



**Mac & iOS Dev  
+ iOS courses**

**<http://pomcast.biz>  
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# **Address Book**

**Give me all your Information!**



# Pomcast.com



✱ [pomcast.com/aaron-hillegass](http://pomcast.com/aaron-hillegass)

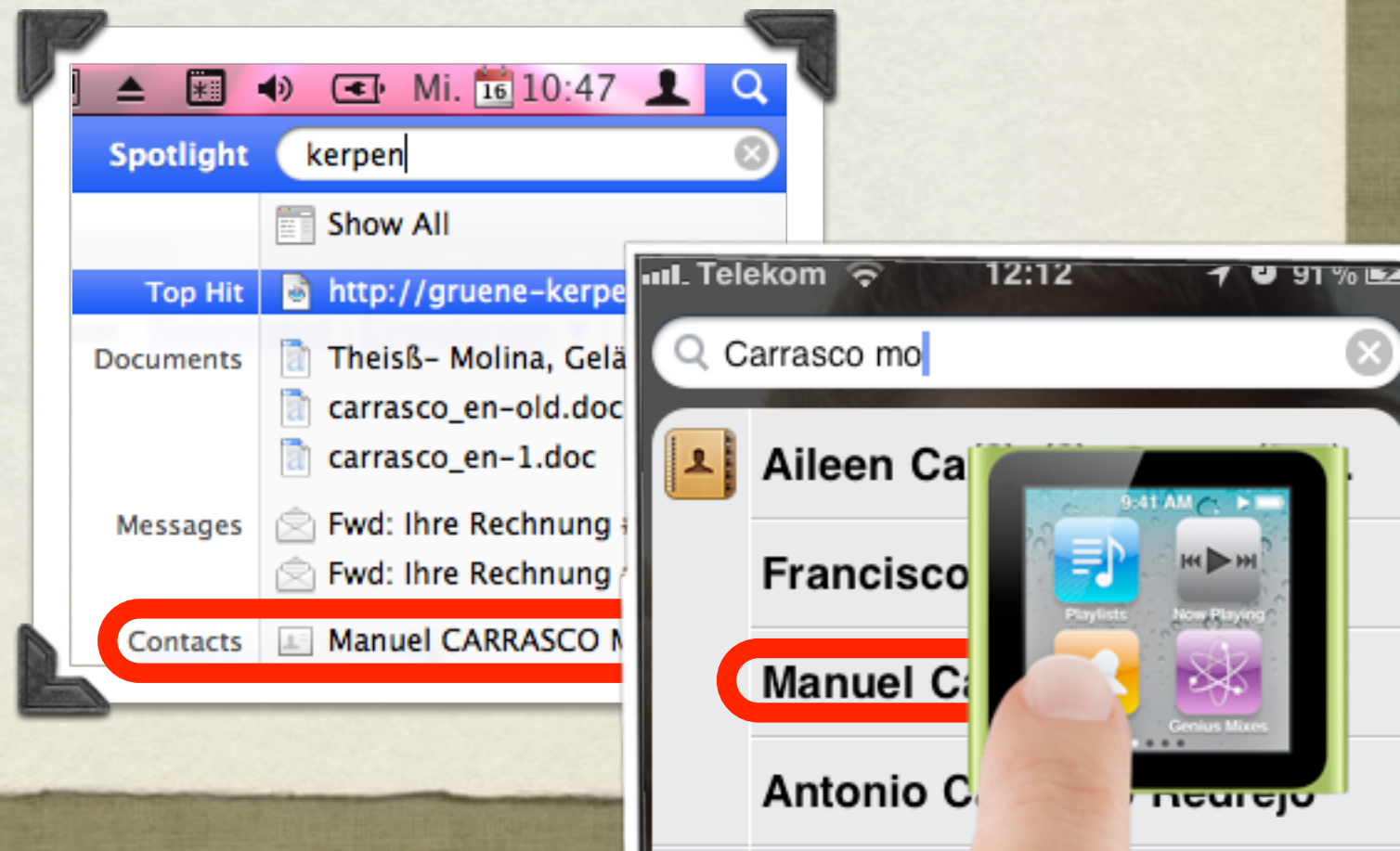
✱ [pomcast.com/woz](http://pomcast.com/woz)





# A CENTRAL PLACE

- Unified database for Contacts on the whole OS
- Other (System) apps use the “Contacts/AB” app.
  - e.g. iCal/Calendar uses the “Birthday” dates
- Integrates with Spotlight
- Syncs across devices!







# Address Book

## [ iOS ]



# <ADDRESSBOOK(UI)>

- AddressBookUI, shows Graphical elements, Objective C
- AddressBook Framework, all things non-UI, is in C
  - Core Foundation ➡ Check NULL
- Toll-Free Bridging

Add the  
Framework





# THE PEOPLE



- `ABAddressBookRef ab = ABAddressBookCreate();`
- Reference to the “Contacts” database on the device
- Even if you create more instances, all points to the same
- Creates a retained Object! ➔ `CFRelease(ab)`





# GETTING THE PEOPLE

```
CFArrayRef array = ABAddressBookCopyArrayOfAllPeople(ab);
```

```
array = ABAddressBookCopyPeopleWithName(ab, CFSTR("stuff"))  
ABAddressBookCopyPeopleWithName(ab, (CFStringRef)@"stuff")
```

```
ABRecordRef record // kABPersonType, kABGroupType
```

```
CFStringRef name = ABRecordCopyCompositeName(record);
```

```
NSString *name = (NSString*)ABRecordCopyCompositeName(record);
```



<https://github.com/stuffmc/BlingBling>



# DEMO #1

## “Bling Bling”

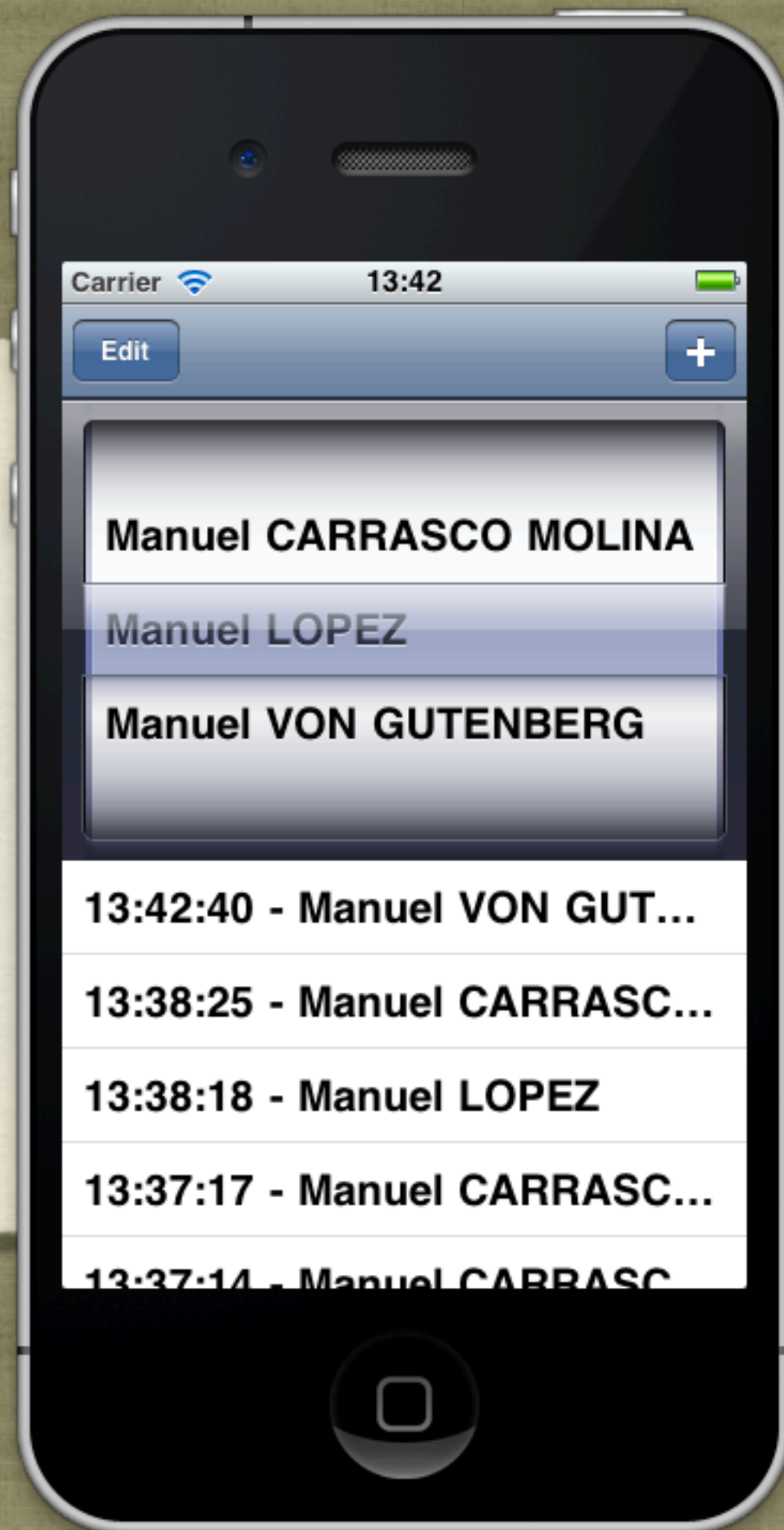






# DEMO #1

## “Bling Bling”





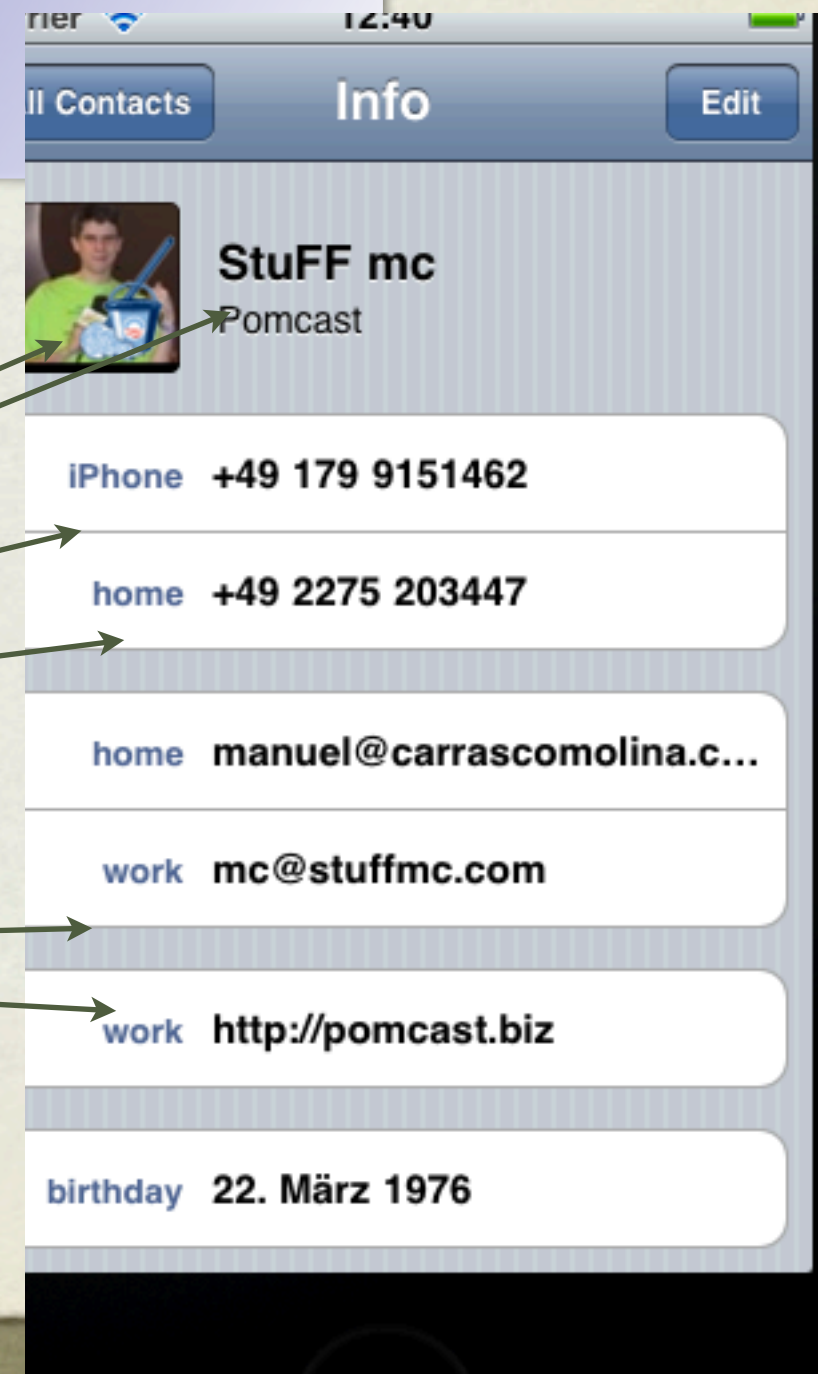
# THE PERSON



```
ABRecordSetValue(person, kABPersonBirthdayProperty, date, &error);
```

```
ABRecordCopyValue(person, kABPersonFirstNameProperty);
```

- ABRecordRef
- Has properties...
- Types, multiples, ...

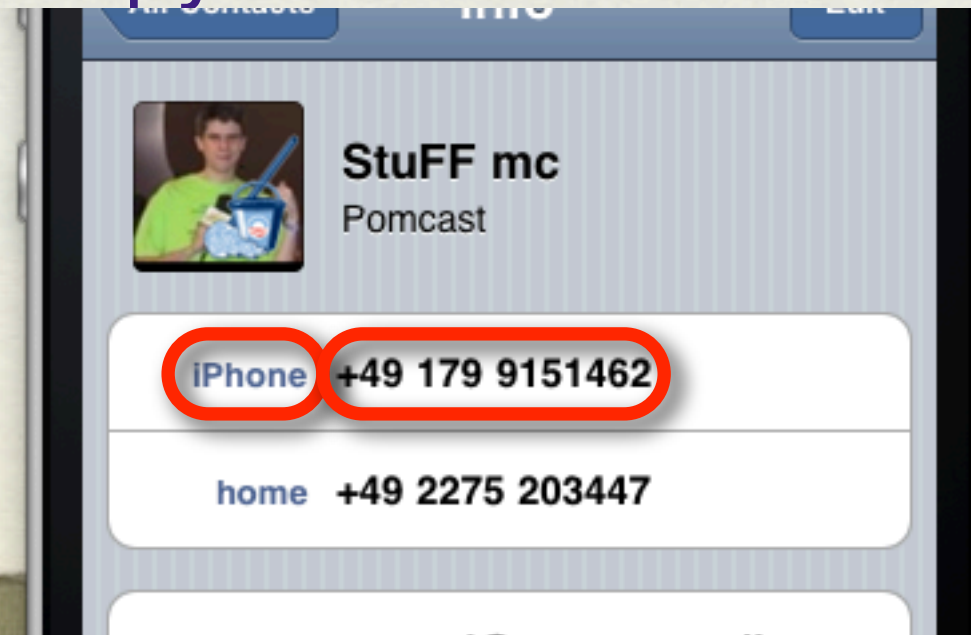




# MULTIPLE VALUES



- ABMultiValueRef
- ABMultiValueGetCount(multiValue);
- ABMultiValueCopyLabelAtIndex(mv, index);
- ABMultiValueCopyValueAtIndex(mv, index);





# SAVING

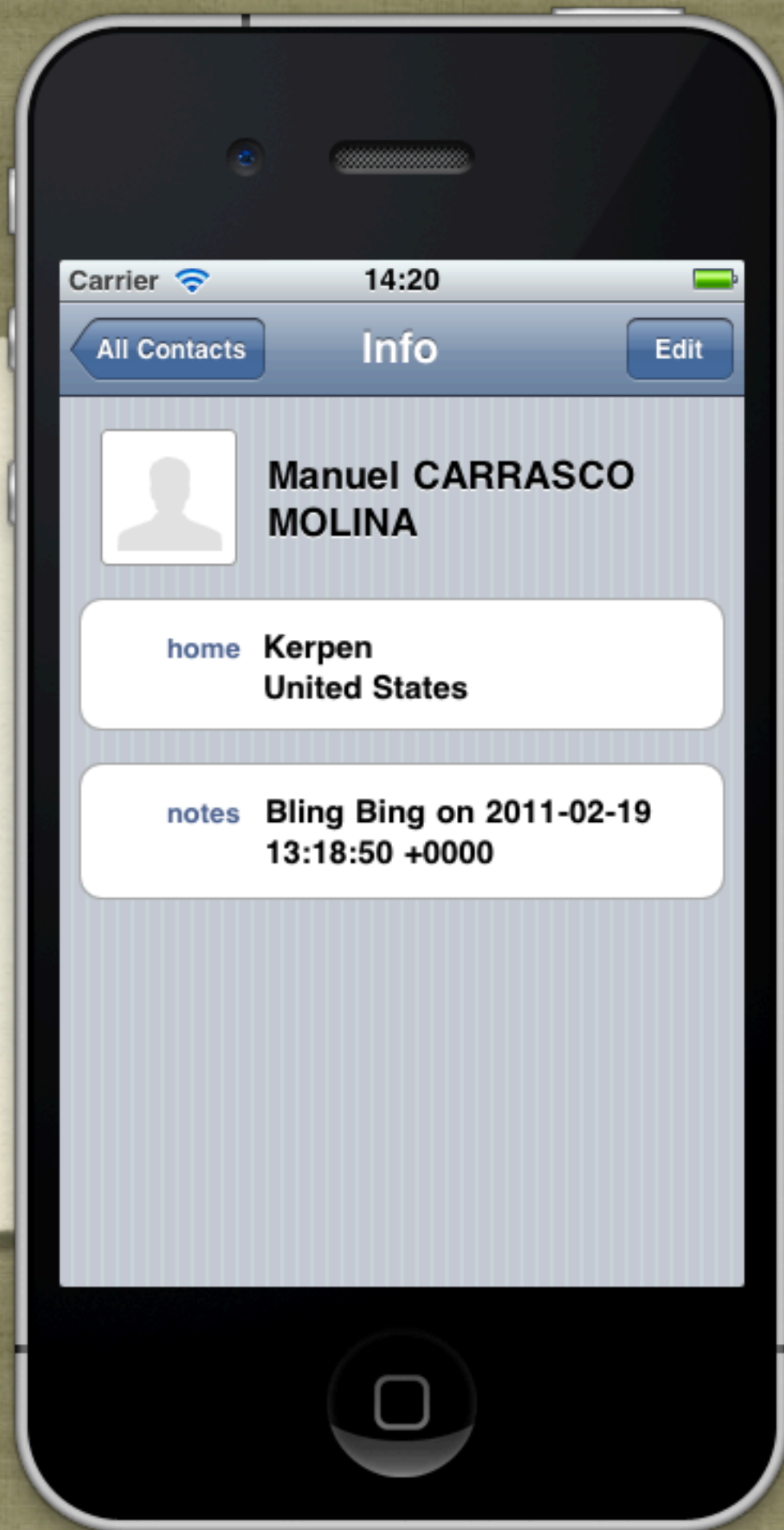
```
ABMultiValueRef urls = ABRecordCopyValue(person, kABPersonURLProperty);  
  
ABMutableMultiValueRef urlCopy = ABMultiValueCreateMutableCopy(urls);  
  
ABMultiValueAddValueAndLabel(urlCopy, "facebook.com", "social", &err);  
  
ABRecordSetValue(person, kABPersonURLProperty, urlCopy, &err);  
  
ABAddressBookSave(ab, &err);
```





# DEMO #2

## “Bling-ed!”





# SORTING

```
CFMutableArrayRef people = // obtain an array of people

CFRange fullRange = CFRangeMake(0, CFArrayGetCount(people));

ABPersonSortOrdering sortOrdering = ABPersonGetSortOrdering();

CFArraySortValues(people, fullRange,
ABPersonComparePeopleByName, (void*)sortOrdering);

// Objective-C alternative
[people sortUsingFunction:ABPersonComparePeopleByName
context: (void*)sortOrdering];
```



# ABPersonViewController

★ personViewDelegate;

★ displayedProperties;

★ addressBook;

★ allowsEditing;

★ displayedPerson;

**delegate**

– (BOOL)personViewController:(ABPersonViewController \*)  
personViewController shouldPerformDefaultActionForPerson:  
(ABRecordRef)person property:(ABPropertyID)property  
identifier:(ABMultiValueIdentifier)identifier;



@StuFFmc  
StuFF mc

Anybody knows a good reason for the  
AddressBookUI framework on iOS to use  
"personViewDelegate" (for example)  
instead of simple "delegate"?!



@bmf  
Mike Lee

@StuFFmc Obviously to maintain AB's  
standard of being as non-standard as  
possible.







# DEMO #3

## “Detailed!”





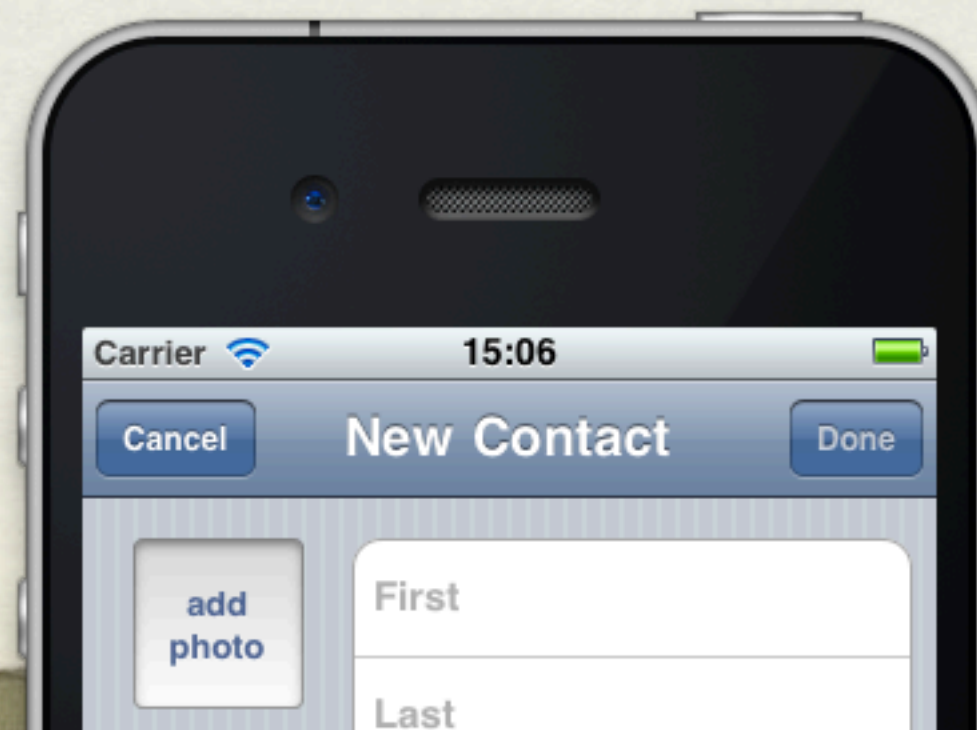
# ABNewPersonViewController

★ newPersonViewDelegate

★ addressBook

★ displayedPerson

– (void)newPersonViewController:(ABNewPersonViewController \*)  
newPersonView didCompleteWithNewPerson:(ABRecordRef)person;



**delegate**





# DEMO #4

## “New Payer!”



Carrier 11:07 PM

Cancel New Contact Done

add photo

First

Last

Company

mobile Phone

home Email

ringtone Default >

text tone Default >

home page URL



# ABUnknownPersonViewController

★ unknownPersonViewDelegate

★ allowsActions

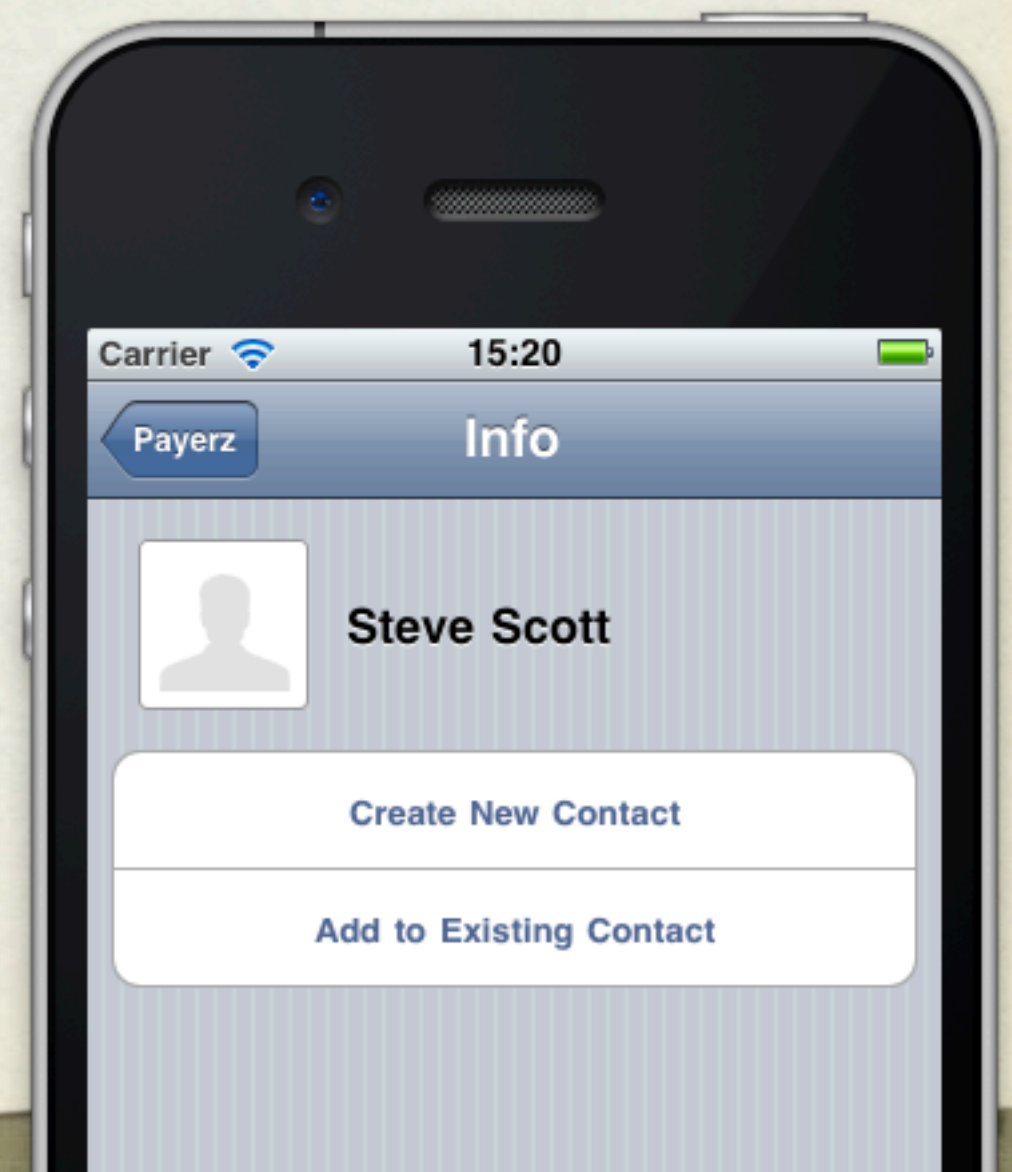
★ addressBook

★ allowsAddingToAddressBook

★ displayedPerson

– (void)unknownPersonViewController:  
(ABUnknownPersonViewController \*) upvc  
didResolveToPerson:(ABRecordRef)person

**delegate**



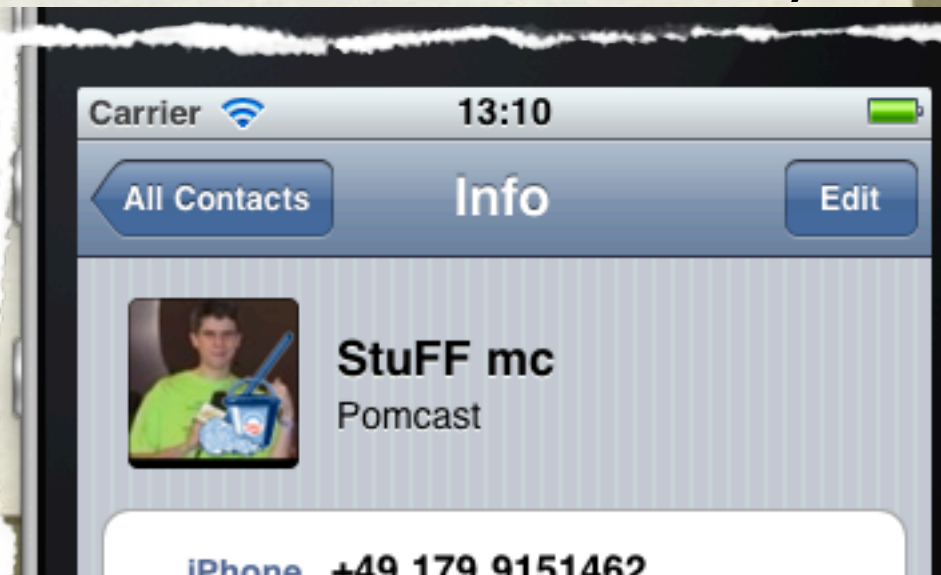
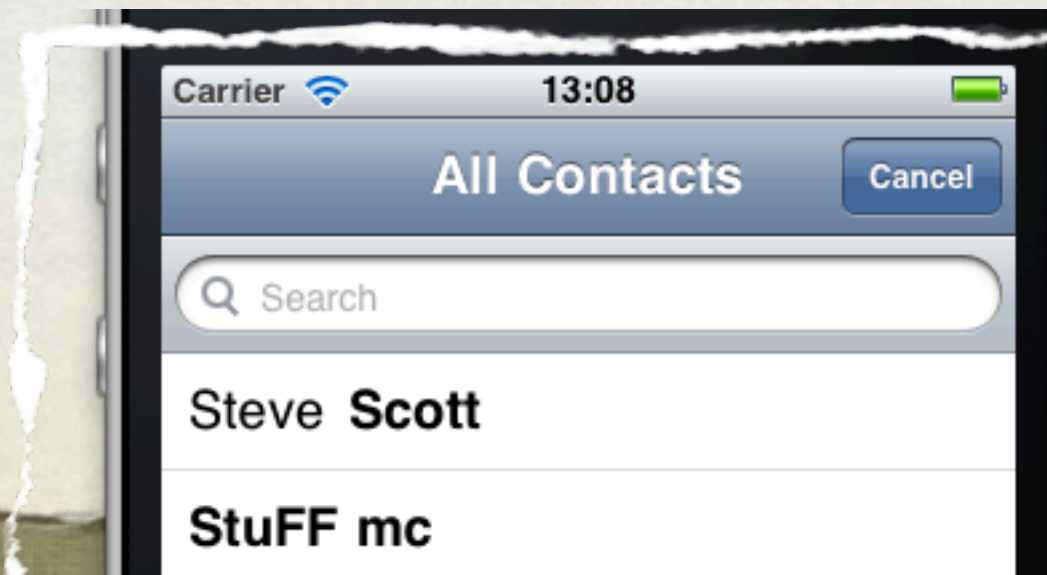


# PICKING PEOPLE



@protocol **ABPeoplePickerNavigationController**Delegate <NSObject>

- (void)peoplePickerNavigationControllerDidCancel:  
(ABPeoplePickerNavigationController \*)peoplePicker;
- (BOOL)peoplePickerNavigationController:  
(ABPeoplePickerNavigationController \*)peoplePicker  
shouldContinueAfterSelectingPerson:(ABRecordRef)person;
- (BOOL)peoplePickerNavigationController:  
(ABPeoplePickerNavigationController \*)peoplePicker  
shouldContinueAfterSelectingPerson:(ABRecordRef)person  
property:(ABPropertyID)property  
identifier:(ABMultiValueIdentifier)identifier;

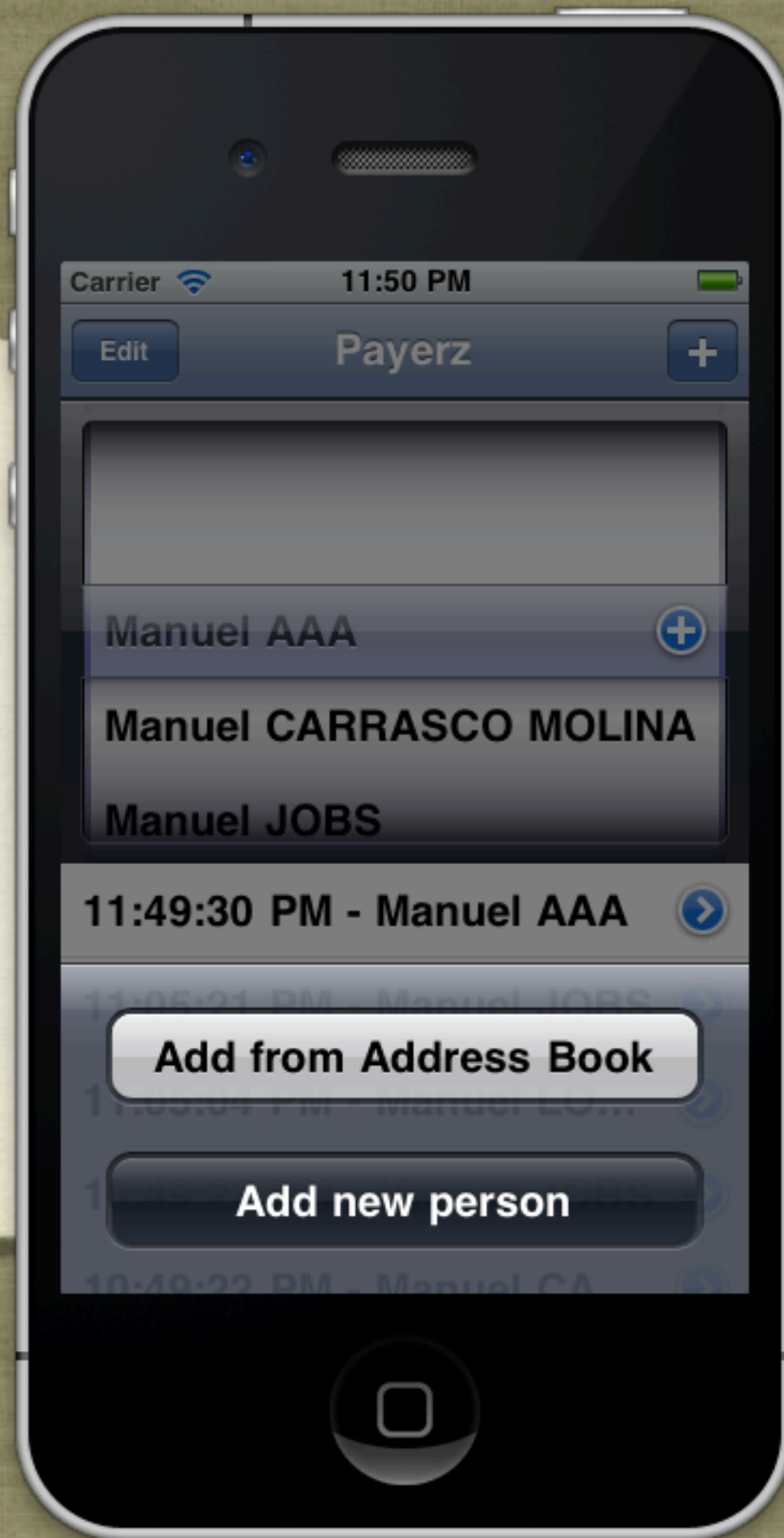






# DEMO #5

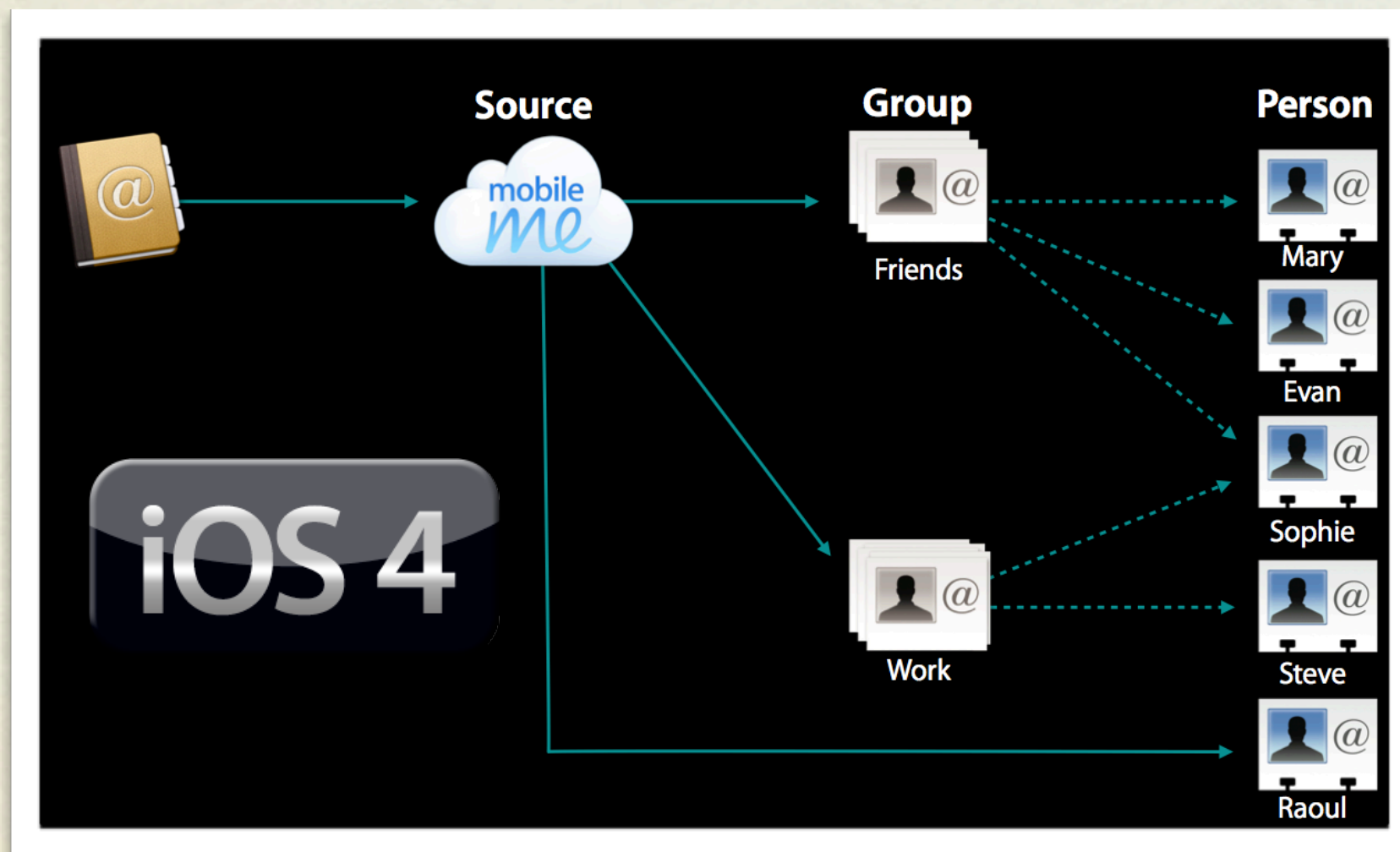
## “Add a Payer!”





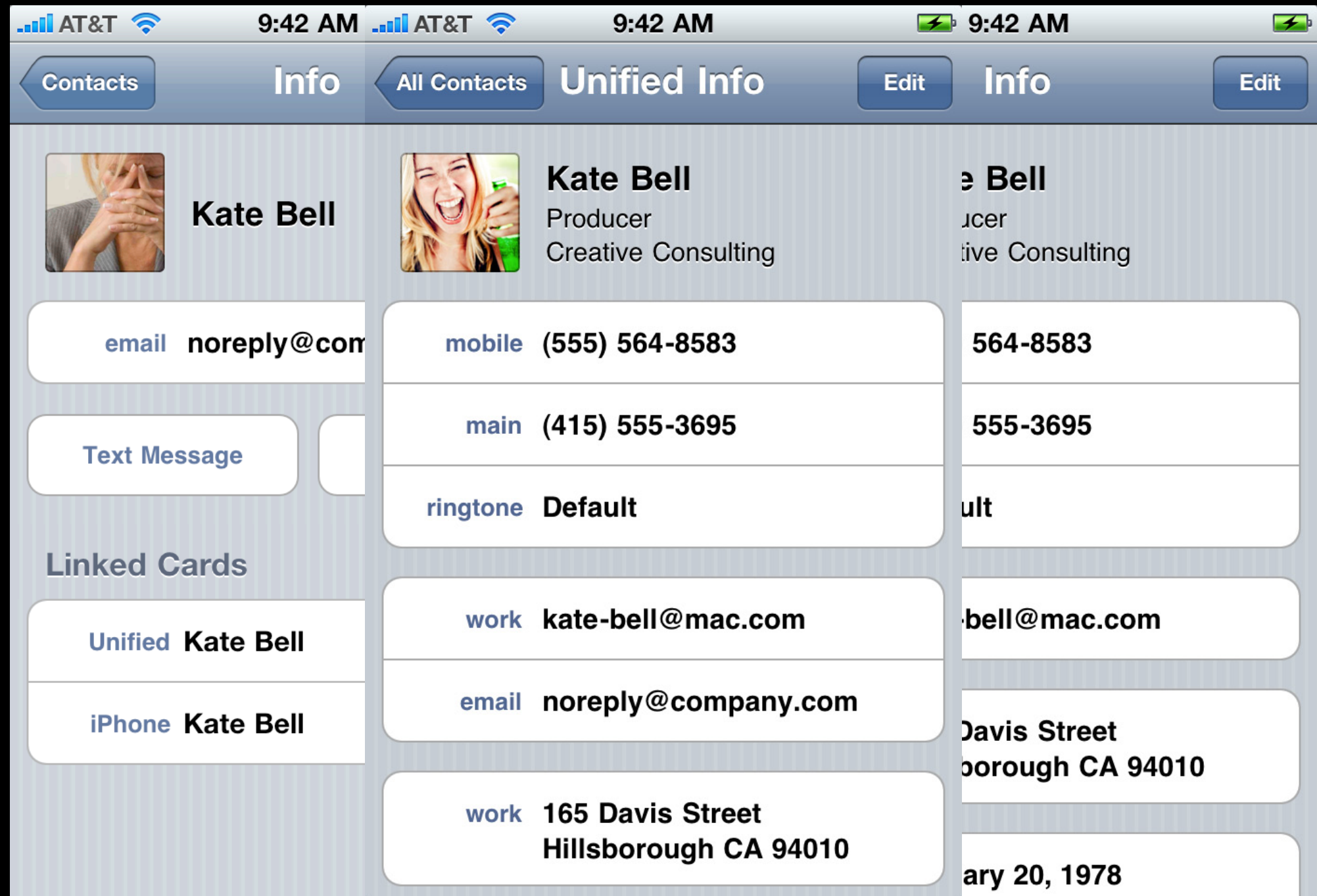
# SOURCES / LINKED

```
CFArrayRef people =  
ABPersonCopyArrayOfAllLinkedPeople(person);
```





# Linking



Corporate

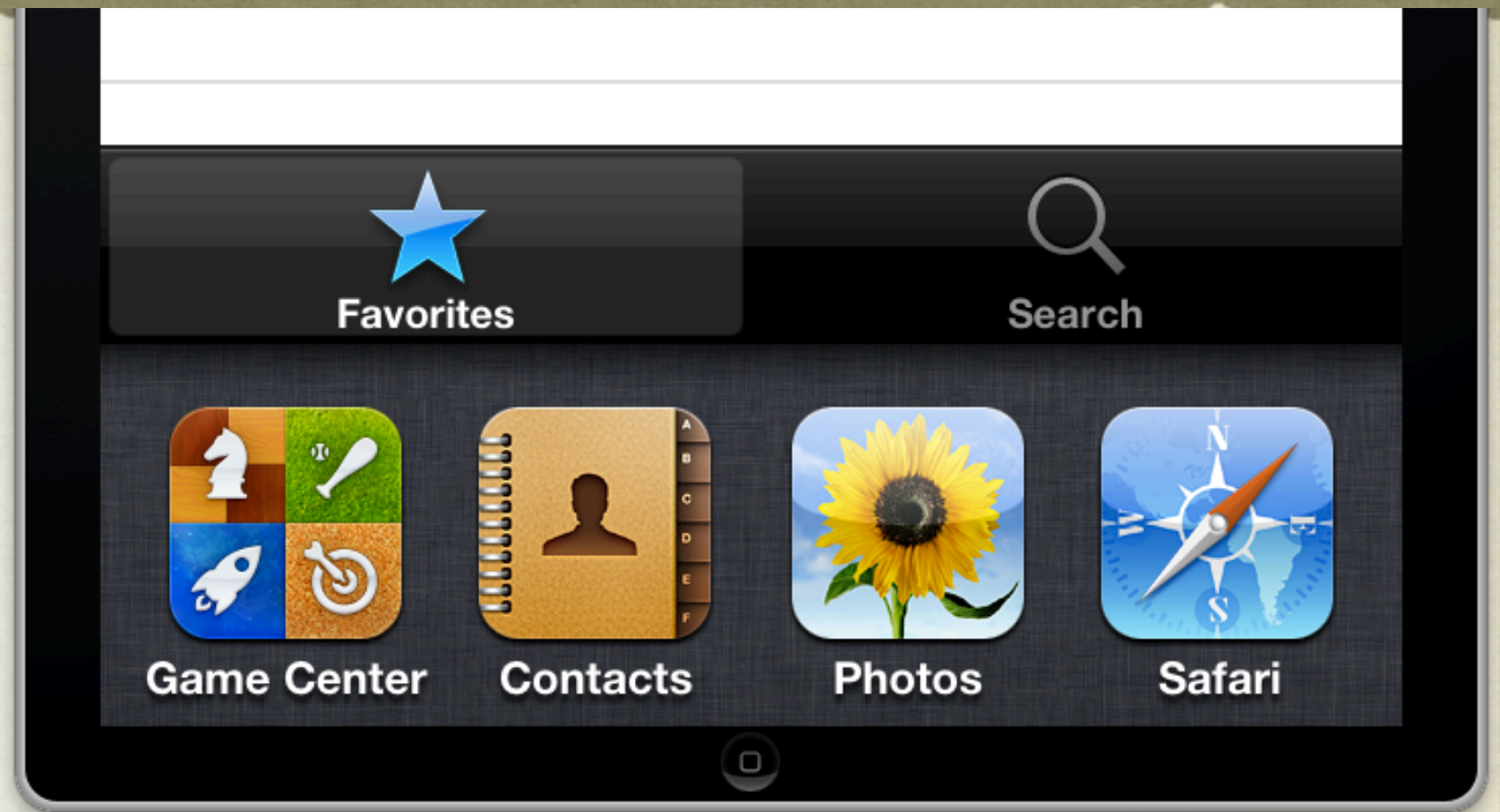
Unified

Personal



# BACKGROUND

iOS 4

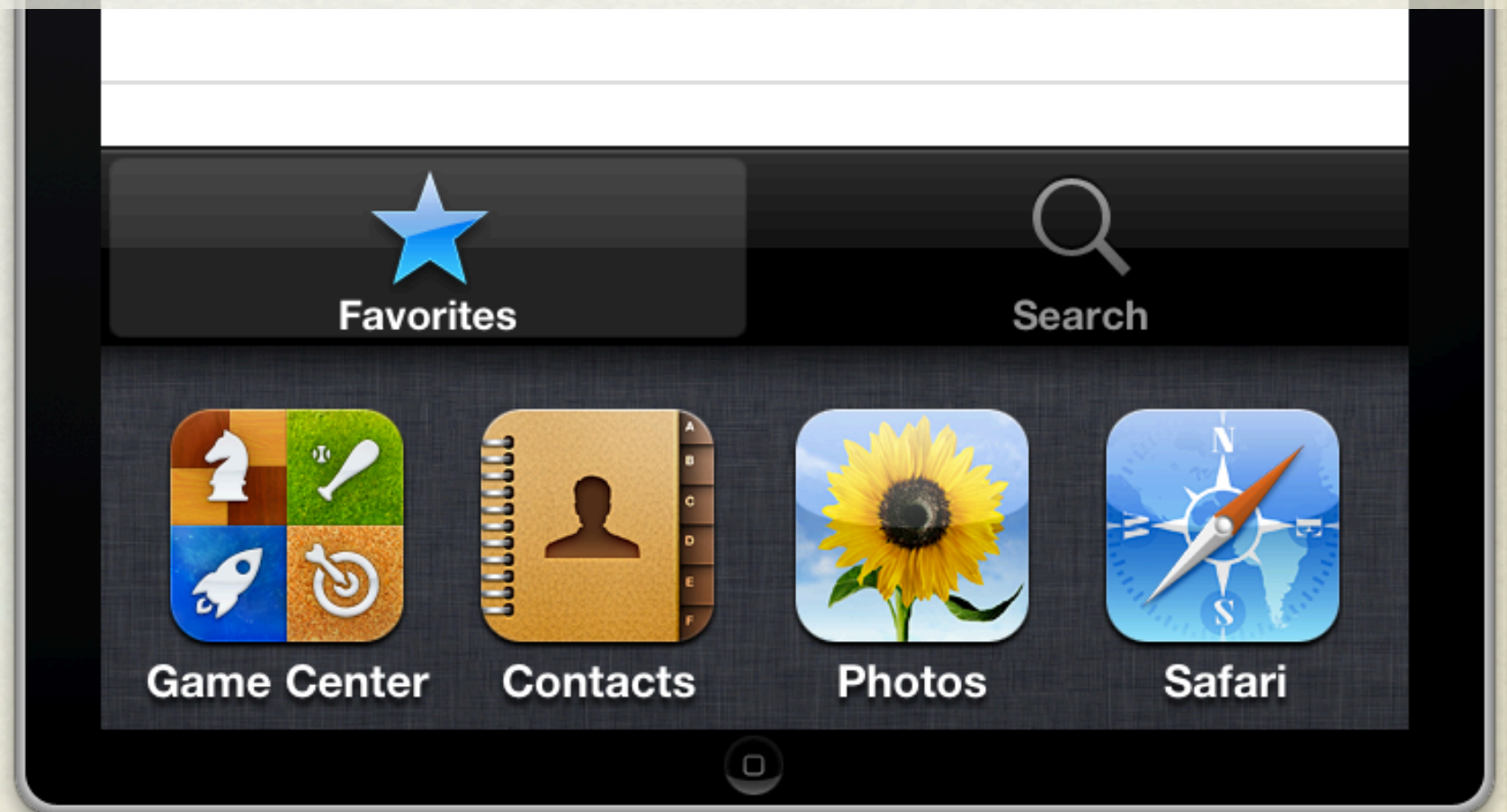




# BACKGROUND

```
ABAddressBookRegisterExternalChangeCallback  
(ab, myFunctionPointer, context);
```

```
ABAddressBookRevert(ab);
```





# DEMO

```
NSLog(@"AB Changed!");
```



# OBJECTIVE C?



- Google Toolbox Has Cocoa Objects for Address Book
- I'm fine with the C APIs
- I'm more relax with a layer less between me & Apple
- Some C “exercises” can't hurt.
  - Core Audio anyone? :)





# Address Book

[ Mac OS X ]

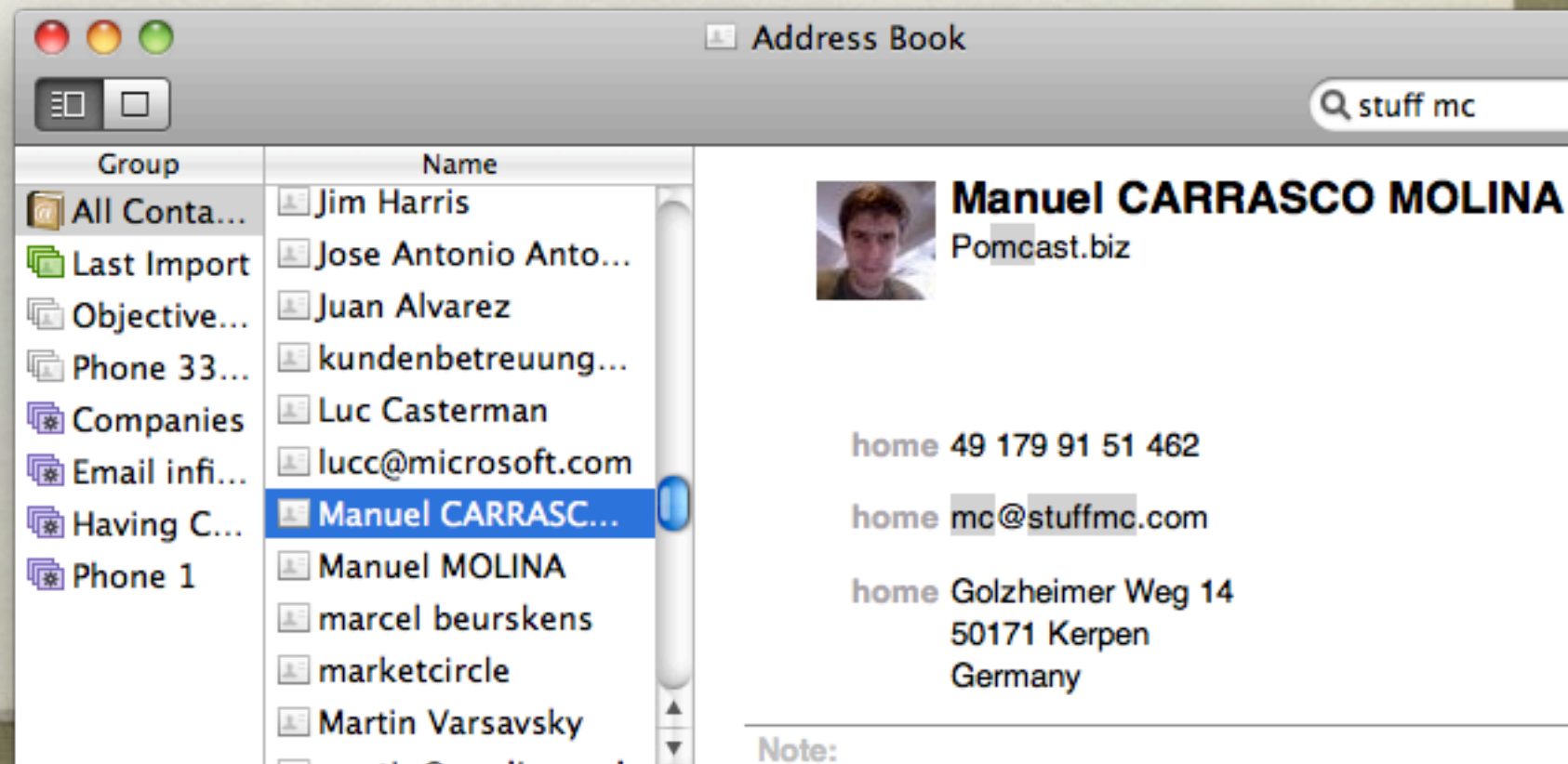


# THE PEOPLE



- + (ABAddressBook \*)sharedAddressBook;
- - (BOOL)addRecord:(ABRecord \*)record;
- - (BOOL)removeRecord:(ABRecord \*)record;
- - (NSArray \*)people; // Returns an array of ABRecord
- - (NSArray \*)groups;
- - (BOOL)save;

Add the  
Framework



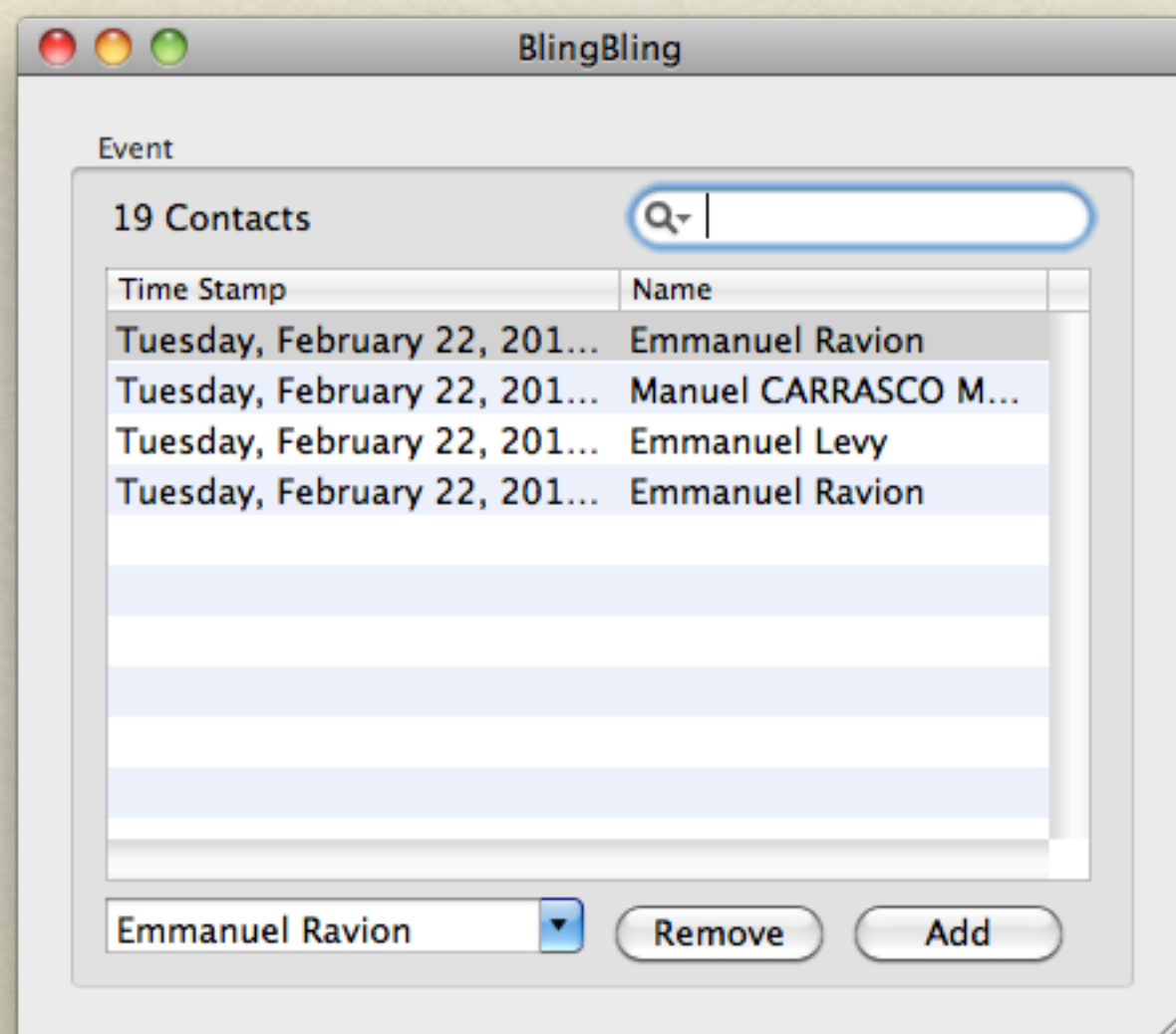


# THE PERSON



- ABRecord?
  - ABPerson
  - ABGroup (Members, parent & subgroups, ...)
- – (**id**)valueForProperty:(**NSString** \*)property;//eg: kABEmailProperty
- – (**BOOL**)setValue:(**id**)value forProperty:(**NSString** \*)property;
- – (**BOOL**)removeValueForProperty:(**NSString** \*)property;





# DEMO #1

## “Bling Mac”





# MULTIPLE VALUES



- ABMultiValue

(NSUInteger)count;

– (id)valueAtIndex:(NSUInteger)index;

– (NSString \*)labelAtIndex:(NSUInteger)index;

– (NSString \*)identifierAtIndex:(NSUInteger)index;



# THE NEW WAY



- ABMultiValue

- (id)valueForIdentifier:(NSString\*)identifier;
- (id)labelForIdentifier:(NSString\*)identifier;





# DEMO #2

## “Bling More”

BlingBling

Event

19 Contacts 1 out of 4

Time Stamp	Name
Tuesday, February 22, 2...	Emmanuel Ravion
Tuesday, February 22, 2...	Manuel CARRASCO MO...
Tuesday, February 22, 2...	Emmanuel Levy
Tuesday, February 22, 2...	Emmanuel Ravion

Manuel CARRASCO MOLI Remove Add

mc@stuffmc.com

**BÜNDNIS 90 / DIE GRÜ**

Home | Fraktion | Stadtverband

**Wir bleiben am Ball!**



# NOTIFICATION CENTER

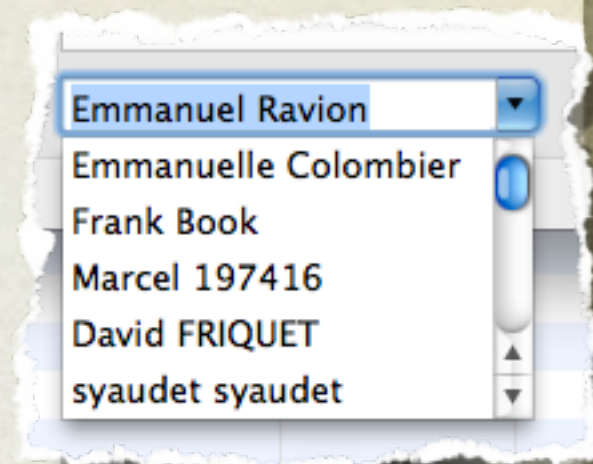
- Another app changed the AB database
  - `kABDatabaseChangedExternallyNotification`
- Your own app did
  - `kABDatabaseChangedNotification`
- Check what changed
  - `kABInsertedRecords`
  - `kABUpdatedRecords`
  - `kABDeletedRecords`





# DEMO #3

## “Bling Fresh!”



```
2011-02-22 17:44:14.635 BlingBling[1863:a0f] dbChanged: NSConcreteNotification 0x100482830 {name = ABDatabaseChangedExternallyNoti
  ABSenderProcessID = 1480;
  ABSenderProcessName = "Address Book";
  ABUpdatedRecords = (
    "80DE080A-D362-4E0E-8FA9-6A999FA9AEE7:ABSmartGroup"
  );
  kABUserID = 501;
}}
2011-02-22 17:44:14.683 BlingBling[1863:a0f] dbChanged: NSConcreteNotification 0x100122230 {name = ABDatabaseChangedExternallyNoti
  ABSenderProcessID = 1480;
  ABSenderProcessName = "Address Book";
  ABUpdatedRecords = (
    "80DE080A-D362-4E0E-8FA9-6A999FA9AEE7:ABSmartGroup"
  );
  kABUserID = 501;
}}
```



# PICKING PEOPLE



Insert Email Address

3.518 cards

Group	Name	Email
All Contacts	Test&vote ???	contact
Objective D...	TextExpander Support	textexp
Phone 33 Ref	TextLab text+media	redakti
Companies	The Daily Commute	tdc@pw
Email infini...	The CoffeeCup Team	donate
Having Co...	The PLATFORM TEAM	team@p
Phone 1	the-bip	phollan
		alalisse

Edit in Address Book Cancel OK

Add Contact

Select an entry from your 3.518 cards

Group	Name	AIM
All ...	_roc roc	
Obj...	- Dominik	
Pho...	- Sczirba	
Co...	- Senso	

New Person Cancel Select Buddy

Addresses

To: Cc: Bcc: 3.518 cards

Group	Name	Email
All Contacts	Tomba bruno	bruno.tom
Objective Decision	Tommaso Tessarolo	tomma
Phone 33 Ref	Ton Brouwer	ton@f
Companies	Ton Rekkers	tre@
Email infiniteloop	Tony ???	tony@
Having Companies	Tony Curtis	tcurtis
Phone 1	Tony Farndon	mcton
	TonyRP ???	tonyrp@
	toonboom	www.admi

Enter the buddy's AIM account:

Account name: First name: Last name:

Select a person: 3.518 cards

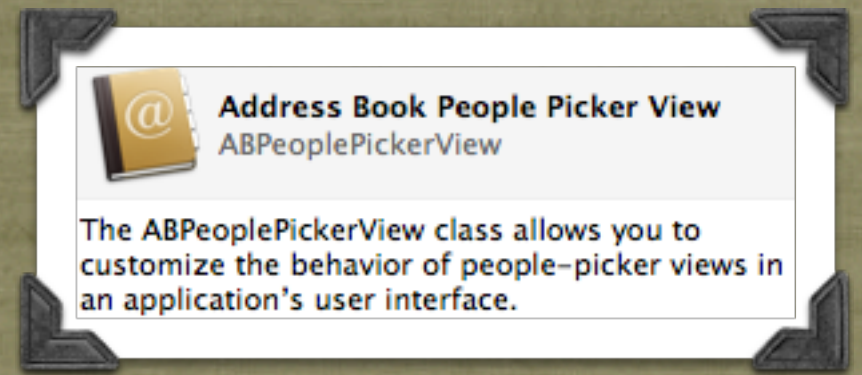
Group	Name	AIM
All Contacts	Karim Majoros	
Objective Decision	Karim Morsy	karimmo
Phone 33 Ref	Karin Knipprath	
Companies	Karin Plasticienne	
Email infiniteloop	Karin Westerfeld	
Having Companies	Karine Karine	
Phone 1		

Cancel Add





# ACTIONS



- `@property (nonatomic, assign) SEL groupDoubleAction;`
- `@property (readonly) NSArray* selectedGroups;`
- `@property (nonatomic, assign) SEL nameDoubleAction;`
- `@property (readonly) NSArray* selectedRecords;`



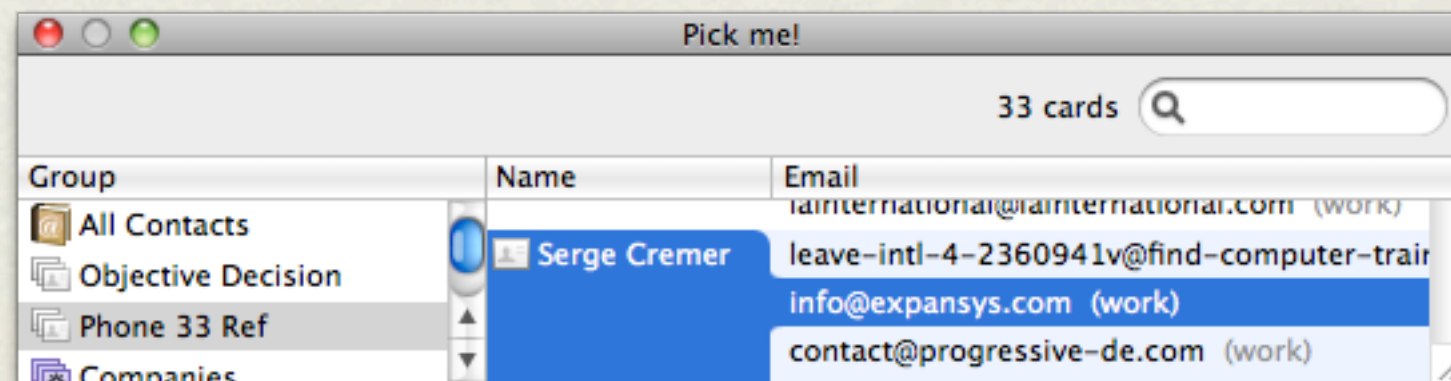
# NOTIFICATIONS



## Address Book People Picker View ABPeoplePickerView

The ABPeoplePickerView class allows you to customize the behavior of people-picker views in an application's user interface.

- ABPeoplePickerGroupSelectionDidChangeNotification
- ABPeoplePickerNameSelectionDidChangeNotification
- ABPeoplePickerValueSelectionDidChangeNotification
- ABPeoplePickerDisplayedPropertyDidChangeNotification

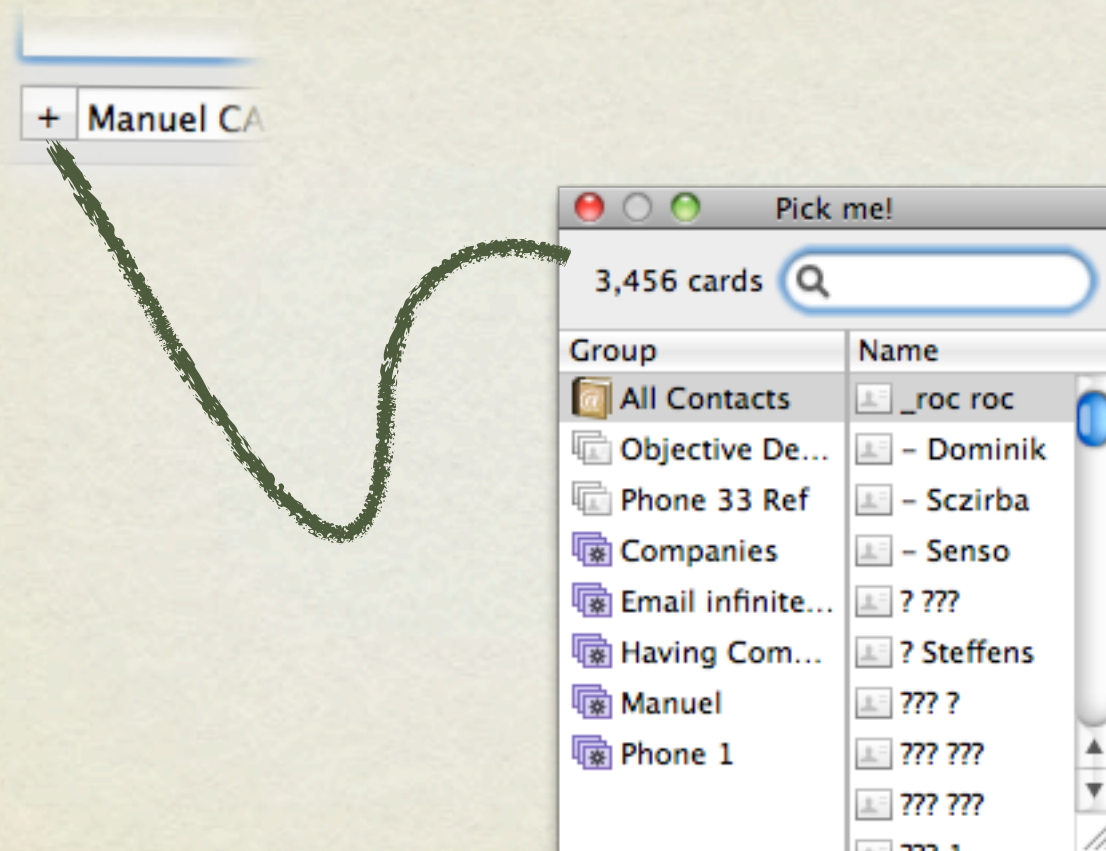






# DEMO #4

## “Bling Me!”





# ACTION PLUG-INS

**Apple Inc.**

main 1-800-MY-APPLE

home page <http://www.apple.com>

world

Map Of

Copy mailing label

Copy URL of map

Note:



# START ME UP...

Choose a template for your new project:

- iOS
  - Application
  - Framework & Library
  - Other
- Mac OS X
  - Application
  - Framework & Library
  - Application Plug-in
  - System Plug-in
  - Other

Automator Action

Address Book Action Plug-in

Quartz Composer Plug-in

A

Address Book

stuff mc

mobile +49 179 91 51 462  
mobile +32 495 512 678

Send Email  
Send Instant Message  
Visit HomePage  
Visit iWeb site  
Visit Web Gallery  
Open iDisk  
Send Update...  
Search with Spotlight

Remove all references from 'stuffmc@pomcast.com' in Address Book

!

C

Run

NSConfAB

My Mac 64-bit

Scheme

Destination

Breakpoint

Build  
1 target

Run  
Debug

Test  
Debug

Profile  
Release

Build Configuration

Debug

Executable

None

Debugger

Other...

B

Choose an executable to launch

Applications

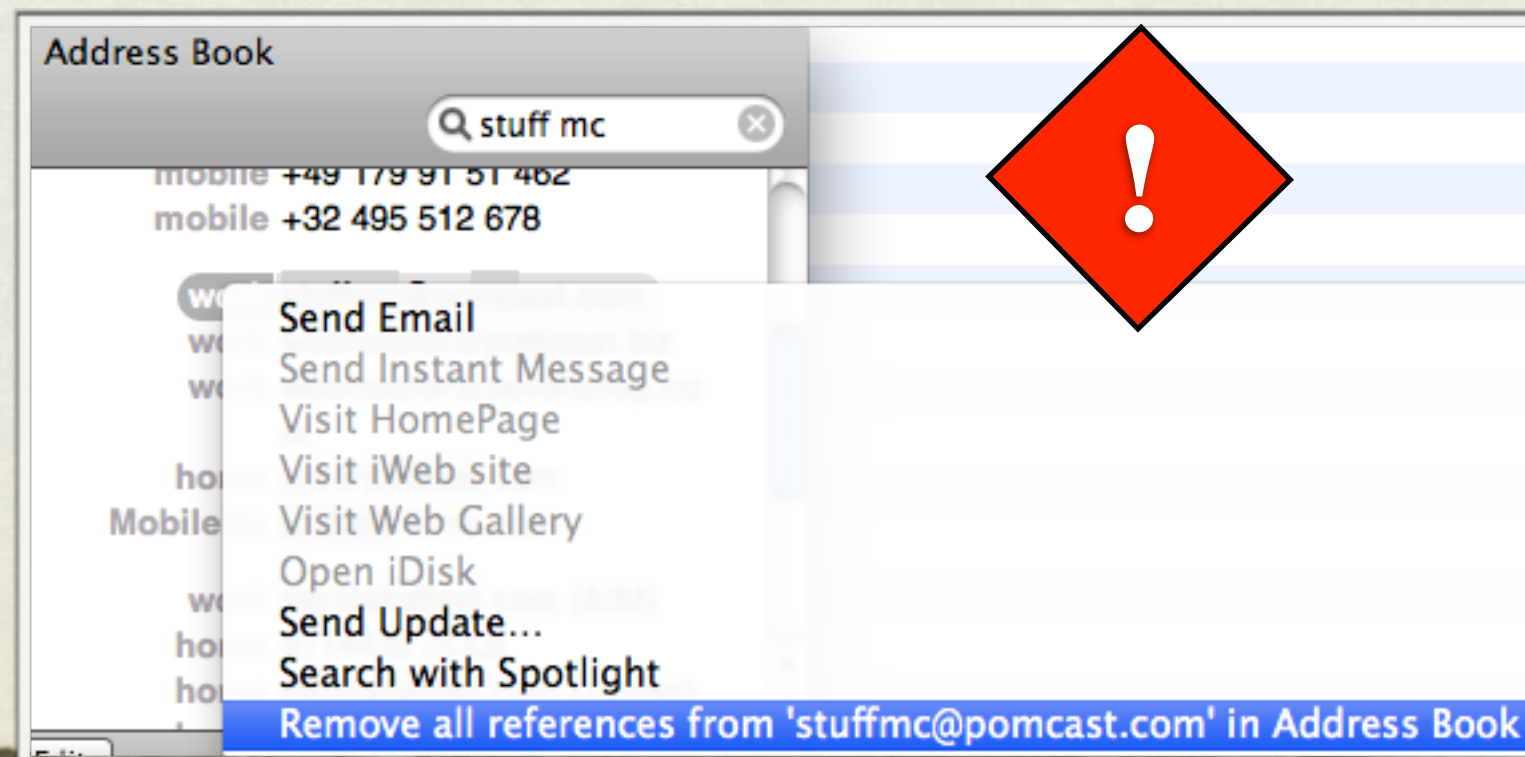
>cd to ...  
1Password  
Address Book  
Adium  
Adobe Media Player

Preview:



# ABActionDelegate

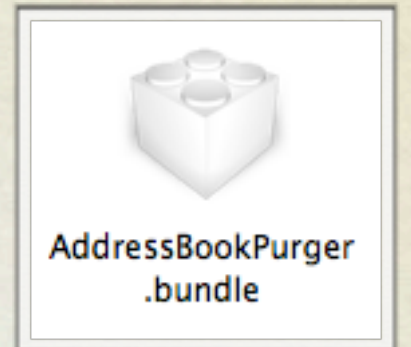
- (NSString \*)actionProperty;
- (NSString \*)titleForPerson:(ABPerson \*)person  
                                  identifier:(NSString \*)identifier;
- (void)performActionForPerson:(ABPerson \*)person  
                                  identifier:(NSString \*)identifier;
- (BOOL)shouldEnableActionForPerson:(ABPerson \*)person  
                                  identifier:(NSString \*)identifier;





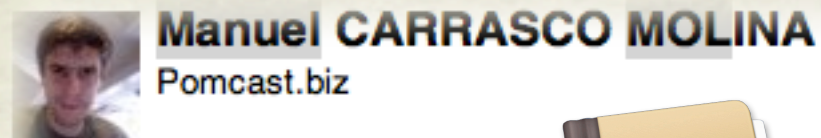
# DEPLOY

- Build
- Move the .bundle in
  - ~/Library/Address Book Plug-Ins
  - /Library/Address Book Plug-Ins
- Hint: Write a “Copy Files Build Phase”.





# DEMO




**Distributed  
Notification  
Center**

BlingBling

Event

19 Contacts 1 out of 4

Time Stamp	Name
Tuesday, February 22, 2...	Manuel CARRASCO MO...
Tuesday, February 22, 2...	Manuel CARRASCO MO...
Tuesday, February 22, 2...	Emmanuel Ravion
Tuesday, February 22, 2...	Emmanuel Ravion

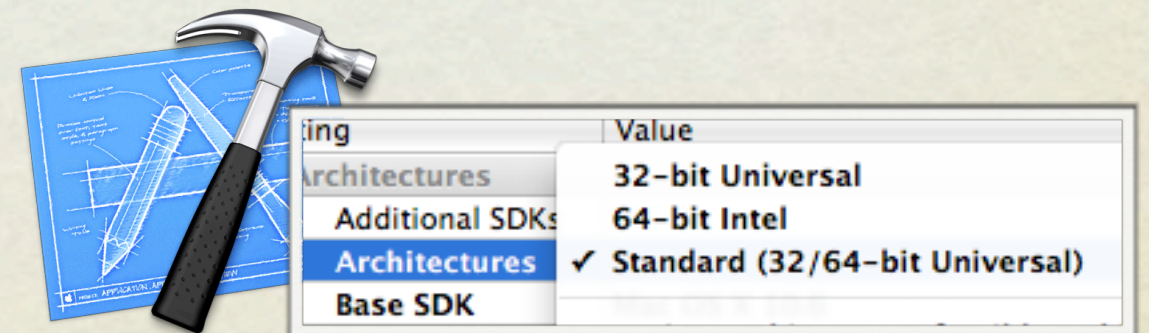


+ Manuel CARRASCO MOLII Remove Add



# NOTES

- Bug in Xcode 3 ==> 32 bits only!
- Drag n Drop your copy phase
- There's even a C and an Apple Script API, if you care :-)
- Required me some serious brain-f\*\*king at first.





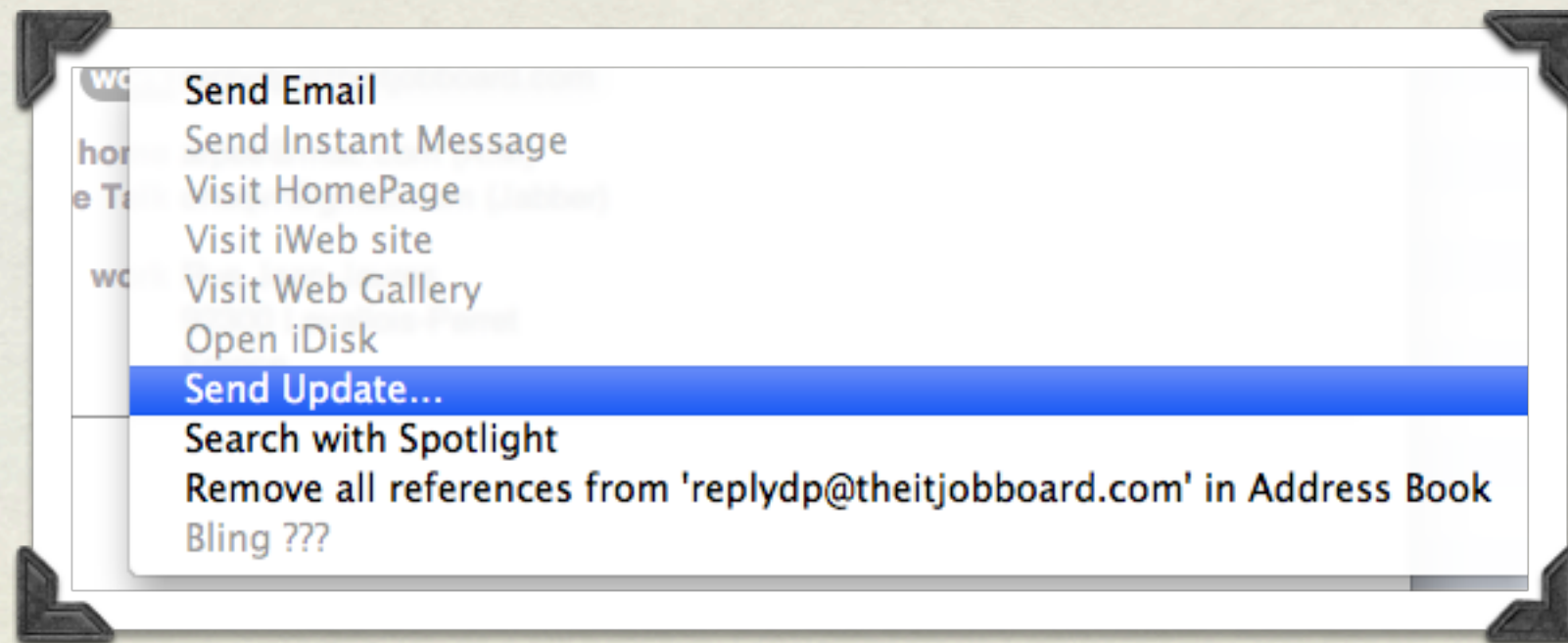
# ABSearchElement

- `NSArray* people = [ab people]`  
↳ will go to the disk for each person since Leopard!
- `ABSearchElement* haveEmail = [ABPerson  
searchElementForProperty:kABEmailProperty label:nil  
key:nil value:nil comparison:kABNotEqual];`
- `NSArray* peopleWithEmail = [addressBook  
recordsMatchingSearchElement:haveEmail];`  
↳ the E-mail has been pre-fetched, in memory!



# DEMO

## Address Book Purger





# SHARED VS LOCAL

- sharedAddressBook : all processes
- addressBook : only your process
- You might want to explicitly use (e.g.: in loops)
  - [ABRecord initWithAddressBook:]



# IF IT'S NOT ENOUGH...

- Custom properties
  - Favorite Food
  - Favorite Color
- Link \*your\* database with the ABRecord's "uniqueID"
- Use Sync Services





# Obligatory Last Slide Shamless Plug

Sorry for the Xcode issues I faced in my talk. Turned out the disk was full.

[#nsconf](#) [#demogod](#)

6 minutes ago via Twitter for iPhone from West Berkshire, West Berkshire 



futuretap  
FutureTap



# @diskalarm

## diskalarm.com

“Tell me before it’s too late”



Available on the  
Mac App Store

