

CTT534 – Thiết Kế Giao Diện

A Few Web and Mobile UI Patterns

14/4/2014

Outline



- Overview
- Web UI Patterns
 - Navigation
 - Forms
 - Search
 - Wizard
- Mobile UI Patterns
 - Navigation
 - Forms
 - Search
 - Notification, feedback, and invitation

What is a UI Design Pattern?

- Object-oriented Methodology
 - "Design patterns are descriptions of communicating objects and classes that are customized to solve a general design problem in a particular context" (Erich Gamma et al. 1995)
- Generally, a design pattern is a description of the repeatable problem and its solution
- UI design patterns are descriptions of common UI design problems and their solutions

Benefits of UI Design Patterns

- UI patterns support external consistency
 - Consistency is a key principle of UI design
- Improve learnability, memorability, and satisfaction of UI
- Reduce time to design, develop, and test
- Reduce risks in UI design
 - Learning from good and working Ul's

Web Navigation

Current popular homepage design: menus on top

Logo, menu, sub-menu, search input box

Sliders: conveying the current most important messages

Content

Fat footer

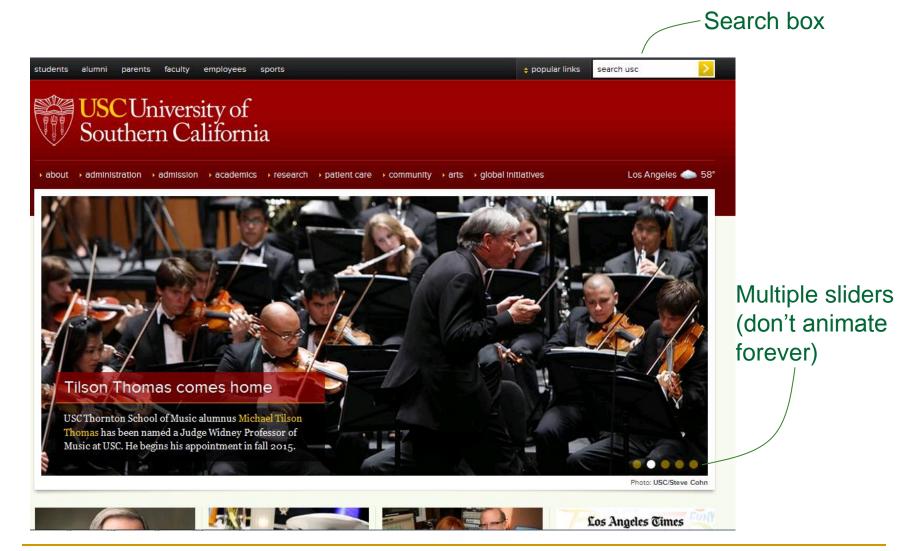
Navigation: Menus and Sliders

- Horizontal primary menu and submenu
- Menu can have dropdown lists (vertical menus)
- Sliders should include graphics and most important messages
- Sliders can automatically play, but should not play forever
 - Include pause and replay buttons
 - Don't play too fast, let users read the message
- Search input box on top should be prominent
- Limit scroll on homepage
- Always provide a Home link

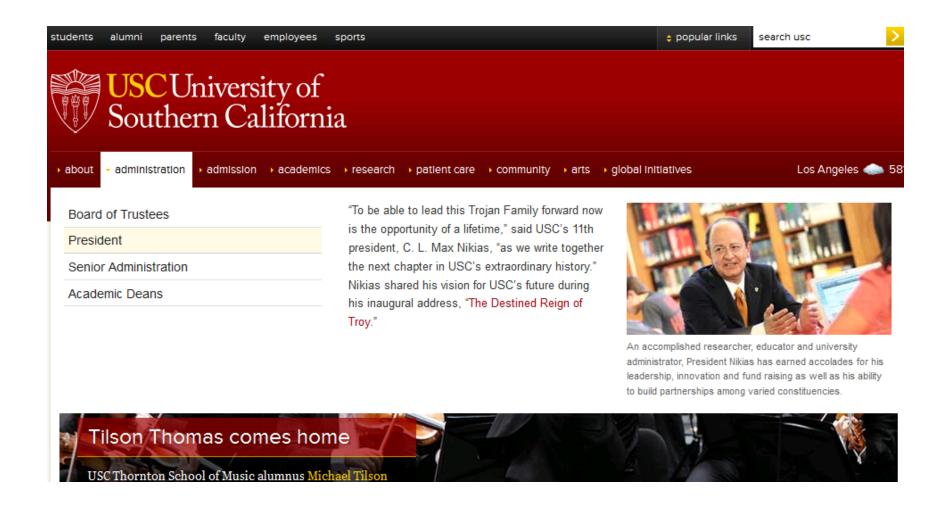
Outline

- Overview
- Web UI Patterns
- Navigation
- Forms
- Search
- Wizard
- Mobile UI Patterns
 - Navigation
 - Forms
 - Search
 - Notification, feedback, and invitation

Navigation: Menus and Sliders



Navigation: Vertical Dropdown Menu



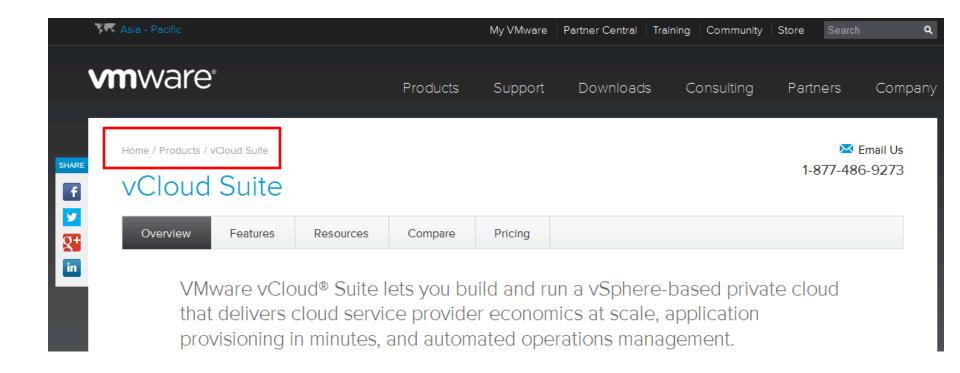
Fat Footer

- Secondary navigation to provide more shortcuts to important information of a website
- Links to frequently used pages
- Using the same footer for all pages



Breadcrumbs

 Tell users where they have been, where they are, how they can go back



Pagination

- Using 'Previous', 'Next', '<' and '>' icons, and page numbers
- Google:



ebay:

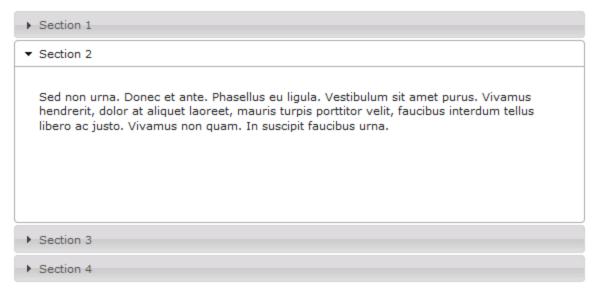


Allow users to change number of items per page:

Too many: slow loading Too few: slow searching

Accordion Menu

- Grouping things into sections each with a panel
- Expanding a section when clicking on it
- Allowing users to view content of a section while seeing other sections





Source: http://jqueryui.com/accordion/

Carousel

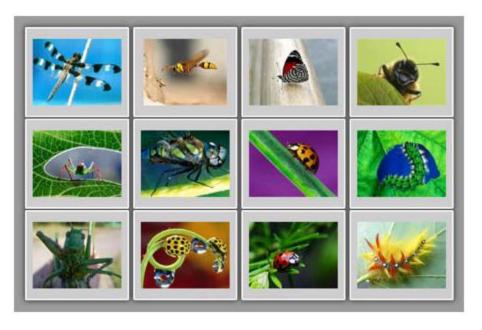
- Used to browse through a set of items
- Used when there are many items and limited space while informing users of something more
- Used for visual objects



Thumbnail Gallery

- Allowing users to view many images without downloading full sized content
- Many jQuery and dojo plugins available
- Common sizes:

Width x Height	Description
64×64	Small
80x80	Medium
96x96	Medium
128x128	Large
144x144	Extra large



Source: http://www.dmxzone.com/go/17142/creating-a-simple-animated-thumbnail-gallery/

15

Forms

 Forms contain various input elements: text boxes, combo boxes (dropdown), radio buttons, etc.

Guidelines

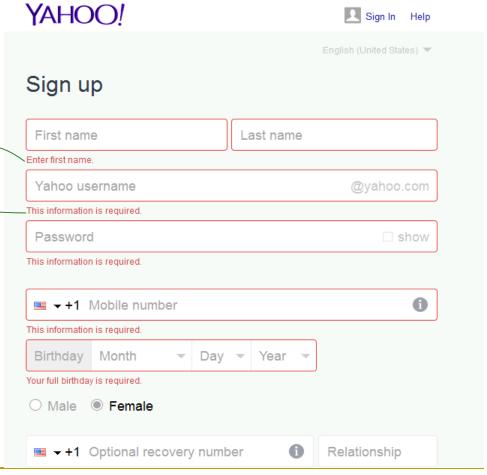
- Use one-column left aligned forms
- Mark required fields or active feedback on required fields
- Provide good feedback for actions and good error messages
- Place labels on the left or top and consistent throughout the website
- Group related fields (using colors or shading)

Forms (cont'd)

- Input prompts placed within input box
- Good defaults
- Good feedback
- Few required info

Required fields indicated, when users leave them without filling

This form does not use many labels: saves space and time for users



Inplace Editor

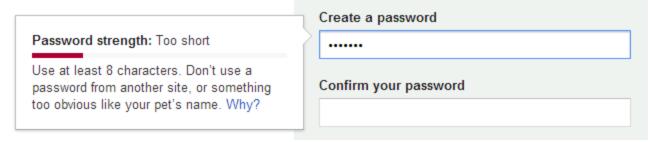
- Allows users to edit value easily
- Used for editing a few text, dropdown, etc. values
- Should use signifiers or indicators for possible inplace editors (e.g., highlight when hovering)



18

Password Strength Meter

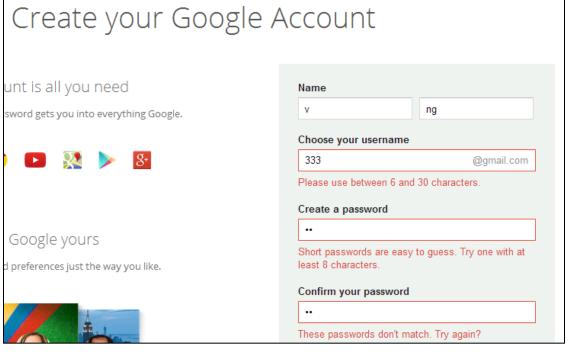
- Used in the sign up form to help users specify their strong passwords
- Helps improve password security on websites
- How to know a password is strong?
 - Apply some simple policies, e.g., wiki page or MS page



Gmail's sign up form

Input Validation

- Provide validation and feedback input time
- Validate and feedback as much as possible before submitting
- What to validate?
 - Required fields
 - Acceptable ranges
 - Length
 - Uniqueness
 - Confirmation
 - Inclusion
 - Exclusion



Lazy Registration

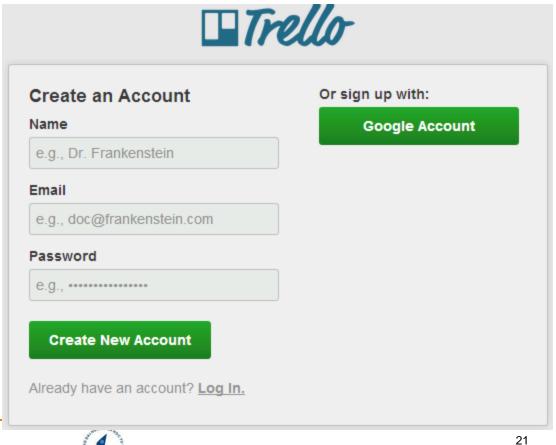
Allows users to quickly register your service

Why? Users are afraid of having a relationship with

a website

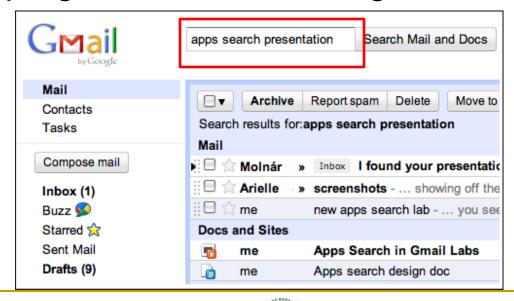
How to get more of their info?

Use "carrot and stick" approach



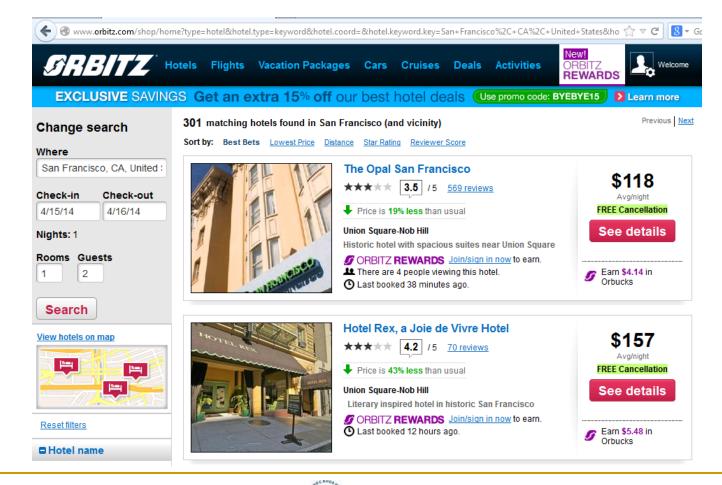
Search

- Provide a single search field
 - Provide advanced search as a secondary option
- Show results in the same page with search criteria
- Offer an option to clear search criteria
- Offer a progress indicator during search



Search (cont'd)

Search criteria is also shown with results



Progress Indicator/Wizard

- Used to guide users through a complex multiple step process such as checkout, setup, installation
 - Also used when users are not familiar with infrequent processes



24

Progress Indicator/Wizard (cont'd)

Guidelines

- Minimize number of steps
- If more than 5 steps, group them and don't use numbers
- Show the current step clearly
- Label all steps/groups clearly
- Allow users to go back to modify inputs in previous steps

Outline

- Overview
- Web UI Patterns
 - Navigation
 - Forms
 - Search
 - Wizard



Mobile UI Patterns

- Navigation
- Forms
- Search
- Notification, feedback, and invitation

Mobile Navigation

- Types (Neil 2012)
 - Springboard
 - Tab menu
 - List menu
 - Gallery
 - Metaphor

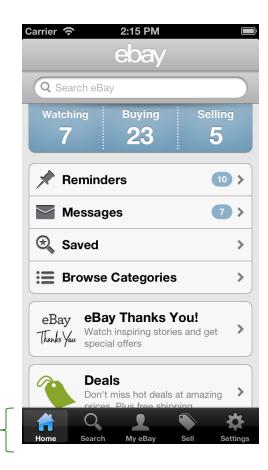
Springboard

- Home screens for iOS and Android
- Divide screen into 3x3, 2x3, etc.
- Should limit number of items in one screen
 - Combine w/ tab if needed more
- Provide a search box to search items
- Allow users to change layout



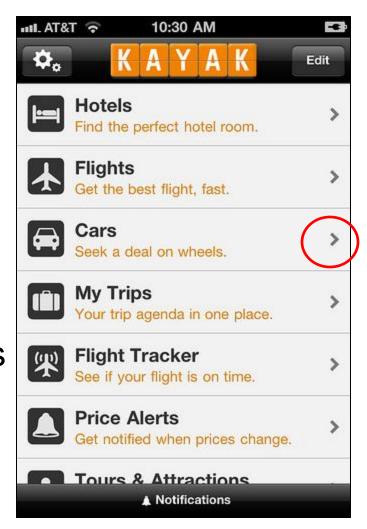
Tab menu

- Each tab groups a similar set of functions
- Active tab should be highlighted
- Tabs at the bottom is preferable (closer to user fingers)
 - Android, Windows: tabs on top
- Use icons with accompanying titles
- Titles should be short (use list menu or springboard for long titles instead)



List Menu

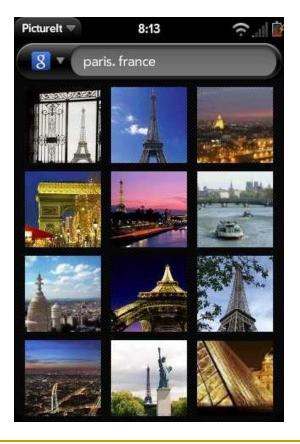
- Various kinds of list
 - Title only list
 - Grouped list (with sub-sections)
 - Enhanced list
- Can show long titles and sub-titles (e.g., hints)
- Can be included in tabs
- Should indicate touchable items



Gallery

 Suitable for photos, articles, products, restaurant menus





Metaphor

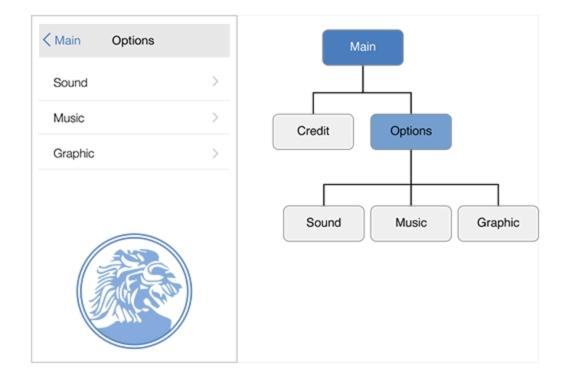
- Menu with icons symbolizing physical things
- Strong metaphors may be overkilled
- May be suitable in games





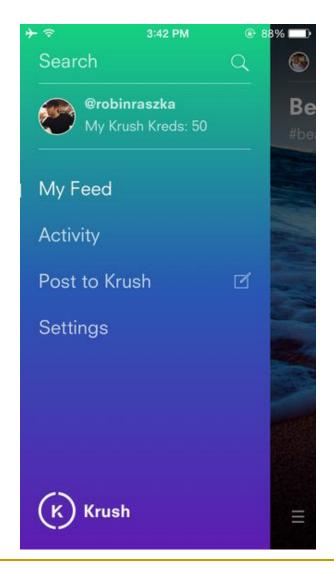
32

iOS 7 Navigation Example



iOS 7 – Slide Between Pages

- Moving screens by sliding
- Less visible navigation but efficient



34

Forms

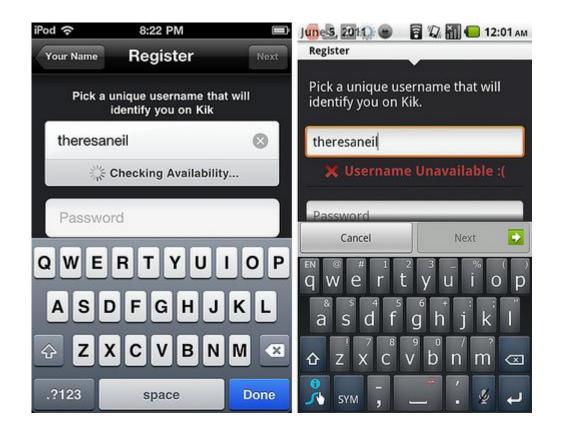
- Keep forms simple
- Only include required fields



35

Registration Form

Provide instant feedback



Search Criteria Form

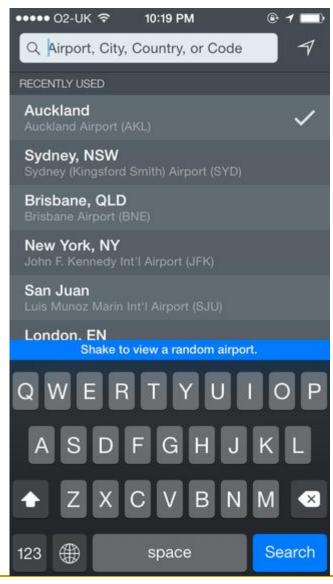
- Show criteria in a list
- Provide default values
- Have a "clear"/ "reset" button
- Set label with number of results, if possible



37

Single Search Input Box

 Always better to provide simple but powerful search capability



Search Auto Suggestion

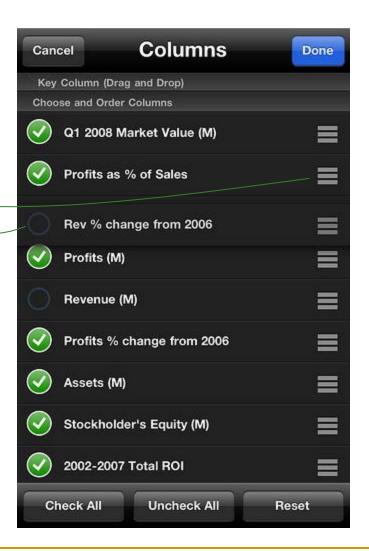


Table with Grouped Rows

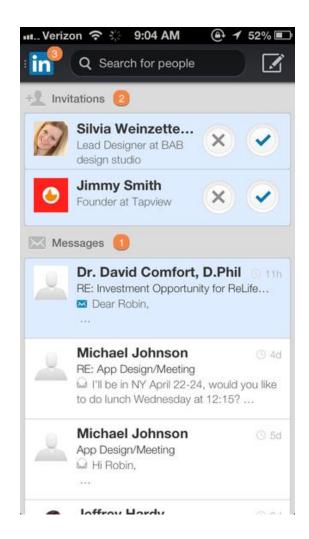


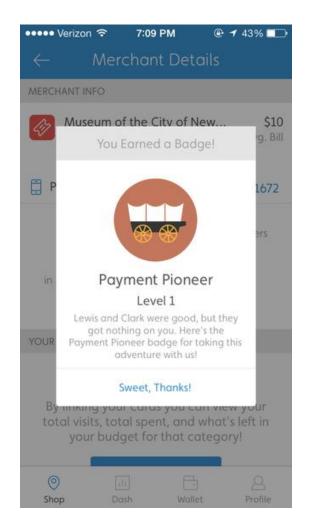
Signifiers

- Use signifiers/indicators to show affordance of items
- Drag-able
- Checkable



Notifications

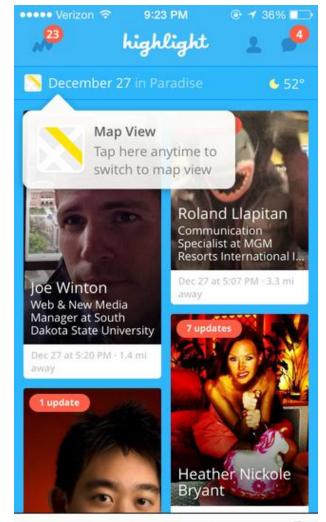




42

Invitations





References

- iOS 7 UI Design Basics:
 https://developer.apple.com/library/ios/documentation/userexperience/conceptual/MobileHIG/index.html
- http://ui-patterns.com
- 12 standard screen patterns:
 http://www.designingwebinterfaces.com/designing-web-interfaces-12-screen-patterns
- Theresa Neil, "Mobile Design Pattern Gallery: UI Patterns for iOS, Android and More," O'Reilly Media, February 2012
- Luke Wroblewski, "Web Form Design: Filling in the Blanks", 2008