



Evernote - Anteckningar (388)

Sarcasm
funny
20 feb 2010 19.41.11

Dörröppning
20 feb 2010 14.03.50

100218 - Rekrytmöte
18 feb 2010 12.07.00

Lecture 9 - Li...

Regarding clin...

Mobile Application Design History & Trends

@windygallery

Outline

- Nokia era (J2ME, Symbian, Blackberry)
- iPhone era
- Android + iPhone
- Flat design (MS Windows phone)
- iOS7 (Flat design)
- Android (Material design)
- Wearable devices (Watch)
- Conclusion & recommended resources

Nokia era

- **Text** and **list** are main
- Typing and moving cursor via buttons
- No touch screen yet
- Very small screen resolution
- T9 keyboard (No qwerty yet)
- Internet is very slow (GPRS)





pExtender

Palette Extender

Blue: On
Green: On
Purple: On
Red: On
Pink: On
Orange: On

Options



Yellow FTP

My-Symbian

- Disconnect
- Refresh
- Delete
- View info...
- Change path...
- Download

Exit Select Cancel



Menu

- Favourites
- To-do
- Connect.
- Extras
- Games
- SIM
- Tools
- Bounce
- pExtender

Options Exit



Yellow FTP

Anonymous login

Login

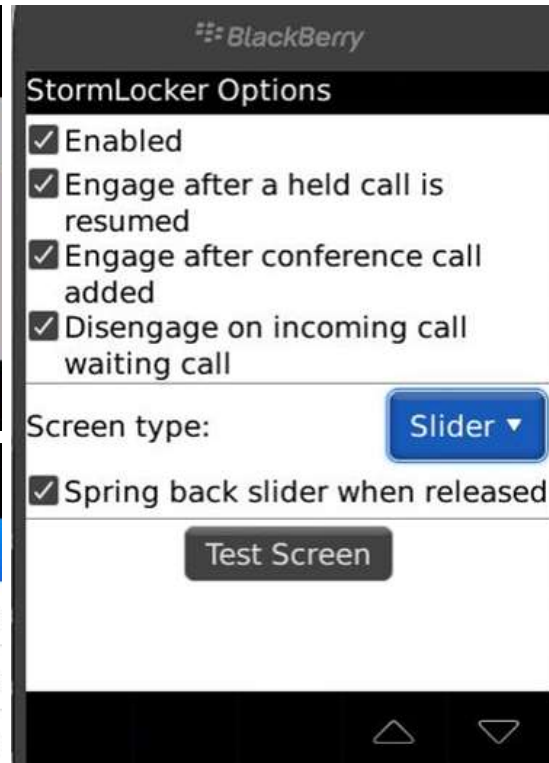
Password

Options Back

Blackberry era

- QWERTY keyboard
- Chat + Facebook begins
- Graphics = Text
- Better Internet speed
- Web browser is major





iPhone Era

- Graphic > Text
- Virtual keyboard make bigger screen
- “Skeuomorphic Design” to make user familiar with real things
- **Texture**, shadow, **gradient**, border







Android vs iPhone

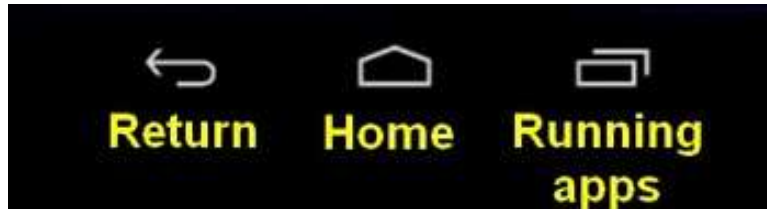
- Some different user behavior
 - Navigation (Back button)
 - Switch applications
 - Notifications
 - Send information crossing applications
 - Widgets



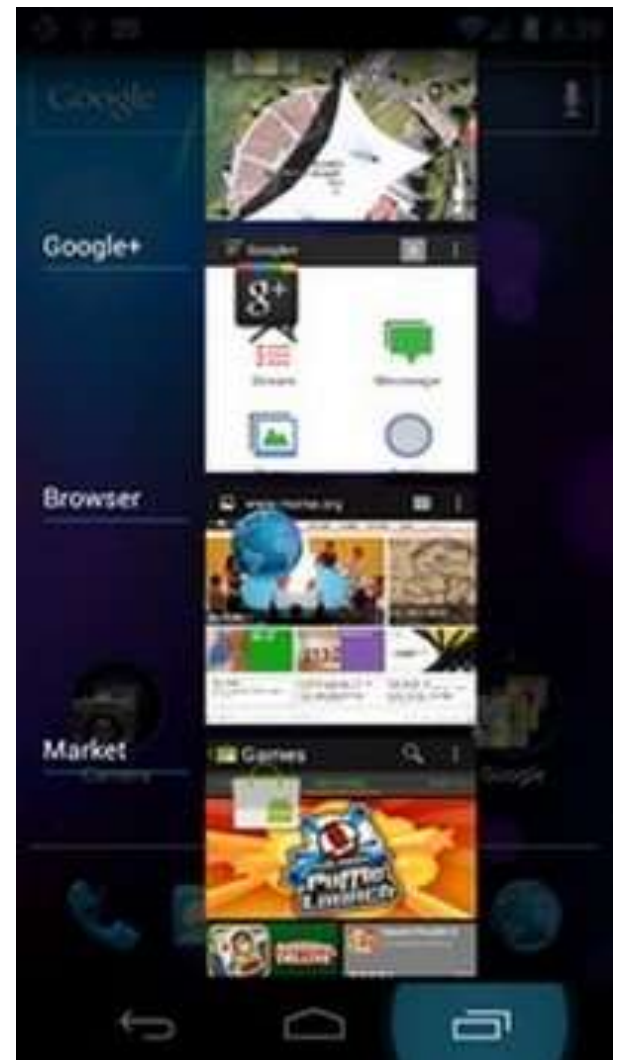
old android

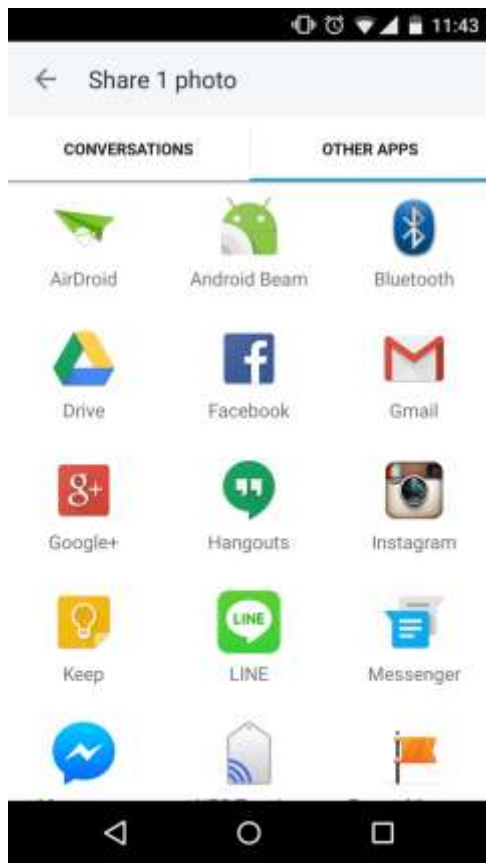


android



iOS

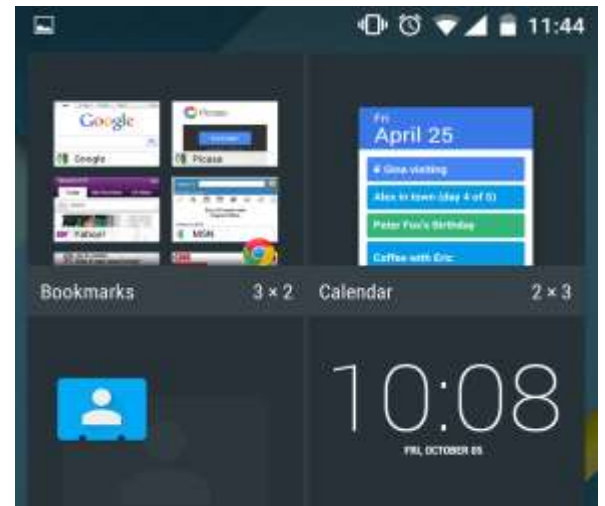
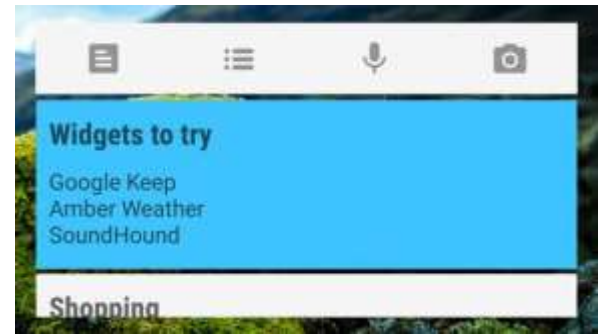




Send information
crossing applications

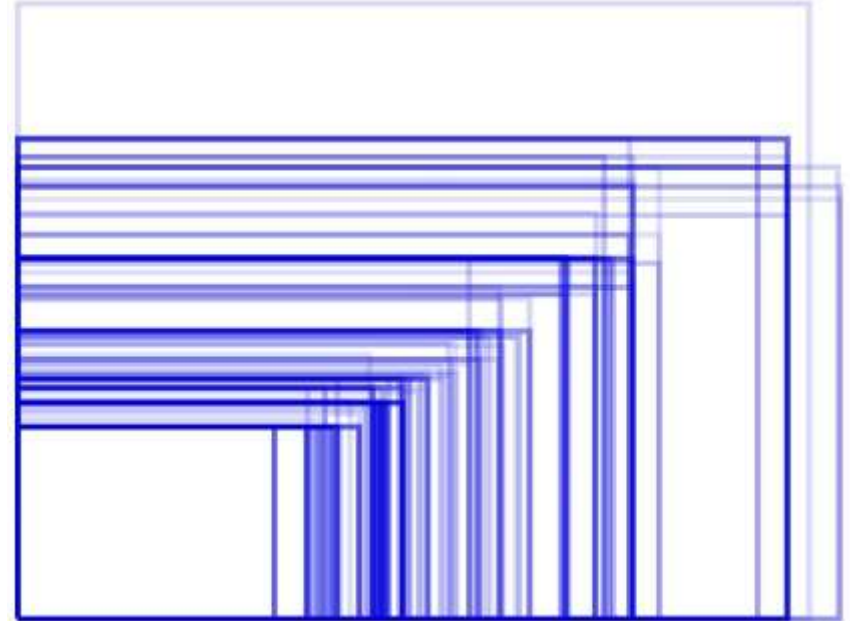


Android widgets



Fragmentation

18,796 unique android devices in 2014



Fragmentation blogs & resources

รายงาน Android Fragmentation ของ Open Signal vs ความเป็นจริงที่ต้อง Concern

http://nuuneoi.com/blog/blog.php?read_id=735

เหตุใดต้นทุนการพัฒนาแอปฯ Android จึงแพงกว่า iOS

http://nuuneoi.com/blog/blog.php?read_id=581

ข้อมูลเกี่ยวกับหน้าจอที่หลากหลายของ Android

https://developer.android.com/guide/practices/screens_support.html

สถิติเกี่ยวของ Android devices ในตลาด

<https://developer.android.com/about/dashboards/index.html>

Problem: Focus on “Beautiful” too much

- User Interfaces don't represent functions
- User don't know how to use
- Confusing (customized) icons/symbols

Ambiguity design =>  Bad user experience

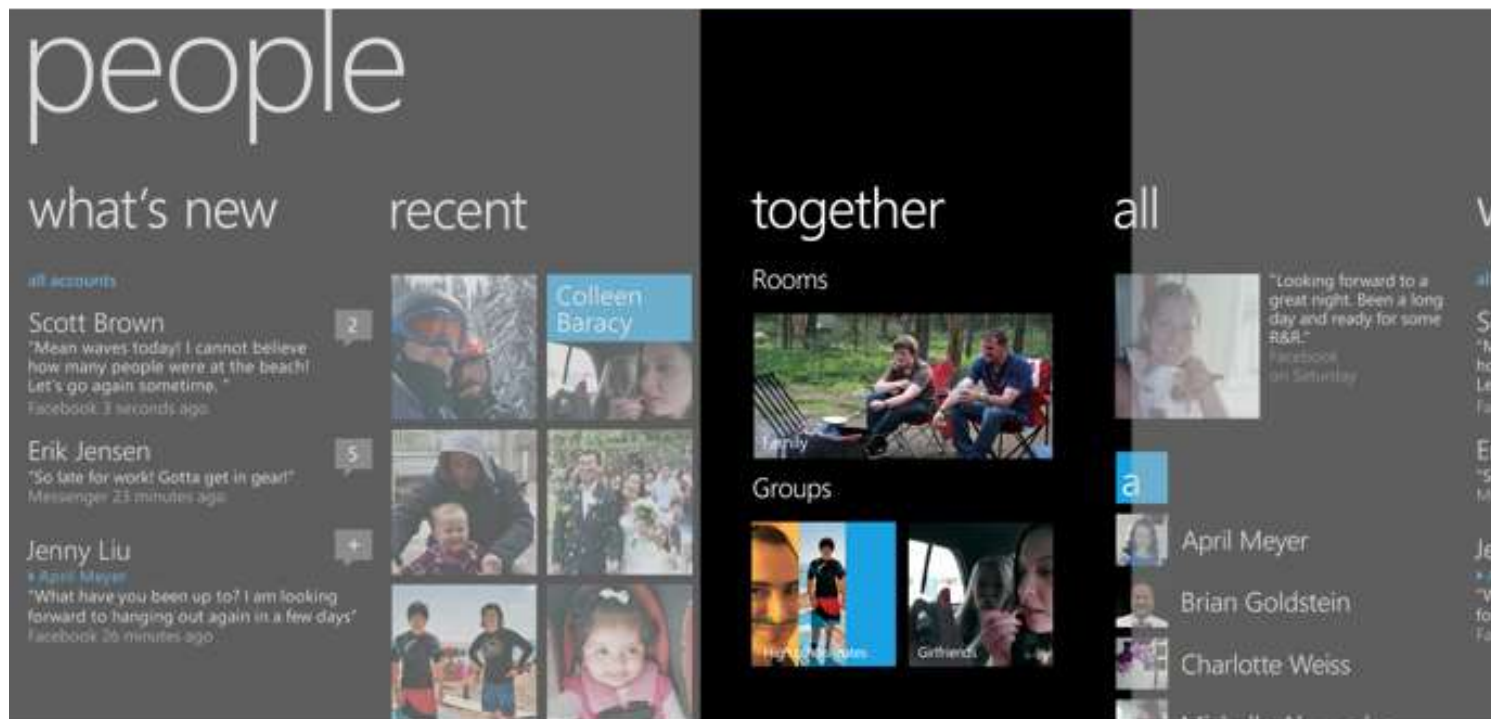
Flat design

A minimalistic design approach that emphasizes **usability**. It features **clean**, **open space**, crisp edges, bright colours and two-dimensional/flat illustrations.

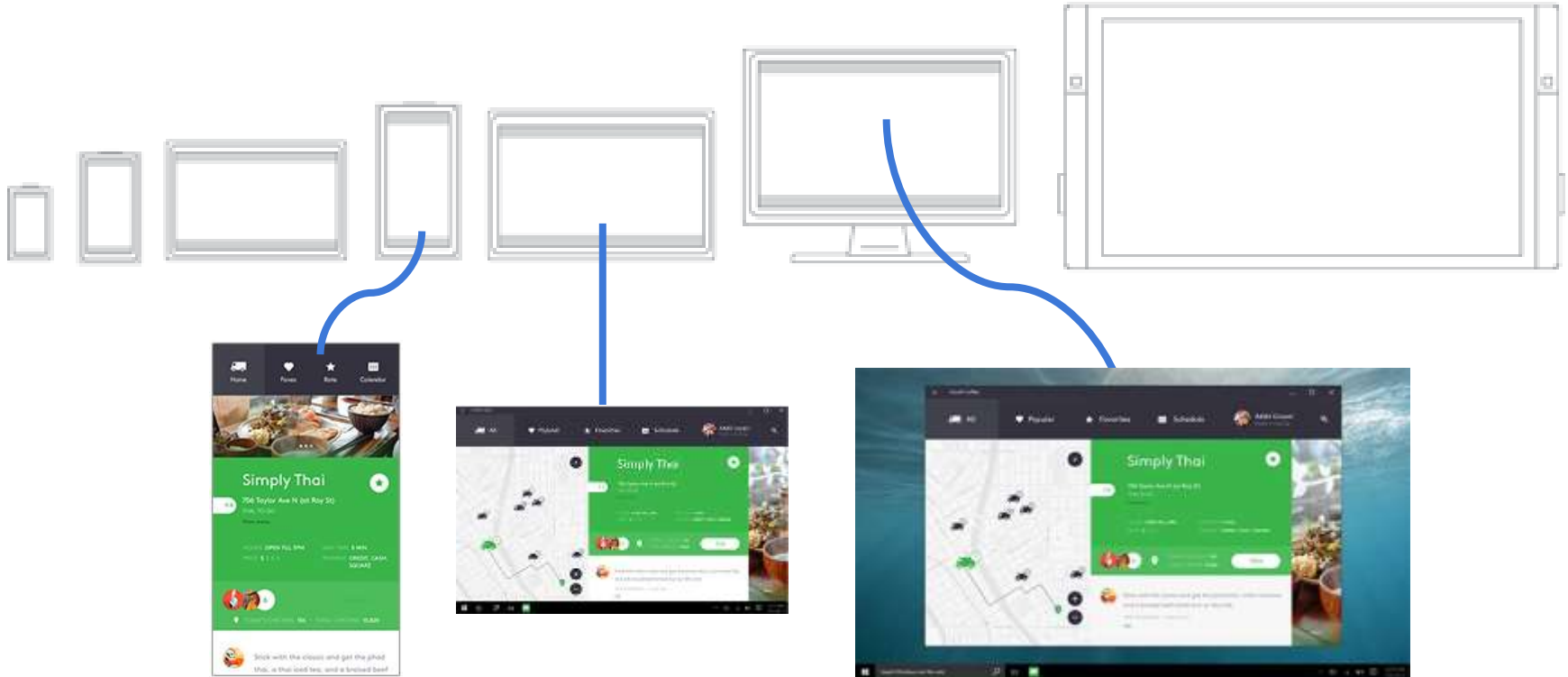


Panorama view (Windows phone)

VISIBLE SCREEN AREA



Universal Windows Platform



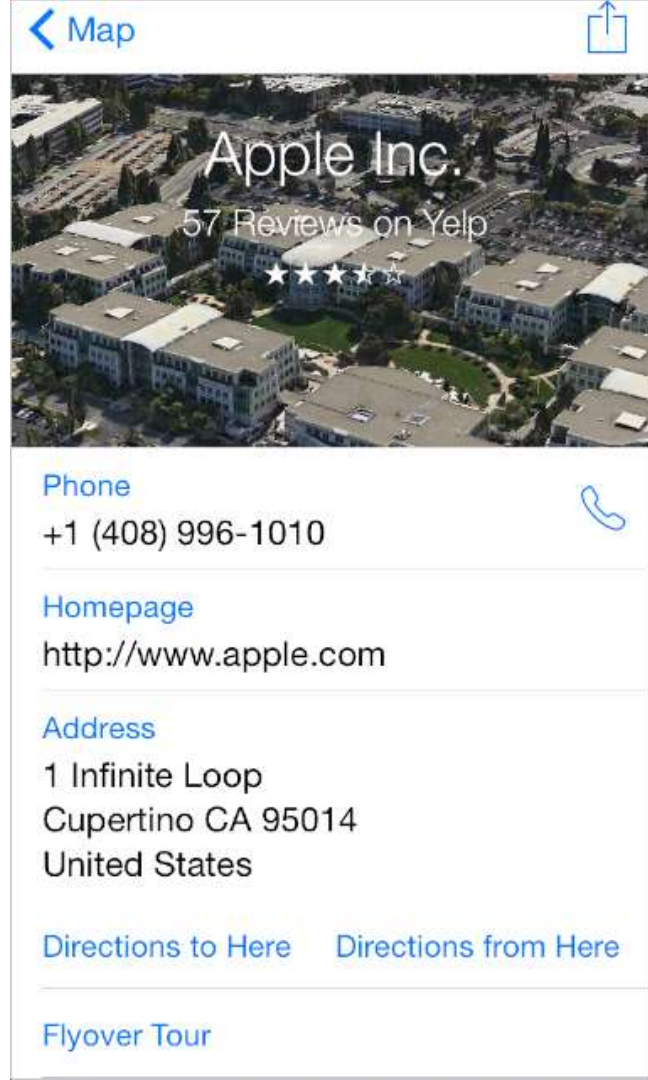
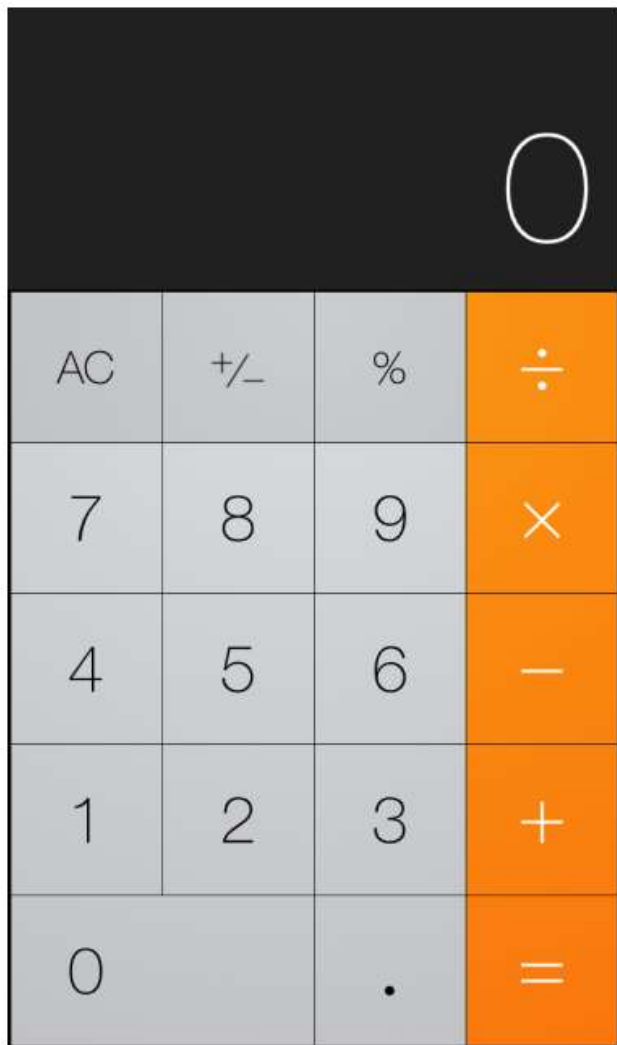
iOS7 (Flat design)

- Focus on “Content”
- No button, just clickable text
- No gradient color, strong shadow
- Single font and light
- Color theme, icons



Recommend: [Blog] A New Kind of Design
<http://www.rawitat.com/2013/12/12/1417/>





John Appleseed

00:22



mute



keypad



speaker



add call



FaceTime



contacts



Search



New List



John's Graduation

5 items

Maria's Baby Shower

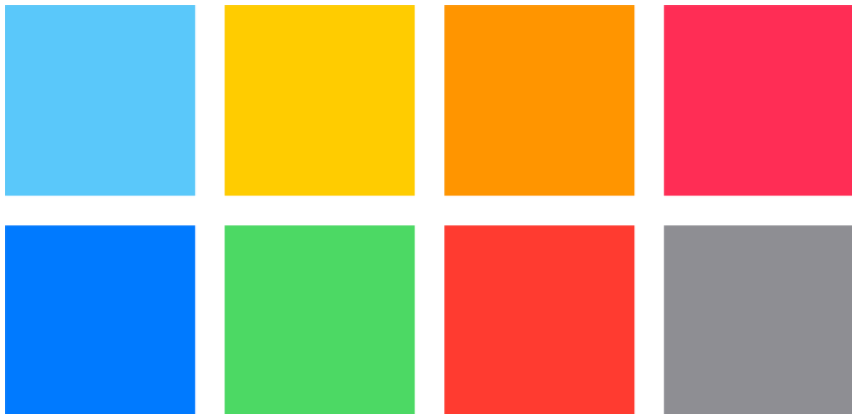
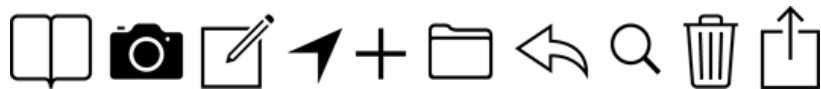
3 items

Sarah's Birthday

4 items

Holidays

No items



Cupertino
Partly Cloudy

63°

Wednesday Today 81 59

Now	9AM	10AM	11AM	12PM	1PM
63	63	64	66	70	73

Thursday 84 61

Friday 81 57

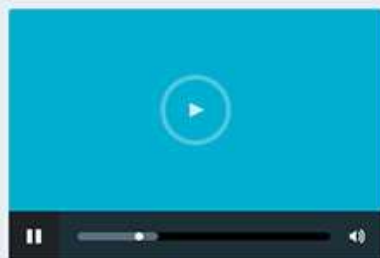
Saturday 81 59

Sunday 81 59

Monday 82 61

The Weather Channel

••••••••



- ### Mailbox
- Inbox (3)
 - Starred (2)
 - Flagged (1)
 - Sent (1)
 - Deleted (1)
- More =

Username

Password

log in

Arya Stark
Winterfell

2,791 1,388 24,903

January 25, 2013

WINTERFELL

add event

Time Is Money!

05 : 24 : 19

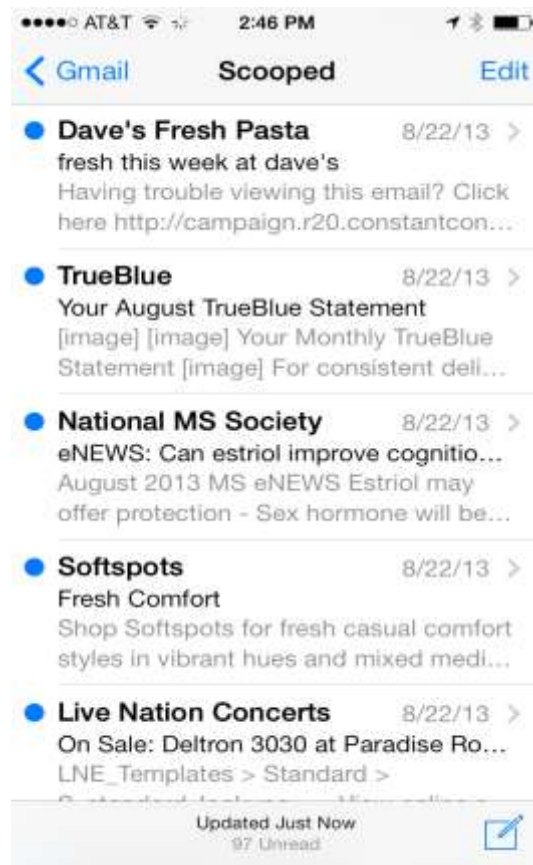
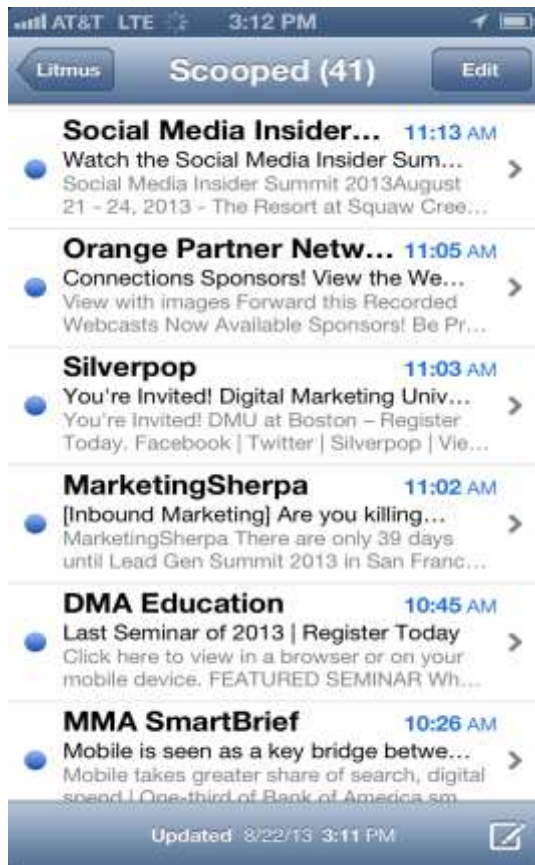
HOOR MIN SEC



Rich

vs

Flat





Recommend resources

Guideline สำหรับการ design iOS app

https://developer.apple.com/library/ios/documentation/UserExperience/Conceptual/MobileHIG/index.html#//apple_ref/doc/uid/TP40006556-CH66-SW1

Screen resolutions

<http://www.paintcodeapp.com/news/ultimate-guide-to-iphone-resolutions>

<http://www.kylejlaron.com/blog/2015/iphone-6-screen-size-web-design-tips/>

<http://www.iosres.com/>



iPhone 2G, 3G, 3GS



iPhone 4, 4s



iPhone 5, 5s



iPhone 6
Display Zoom



iPhone 6



iPhone 6 Plus
Display Zoom



iPhone 6 Plus

	iPhone 4	iPhone 5	iPhone 6	iPhone 6 Plus
Display Size	3.5 in	4 in	4.7 in	5.5 in
Screen Size	320 x 480 points	320 x 568 points	375 x 667 points	414 x 736 points
Rendered Pixels	640 x 960 (@2x)	640 x 1136 (@2x)	750 x 1334 (@2x)	1242 x 2208 (@3x)
Physical Pixels	640 x 960	640 x 1136	750 x 1334	1080 x 1920
Pixels Per Inch (PPI)	326	326	326	401
Browser Size Portrait	320 x 372 px (320 x 440* / 320 x 460**)	320 x 460 px (320 x 528* / 320 x 548**)	375 x 559 px (375 x 627* / 375 x 647**)	414 x 628 px (414 x 696* / 414 x 716**)
Browser Size Landscape	480 x 212 px (480 x 280* / 480 x 300**)	568 x 212 px (568 x 280* / 568 x 300**)	667 x 267 px (667 x 335* / 667 x 355**)	736 x 306 px (736 x 374* / 736 x 394**)



iPhone 4 (S)
 Display Size 3.5in
 Resolution 640 x 960px
 Screen Size 320 x 480px

iPhone 5 (C/S)
 Display Size 4in
 Resolution 640 x 1136px
 Screen Size 320 x 568px



iPhone 6
 Display Size 4.7in
 Resolution 750 x 1334px
 Screen Size 375 x 667px



iPhone 6 Plus
 Display Size 5.5in
 Resolution 1080 x 1920px
 Screen Size 414 x 736px



Material design (Android)

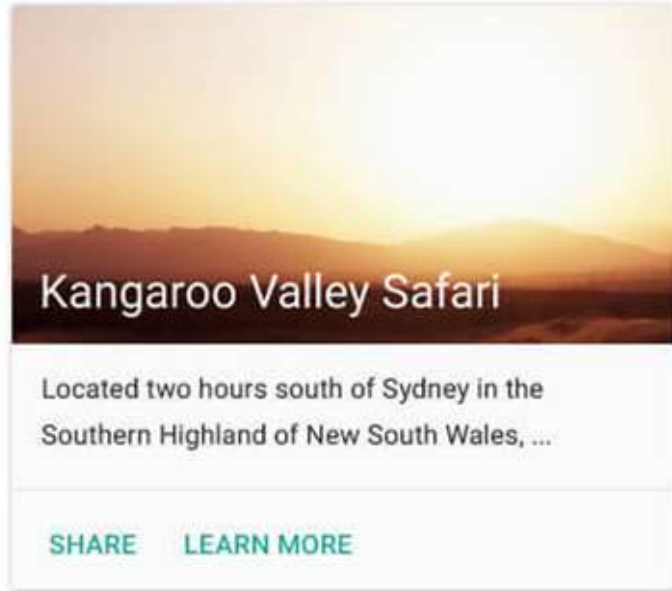


Material design

<http://www.google.com/design/spec/material-design/introduction.html>

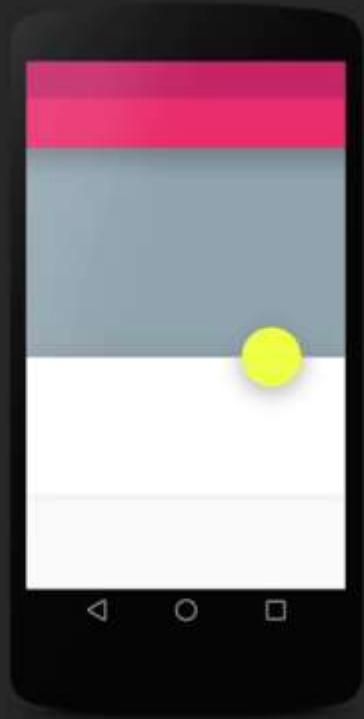
Material design

<http://www.google.com/design/spec/material-design/introduction.html>

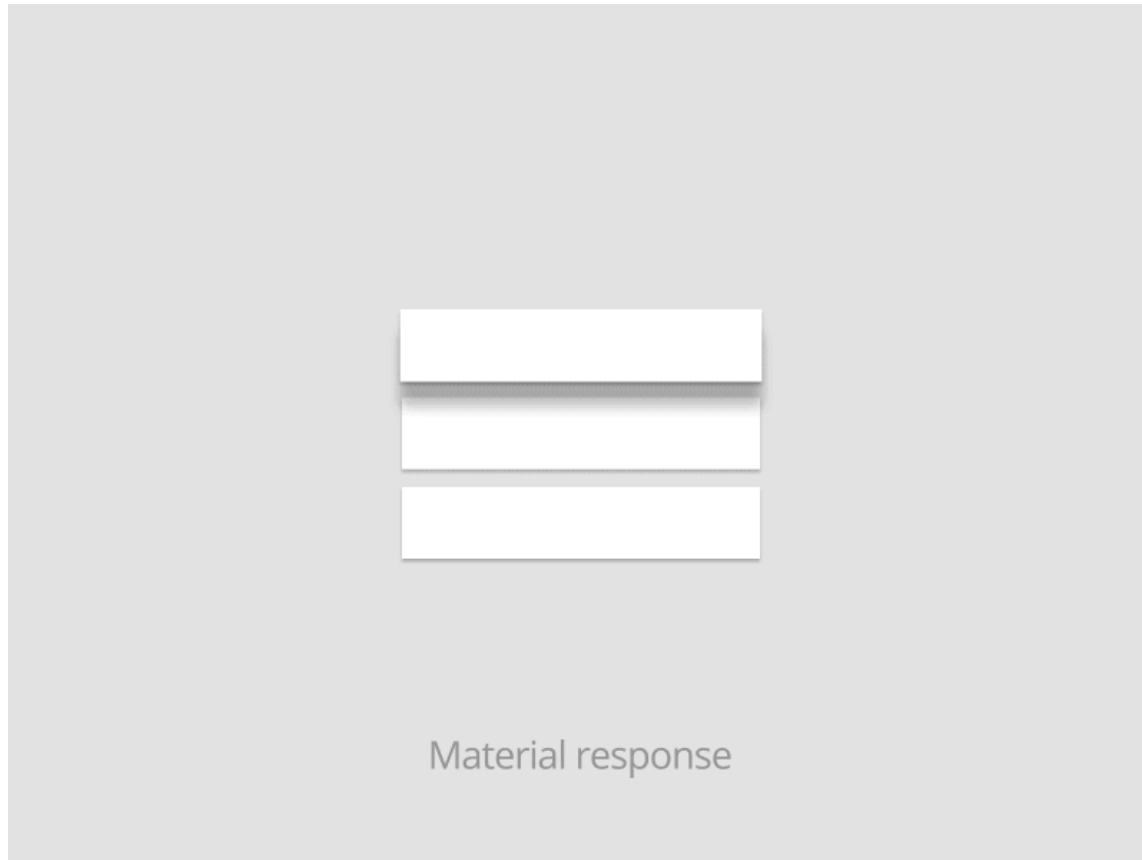


- Layers
- Meaningful animation
- Color
- Fonts

Layer



Animation



Color

<http://www.google.com/design/spec/style/color.html#>

≡ Style > Color

900	#01579B
A100	#80D8FF
A200	#40C4FF
A400	#00B0FF
A700	#0091EA

900	#006064
A100	#84FFFF
A200	#18FFFF
A400	#00E5FF
A700	#00B8D4

900	#004D40
A100	#A7FFEB
A200	#64FFDA
A400	#1DE9B6
A700	#00BFA5

Green	
500	#4CAF50
50	#E8F5E9
100	#C8E6C9

Light Green	
500	#8BC34A
50	#F1F8E9
100	#DCEDC8

Lime	
500	#CDDC39
50	#F9FBE7
100	#F0F4C3

Font

Quantum Mechanics

REGULAR

6.626069×10^{-34}

THIN

One hundred percent cotton bond

BOLD ITALIC

Quasiparticles

BOLD

It became the non-relativistic limit of quantum field theory

CONDENSED

PAPERCRAFT

LIGHT ITALIC

Probabilistic wave - particle wavefunction orbital path

MEDIUM ITALIC

ENTANGLED

BLACK

Cardstock 80lb ultra-bright orange

MEDIUM

STATIONERY

THIN

POSITION, MOMENTUM & SPIN

CONDENSED LIGHT

Roboto

download

<http://developer.android.com/design/style/typography.html>

Icons

Action Bar Icon Pack

Action bar icons are graphic buttons that represent the most important actions people can take within your app. [More on Action Bar Iconography](#)

The download package includes icons that are scaled for various screen densities and suitable for use with the Holo Light and Holo Dark themes. The package also includes unstyled icons that you can modify to match your theme, plus source files.



MATERIAL DESIGN
Sticker Sheets

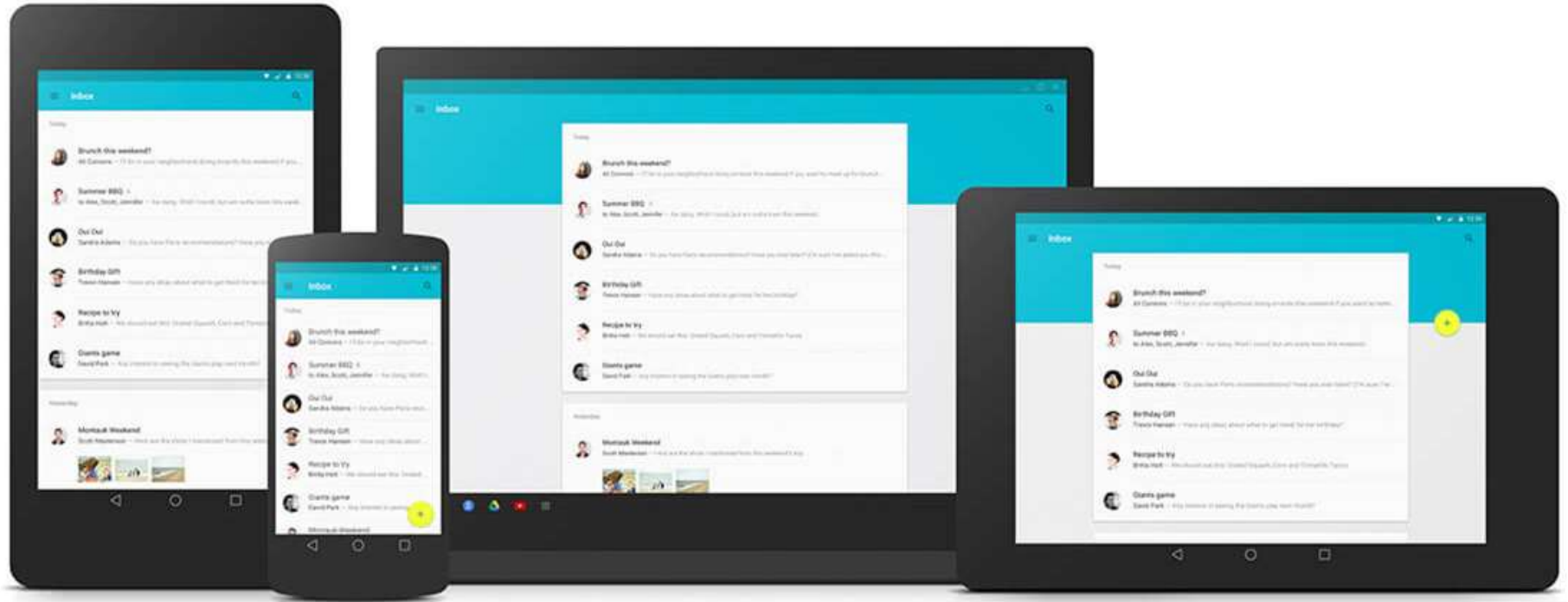


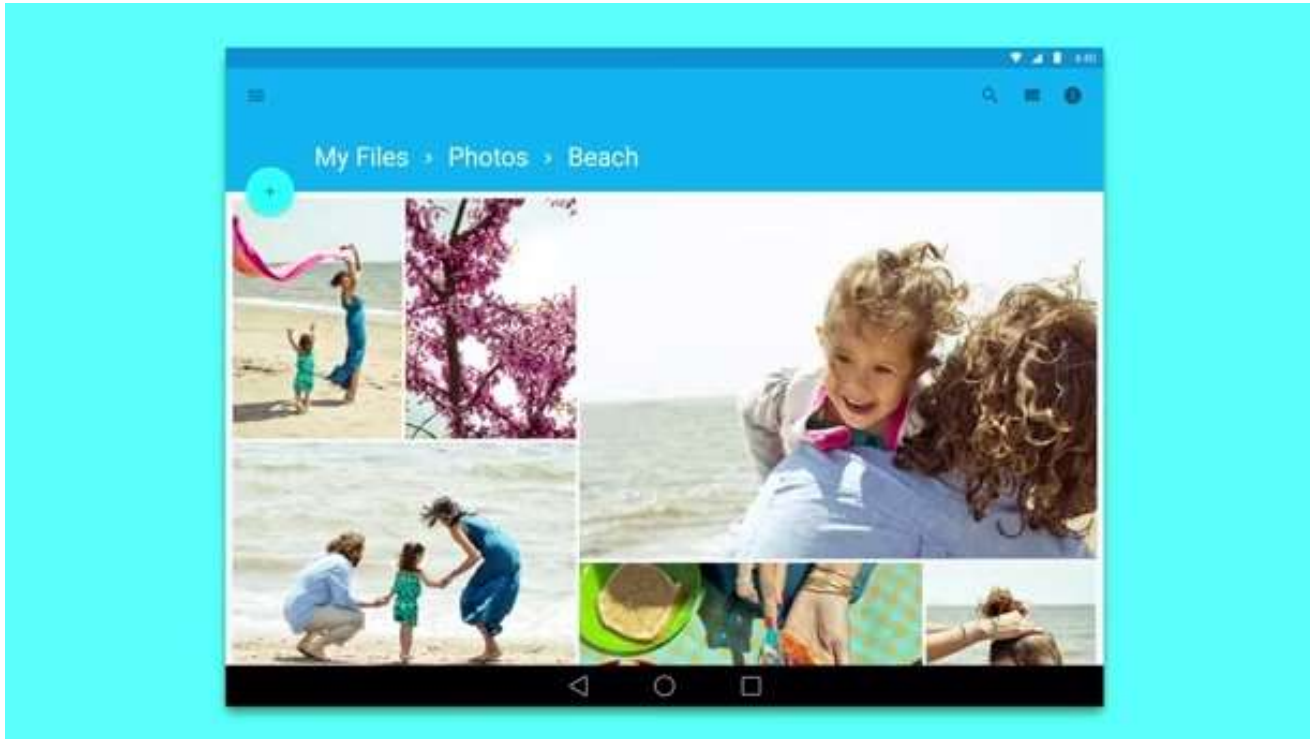
Action Bar Icon Pack



<https://developer.android.com/design/downloads/index.html>

Adaptive Layout

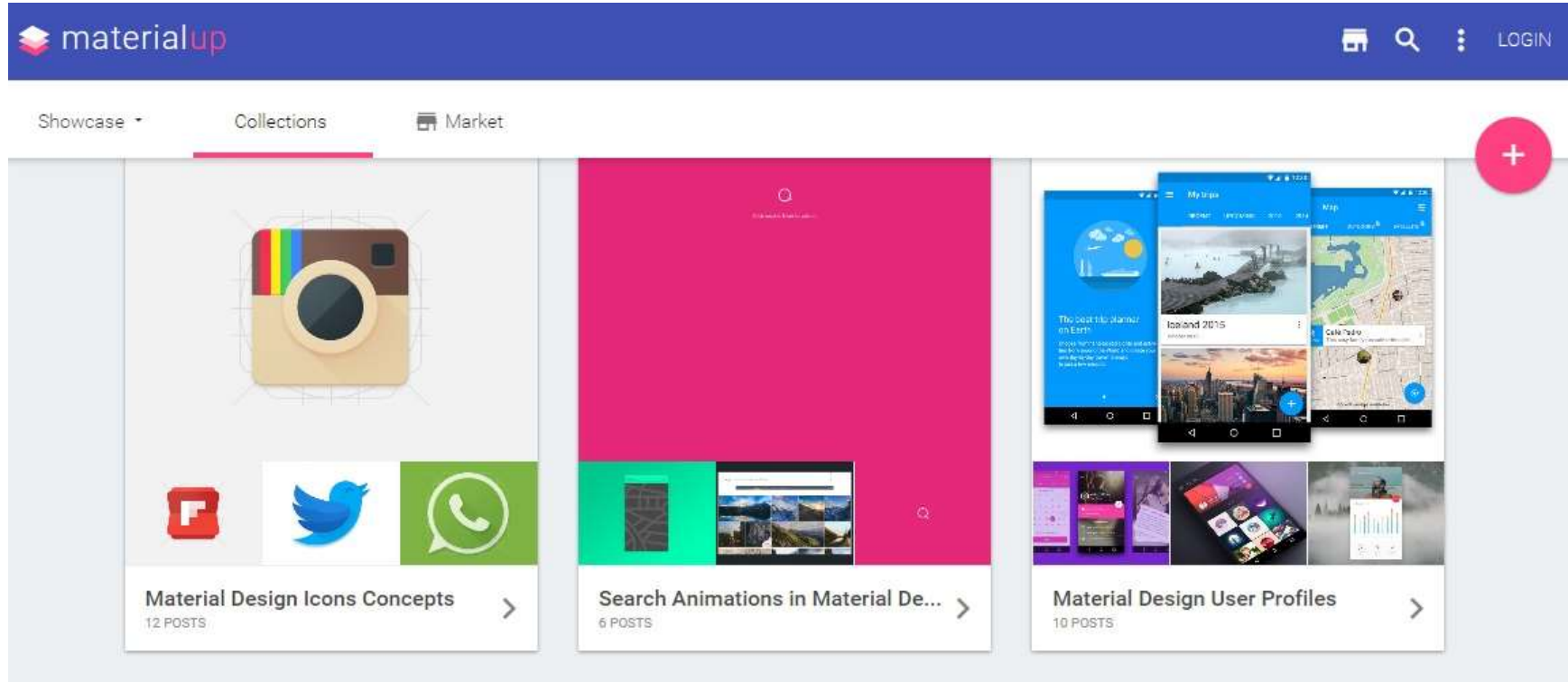




<https://www.youtube.com/watch?v=Q8TXgCzxEnw>

Examples

<https://www.materialup.com/>



Recommend sources/blogs



Developers

Material Design

<http://developer.android.com/design/material/index.html>

รู้จัก Material Design แนวทางการออกแบบ UI ของกูเกิลในยุคต่อไป
<https://www.blognone.com/node/57820>

blognone



Material Design ภาษาดีไซน์ใหม่จาก Google ทฤษฎีสู่ปฏิบัติ
http://nuuneoi.com/blog/blog.php?read_id=692

Wearable devices

- Smart watch
- Smart glass
- Clothing technology
- E-texttiles
- Augment reality



Wearable devices: Watch



Apple Watch



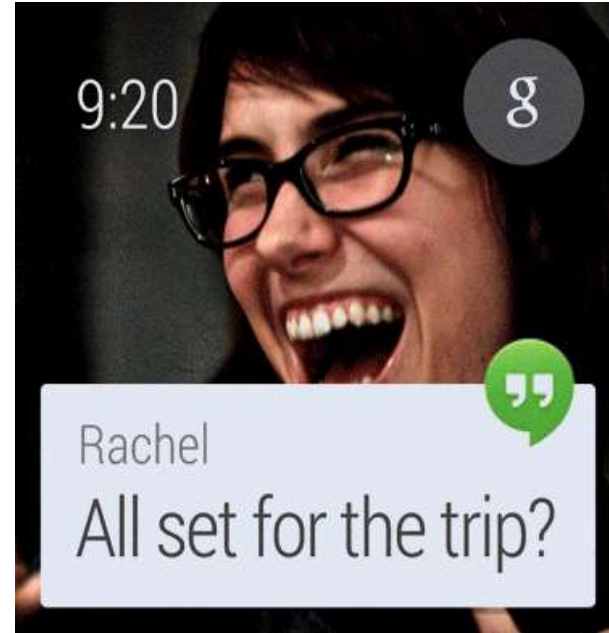
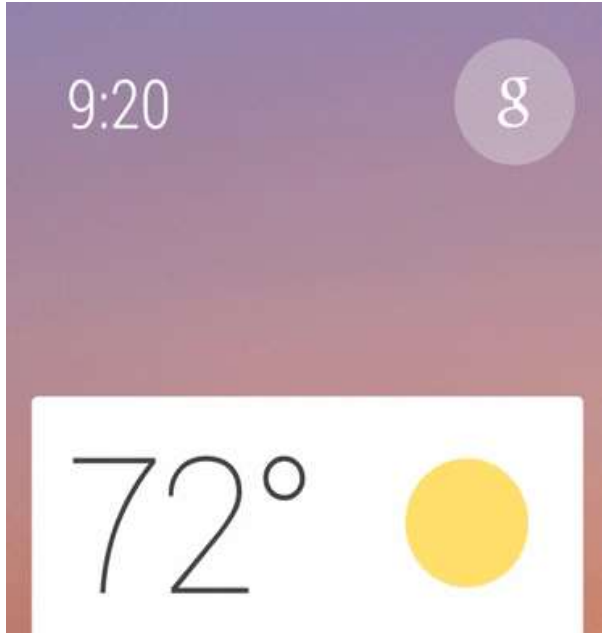
Apple Watch



Android Wear



Android Wear



<http://www.android.com/wear/>

More information Wearable devices

Android Wear

<http://developer.android.com/design/wear/index.html>

Apple watch

https://developer.apple.com/library/prerelease/ios/documentation/UserExperience/Conceptual/WatchHumanInterfaceGuidelines/index.html#//apple_ref/doc/uid/TP40014992

Conclusion

- Present trends are Material design (and Flat)
- Meaningful user interface and animation
- Responsive and adaptive layout
- Wearable devices is coming



Recommend blogs

- A New Kind of Design (จากการสอน “Design for iOS7”)
<http://www.rawitat.com/2013/12/12/1417/>
- Material Design ภาษาดีไซน์ใหม่จาก Google ทฤษฎีสู่ปฏิบัติ
http://nuuneoi.com/blog/blog.php?read_id=692
- อดีตที่มออกแบบ Windows Phone เผยปัญหาของ Metro
<https://www.blognone.com/node/67786>
- แจกฟรี !! ฟอนต์ไทยสวย ๆ “สุขุมวิท” มูลค่าหลายหมื่นบาท จาก Apple
<http://www.designil.com/free-thai-fonts-download-sukhumvit.html>
- Typography
<http://developer.android.com/design/style/typography.html>

References

- <http://www.beginandroid.com/different.shtml>
- <http://oleb.net/blog/2012/02/what-ios-should-learn-from-android-and-windows-8/>
- https://developer.apple.com/library/ios/documentation/UserExperience/Conceptual/MobileHIG/index.html#//apple_ref/doc/uid/TP40006556-CH66-SW1
- <http://www.v3.co.uk/v3-uk/review/2295962/ios-7-vs-ios-6-head-to-head-review>
- <http://www.creativebloq.com/graphic-design/what-flat-design-3132112>

The iOS Design Cheat Sheet, Resources

- <http://ivomynttinen.com/blog/the-ios-7-design-cheat-sheet/>
- <http://iosdesign.ivomynttinen.com>