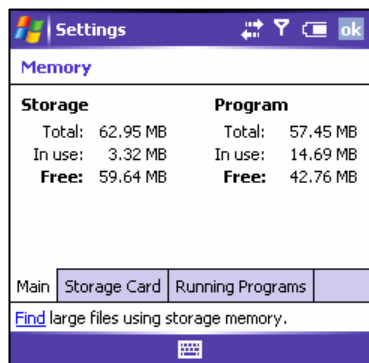
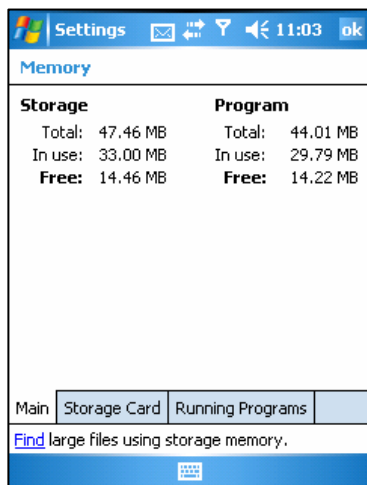
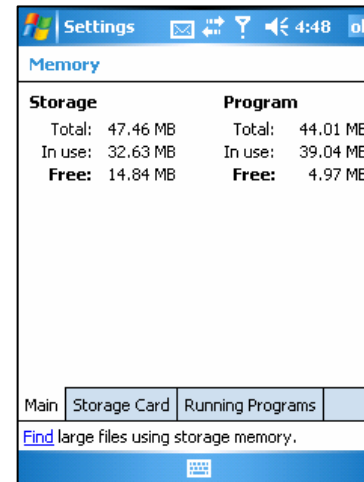
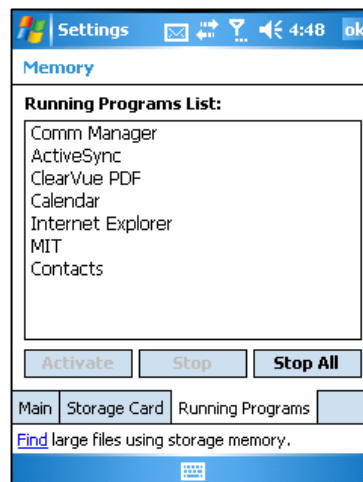
Windows Mobile: Citrix



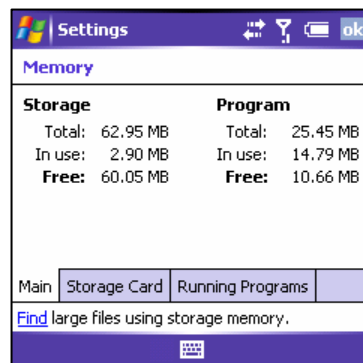
Windows Mobile Memory Management

NOTE: The following items will be added to the slide

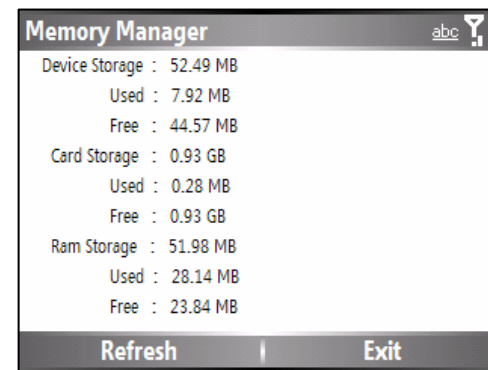
Multi-threading requires manual user management of memory on Windows Mobile



Sprint Palm Treo 700WX



Verizon Palm Treo 700W



Verizon Motorola Q

Cingular 8125