

*Innovation in Action*



PalmSource®  
Conference and Expo

# PalmSource® Conference and Expo

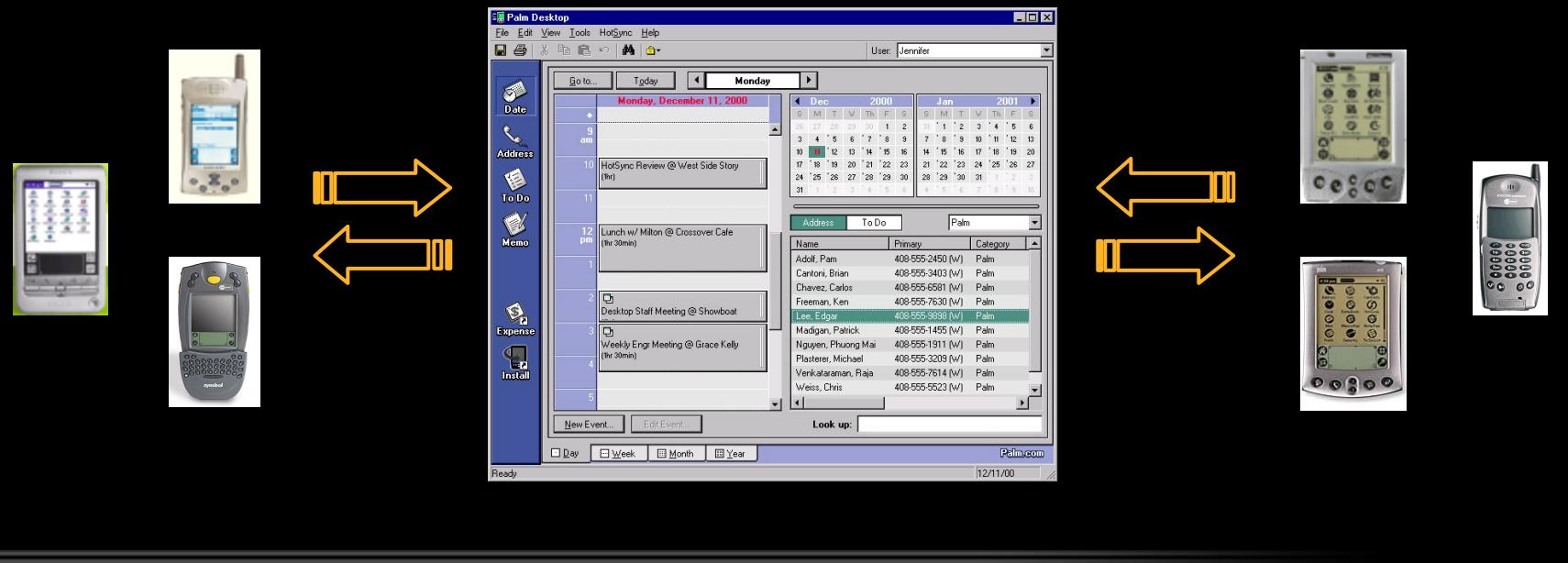


## The Next Generation Palm Desktop

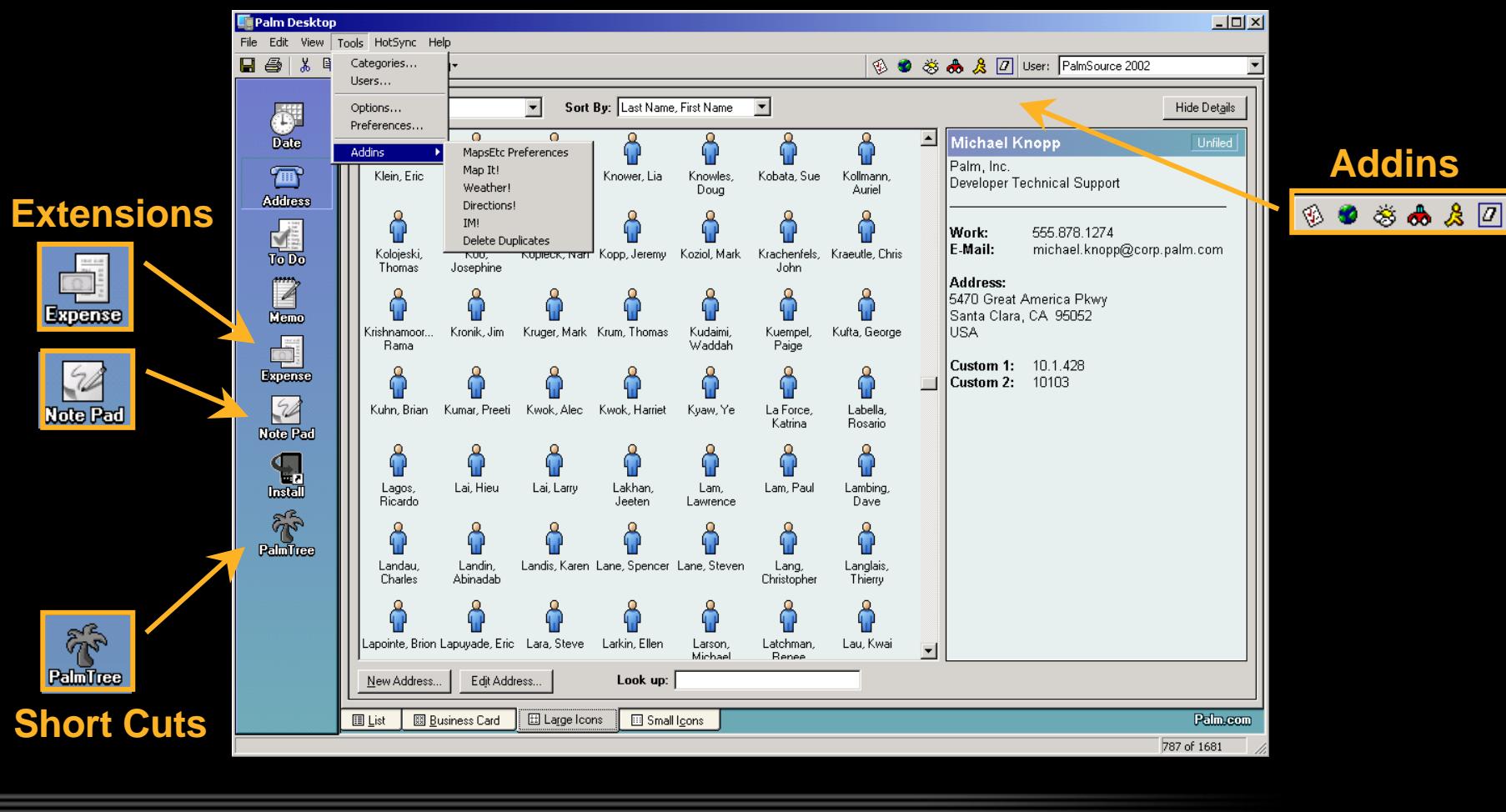
Michael Knopp  
Development Support Engineer  
Palm, Inc.

# The Value of the Palm Desktop

- The Palm Desktop is software for viewing, sharing and editing appointments, tasks, and contact information
- What is the value of a Palm Powered™ device without desktop software?
- How can the value of the Palm Desktop be increased?

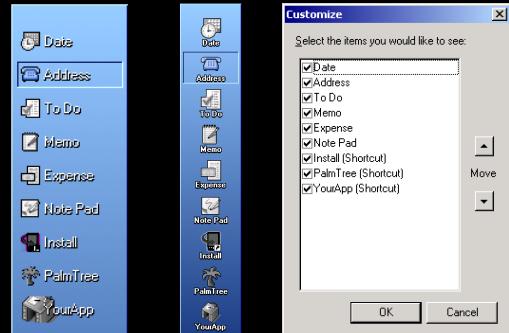


# The Palm Desktop Extensibility Framework

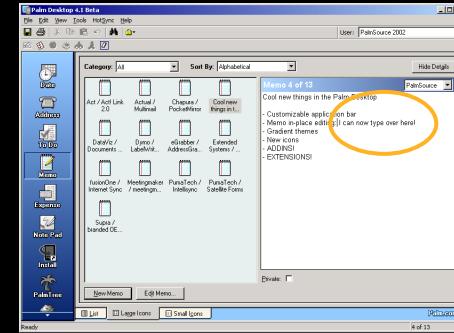


# New Features of the Palm Desktop

Customizable application bar



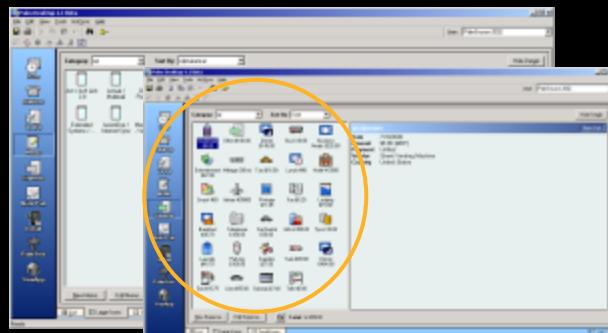
Memo in-place editing



Gradient themes



New icons





# Agenda

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Introduction

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Short Cuts

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Addins

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Extensions

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Development

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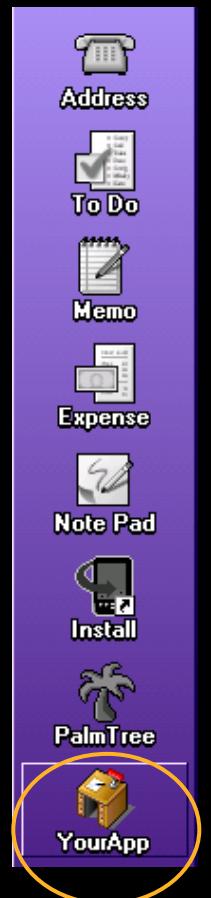
## 3<sup>rd</sup> Party Solutions

- Past
  - Separate applications
  - No access to PIM data
  - 3 data entry points: App, Desktop, Palm
- Future
  - Integrated within the Palm Desktop
  - Complete access to all PIM data
  - Added value for end-users
  - Full integration and expanded usage of PIM data
  - UI look and feel consistency for 3<sup>rd</sup> party apps
  - 2 data entry points: Desktop, Palm

Addins



Extensions

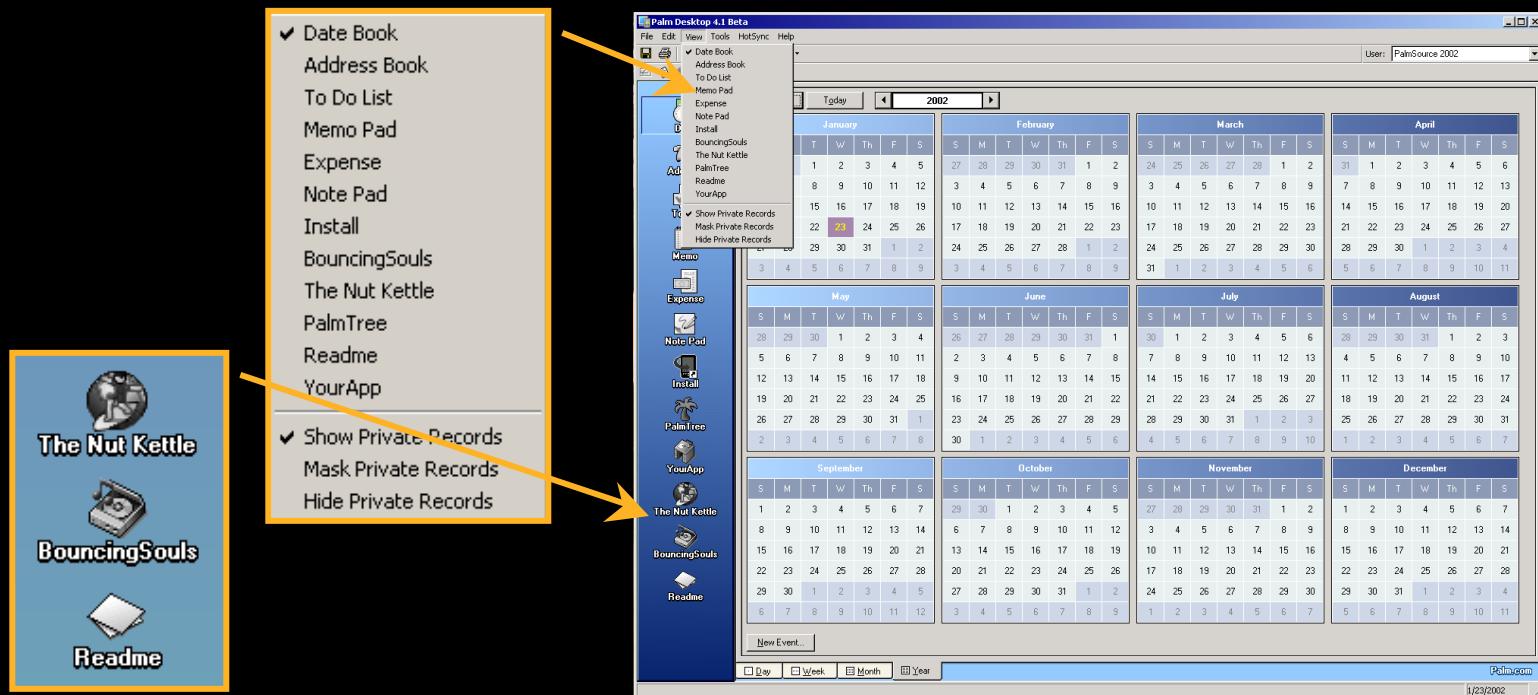


Short Cuts



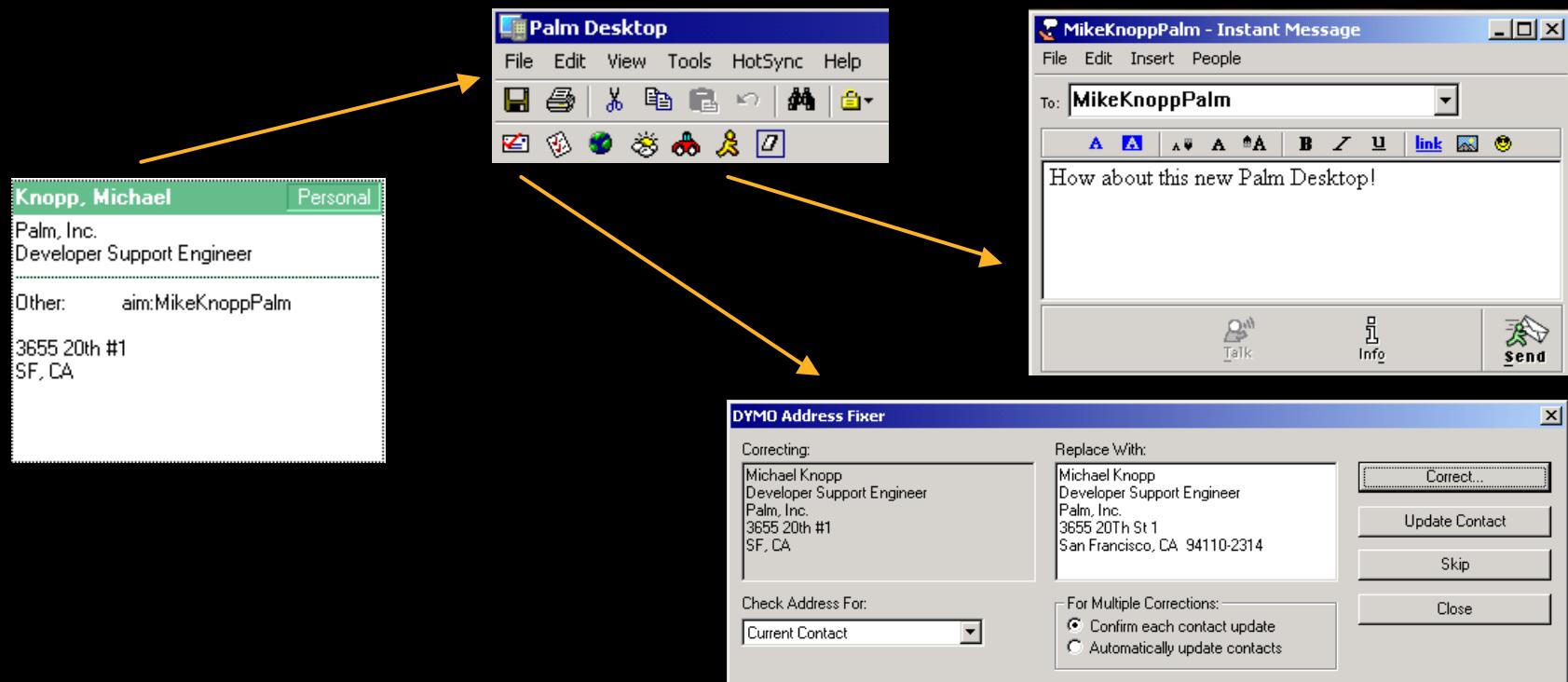
# Expanding the Palm Desktop with Short Cuts

- Links to 3<sup>rd</sup> party applications or content
- Examples: URLs and documents



## Expanding the Palm Desktop with Addins

- Expand the usage and value of PIM data
- Examples: Dymo Address Fixer™ and Instant Messaging





# Expanding the Palm Desktop with Extensions

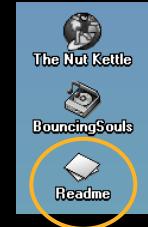
- New applications within the Palm Desktop
- Examples: Note Pad and Expense

The screenshot shows the Palm Desktop 4.1 Beta interface. On the left is a vertical toolbar with icons for Date, Address, To Do, Memo, Expense (selected), Note Pad, Install, and PalmTree. The main window displays the Expense application. It shows a grid of expense items with icons and amounts, such as Incidents (\$5.00), Other \$100.00, Dinner £145.00, Bus £10.00, Business Meals \$325.00, Entertainment \$67.00, Mileage 300 mi, Taxi \$16.00, Lunch ¥80, Hotel ¥13500, Snack ¥60, and Airfare ¥35800. Below the grid, there are more categories like Postage, Lodging, Breakfast, Telephone, Car Rental, Gifts, Laundry, Parking, Supplies, Train, and Tolls. At the bottom, there are buttons for New Expense..., Edit Expense..., List, Large Icons, Small Icons, and a Total of ¥ 325230. A status bar at the bottom indicates Ready and 12 of 29. To the right of the main window, two dialog boxes are open: a "Currency" dialog asking to select the currency for an expense total, with ¥ (Japan) selected; and a "Conversion Rate" dialog asking for the conversion rate between \$ (United States) and ¥ (Japan), showing ¥1 = \$ 0.008515.

# Which technology best fits your solution?

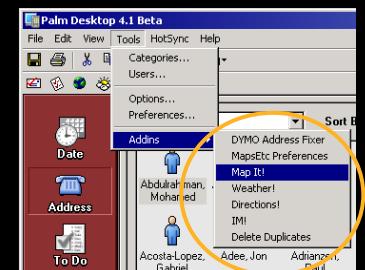
- **Short Cuts**

- You desire a link to existing content
- You wish to alert the user of further/extended content



- **Addins**

- Your application edits/expands the usage of specific PIM data
- Your application provides a single, focused user experience



- **Extensions**

- Your application requires the full view of the Palm Desktop
- Your application requires custom menus and/or toolbars





## Agenda

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Short Cuts

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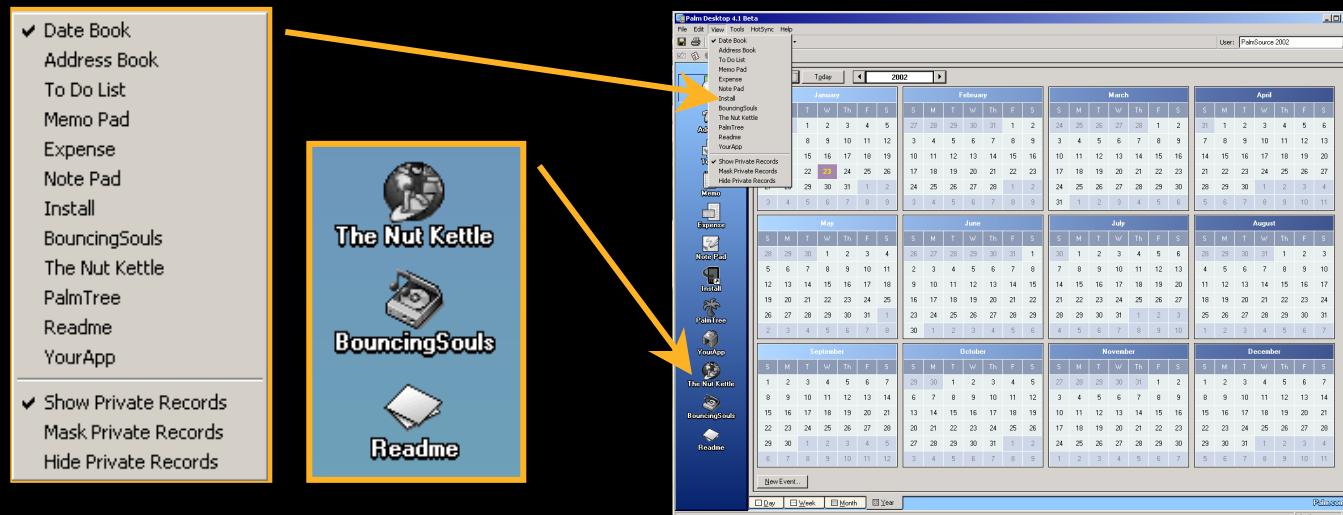
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Development

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## Short Cuts Overview

- Mechanism to launch 3<sup>rd</sup> party applications via an icon on the Palm Desktop
- No extra coding is required
- Typically used to launch applications, doc viewers, browsers, etc.
- If a file extension is registered on the system, Palm Desktop will be able to launch the default viewer (.doc, .txt, .html, etc.)
- Simple and supported solution to incorporate your application into the Palm Desktop





## Agenda

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Short Cuts

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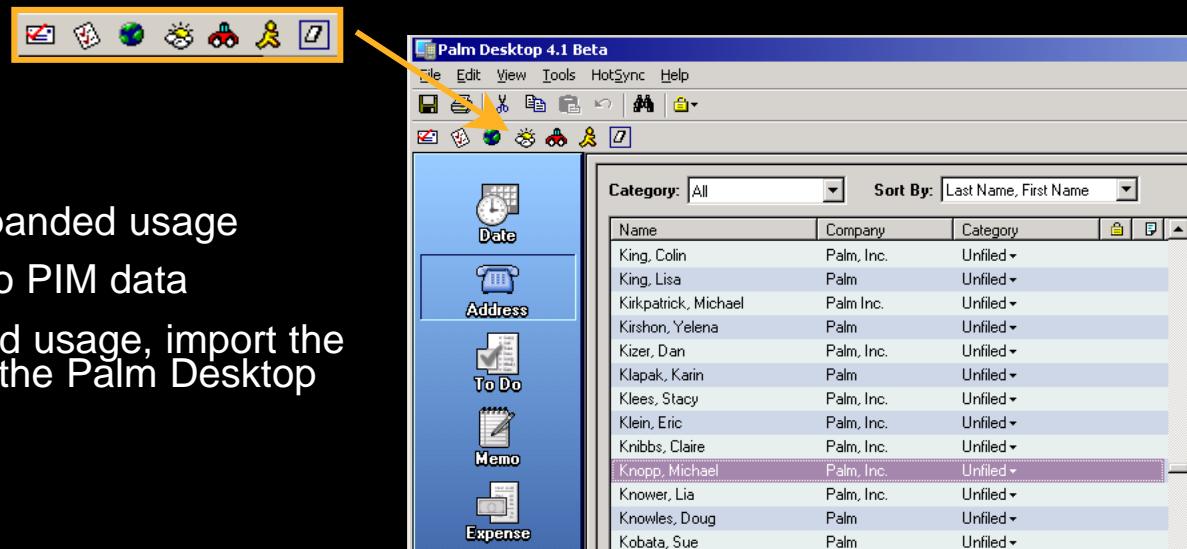
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Development

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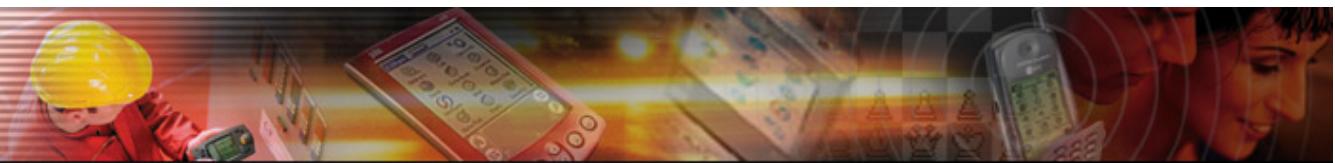
## Addins Overview

- Addins extend the functionality of one or more PIM applications
- Addins provide UI integration for a seamless user experience
- Addins can access data from any PIM application which exposes an object model
- Access to PIM data via a documented and supported interface



### Use Cases

1. Export PIM data for expanded usage
2. Import external data into PIM data
3. Export PIM data, expand usage, import the updated data back into the Palm Desktop



## Addins Demo

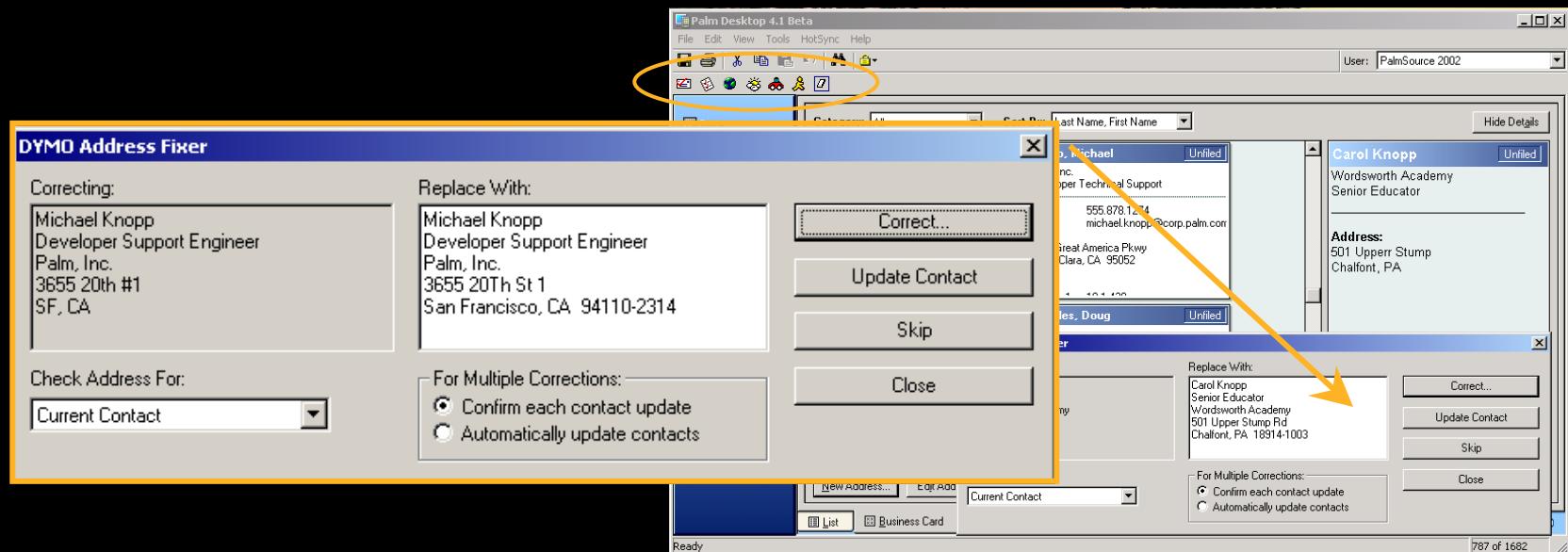
- Instant Messenger
- Driving Directions
- Maps
- Weather
- MapsEtc Preferences
- Dymo Address Fixer™ (3<sup>rd</sup> Party Solution)
  - Dymo Label Printer (3<sup>rd</sup> Party Solutions)

"With Palm OS's leading share of the handheld computing platform market, it was easy to understand that support for the Palm Desktop software would be of great value to our line of DYMO LabelWriter label printers. Being a part of the development of this technology has provided DYMO and our Palm Powered handheld-user customers with a seamless labeling solution."

Rick Constantine  
**Director of Business Development at DYMO**  
**Recognized leader in Label Printers**  
**First Palm Desktop Addin Developer**

## Addins Summary

- Full access to Palm Desktop PIM data
- Expand functionality of Palm Desktop
- User customization of Palm Desktop
- Developer access to Palm Desktop
- **Provide new and unique services based on existing PIM data**





# Agenda

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Introduction

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Short Cuts

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Addins

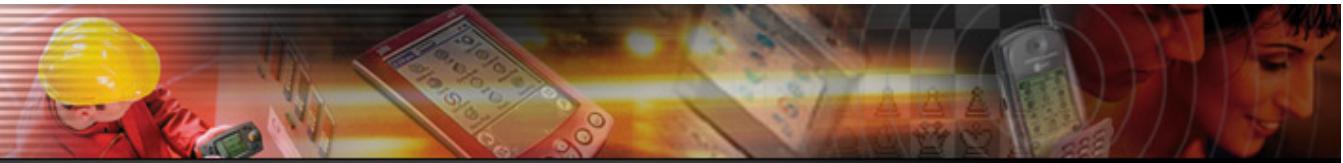
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Extensions

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Development

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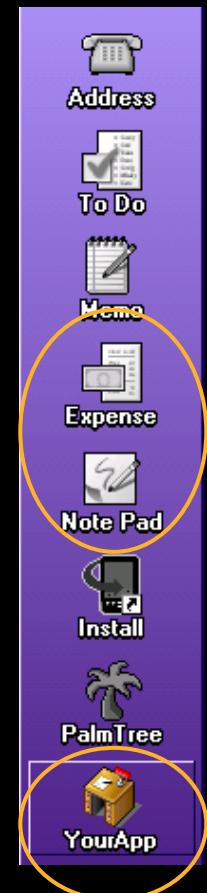
## Extensions Overview



- New applications which run within the Palm Desktop
- Extensions typically have a device counterpart
- Extensions have an icon in the Launch bar
- Extensions have access to the entire view area of the Palm Desktop
- Extensions can insert menu items and toolbar components
- Extensions can be written to support Palm Desktop and Outlook with minor code changes

## Extensions Overview

- ActiveX controls embedded in an .html page
- Extensions can register for specific events
- Extensions can expose their object model and event model
- Extensions can be accessed by Addins



# Extensions Demo

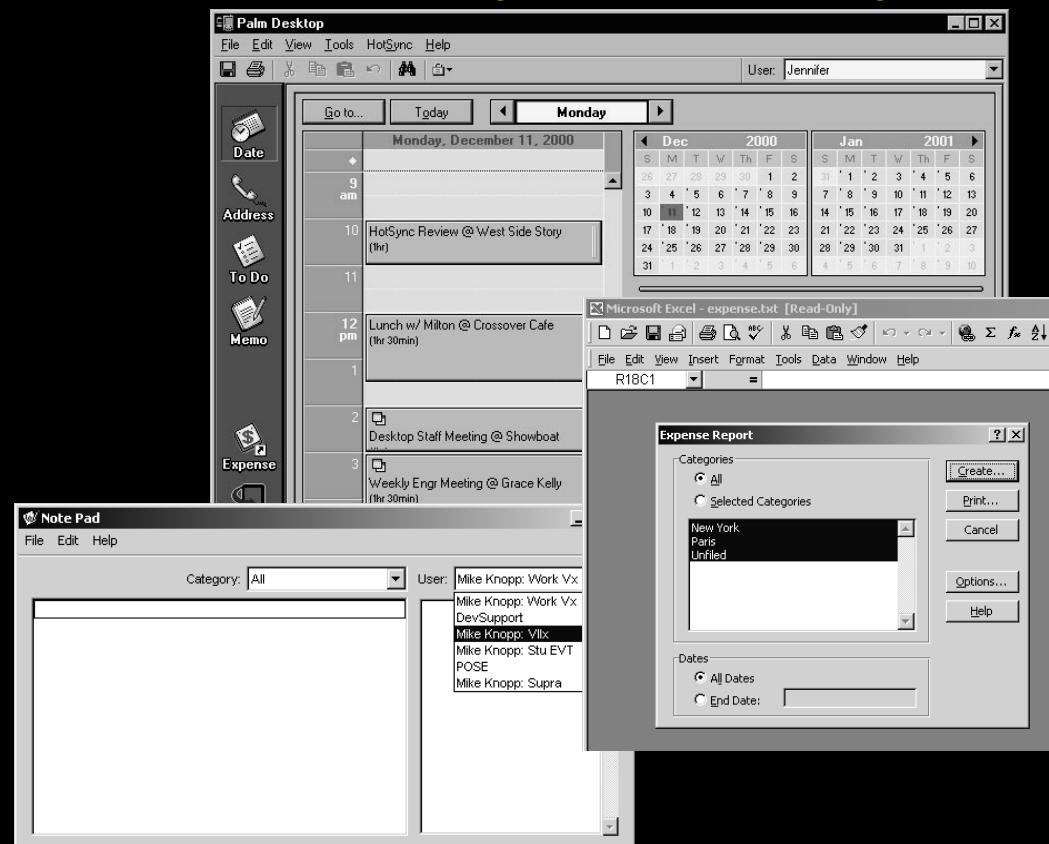


Note Pad



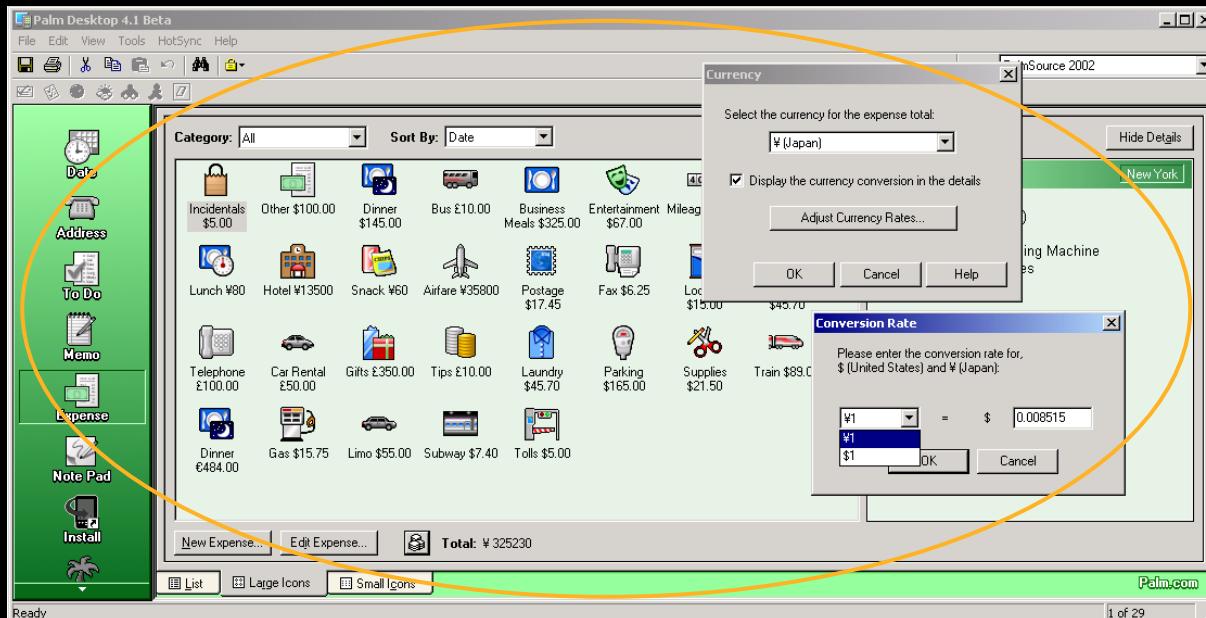
Expense

## Palm Desktop 4.0: Note Pad and Expense



## Extensions Summary

- Access and customize Palm Desktop UI
- Re-usable Active X controls
- Open architecture allows Addin interaction
- **New applications within the Palm Desktop**





## Agenda

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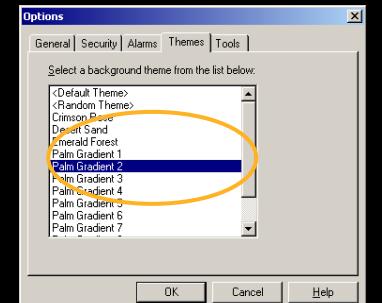
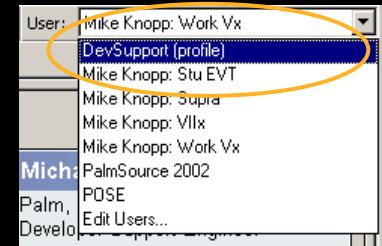
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Development

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## Event Notification

- Understanding Events which occur in the Palm Desktop event model leads to developing for the extensibility framework
- Palm Desktop fires notifications when appropriate events occur
- Examples
  - desktop user changes
    - Respond with custom UI for the new user
  - PIM switch occurs
    - Respond by disabling your AddIn
  - HotSync® operation begins
    - Respond by locking all data
    - Developers no longer need to develop a Notifier .dll
  - Theme Change
    - Respond by customizing your Extension UI



## Developing Short Cuts

- Documented and supported way to add icons to the Palm Desktop to launch 3<sup>rd</sup> party applications
- No extra coding needed
- Typical uses include web pages, docs, etc.
- COM based API to register components
- Registration Services
  - Is the Short Cut registered
  - Obtain information pertaining to the Short Cut
  - Register a Short Cut
- Callable from InstallShield, Microsoft Installer
- AddIn/Extension installers can add Short Cuts





## Developing Addins

- Addins are In-process (.dll) COM servers
- Implement two interfaces
  - IDesktopAddin: Initialize and Uninitialize
  - IDesktopCommand:
    - User selects the Addin
    - Access Desktop data with the Palm Desktop Object model
    - Optionally display modal dialog
- Develop in either Visual Basic or Visual C++
- Interface will be supported no matter what changes are made to PIM data formats
- COM based API to register components





## Development Extensions

- ActiveX controls embedded within a HTML page
- Test Active X control within Internet Explorer
- Interact with the Palm Desktop
  - Utilize Palm Desktop Object Model to issue commands
  - Receive notification of Desktop events
- Simplifies Programming without accessing users.dat or developing a notifier DLL
- ActiveX programming model is understood by Win32 community.
- Custom code to support menus, toolbars, etc.
- Customize your Extension to support both Palm Desktop and Outlook with a shared code base



Expense



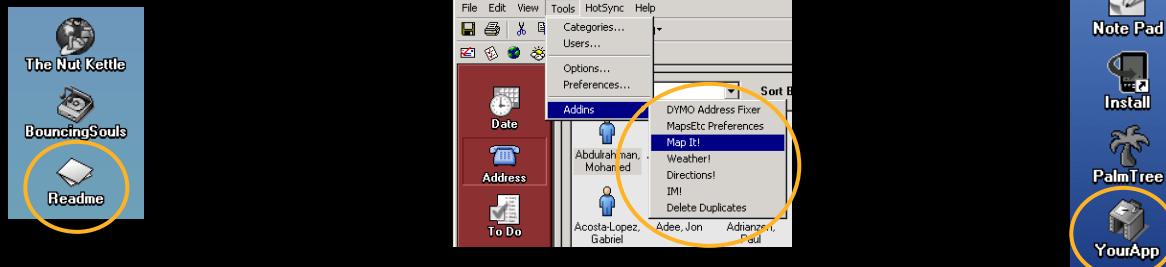
YourApp



Note Pad

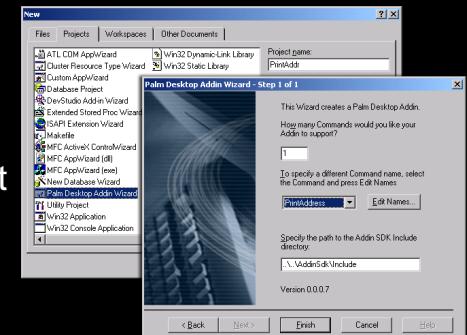
## Development Summary

- The Extensibility Framework relies on existing programming paradigms
- Developers familiar with ActiveX, VB, COM are well on your way to developing for the Palm Desktop
- Palm is providing a Desktop SDK with documentation, headers, and sample code
- Extensions are ActiveX controls and can therefore be coded to support the Palm Desktop and Outlook
  - Double your user base with a few code customizations



# Desktop SDK

- <http://www.palmos.com/dev/tools/desktop/>
  - Will include Information pertaining to Desktop SDK, documentation, desktop developer forum, KB articles, etc.
- Beta SDK (available now)
  - Documentation, headers, libraries, Addin Wizard, Samples
  - C++ Addin Wizard
    - Supports Visual Studio 6
    - Generates Addin template code with multiple command support
    - Generates Registration code
  - Beta version of Palm Desktop 4.1 for development use
- Final SDK
  - Will incorporate developer feedback (use the desktop developer forum)
  - Extension Wizard
  - Updated documentation
  - More samples
  - Bug fixes





## Session Summary

- Developers can now obtain the Beta Desktop SDK
- The public release of Palm Desktop 4.1 is planned for the Spring of 2002
- Value added for the enterprise
- The Extensibility Framework allows Licensees to support specific features of a device, for example Note Pad and Expense from Palm, Inc.
- The Extensibility Framework allows 3<sup>rd</sup> parties to plug-in to the Palm Desktop and expand the functionality of PIM data and the Palm Desktop itself
- **The Extensibility Framework expands the Palm Desktop and adds value, customization and simplification to the end-user experience**



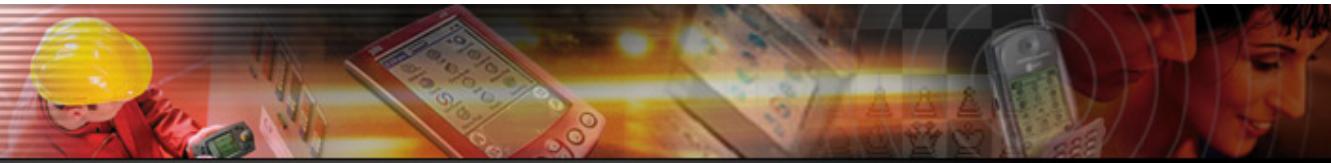


## Session 102: APIs for the Next Generation Desktop

- Raja Venkataraman, Architect, Palm Desktop, Palm, Inc.
- Thursday February 7<sup>th</sup>, 4:10 – 5:10

*Delve into the implementation details of the Extensibility features covered in Session 101: The Next Generation Desktop. Learn about the tools and techniques to create Desktop Addins and Extensions in C++ and VB. Walk through the Object Model in detail, and provide an overview of how to develop, build, debug and deploy Addins. Also learn how to write Extensions that will work within Microsoft Outlook with minimal changes*

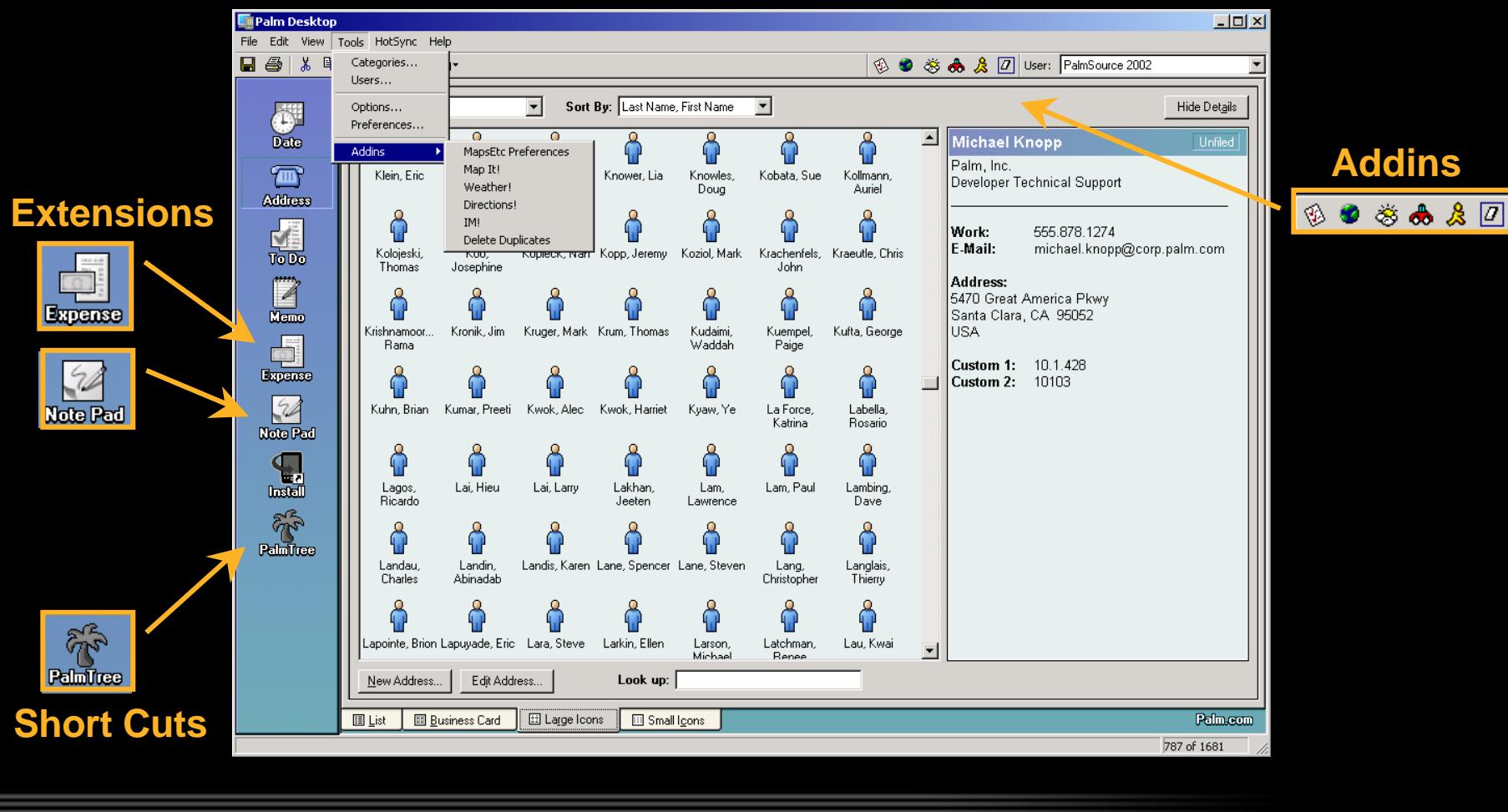
- Discuss the Extensibility Framework with the Palm Desktop engineering team in the open labs on Thursday evening



## The Next Generation Desktop: QA

- Brian Cantoni
  - Desktop Application Manager, Palm, Inc.
- Raja Venkataraman
  - Desktop Architect, Palm, Inc.

# The Palm Desktop Extensibility Framework



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