



What's So Different About IM and the Web?

Timothy Kay, CTO
ActiveBuddy, Inc.
tim@activebuddy.com
October 22, 2003

Overview

- ActiveBuddy introduction
- Interactive Agents
- IM versus Web
- A Proposal

Who is ActiveBuddy?

ActiveBuddy is the leading provider of text messaging software and applications.

Our BuddyScript™ suite of products empowers developers to create and deploy text messaging applications.

Download today at <http://BuddyScript.com/>.

What is an Interactive Agent?

- A software robot that lives on text messaging services, responding to user queries to provide information, services, and entertainment.
- The key: it's **INTERACTIVE**
 - uses Natural Language
 - tracks context and preferences
 - prompts user for needed information
 - gives immediate access to notification settings

SmarterChild Session

JoeUser: hi

SmarterChild: Welcome, JoeUser! I'm SmarterChild. I was created by [ActiveBuddy, Inc.](#)

Chat with me! I can help you get information faster and easier than ever.

To get started, type "**home**" now.

JoeUser: home

SmarterChild: Welcome, JoeUser! This is my **home**.

Check out what we can chat about:

news sports
stocks library
weather fun and games
movies utilities
web search web site
zodiac what's new
~~~~~

help

How may I help you?

**JoeUser:** sports

**SmarterChild:** I love to chat about sports. You can ask me about:

- 1 NFL football
- 2 NBA basketball
- 3 NHL hockey

What would you like?

**JoeUser:** 3

**SmarterChild:** Let's chat about hockey! Here's what I know about:

- 1 NHL scores/schedule
- 2 Team scores/schedules
- 3 Standings

What are you interested in?

**JoeUser:** 1

**SmarterChild:** There are no games scheduled for June 28th, 2002.

**JoeUser:** What are the headlines?

**SmarterChild:** Headline news provided by [Reuters.com](http://Reuters.com), © 2002

- 1 [Xerox Says Will Restate Earnings](#) (06/28/02 08:26 AM)
- 2 [Angered Bush to Give Speech on Corporate Reforms](#) (06/28/02 09:13 AM)
- 3 [Photo of Palestinian Baby 'Bomber' Raises Row](#) (06/28/02 08:23 AM)
- 4 [Police Seize Items in Utah Kidnapping Case](#) (06/28/02 07:11 AM)
- 5 [At Least 19 Killed in Afghan Ammunition Blast](#) (06/28/02 05:54 AM)

Type "**more**" to see the next set of stories.

**JoeUser:** 5

**SmarterChild:** This news story is provided by [Reuters.com](http://Reuters.com)

At Least 19 Killed in Afghan Ammunition Blast

(06/28/02 05:54 AM ET) By Saeed Ali Achakzai

CHAMAN, Pakistan (Reuters) - At least 19 Afghan soldiers and civilians were killed when an ammunition dump blew up on Friday, unleashing a chain of explosions that spread damage across a wide area, witnesses and officials said.

Get the [full story](#) from Reuters.com

**JoeUser:** 3

**SmarterChild:** 3

>>> Type "**what's new**" to find out about my latest features and my newest bot friends!

# ActiveBuddy Customers



**SmarterChild** [AIM](#) [AOL](#) [WAP](#) [SMS](#) [Email](#)

Meet SmarterChild! ActiveBuddy developed SmarterChild to showcase our technology. He delivers instant access to games, movie showtimes, news headlines, stock quotes and more.



**Mia Hamm 9** [AIM](#) [AOL](#)

IM with MiaHamm9 for the 411 on Mia's play, training, and fav things.



**RecipeBuddie** [AIM](#) [Yahoo!](#)

Need an idea for dinner? Meet RecipeBuddie, your IM recipe pal.



**dnLFlipIt**

Delivered the latest info on dnL events, promotions, exclusive offers and the latest hits from some hot artists.



**BBCi Search Buddy**

Provided commercial-free, family friendly, high-quality search via instant-message.



**DellDudeSteven**

Chatting with Steven from Dell's TV commercials made buying a new computer a lot more fun!



**ELLEgirlBuddy**

Provided beauty and fashion information for the modern teen girl!



**My eBay Buddy**

Answered frequently asked questions about using eBay, other info about the company, games and more.



**NoBoundariesTV**

Chatted about "No Boundaries," the reality adventure series that aired Sunday evenings on the WB!



**RingMessenger**

Knew all about the feature films of "The Lord of the Rings Trilogy: The Fellowship of the Ring, The Two Towers & Return of the King."



**LindsayBuddy**

Promoted young singing sensation Lindsay Pagano and her Warner Bros. Records debut, "Love&Faith&Inspiration."



**GooglyMinotaur**

Delivered Radiohead music, band information, games, horoscopes and more in support of the album "Amnesiac."



**TattleTeller**

Delivered news, gossip, reviews, nominees and winners for the 74th Annual Academy Awards®!



**TheSportingNews**

Provided NFL player stats, news and injury updates to fantasy football team owners.



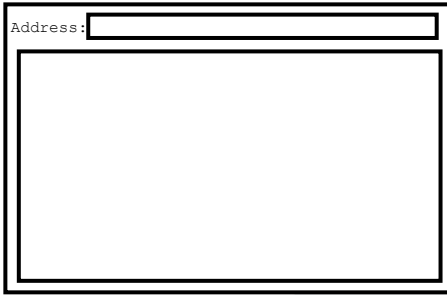
**AgentBaseball**

Delivered the latest scores, stats and standings right to your IM window faster than a Pedro Martinez fastball! Baseball, football, and basketball scores have moved to SmarterChild.

# What are IM's major innovations?

- Presence
- User interface
  - guaranteed low latency
  - explicit interaction (as compared to an email thread)
  - always show the UI (contact list)
- **Sender authentication**
  - IM is the only Internet communications protocol that is sender authenticated (not Web, not email, not IRC)
  - Sender authentication empowers the presence





# Web Applications

**Account Summary - Mozilla Firebird**

File Edit View Go Bookmarks Tools Help

Address: [https://online.wellsfargo.com/mn1\\_nw4\\_on/cgi-bin/session.cgi?sessargs=lmb5VUgKRHWOL-MU](https://online.wellsfargo.com/mn1_nw4_on/cgi-bin/session.cgi?sessargs=lmb5VUgKRHWOL-MU)

Home  
Sign Off  
Help  
Contact Us

Account Summary Transfer Bill Pay Services Main Menu Select a Destination go

### Cash Accounts

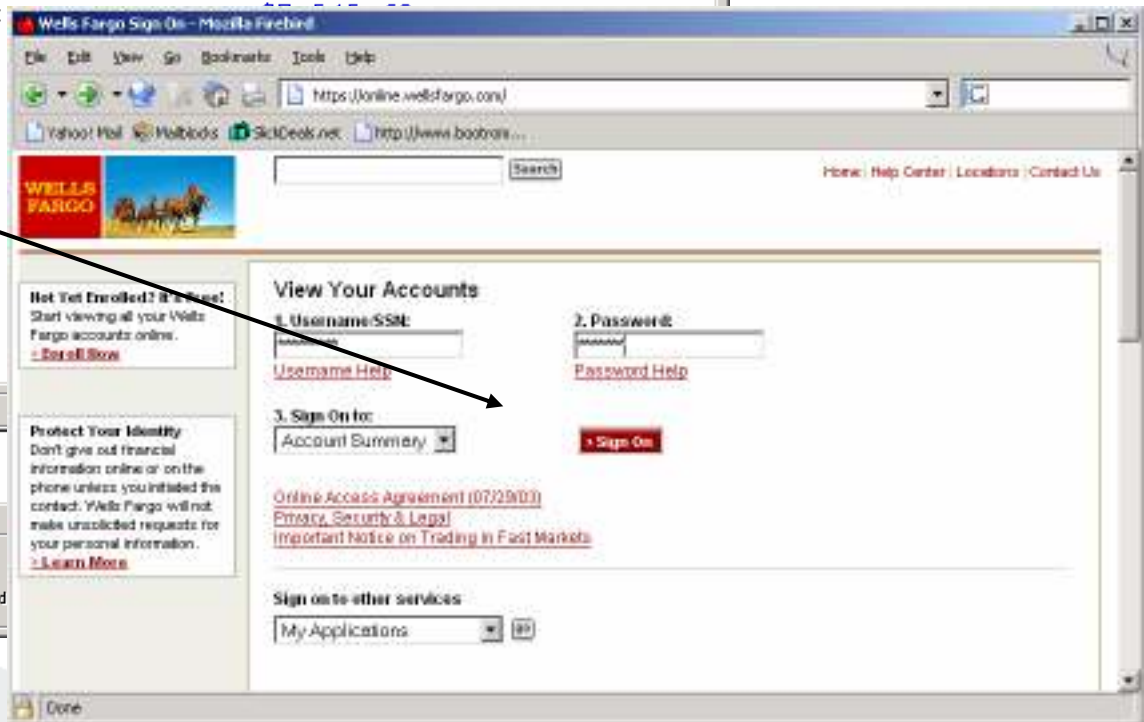
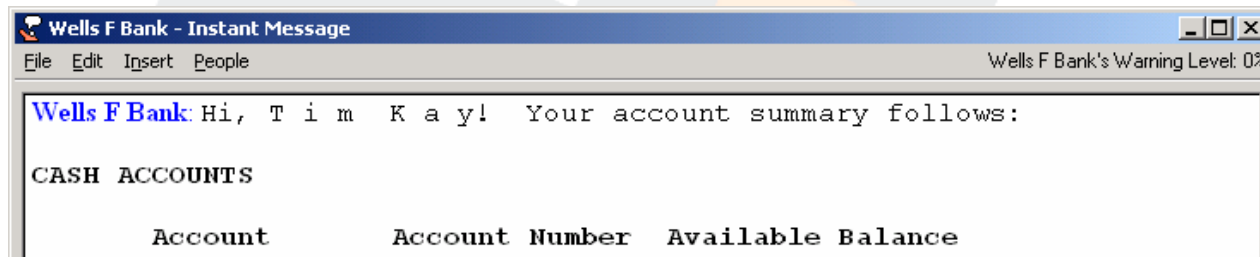
| Account                                        | Account Number | Available Balance          |
|------------------------------------------------|----------------|----------------------------|
| Personal Checking <a href="#">Add Bill Pay</a> | 086- xxx xxx   | <a href="#">\$7,545.60</a> |
| <b>Total</b>                                   |                | <b>\$7,545.60</b>          |

[Enroll for Online Statements](#)

To end your session, be sure to [Sign Off](#).

[Account Summary](#) | [Transfer](#) | [Bill Pay](#) | [Services](#) | [Main Menu](#)  
[Home](#) | [Sign Off](#) | [Help](#) | [Contact Us](#) | [Brokerage](#)

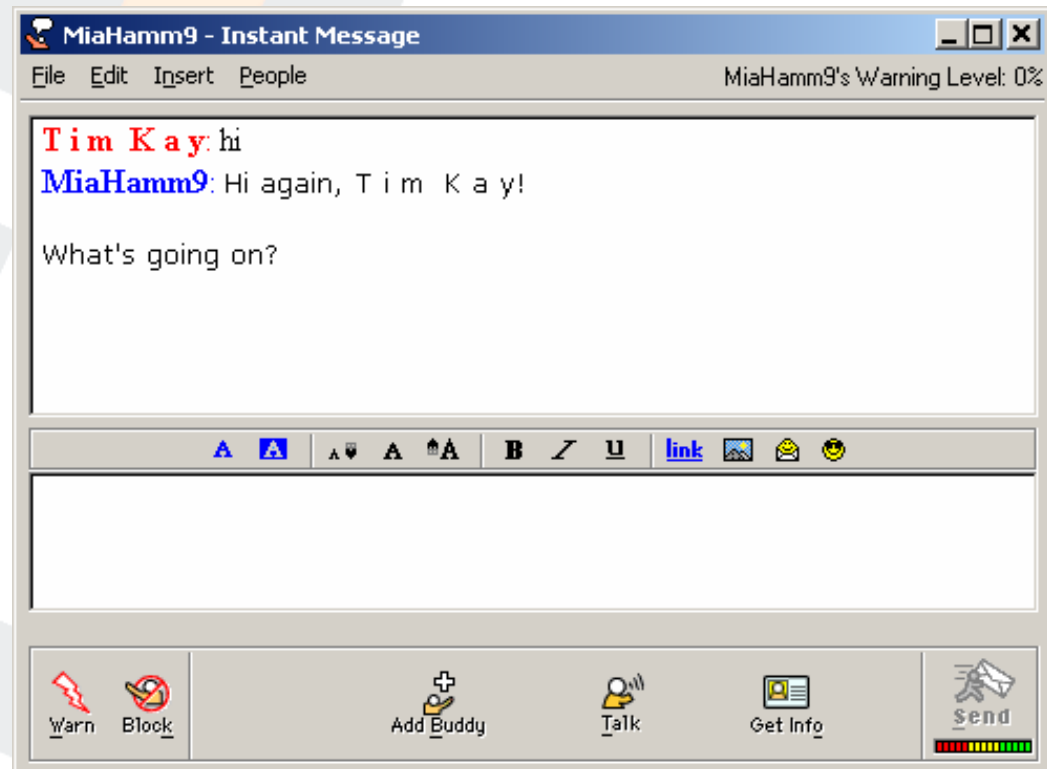
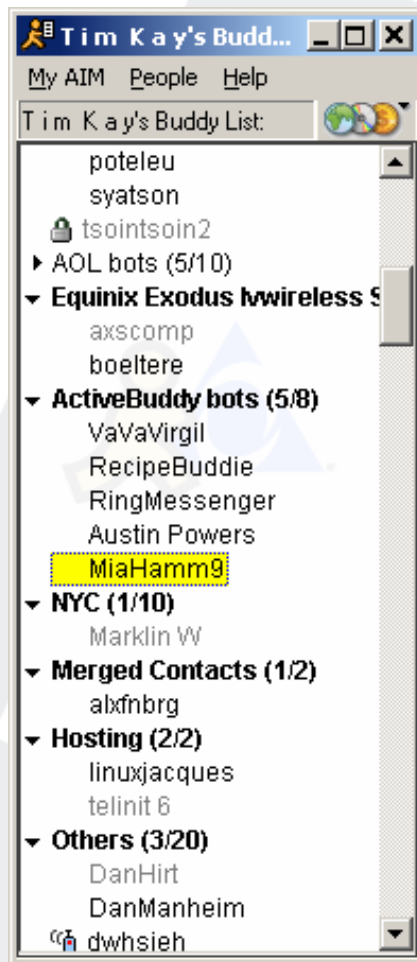
# IM Applications



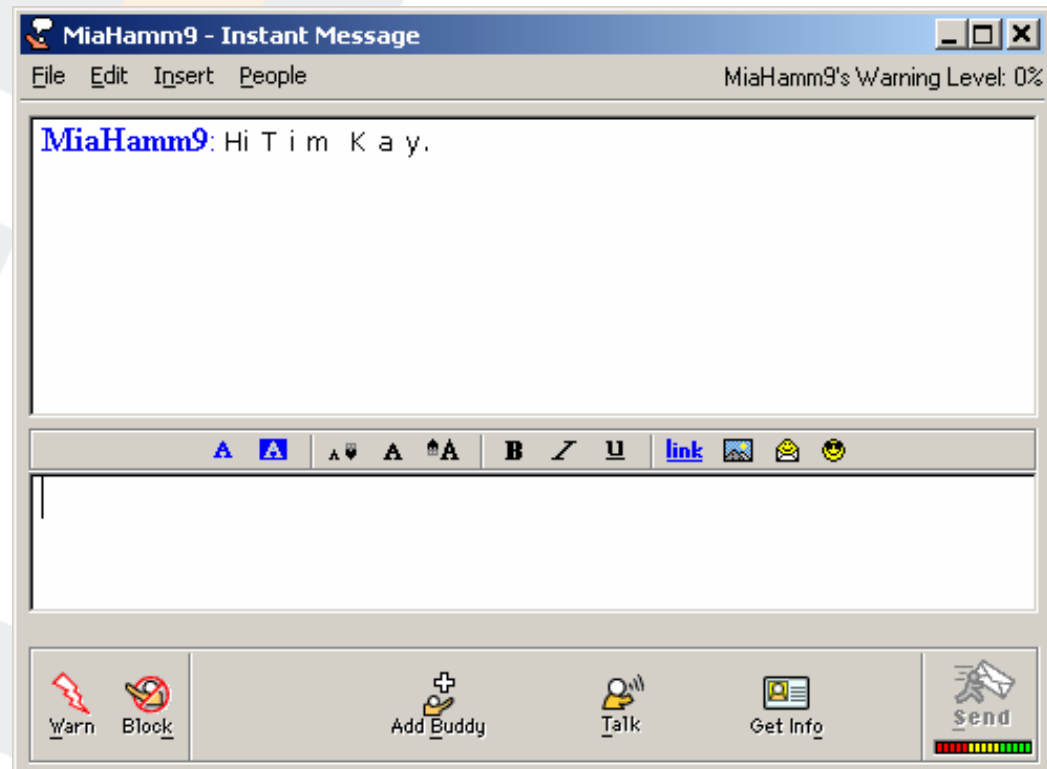
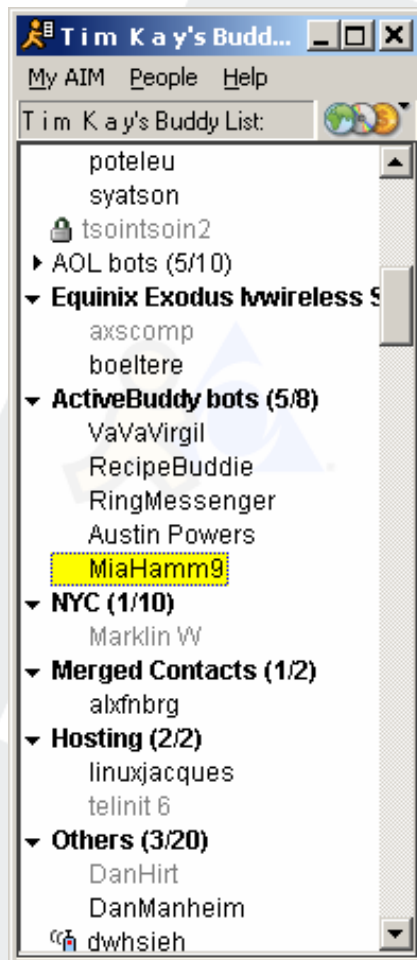
## Define “Ring” Message

- IM client sends a message to indicate that the user has opened a conversation window, before anything is typed.
- MSN and Yahoo: Tells IM service to establish a new connection to the Switchboard.
- AIM/ICQ: no Ring message!
- Tells Interactive Agent to initiate the conversation!

# Example: No Ring Message

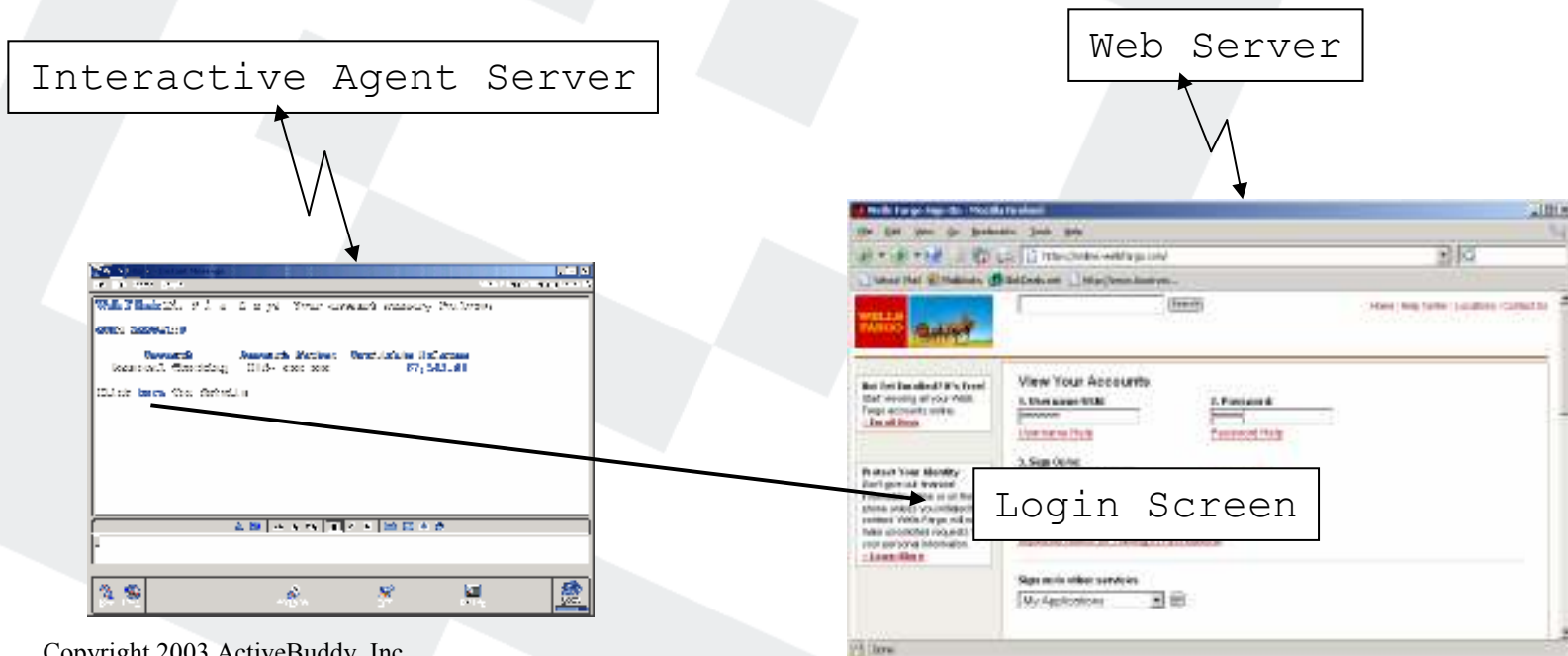


# Example: Ring Message



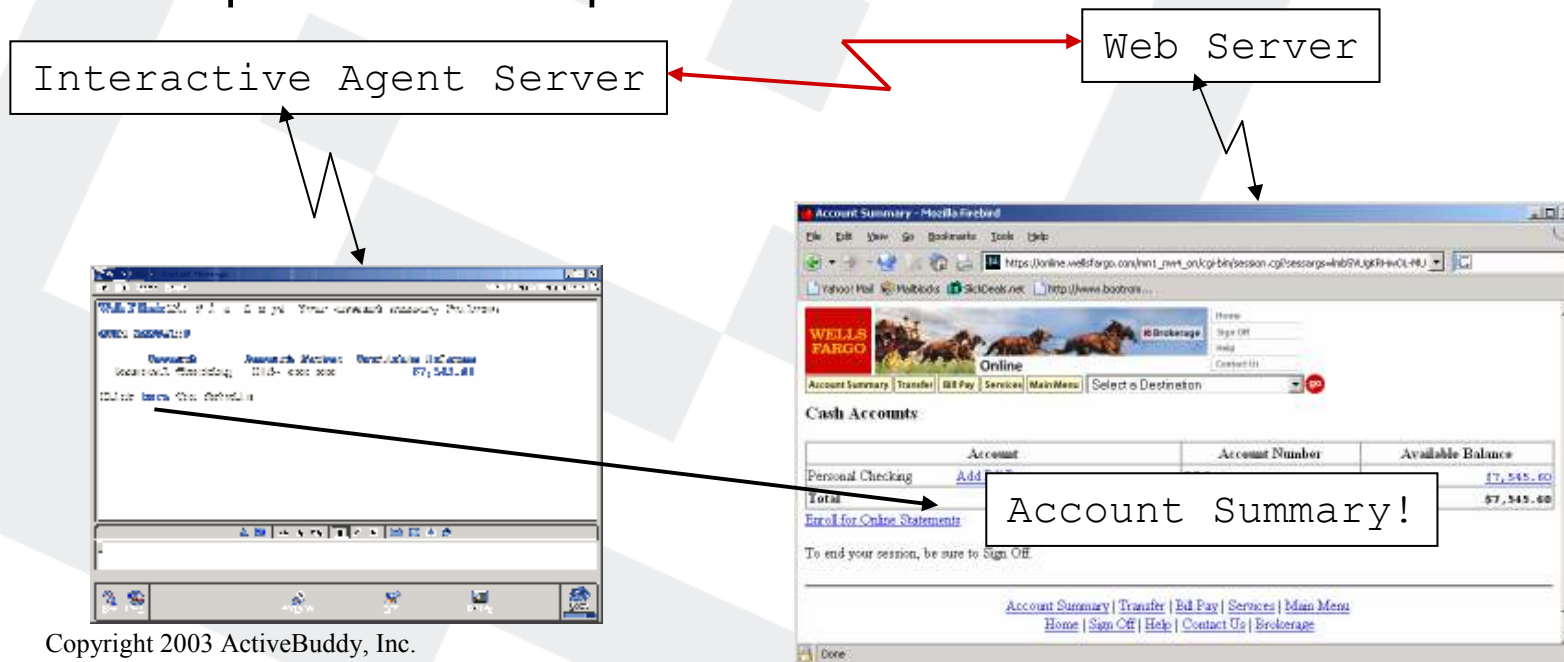
# IM Link

1. User initiates an IM session with an Interactive Agent
2. No password is required
3. An IM link takes the user to the Web
4. ... where a password is required



# IM Link with One-time Passwords\*

1. The user is already authenticated (via IM). Let's leverage that authentication on to the Web.
2. Add a one-time password to the link  
`https://online.wellsfargo.com/bot.asp?otp=563775793875997`
3. The Web server consults the Interactive Agent server to discover the identity of the user
4. No password is required!





\*see United States Patent 6,430,602



# Is there room for both?

The image shows two overlapping windows from a Windows XP desktop. The top window is an instant message titled "Wells F Bank - Instant Message". The bottom window is a Mozilla Firefox browser displaying the Wells Fargo online account summary page.

**Wells F Bank - Instant Message**

Wells F Bank: Hi, Tim Kay! Your account summary follows:

**CASH ACCOUNTS**

| Account           | Account Number | Available Balance |
|-------------------|----------------|-------------------|
| Personal Checking | 086- xxx xxx   | \$7,545.60        |

Click [here](#) for details

**Wells Fargo Sign On - Mozilla Firebird**

Account Summary - Mozilla Firebird

https://online.wellsfargo.com/mn1\_nw4\_on/cgi-bin/session.cgi?sessargs=lm5VUgKRHwOL-MU

WELLS FARGO Online

Account Summary | Transfer | Bill Pay | Services | Main Menu | Select a Destination [go]

**Cash Accounts**

| Account           | Account Number | Available Balance |
|-------------------|----------------|-------------------|
| Personal Checking | 086- xxx xxx   | \$7,545.60        |
| <b>Total</b>      |                | <b>\$7,545.60</b> |

[Enroll for Online Statements](#)

To end your session, be sure to Sign Off.

[Account Summary](#) | [Transfer](#) | [Bill Pay](#) | [Services](#) | [Main Menu](#)  
[Home](#) | [Sign Off](#) | [Help](#) | [Contact Us](#) | [Brokerage](#)

# Yes, there is room for both!

## IM

- pervasive
- light weight
  - faster access
  - wireless
- less intimidating
  - everybody is an expert
- fast to develop
- capture user intent
- single sign on

## Web

- pervasive
- rich media capabilities
- forms
- standard
- “free”

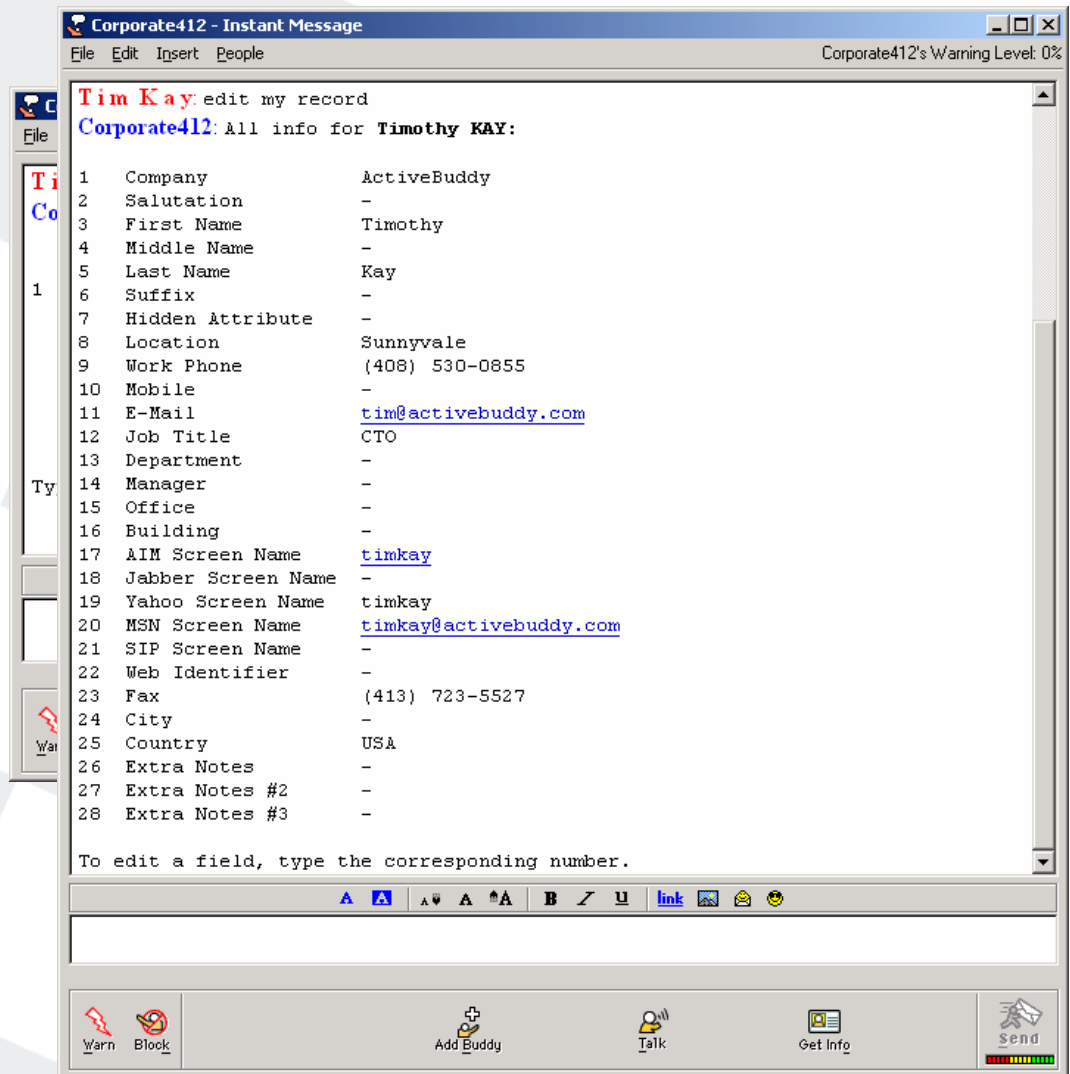
# Example: Corporate 412

Pro:

- A better Corporate 411
- Single sign on
- Really is effective
  - clinical evidence

Con:

- You can't convince me that IM is better for data entry!



# Web Offers Good Things

- Forms
- Graphical layout
- Point and click

The screenshot shows a web browser window titled "Yahoo! Address Book - timkay - Mozilla Firebird". The address bar shows the URL "http://address.yahoo.com/yab/us?.rand...". The browser's menu bar includes File, Edit, View, Go, Bookmarks, Tools, and Help. The page header features the "YAHOO! Address Book" logo and navigation links for "Yahoo! - My Yahoo! - Help". A search box is located in the top right corner.

The main content area is titled "Edit Contact" and includes a navigation bar with buttons for "Save Contact", "Save and Add Another", "Cancel", and "Delete Contact". Below this, the "Primary Information" section contains the following fields:

|            |                                                                                                            |        |      |
|------------|------------------------------------------------------------------------------------------------------------|--------|------|
| Name:      | Timothy                                                                                                    |        | Kay  |
|            | First                                                                                                      | Middle | Last |
| Email:     | tim@nerds.com                                                                                              |        |      |
| Yahoo! ID: | timkay                                                                                                     |        |      |
| Nickname:  | Tim                                                                                                        |        |      |
|            | Use Nicknames in Yahoo! Mail as shortcuts to your contact's full email address. <a href="#">Learn More</a> |        |      |
| Category:  | Unfiled                                                                                                    |        |      |

The "Phone Numbers" section contains the following fields:

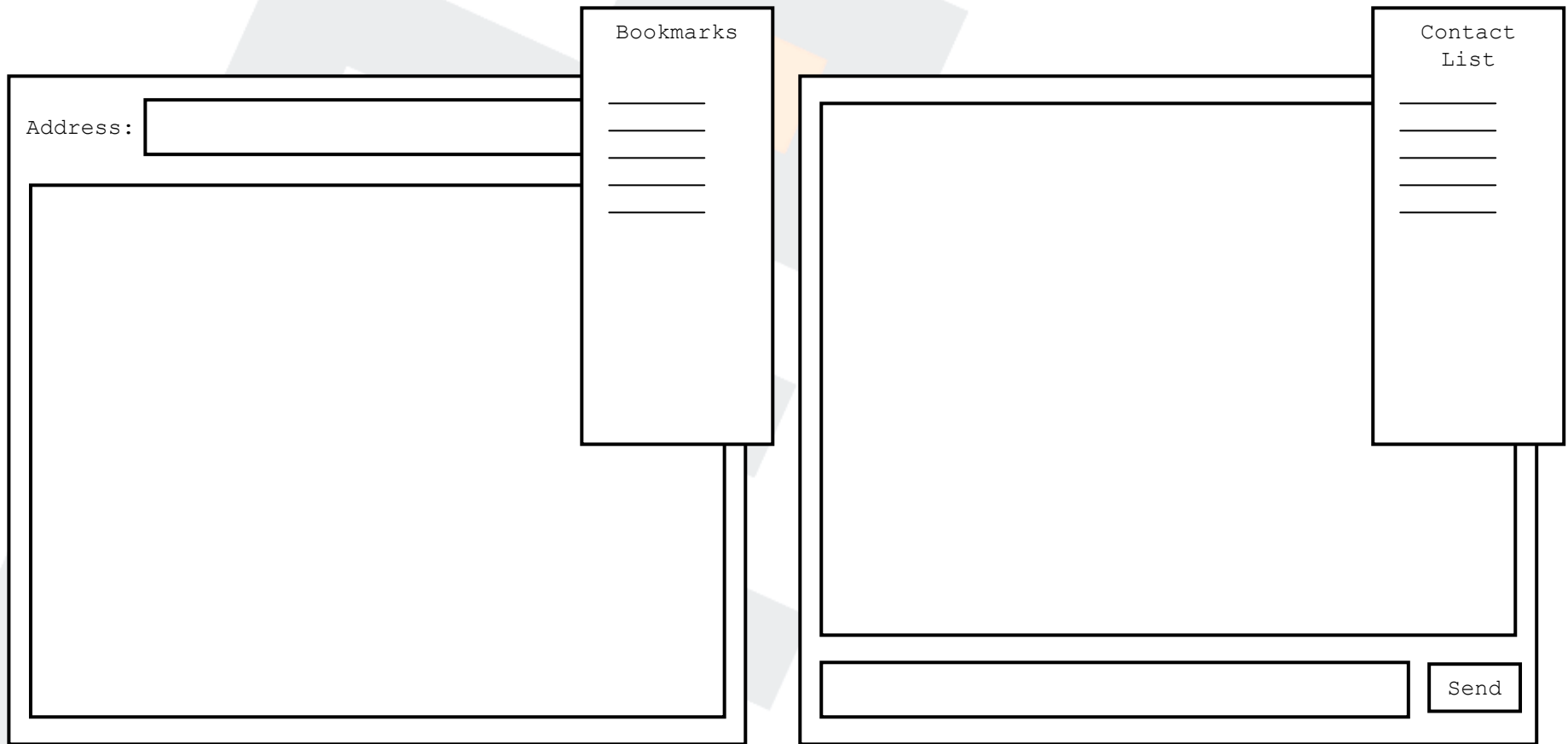
|           |              |       |              |
|-----------|--------------|-------|--------------|
| Personal: | 650-941-6249 |       | 650-814-2549 |
|           | Home         | Pager | Mobile       |
| Work:     | 650-559-0689 |       |              |
|           | Work         | Fax   |              |
| Misc:     |              |       |              |
|           | Y! Mailbox   | Other |              |

At the bottom, the "Primary Location" section has radio buttons for "Home" (selected) and "Work". The status bar at the bottom of the browser window displays "Done".

# Hmmm...

- The Web is good.
- IM is good.
- Can we get the best of both worlds?
  
- I love Tallulah!!!! 😊 :-) ;-) :-D

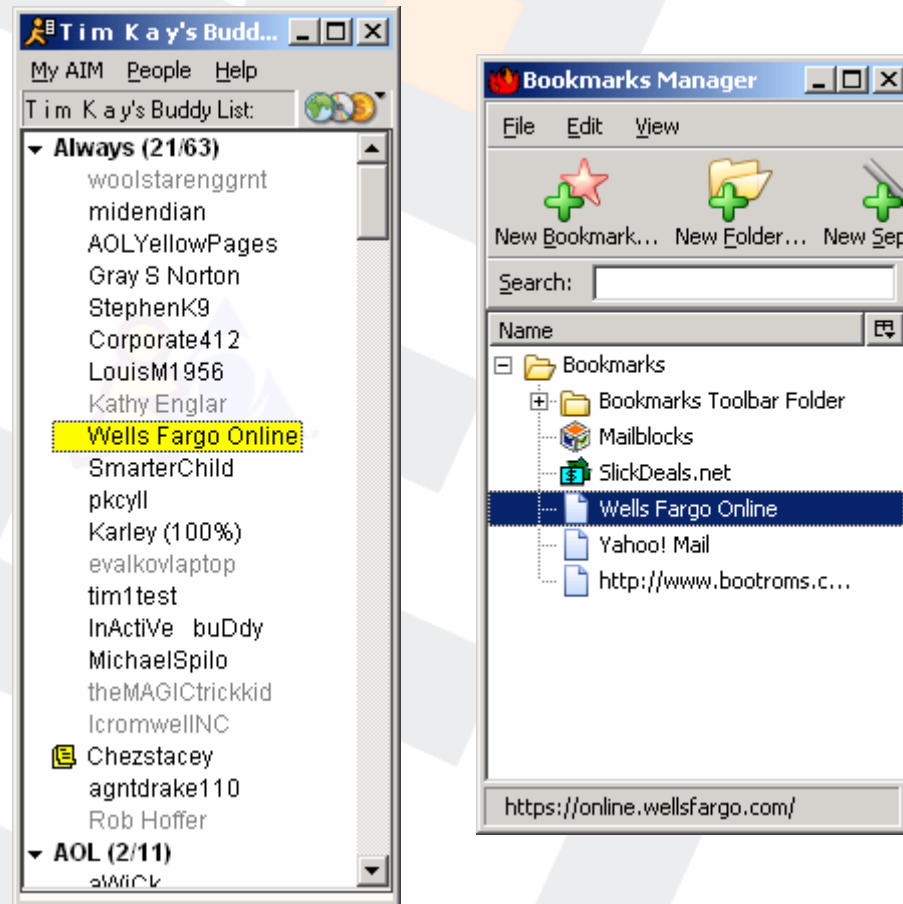
# IM versus the Web



**Web**

**IM**

# Bookmarks and Contacts



# A Proposal

*Combine the IM and Web clients*



# A Proposal (cont'd)

- Suppose you enhanced the IM client to add features...
  - Add the ability to view Web pages
    - When the user clicks on an IM link, the Web page shows up in place.
    - User can enter a conversational query at any point.
    - IM session history merges conversations with Web pages.
  - Add “*magic* IM link”, which is a IM link that clicks itself
  - Add ring message (to AIM)
  - Add (optional) HTTP over IM

# Solves Problems

## Web:

- Single sign on
- Web push
- Firewall problem

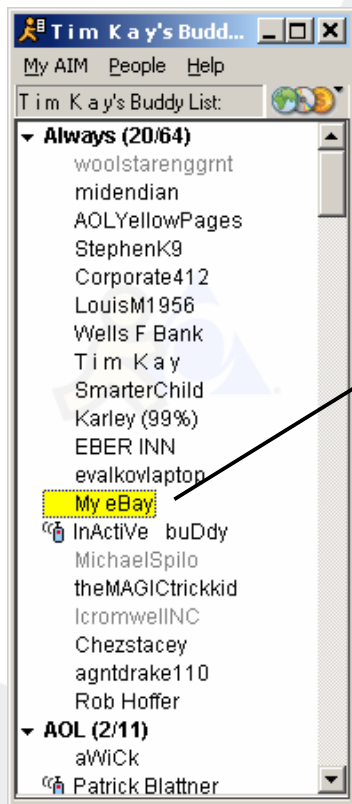
## IM:

- Data entry

# Single Sign On

- IE 3.0 + Verisign Level I certificates
  - The installer offered a wizard that let you sign up for a free Level I certificate. Then not one Web site supported it.
- Passport Single Sign On
  - Microsoft offers a Single Sign On solution, but vendors don't trust them. They just retired their Passport Wallet.
- Unsolved Problem
  - Currently you need to remember various account names and passwords to use various Web sites.

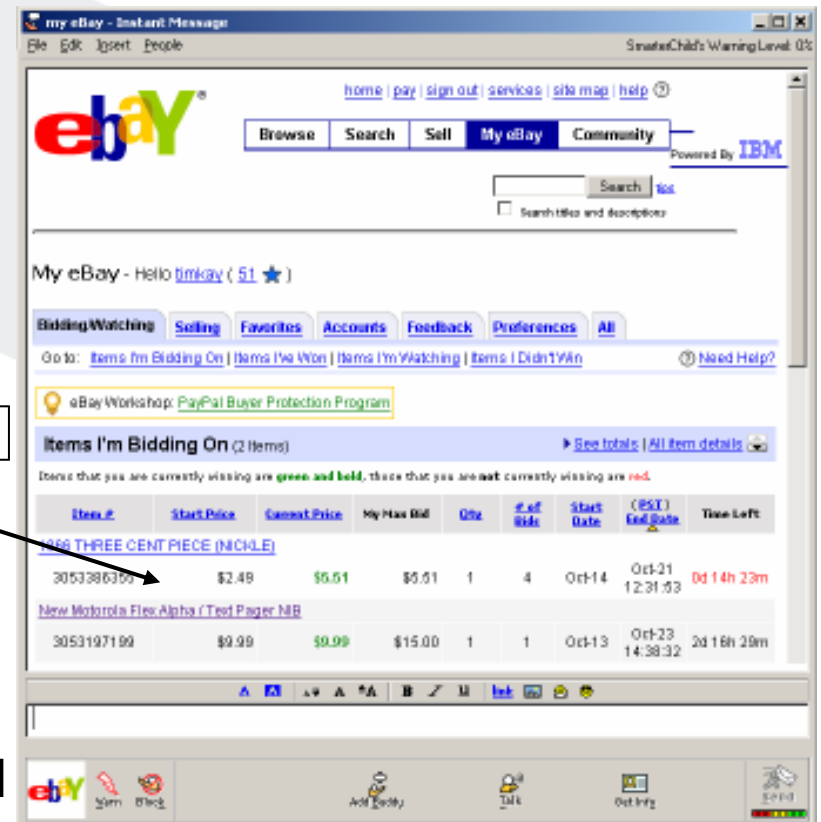
# Example: My eBay (without sign on)



Tim Kay: invisibly sends ring message

My eBay: magic IM link (with OTP)

1. User double clicks
2. Client sends ring message
3. Service responds with IM containing magic IM link
4. Client opens web page



# Seamless Upward Path

- No substantial changes to server side
  - except for new authentication page that communicates with Interactive Agent server
  - after authentication, a session is created, and everything works unchanged
- Works with traditional clients
  - except that the “magic” is ignored
  - user must click manually (sees “click here”)

# Web Push

- Pointcast
  - Everybody loved it!
- Windows Messenger Tabs
  - Nobody uses it.
  - It's yet another interface.
- Alerts
  - The Big Three do alerts, but it is hard for 3<sup>rd</sup> parties to partake.
  - It's yet another interface.
- Unsolved Problem

# Example: My eBay (Web push)

My eBay: magic IM link (with OTP)

1. Service sends IM containing magic IM link
2. Client opens web page



# What About SPAM (SPIM?)

- Leverage that feature of IM too!
  - You can block anybody with a single click.
  - Change settings to allow IMs only from contacts already on your list.



# Example: My eBay (Web push)

My eBay: magic IM link

1. Service sends IM containing magic IM link
2. Client opens web page
3. User responds conversationally



# IM Data Entry

- Interactive Agents are new, so benefits and limitations are not well understood.
- Combining IM and Web offers best of both worlds, so that Interactive Agents can offer their best without being hobbled by limited IM capabilities.

# IM Data Entry

**Corporate412 - Instant Message**  
File Edit Insert People Corporate412's Warning Level: 0%

## Edit Contact

**Save Contact** Save and Add Another Cancel Delete Contact

**Primary Information**

**Name:** Derek Woolverton  
First Middle Last

**Email:** woolstar@infomagic.co

**Yahoo! ID:**

**Nickname:**  
Use Nicknames in Yahoo! Mail as shortcuts to your contact's full email address.  
[\[Learn More\]](#)

**Category:** Unfiled

**Phone Numbers**

**Personal:** 928-774-8347 928-380-1673  
Home Pager Mobile

**Work:**

**Misc:**

Y! Mailbox Other

**Primary Location:** Home Work

Warn Block Add Buddy Talk Get Info Send

# These Ideas is in the Wind

- Jabber and others are toying with “IM forms”
  - One user sends a form to another
  - No computer involvement
  - Where does the form come from?

# 10,000 Foot View

- The Big Three IM services (AIM, MSN, Yahoo) operate Internet scale centralized authentication databases.
- They should revamp their IM clients to leverage an enormous opportunity.
- Why hasn't Microsoft done this?



end