CS193P - Lecture 11

iPhone Application Development

Text Input
Presenting Content Modally

Announcements

- Presence 3 assignment has been posted, due Tuesday 5/12
- **Final project proposals** due on Monday 5/11

Announcements

- This week's bonus section with Steve Marmon
  - Discussing interface design for iPhone apps
  - Will be available on iTunes U

Today's Topics

- Using the Clang Static Analyzer to find bugs
- iPhone Keyboards
- Customizing Text Input
- Presenting Content Modally

Finding Bugs with Clang Static Analyzer

- Tool for static analysis of C/Objective-C code
- Identifies potential bugs
  - Leaks
  - Using uninitalized or released variables
  - Missing dealloc method
  - More...
- Early in development, watch out for false positives
- 100% open source!
- More info at http://clang.llvm.org/StaticAnalysis.html

Running the Clang Static Analyzer

- Clean build in Xcode first
  - Ensure that nothing gets left out
- From the command line in your project directory:
  - `scan-build -k -V xcodebuild -configuration Debug -sdk iphonesimulator2.2`
  - (Customize as needed)
- Results open up in Safari when completed!

Demo:
Using the Clang Static Analyzer

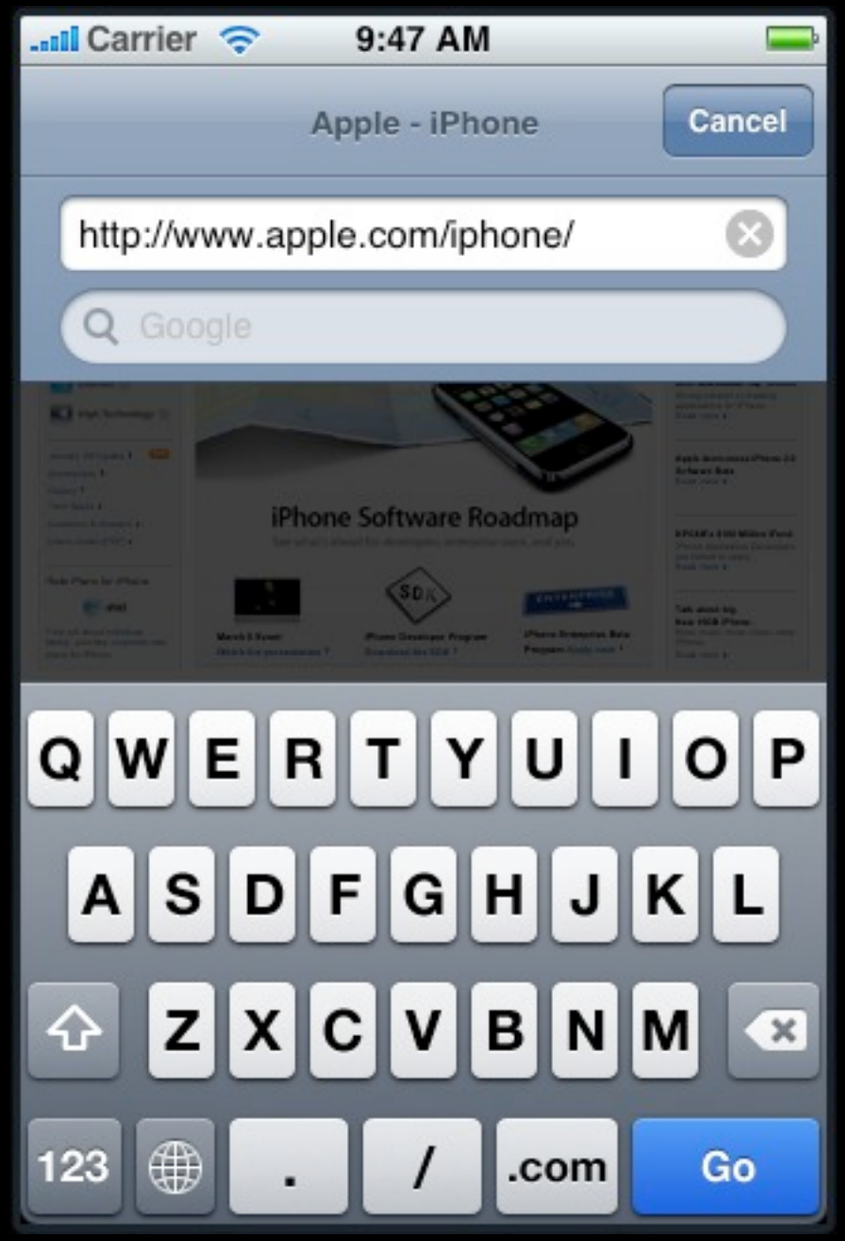
iPhone Keyboards

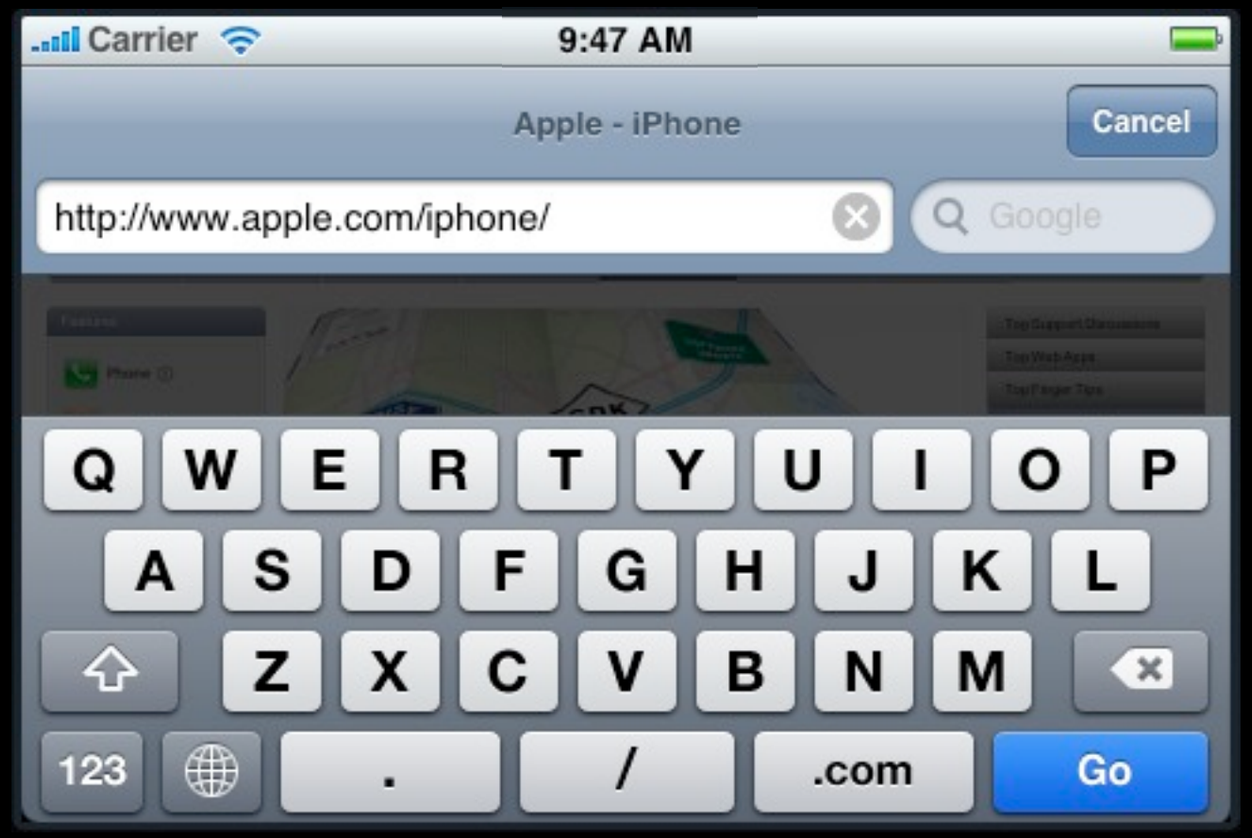
Virtual keyboard

Appears when needed

Virtual keyboard

Appears when needed





Portrait and Landscape

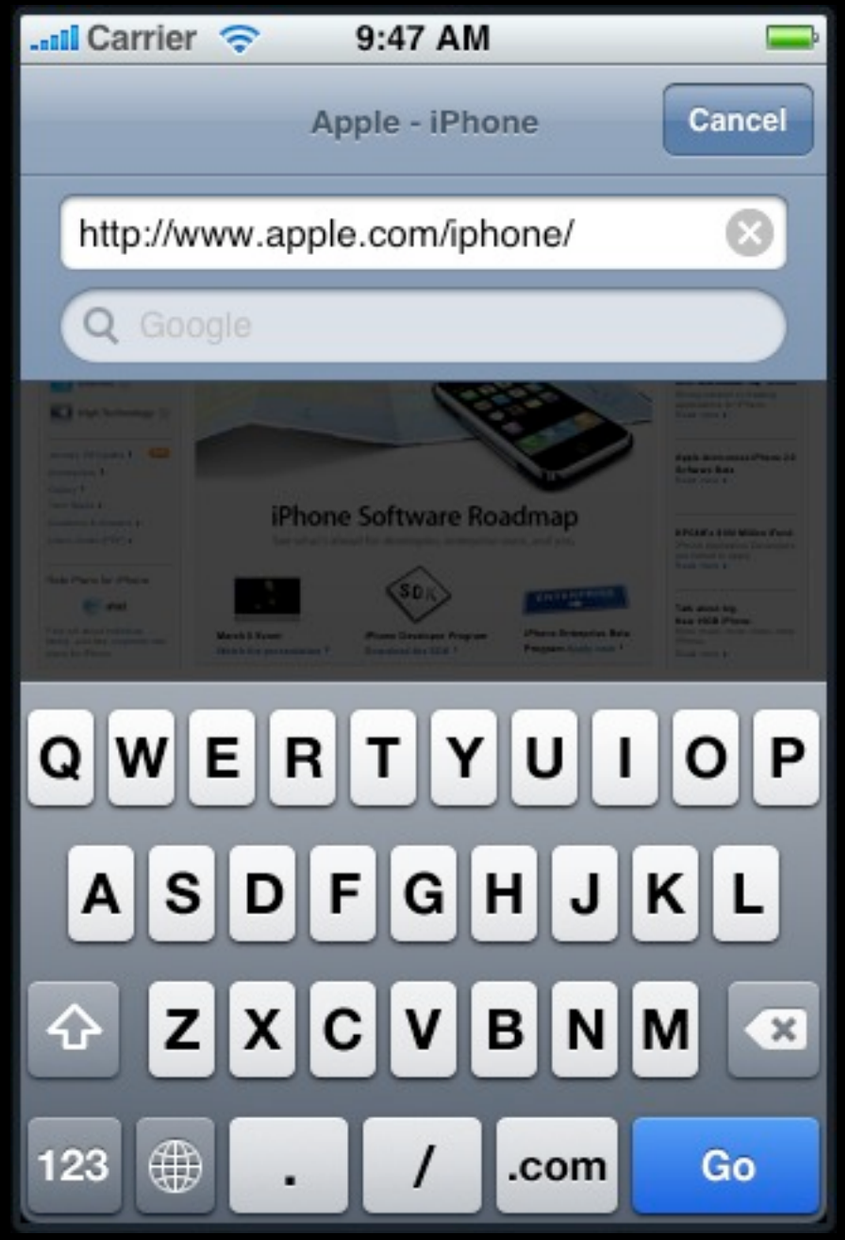
Simple selection model

Text loupe/magnifier

Many keyboard types
Adapted to task

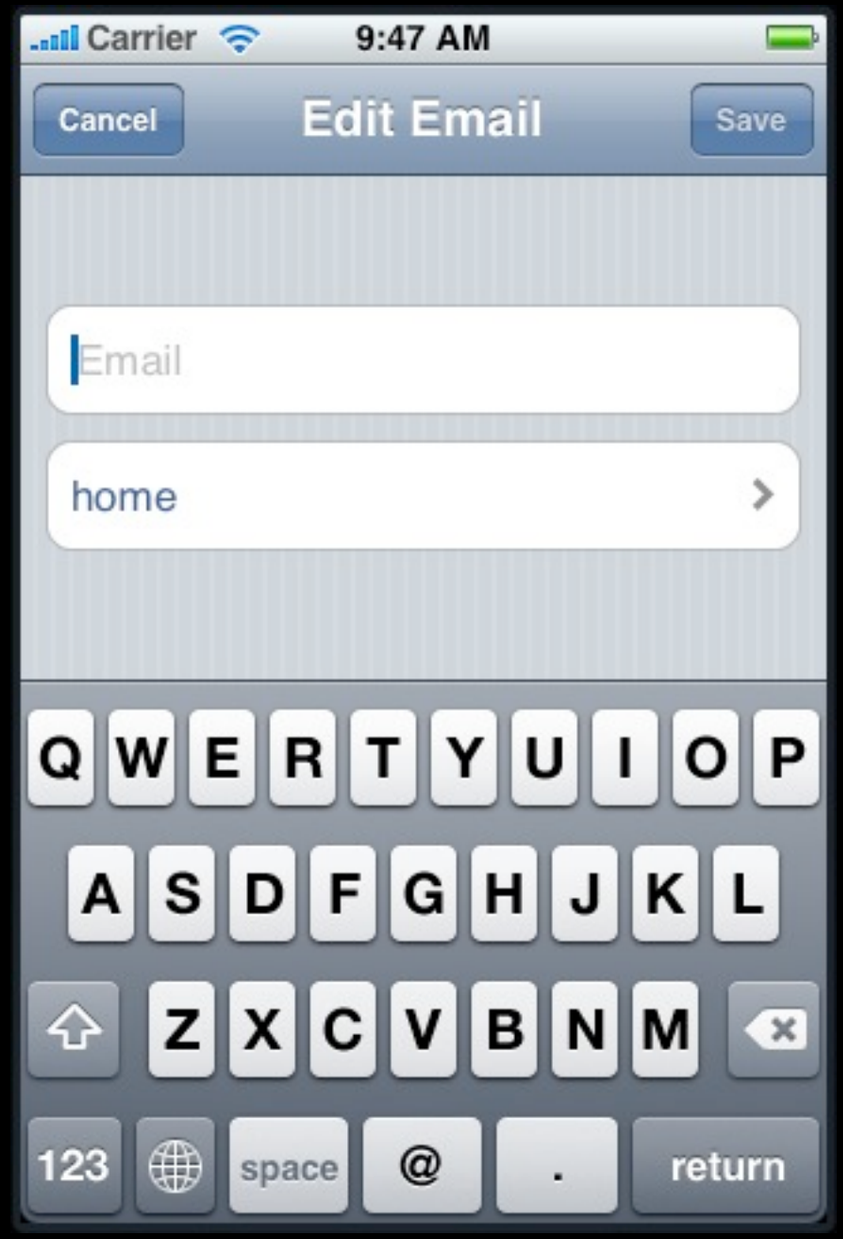
Many keyboard types

Adapted to task



Many keyboard types

Adapted to task



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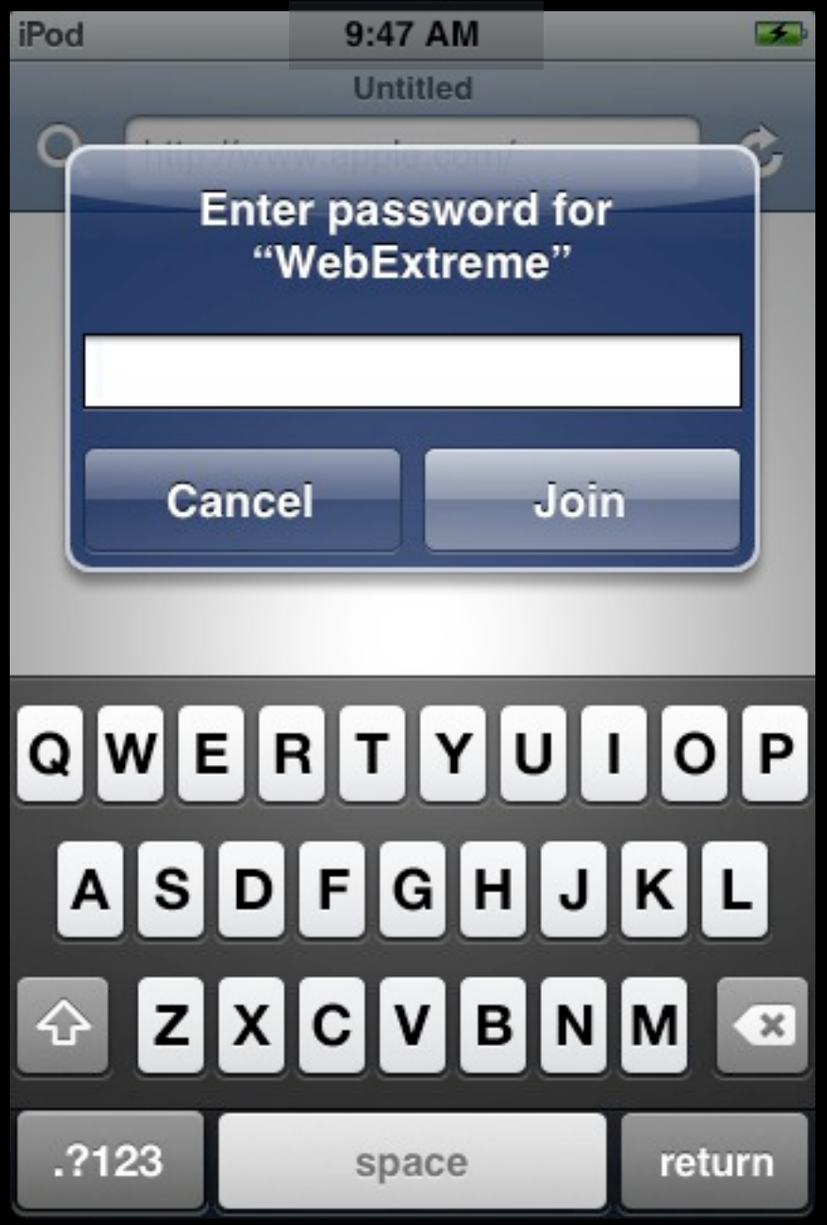
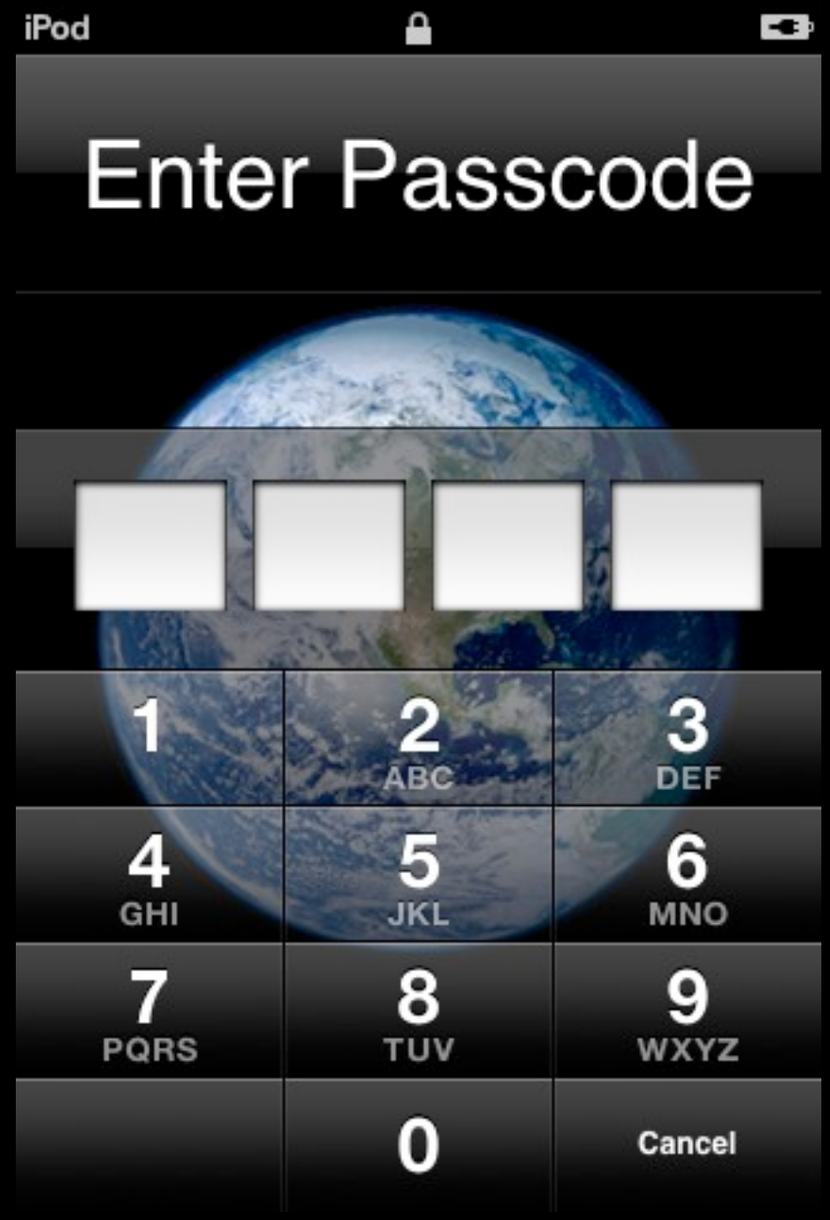
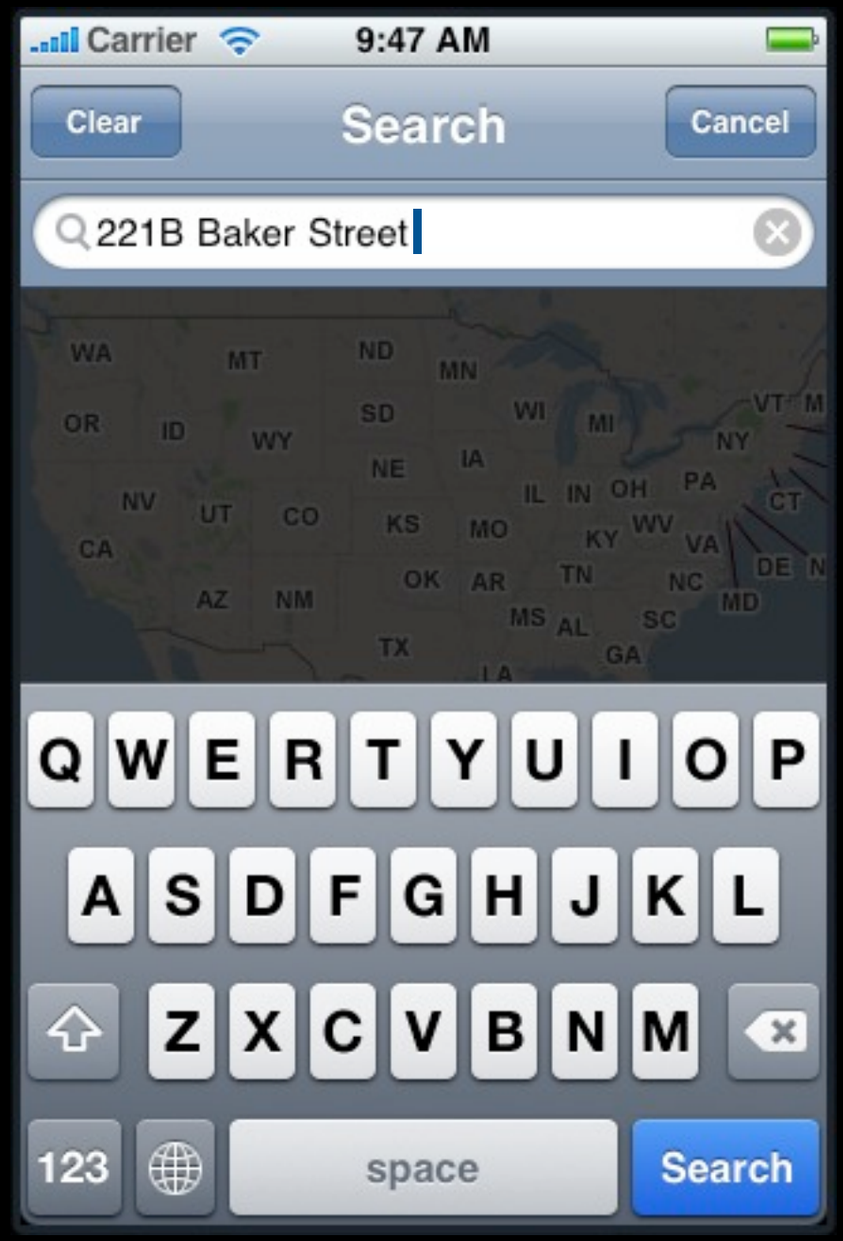


Many keyboard types
Adapted to task



Single line editing

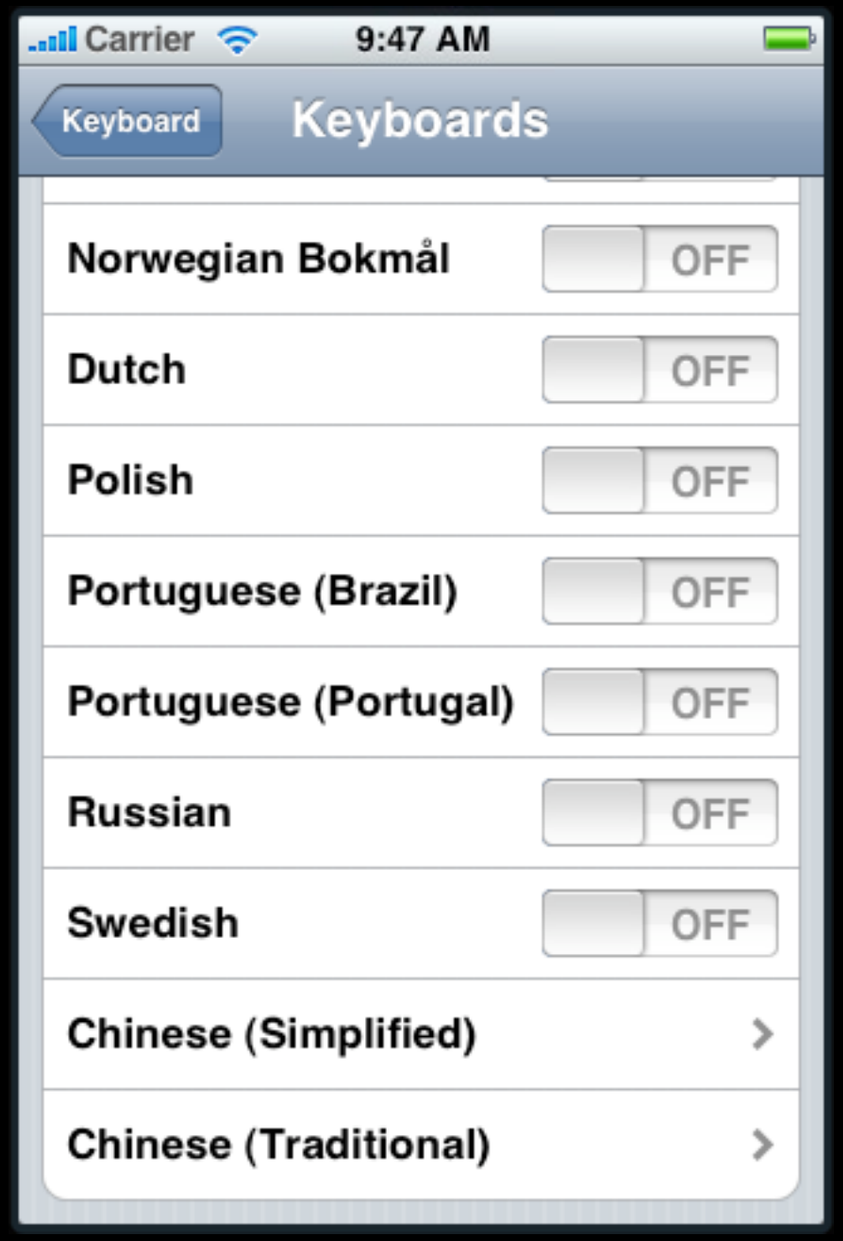


Multi-line editing

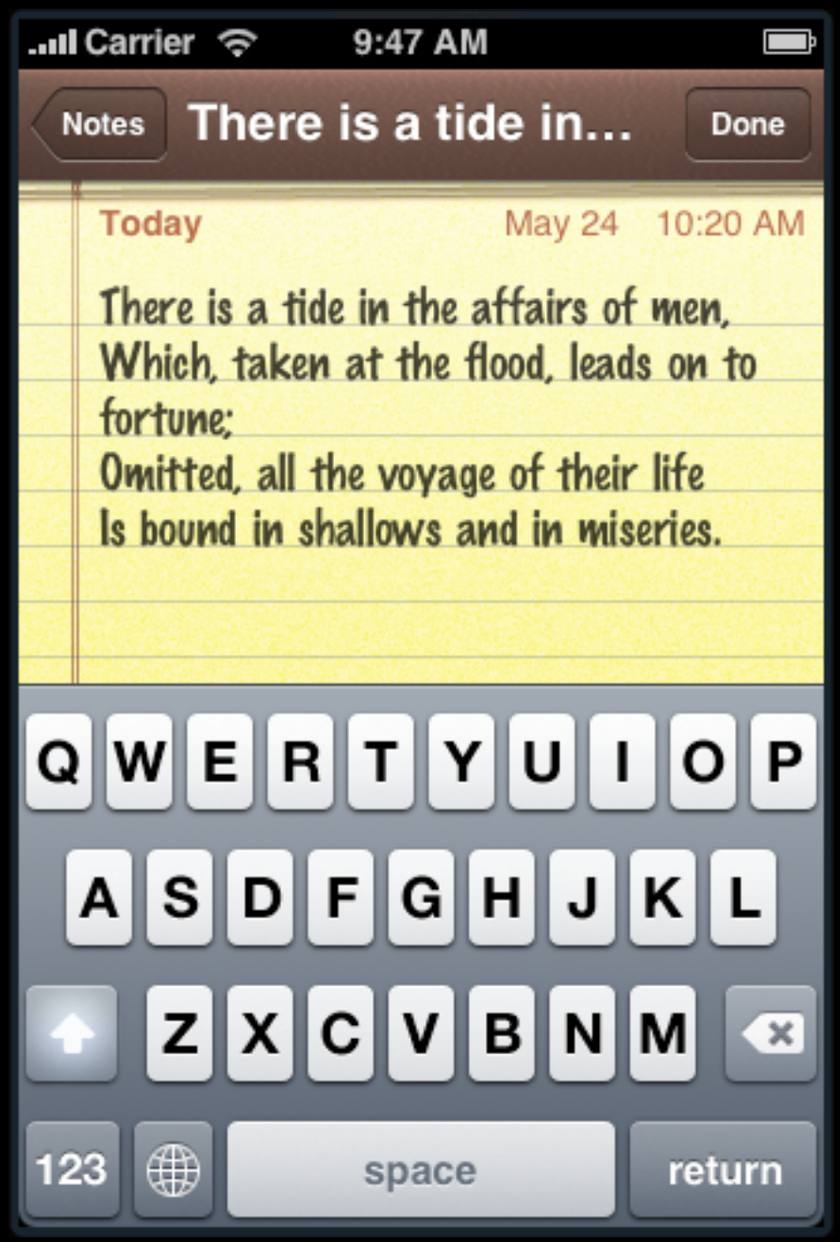
20

Languages

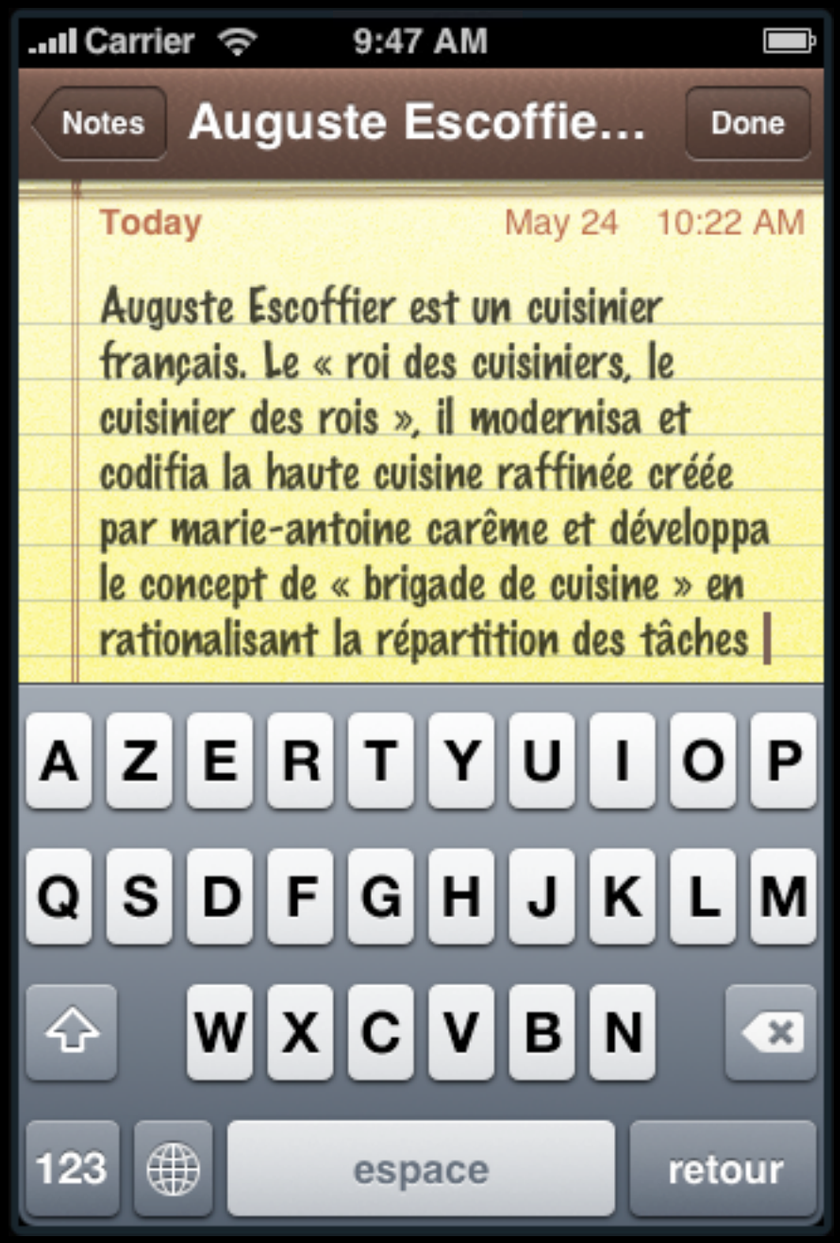
Full dictionary support



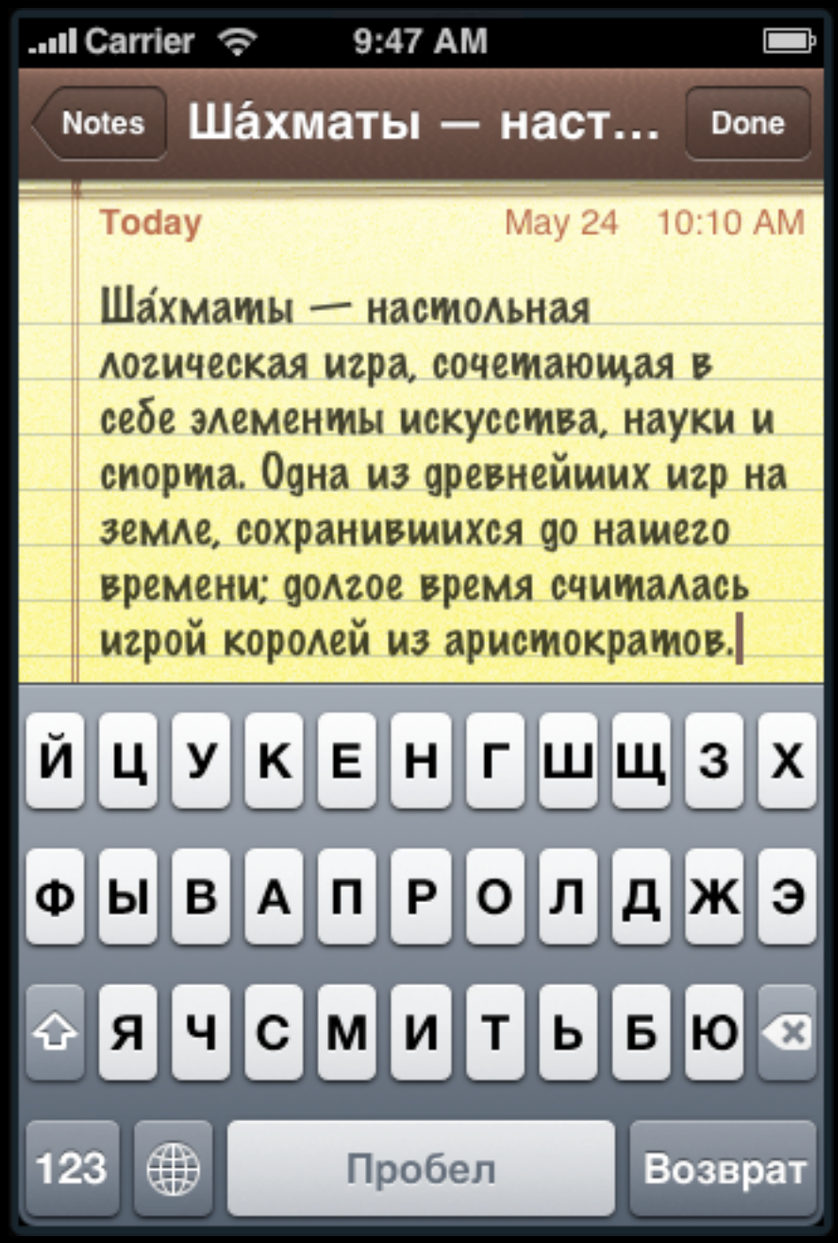
English


Carrier
9:47 AM
Notes
There is a tide in...
Done
Today
May 24 10:20 AM
There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows and in miseries.
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return

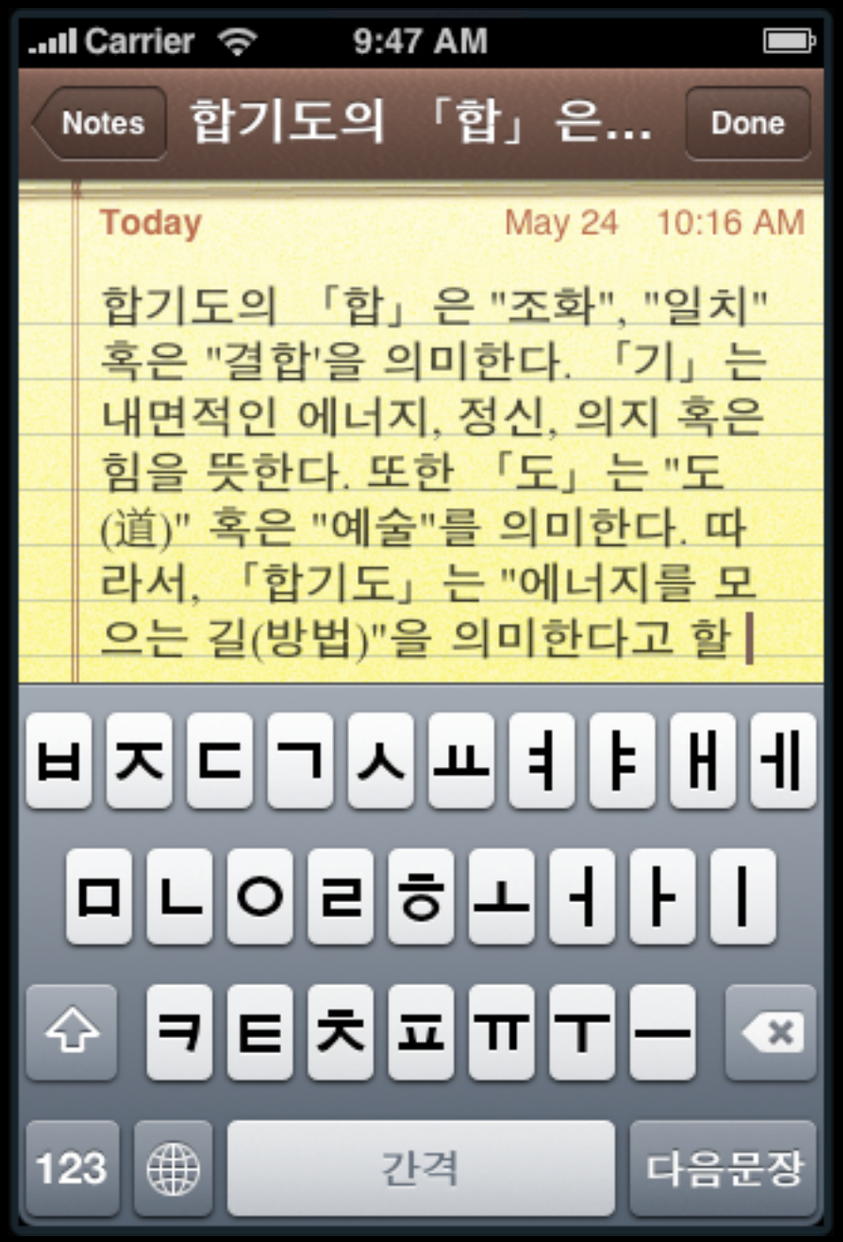
French


Carrier
9:47 AM
Notes
Auguste Escoffie...
Done
Today
May 24 10:22 AM
Auguste Escoffier est un cuisinier français. Le « roi des cuisiniers, le cuisinier des rois », il modernisa et codifia la haute cuisine raffinée créée par marie-antoine carême et développa le concept de « brigade de cuisine » en rationalisant la répartition des tâches
A Z E R T Y U I O P
Q S D F G H J K L M
W X C V B N
123
espace
retour

Russian


Carrier
9:47 AM
Notes
Ша́хматы — наст...
Done
Today
May 24 10:10 AM
Ша́хматы — настольная логическая игра, сочетающая в себе элементы искусства, науки и спорта. Одна из древнейших игр на земле, сохранившихся до нашего времени; долгое время считалась игрой королей из аристократов.
Й Ц У К Е Н Г Ш Щ З Х
Ф Ы В А П Р О Л Д Ж Э
Я Ч С М И Т Ь Б Ю
123
Пробел
Возврат

Korean


Carrier
9:47 AM
Notes
합기도의 「합」은...
Done
Today
May 24 10:16 AM
합기도의 「합」은 "조화", "일치" 혹은 "결합'을 의미한다. 「기」는 내면적인 에너지, 정신, 의지 혹은 힘을 뜻한다. 또한 「도」는 "도(道)" 혹은 "예술"를 의미한다. 따라서, 「합기도」는 "에너지를 모으는 길(방법)"을 의미한다고 할
ㅂ ㅈ ㄷ ㄱ ㅅ ㅛ ㅕ ㅑ ㅐ ㅔ
ㅁ ㄴ ㅇ ㄹ ㅎ ㅗ ㅓ ㅏ ㅣ
ㅋ ㅌ ㅊ ㅍ ㅠ ㅜ ㅡ
123
간격
다음문장

Japanese Romaji

Japanese Kana

Chinese Pinyin

Chinese Handwriting

Simplified

Traditional

Customizing Text Input

Text Containers

Text Containers

Delegates

Notifications

Methods

Text Containers

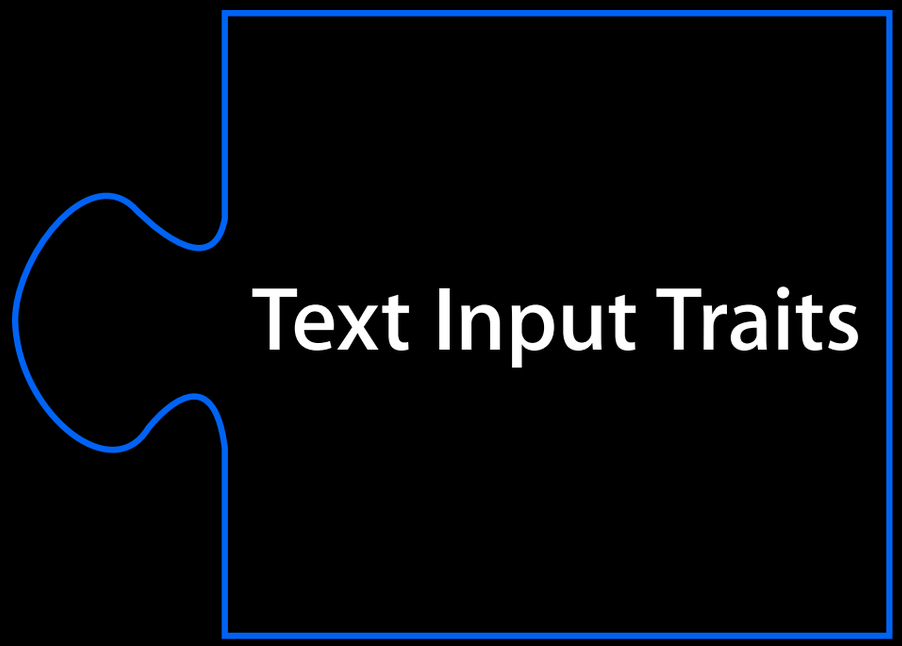
Text Input Traits

Text Input Traits

Protocol

UITextField

UITextView



Autocapitalization

Autocorrection

Keyboard Type

Keyboard Appearance

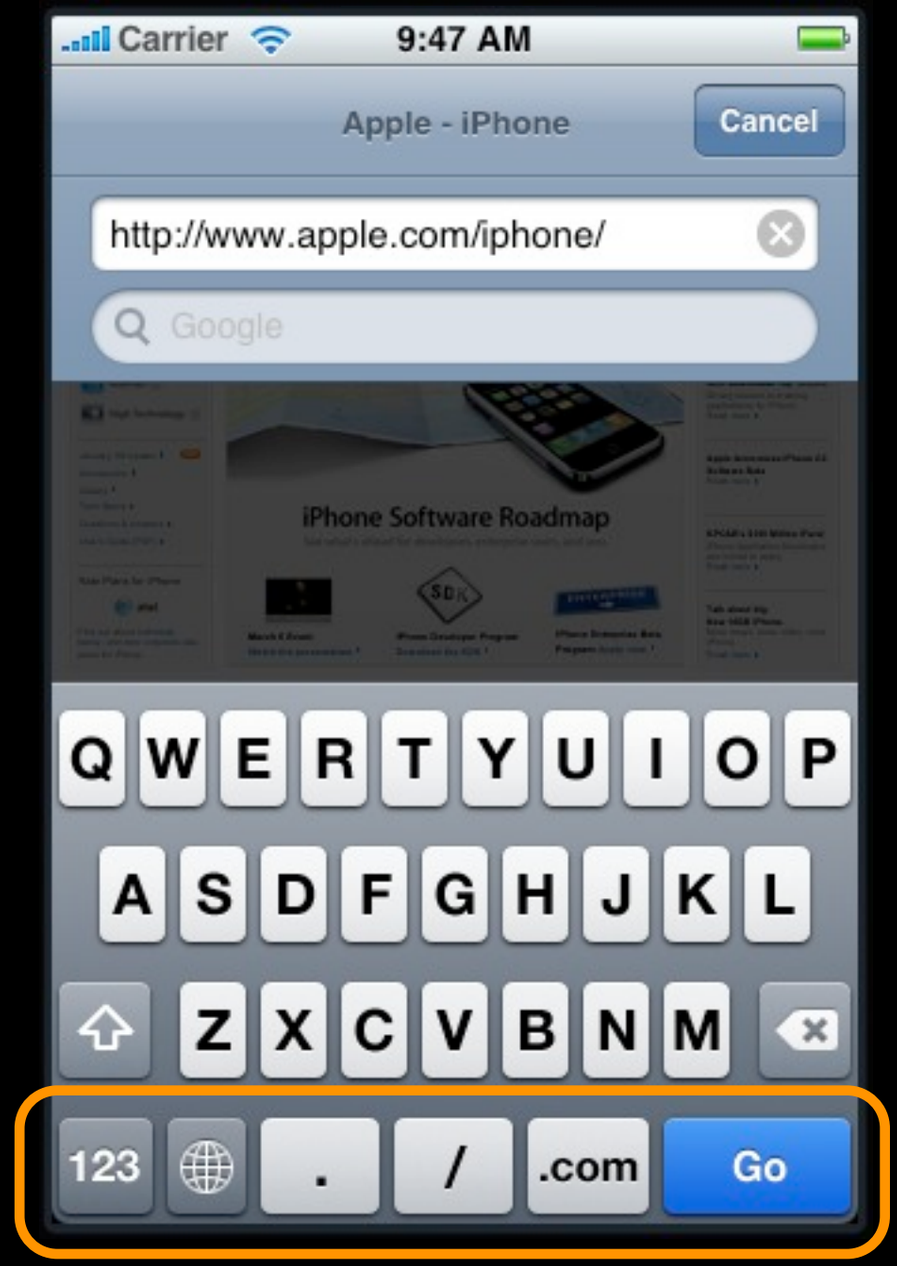
Return Key Type

Return Key Autoenabling

Secure Text Entry

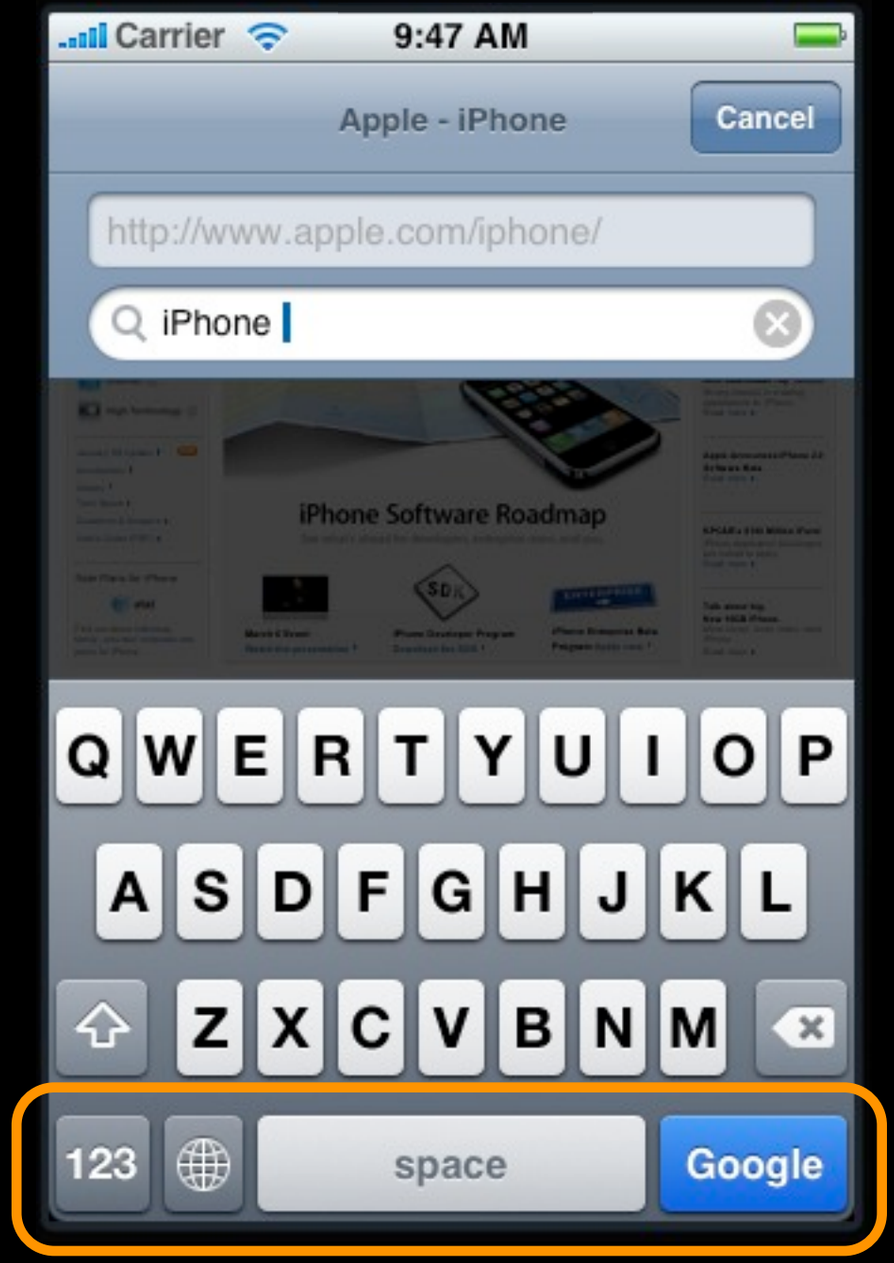
Text Input Traits

URL Keyboard
Go button



Text Input Traits

Default Keyboard
Google button



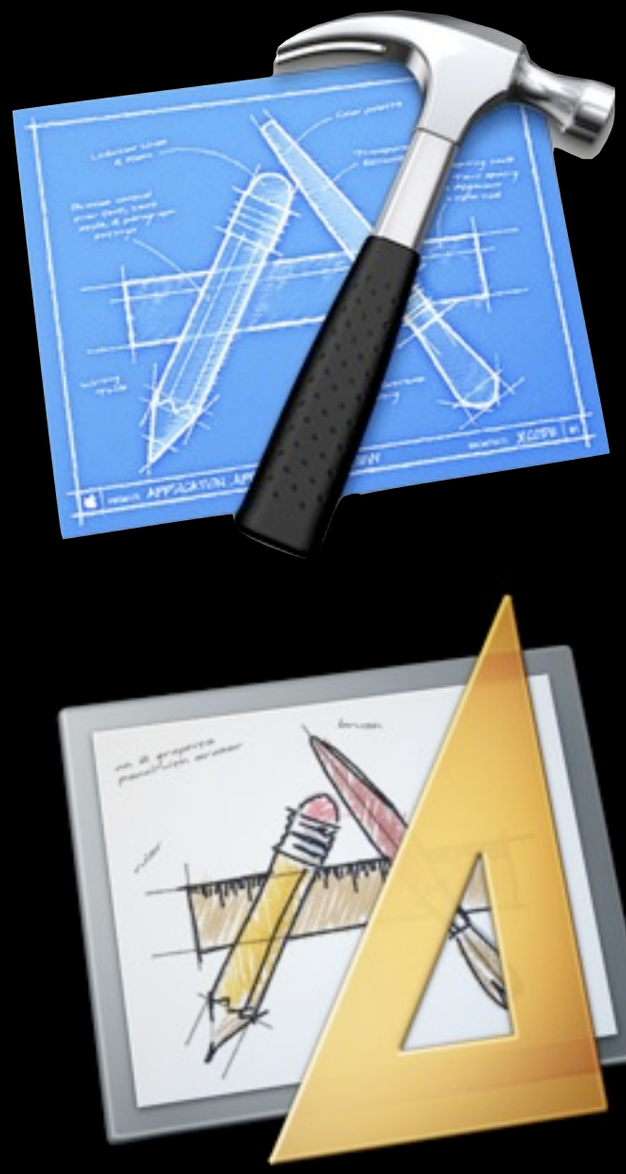
Text Containers

Text Input Traits

Delegates

Notifications

Methods



UITextField

URL Keyboard

Go button

Design time

UITextField

URL Keyboard

Go button

Run time

Keyboard

UITextField

URL Keyboard

Go button

Become first responder

Keyboard

UITextField

URL Keyboard

Go button

Become first responder

Keyboard

URL Keyboard

Go button

UITextField

URL Keyboard

Go button

Keyboard adopts traits

Text Containers

UITextField

UITextView

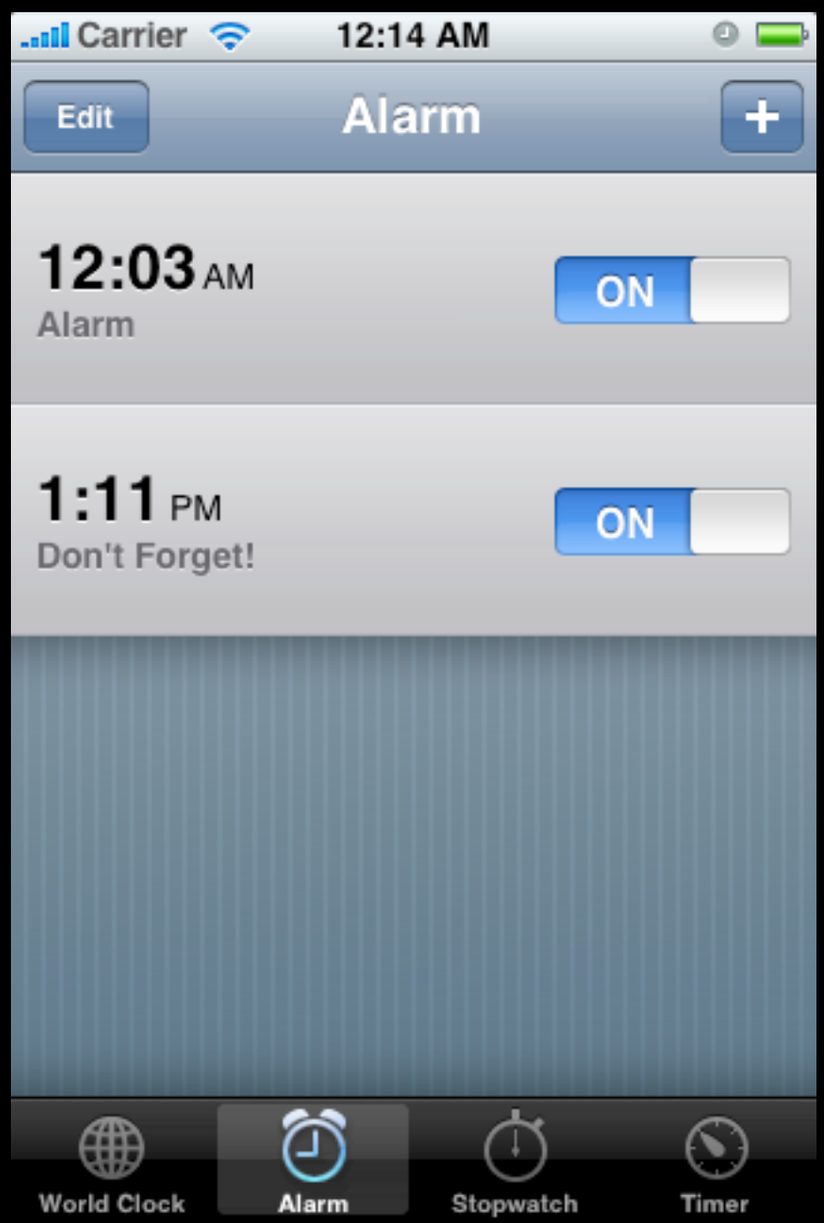
Web Forms

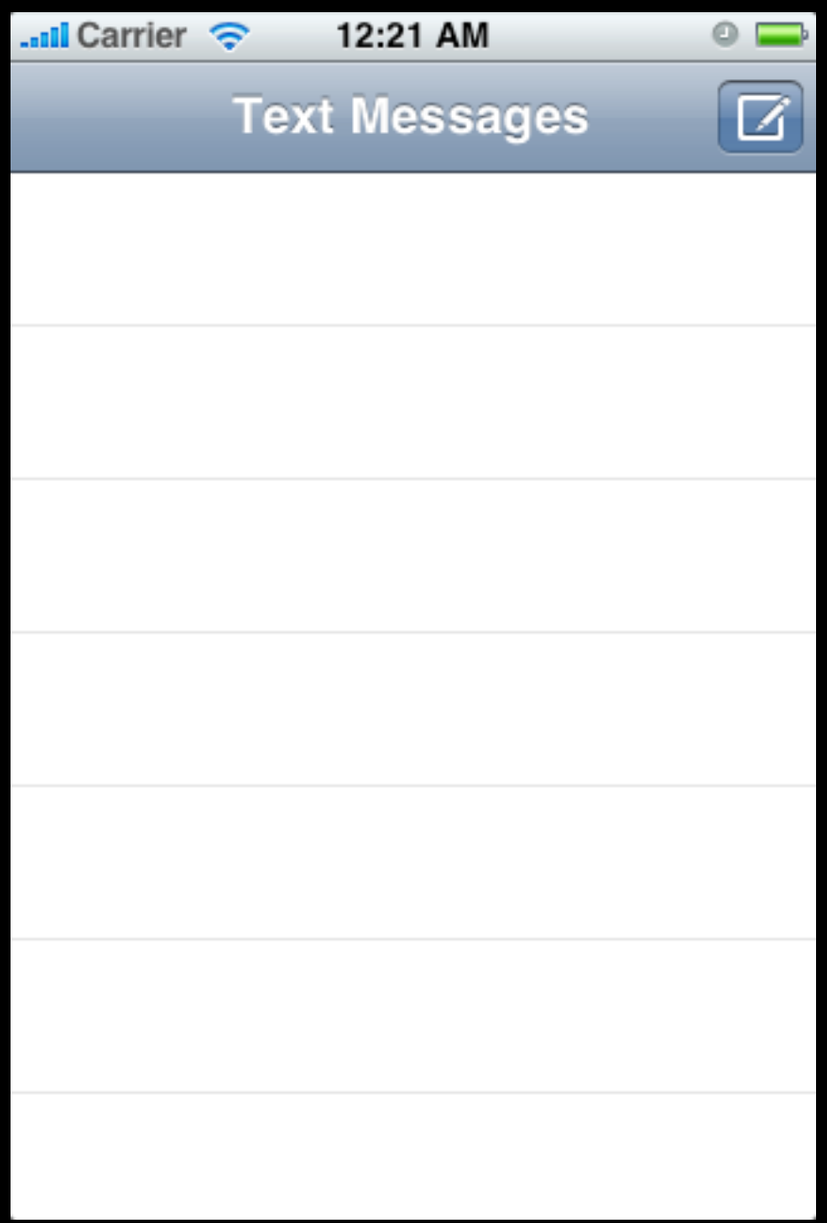
Demo:
Text Input

Presenting Content Modally

Presenting Content Modally

- For **adding** or **picking** data





Presenting a View Controller

Presenting a View Controller

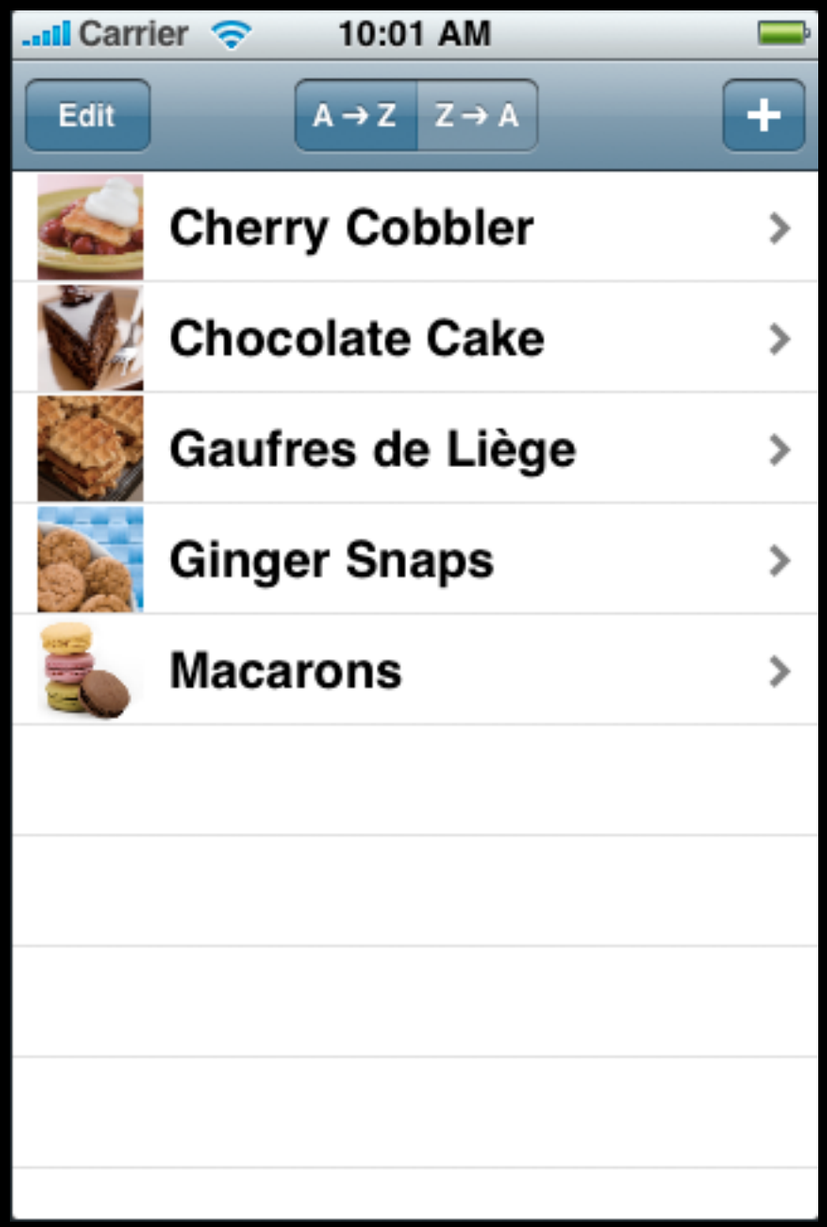
```
// Recipe list view controller
- (void)showAddRecipe {
   RecipeAddViewController *viewController = ...;
   [self presentModalViewController:viewController animated:YES];
}
```

Dismissing a View Controller

Dismissing a View Controller

```
// Recipe list view controller
- (void)didAddRecipe {
   [self dismissModalViewControllerAnimated:YES];
}
```

Separate Navigation Stacks



Separate Navigation Stacks

Separate Navigation Stacks

Dismissing a Modal View Controller

- Who should do it?
- Best practice is for the **same object** to call present and dismiss
- **Define delegate methods** for the presented controller
  - Tell the delegate when the presented controller is done
  - The delegate makes the call to dismiss

Dismissing a Modal View Controller

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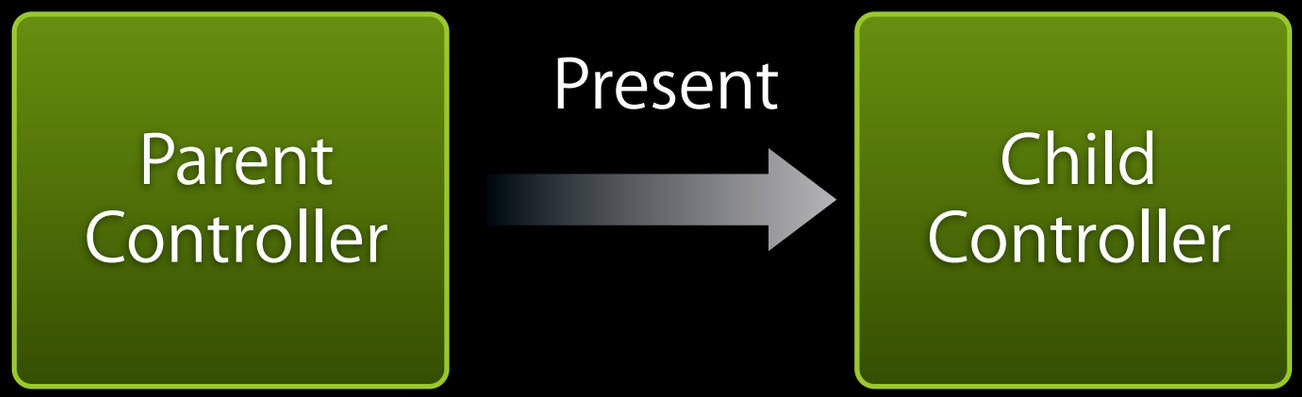

Dismissing a Modal View Controller

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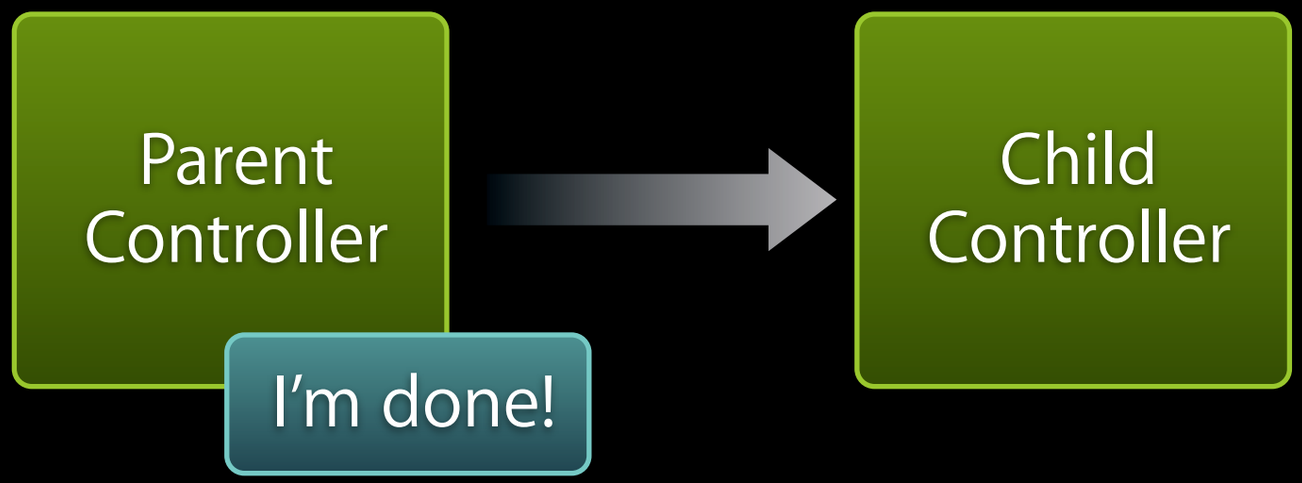

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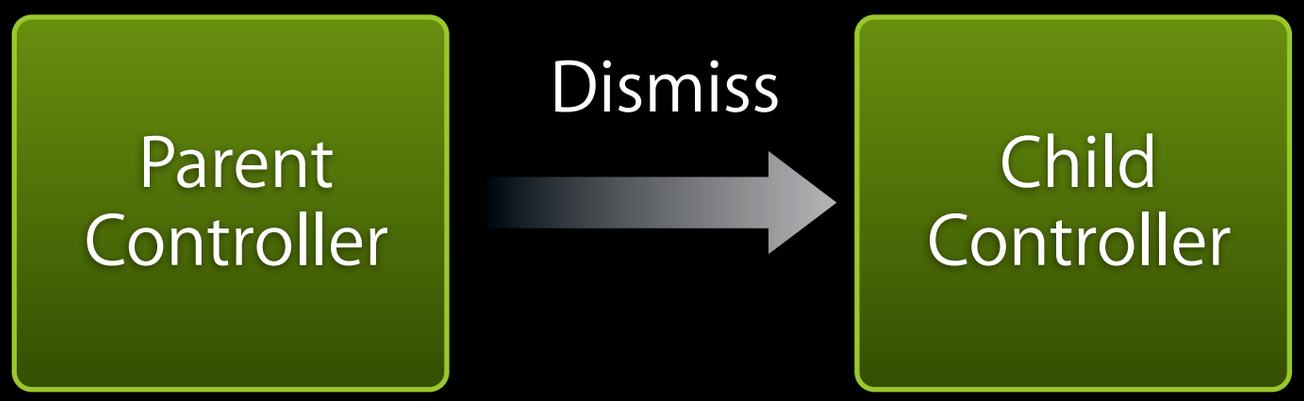

Dismissing a Modal View Controller

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Demo:
Presenting Content Modally

Presence – Part 3

Goals for Presence 3

- Avoid expensive work on the main thread
  - Use background threads to **keep UI responsive**
  - Abstract thread lifecycle with NSOperation & NSOperationQueue
- Allow the user to update their own status
  - Present a view controller modally
  - Customize text input traits on a UITextField
  - Use a delegate callback when finished

Questions?