

Mobile Media & Urban Spaces

Bauhaus-Universität
Weimar

04. Mobile Guidelines

SS2013

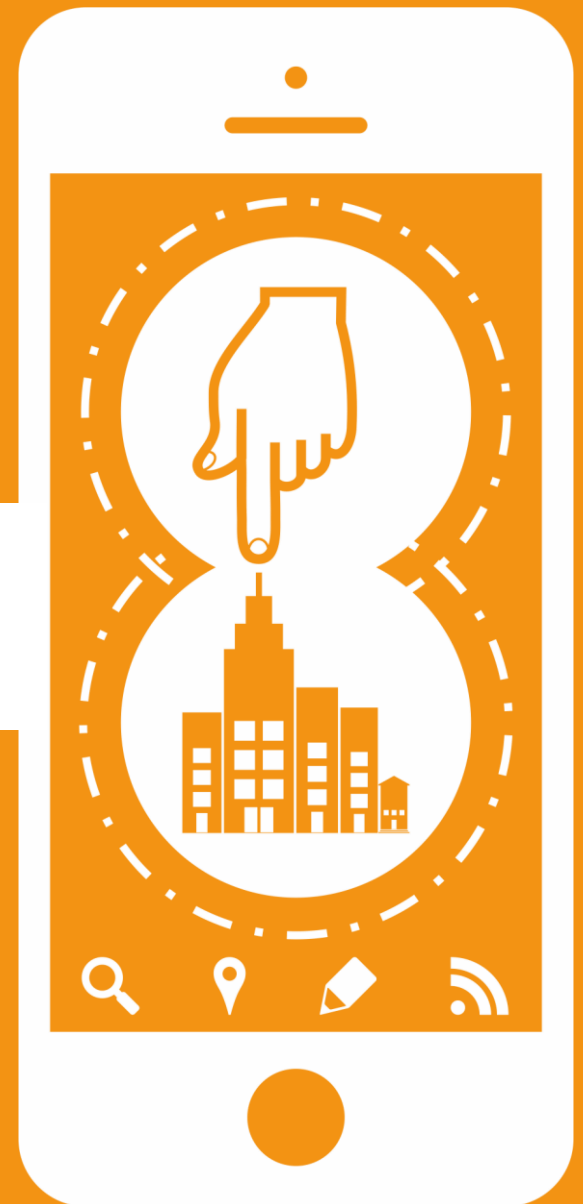
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Faculty of Media

Chair of Interface Design

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http://www.uni-weimar.de/medien/wiki/IFD:Mobile_Media_and_Urban_Spaces_WS13



Summary

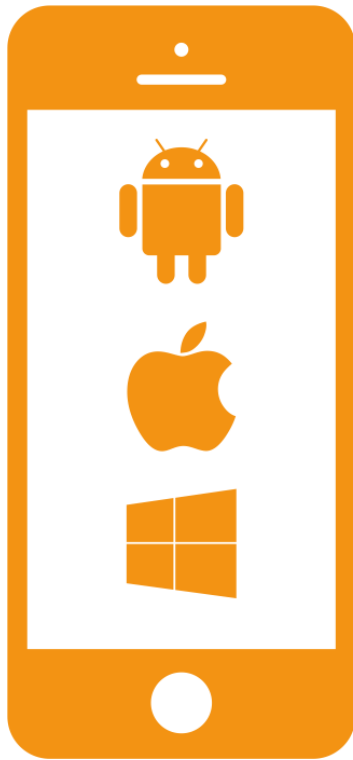
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Platforms

Platforms & Options

Native



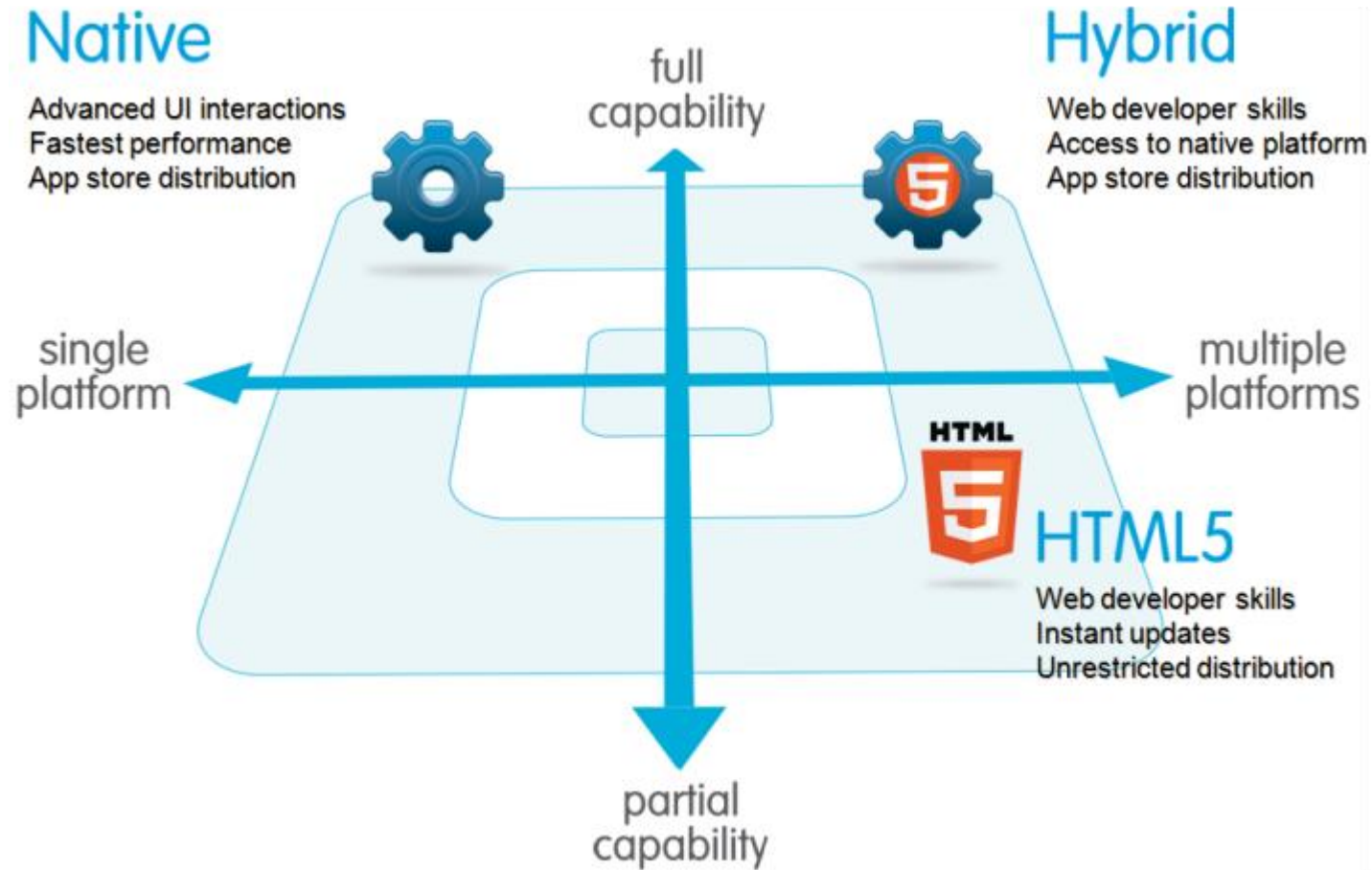
Hybrid



Web



Platforms & Options



Source: http://wiki.developerforce.com/page/Native,_HTML5,_or_Hybrid:_Understanding_Your_Mobile_Application_Development_Options

Platforms & Options

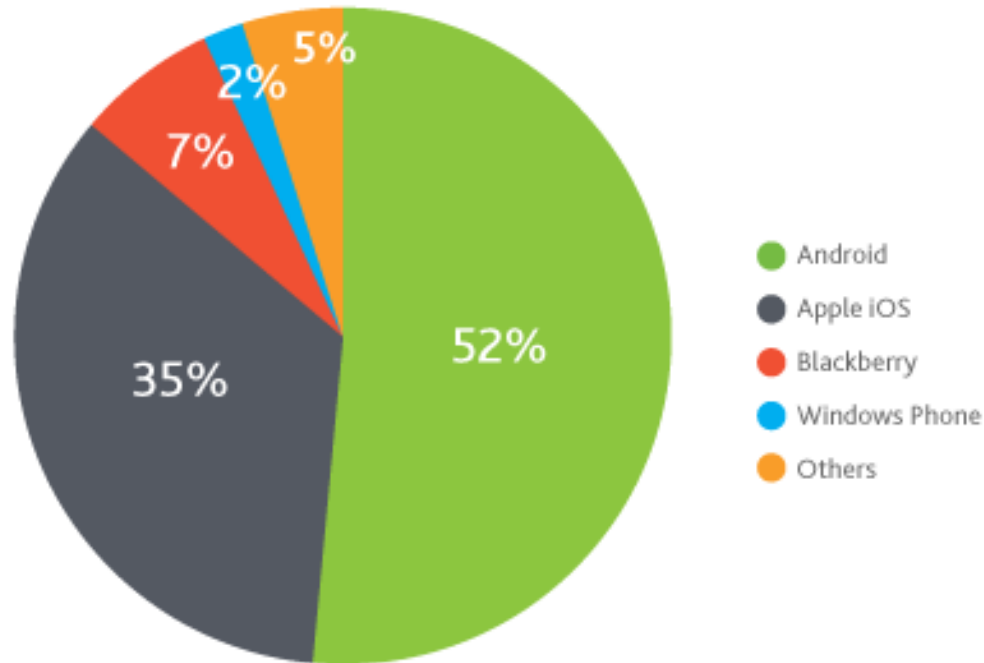
	Native	HTML5	Hybrid
App Features			
Graphics	Native APIs	HTML, Canvas, SVG	HTML, Canvas, SVG
Performance	Fast	Slow	Slow
Native look and feel	Native	Emulated	Emulated
Distribution	Appstore	Web	Appstore
Device Access			
Camera	Yes	No	Yes
Notifications	Yes	No	Yes
Contacts, calendar	Yes	No	Yes
Offline storage	Secure file storage	Shared SQL	Secure file system, shared SQL
Geolocation	Yes	Yes	Yes
Gestures			
Swipe	Yes	Yes	Yes
Pinch, spread	Yes	No	Yes
Connectivity	Online and offline	Mostly online	Online and offline
Development skills	ObjectiveC, Java	HTML5, CSS, Javascript	HTML5, CSS, Javascript

Source: http://wiki.developerforce.com/page/Native,_HTML5,_or_Hybrid:_Understanding_Your_Mobile_Application_Development_Options

iOS & Android

Top U.S. Smartphone Operating Systems by Market Share

Q3 2012, Nielsen Mobile Insights



Read as: During Q3 2012, 52% of smartphone owners had a handset that runs on the Android operating system

Source: Nielsen

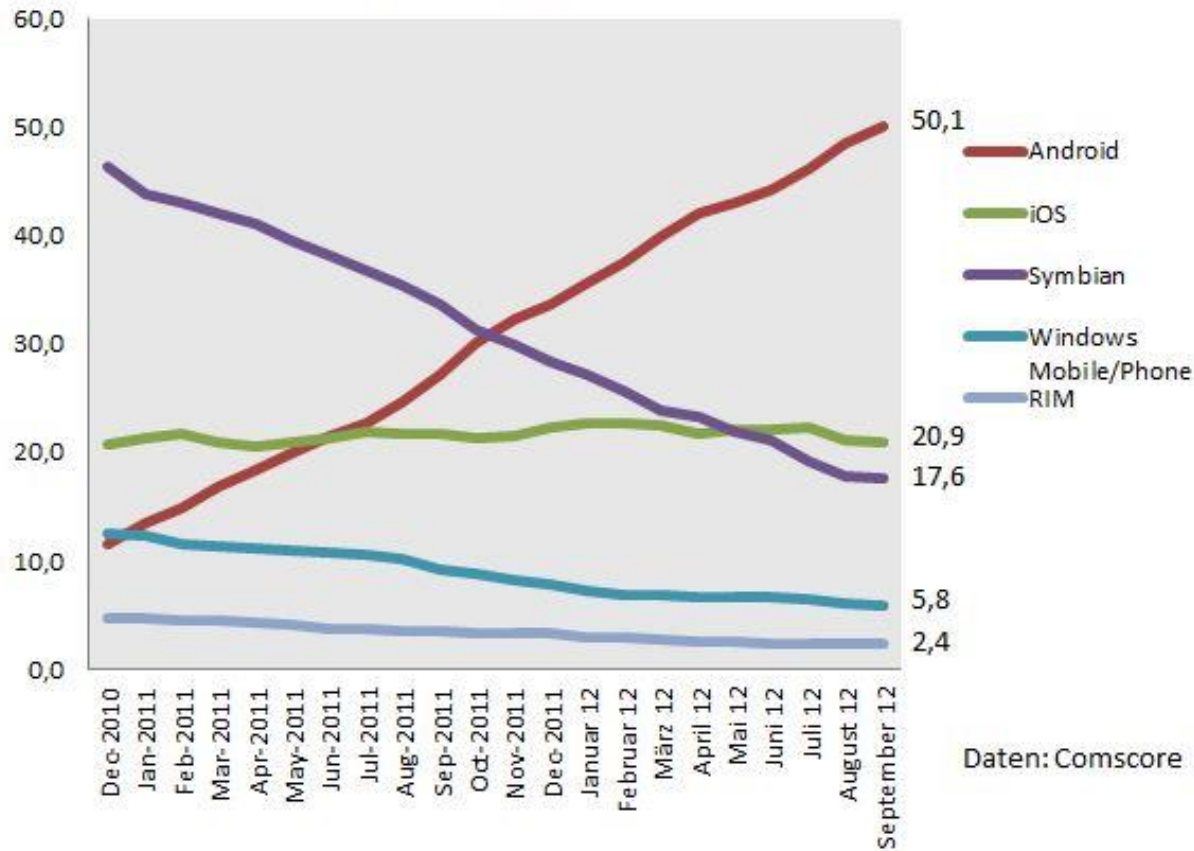


Source: <http://www.nielsen.com/us/en/newswire/2012/nielsen-tops-of-2012-digital.html>

iOS & Android (December 2010 – September 2012)

Smartphone-Betriebssysteme in Deutschland

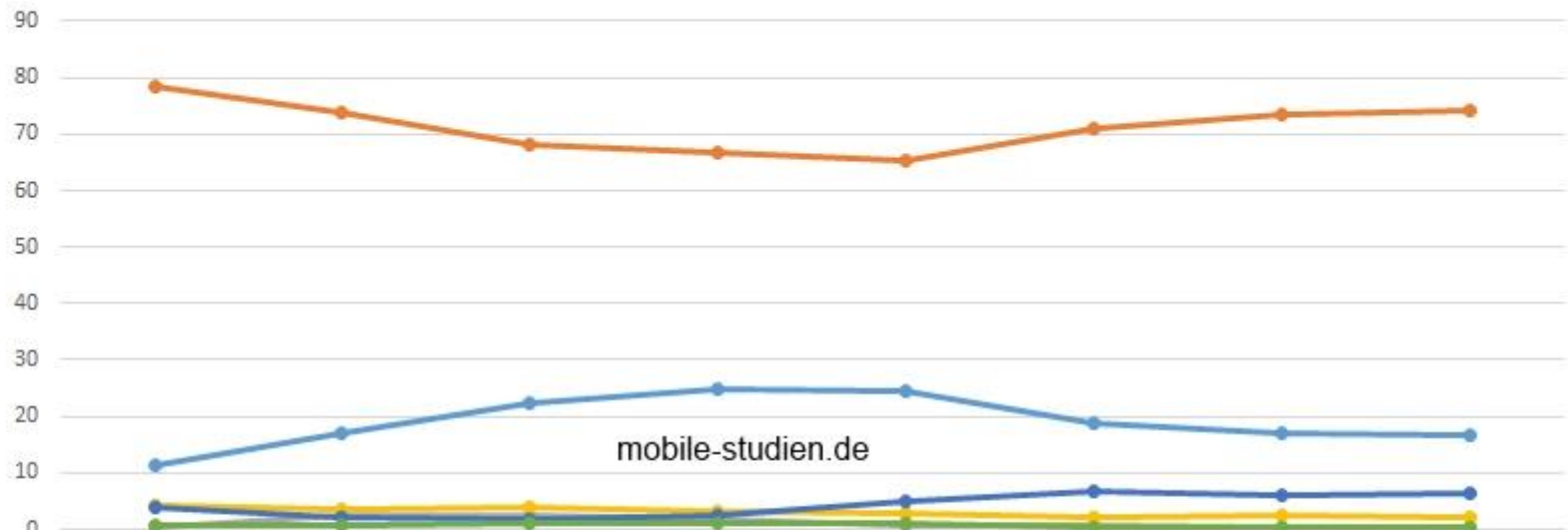
Anteile der bevorzugt eingesetzten Systeme in Prozent



Smartphone OS market in Germany (Schmidt, 2012)

iOS & Android (September 2012 – April 2013)

Marktanteile mobiler Betriebssysteme in Deutschland in Prozent (Verkaufszahlen)



	12w/e2.9.2012	12w/e 28.10.2012	12w/e 25.11.2012	12w/e 23.12.2012	3m/e Jan 2013	3m/e Feb 2013	3m/e Mar 2013	3m/e Apr 2013
iOS	11,2	17	22,2	24,7	24,4	18,7	16,9	16,6
Android	78,6	73,9	68,2	66,6	65,3	71	73,6	74,3
RIM	0,5	2,5	2,6	1,6	0,6	0,6	0,5	0,4
Symbian	4,2	3,5	3,8	3,2	3	2	2,5	2
Windows Phone	4	2,3	1,8	2,6	5,1	6,8	6,1	6,4
Bada/Andere	0,7	0,6	1,2	1	0,9	0,4	0,4	0,3

—●— iOS
 —●— Android
 —●— RIM
 —●— Symbian
 —●— Windows Phone
 —●— Bada/Andere

Quelle: Kantar Worldpanel

(“Kantar: Windows Phone-Wachstum geht weiter - mobile-studien.de,” n.d.)

iOS & Android

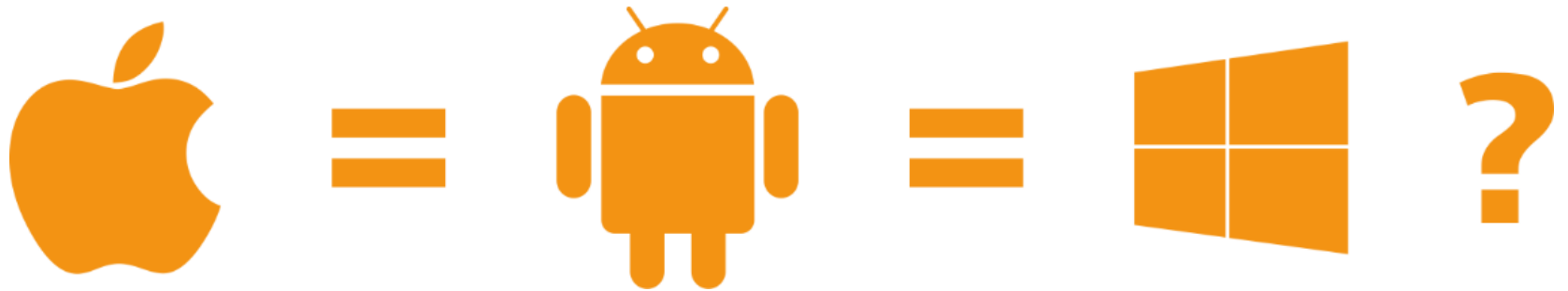
Two most popular mobile platforms



Guidelines

Official Resources

Guidelines

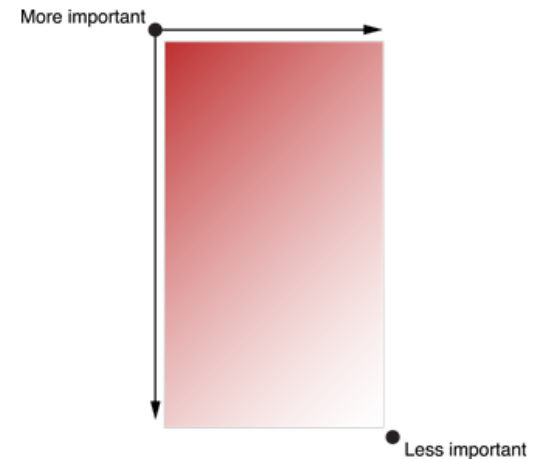
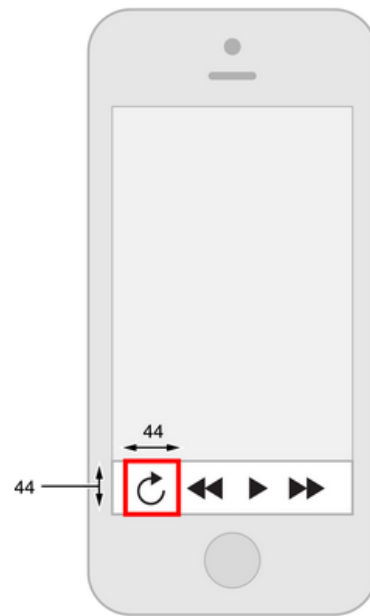


Official Design Guidelines: iOS

iOS 7 Human Interface Guidelines

- <https://developer.apple.com/library/ios/documentation/userexperience/conceptual/mobilehig/>

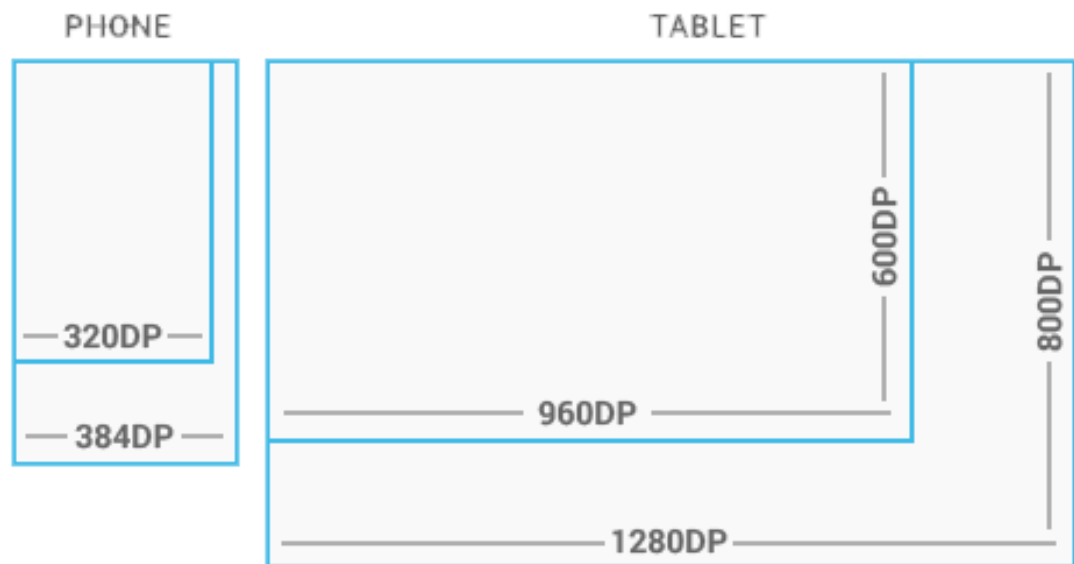
iOS



Official Design Guidelines: iOS

Design | Android Developers

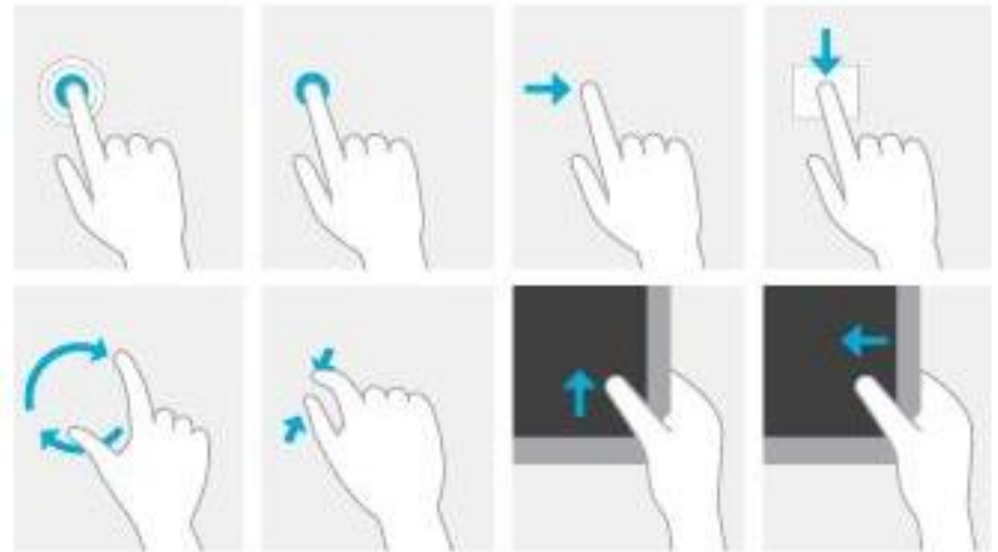
- <http://developer.android.com/design/index.html>



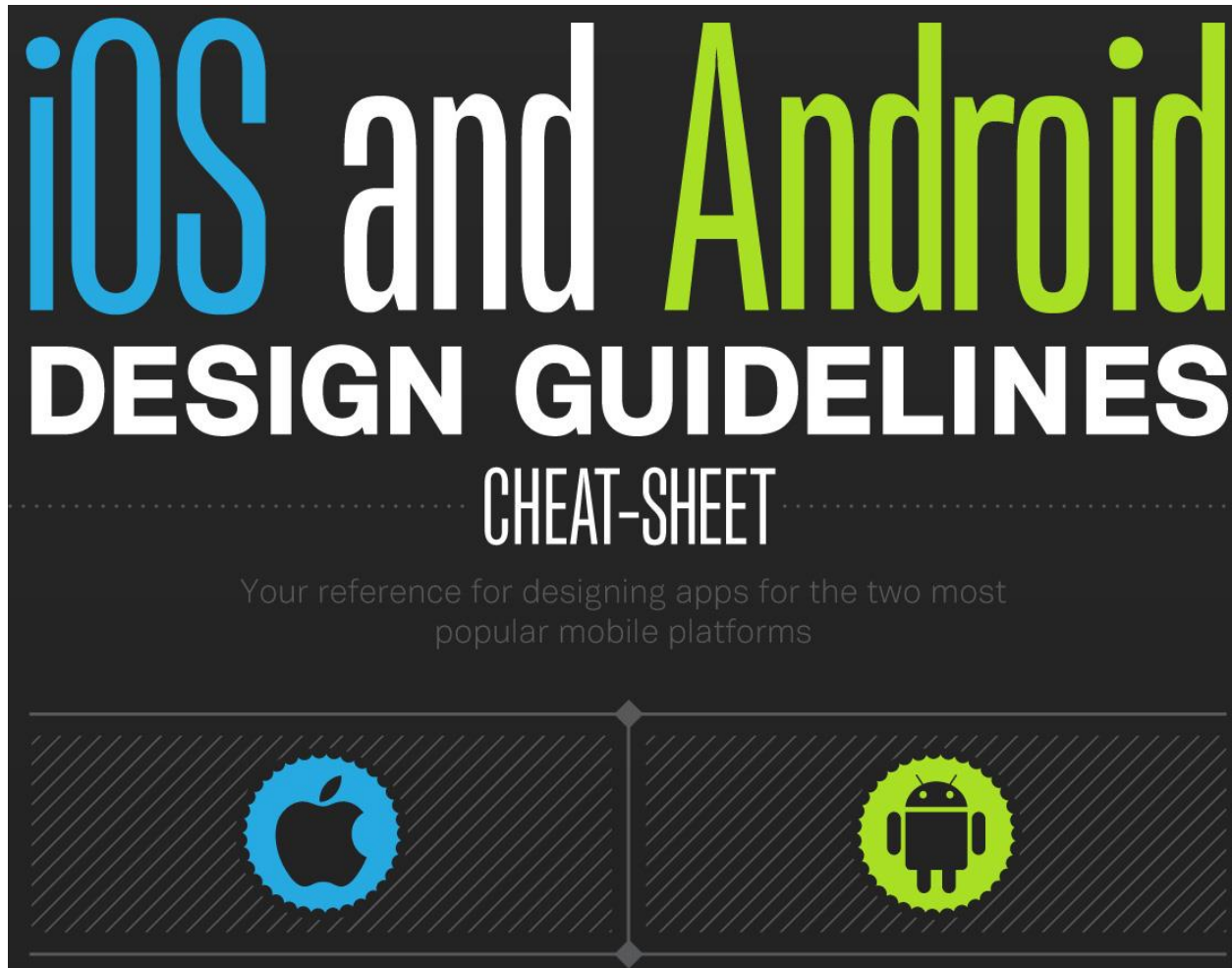
Official Design Guidelines: Windows

Windows Phone Dev Center

- <http://developer.windowsphone.com/en-us/design>



iOS & Android: Design Guidelines

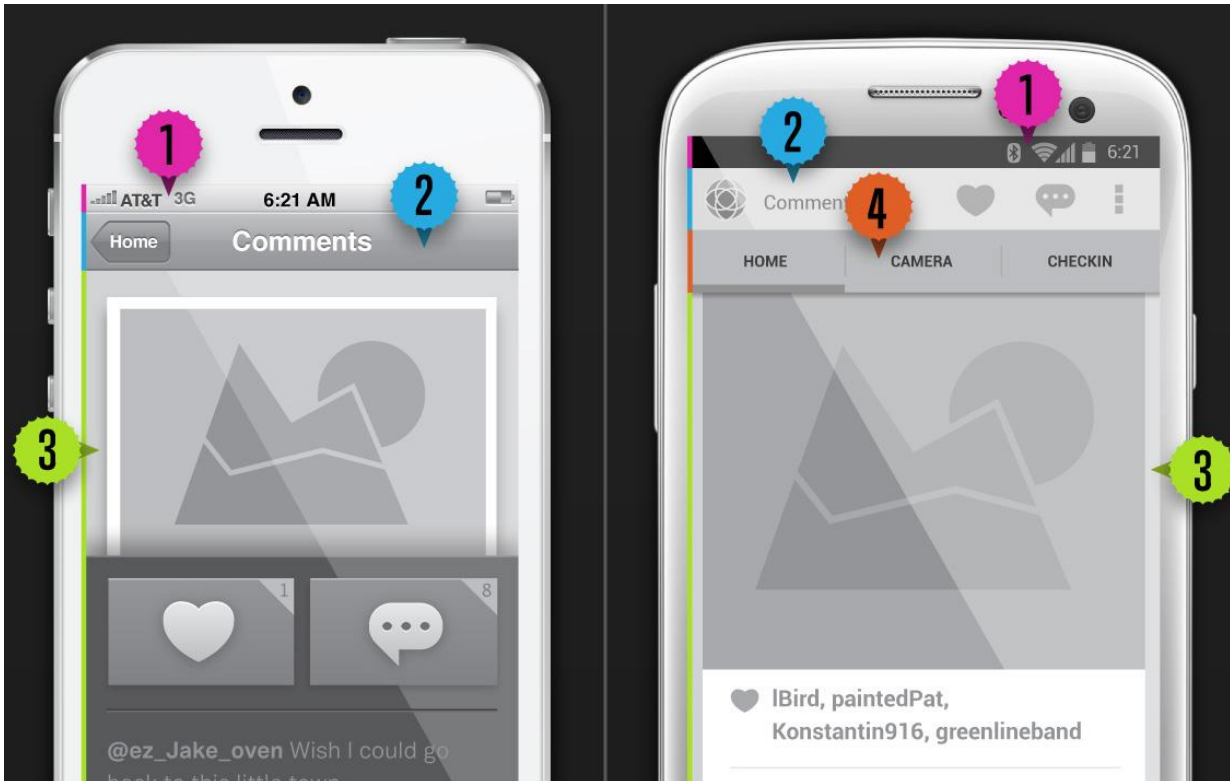


Retrieved and Modified from: (McKibben, n.d.), originally published in 10th May 2013.

iOS & Android: Design Guidelines - Retrieved and Modified from: (McKibben, n.d.)



iOS & Android: Design Guidelines - Retrieved and Modified from: (McKibben, n.d.)



#1 STATUS BAR

Contains
Battery charge, network connection, time

Things to note

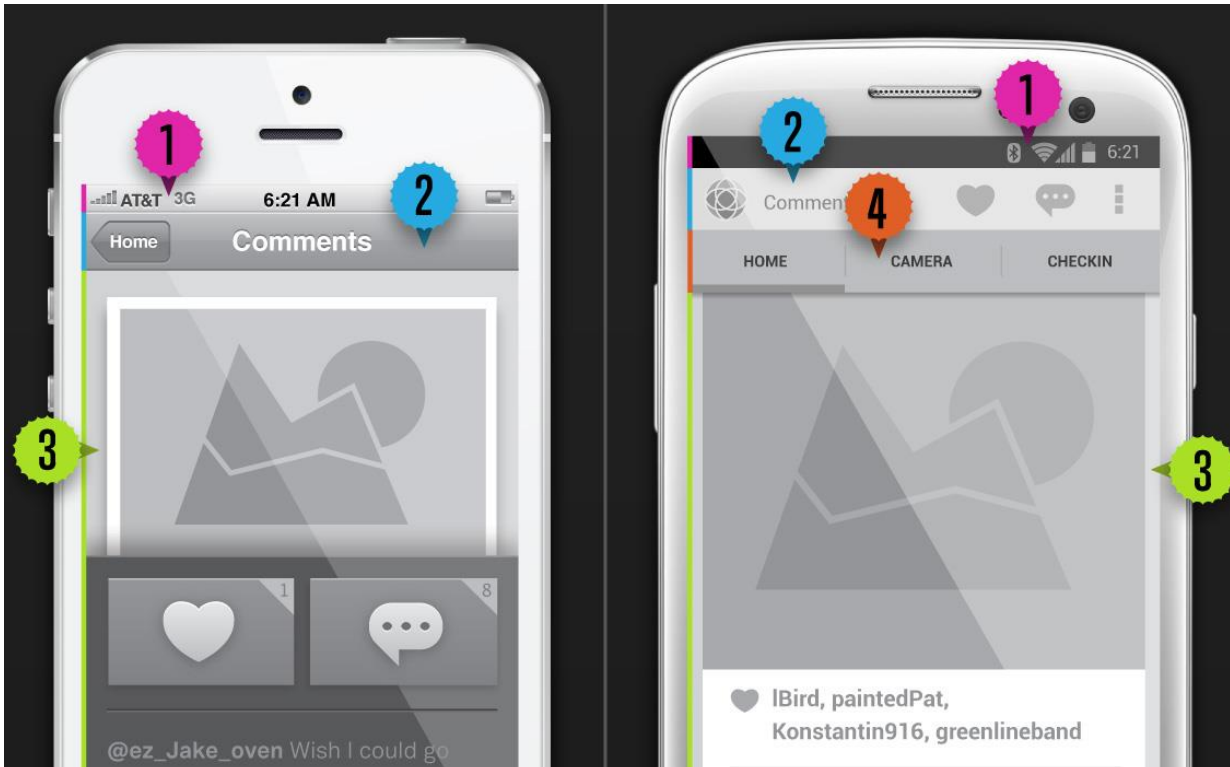
It can be hidden but should only be done when the media being displayed needs the extra real estate.

#1 STATUS BAR

Contains
Battery charge, network connection, time

Things to note

It can be hidden but should only be done when the media being displayed needs the extra real estate.



#2 NAVIGATION BAR

Contains

Navigation controls (like the back button), screen title, content display controls (like filtering)

Things to note

If the screen title is too long to fit on the screen, it should be truncated—not scaled down in size.

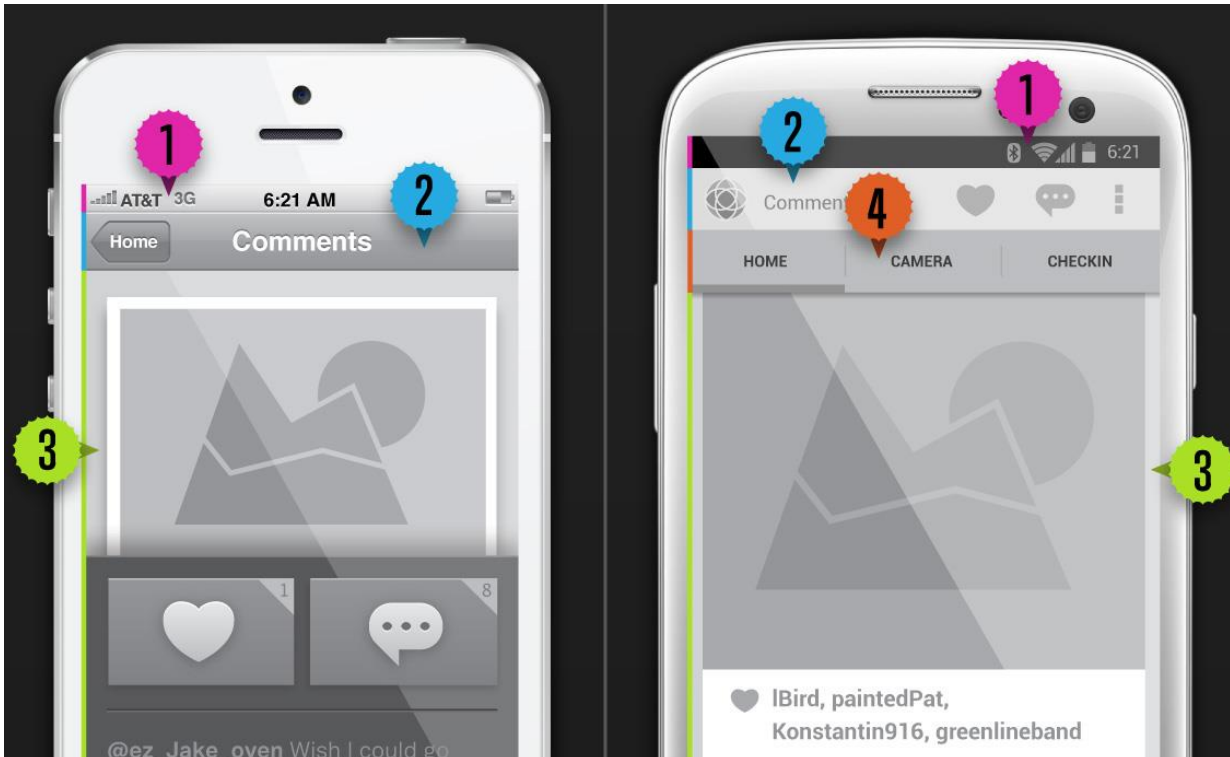
#2 MAIN ACTION BAR

Contains

Up button, app icon, spinner

Things to note

This bar is both a source of navigation as well as a toolbar for the displayed content.



#3 CONTENT DISPLAY

Contains

Standard and custom content views such as map view, page view, table view, web view, and collection view

Things to note

This is the most customizable area of the application. Typical screen views should remain as true as possible to the standard iOS screen designs in order to maximize user familiarity.

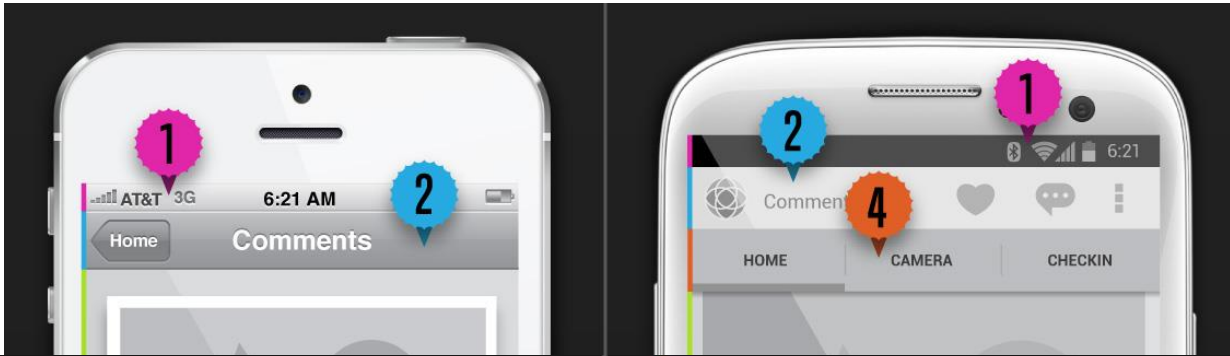
#3 CONTENT DISPLAY

Contains

Standard and custom content views such as map view, page view, table view, web view, and collection view

Things to note

This is the most customizable area of the application. Typical screen views should remain as true as possible to the standard android screen designs in order to maximize user familiarity.



#4 TAB BAR / TOOLBAR

Contains

Tab style navigation or progress bar, activity indicator and/or other controls

Things to note

Tab bars are used as a main source of navigation and as such should be present on every screen (excluding some edge cases). Toolbars are only used when your application requires the user to edit the app's content view.

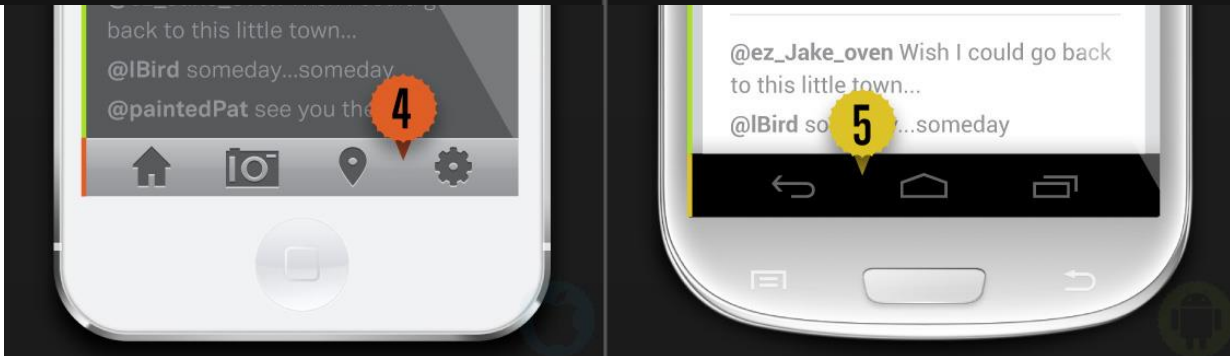
#4 ACTION BAR TABS

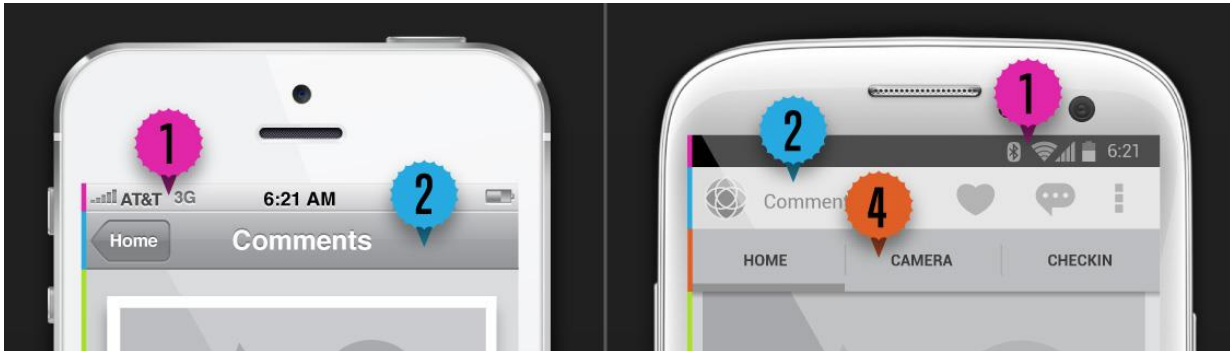
Contains

Tab style navigation

Things to note

You can choose between fixed and scrollable tabs for your action bar. Fixed allows the user to see all options at a glance while scrollable can support more views.





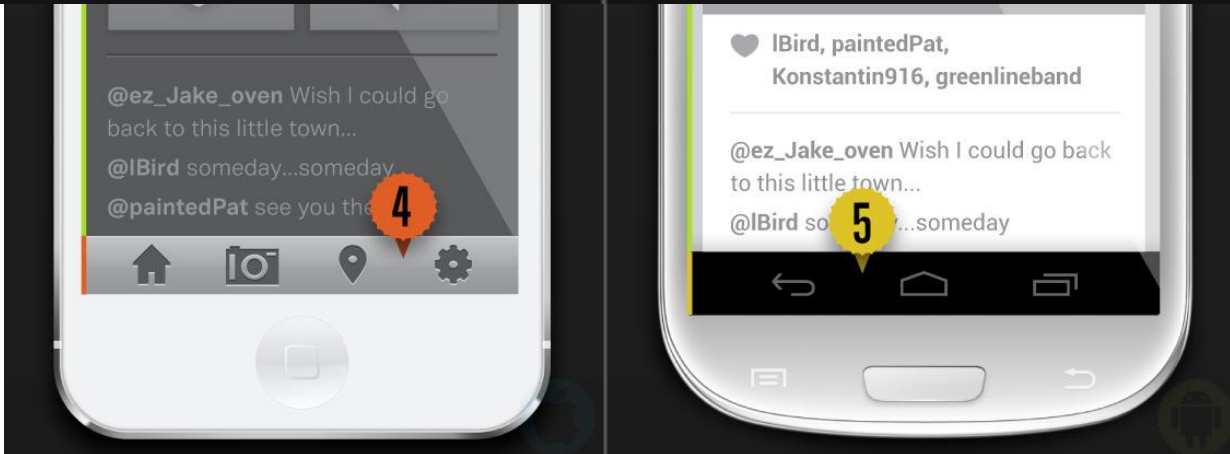
#5 NAVIGATION BAR

Contains

Back button, home button, and history button

Things to note





The nav bar is persistent across all views.




SUPPORTING MULTIPLE SCREENS

Screen sizes





In points (pt)


 iPhone 4/4s 320 x 480pt	 iPhone 5 320 x 568pt
 iPad mini 768 x 1024pt	 iPad2 768 x 1024pt



Screen sizes

In density-independent pixels (dip or dp)

 small 320 x 426dp	 normal 320 x 470dp
 large 480 x 640dp	 extra large 720 x 960dp



ICON SIZES

Platform	Category	Icon Type	Size
iOS (iPhone)	Interface icons	Toolbar/Nav Bar	20 x 20px
		Tab Bar	30 x 30px
	App icons	App store	512 x 512px
		Spotlight search	29 x 29px
App icon and web clip icon		57 x 57px	
Android (Nexus)	Interface icons	Action Bar	24 x 24dp
		Content Display	12 x 12dp
	App icons	Google Play	512 x 512px
		Launcher icon	48 x 48dp

* for iOS 6

Retina support

For retina support, all you need to do is export all custom icons/graphics at 2x the regular size. If you are working with a bitmap program like photoshop, you will need to start at the 2x size and then scale down to the regular size.



2x

iPhone 4s,
iPhone 5
New iPad



1x

iPhone 4
iPad, iPad 2
iPad mini



Variable screen density support

In order to support all of the varying screen densities that run on it, Android groups them into four buckets LDPI, MDPI, HDPI, and XHDPI. The sizes listed on this doc support the MDPI bucket which is the most common screen density. Adjusting your custom graphics is as easy as scaling their sizes when you are exporting them:



2x

XHDPI
320dpi



1.5x

HDPI
240dpi



1x

MDPI
160dpi



0.75x

LDPI
120dpi



TOUCH GESTURES



touch



long press



double touch



flick/swipe



pinch close



pinch open



drag

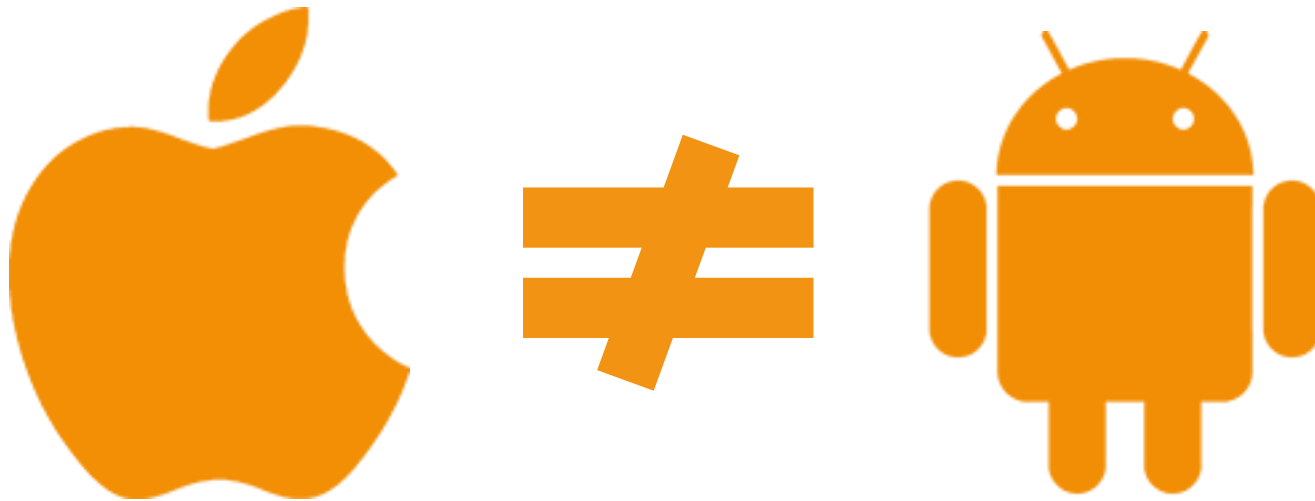


shake device

iOS & Android Comparison

Differences and Similarities

iOS & Android: Differences



Top 10 Most Used Smartphone Apps

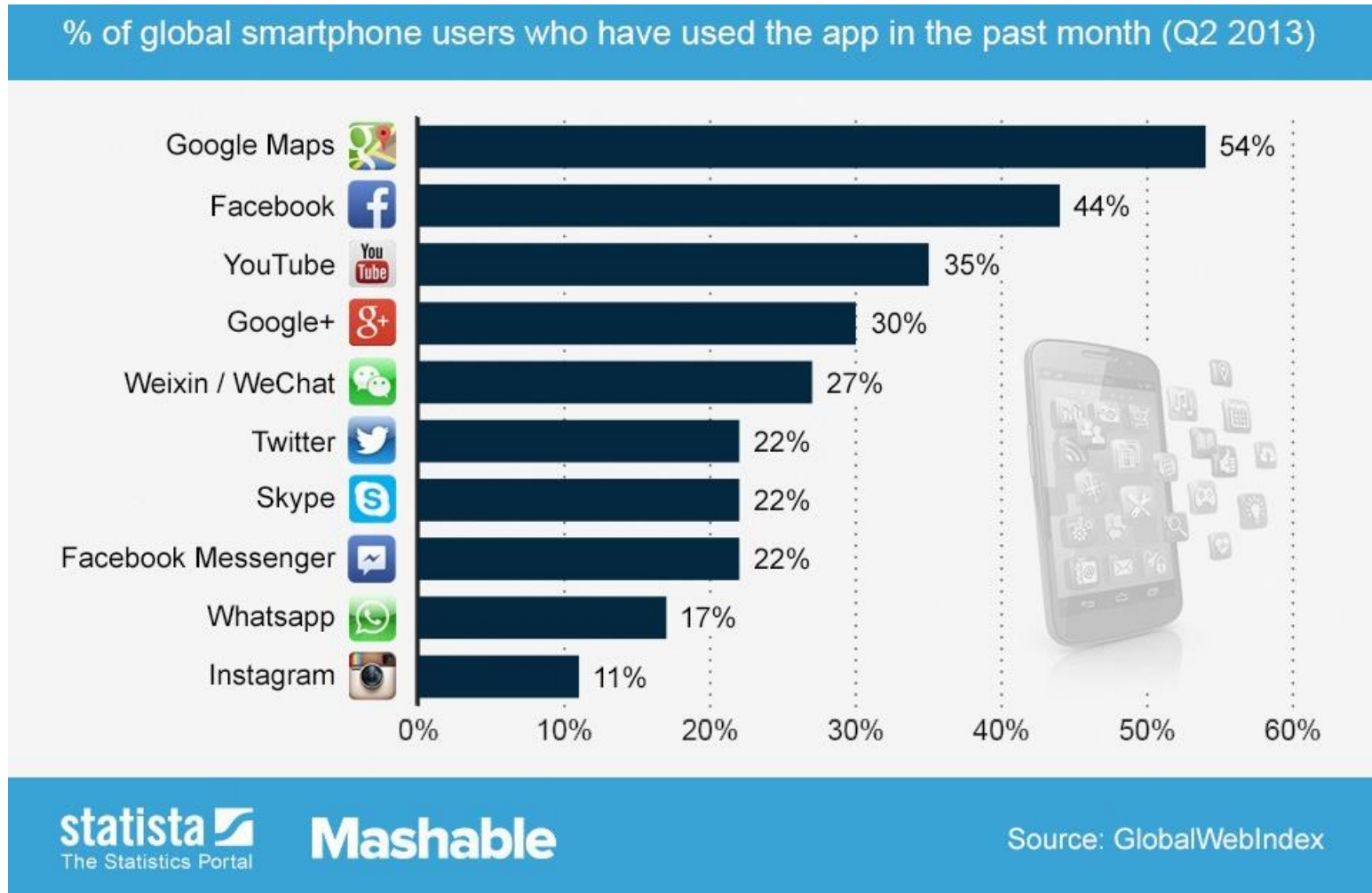


Image retrieved and modified from: ("The 10 Most Frequently Used Smartphone Apps," n.d.)

iOS & Android: Examples & Differences

Examples retrieved at 20th November 2013, using:

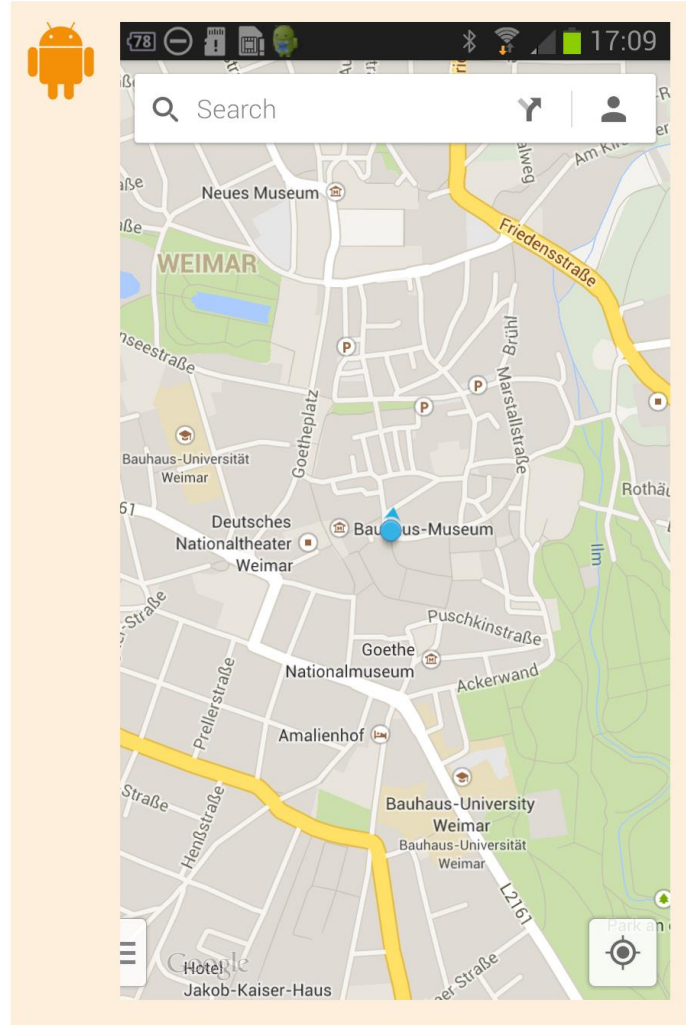
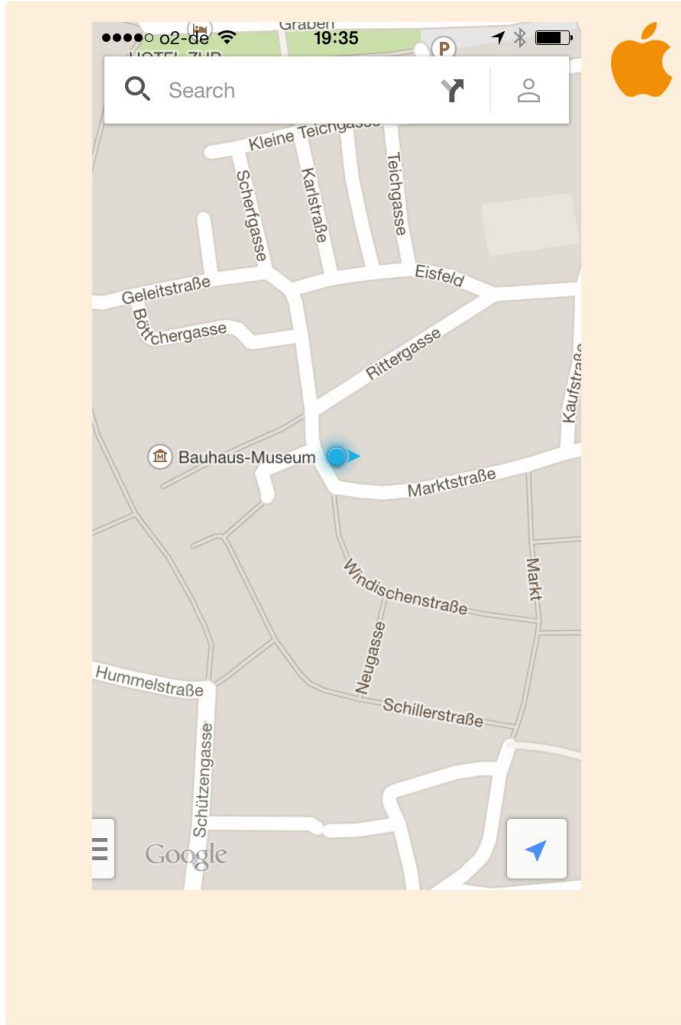
- iPhone 5c
 - iOS 7.0.4
 - 640 × 1136 pixels
 - 4"
- Samsung Galaxy S3
 - Android 4.1.2
 - 720 × 1280 pixels
 - 4.8"



iOS vs. Android - Differences



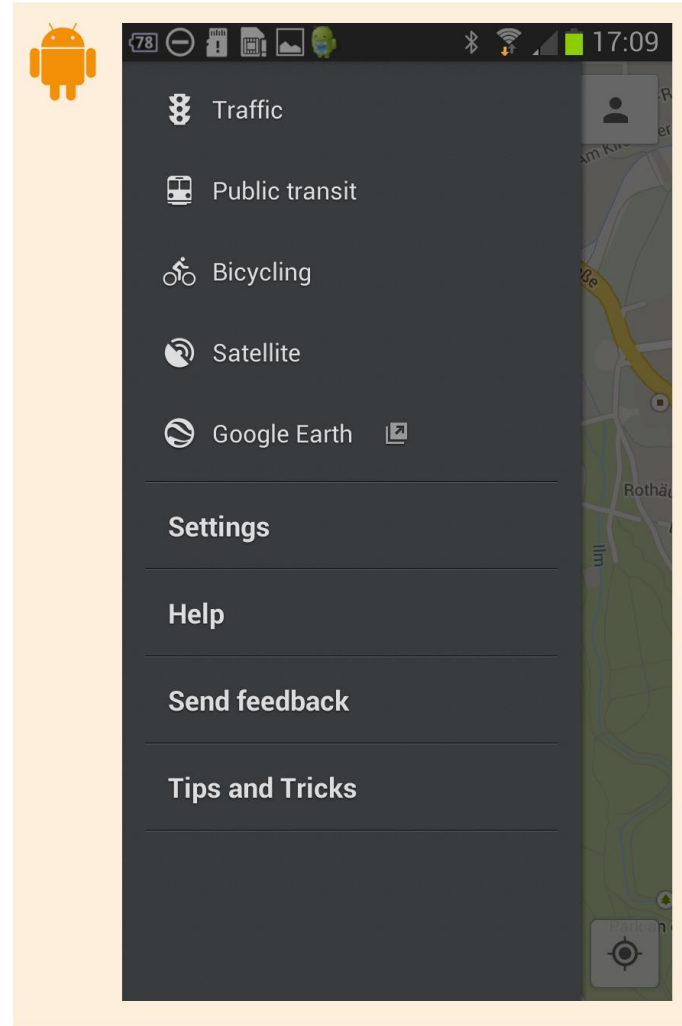
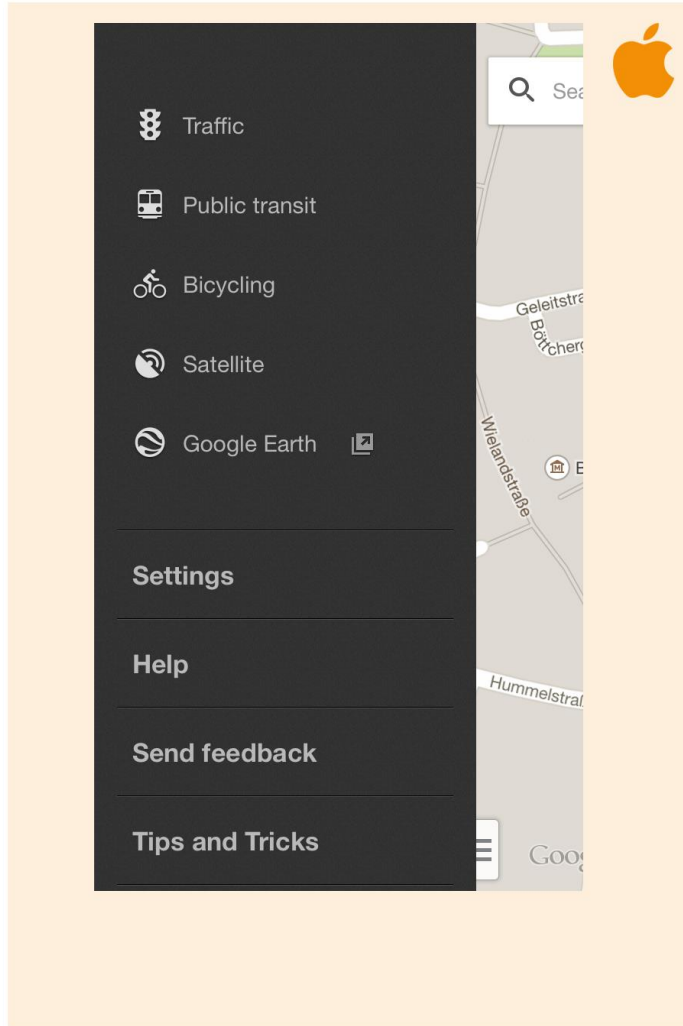
Google Maps



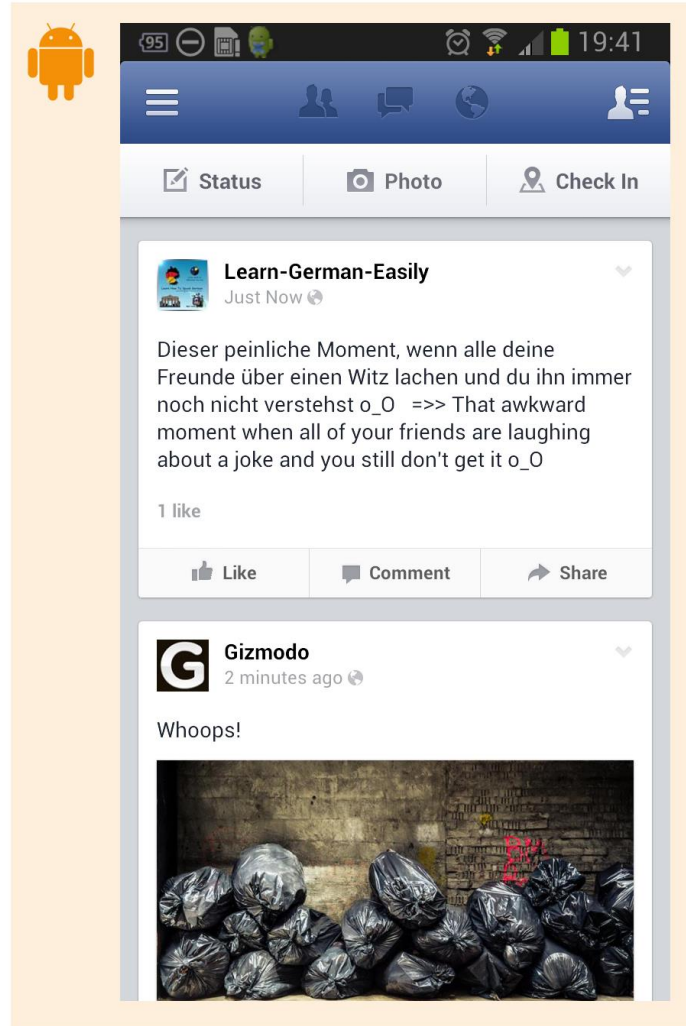
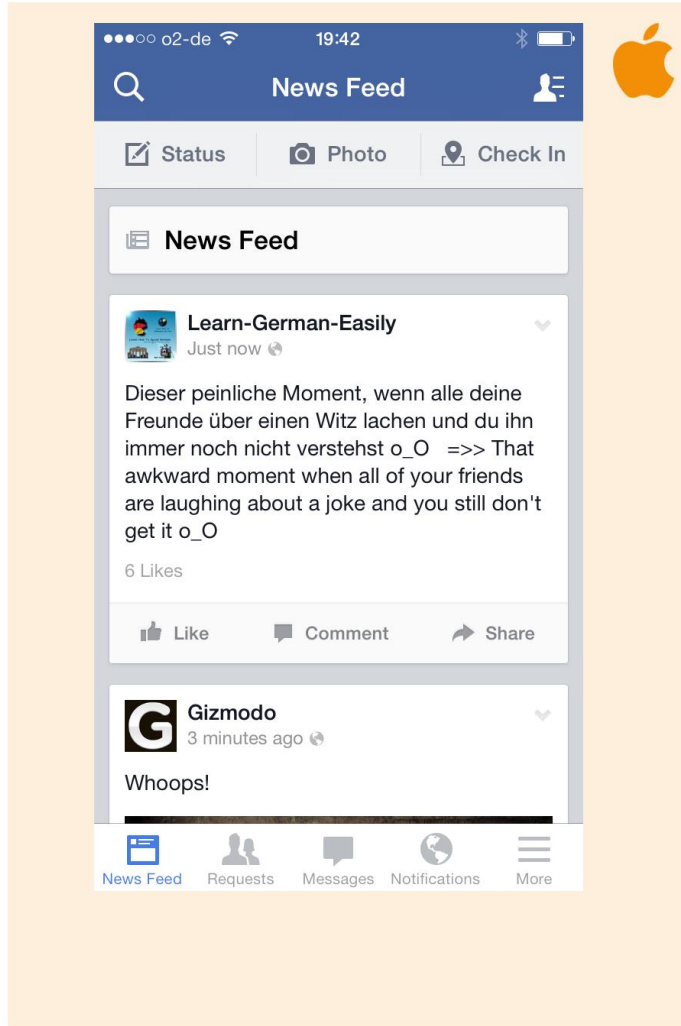
iOS vs. Android - Differences



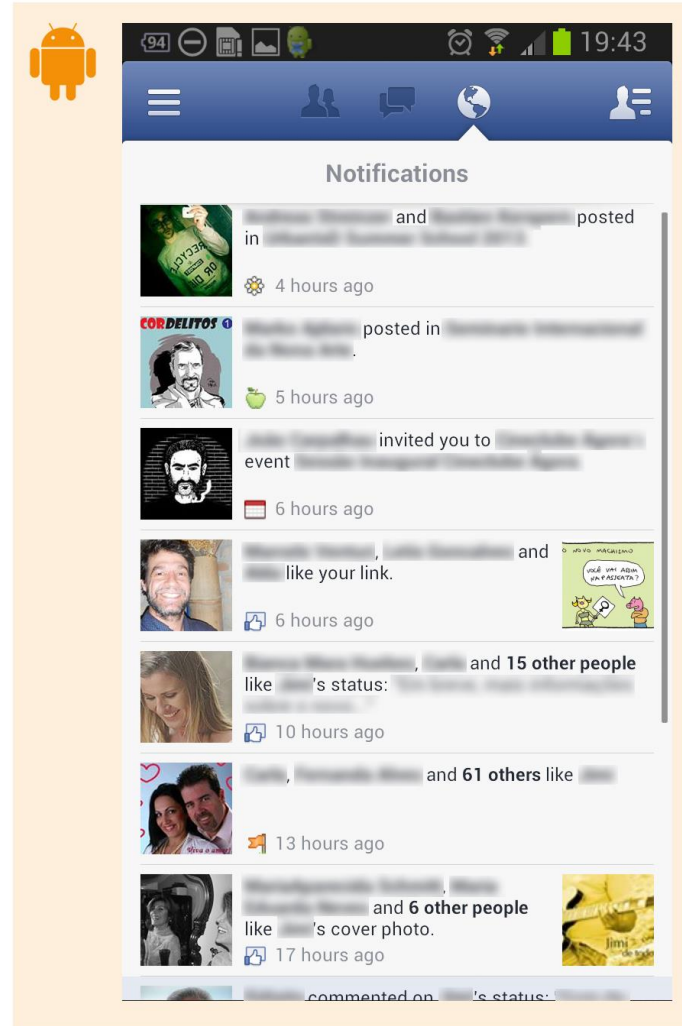
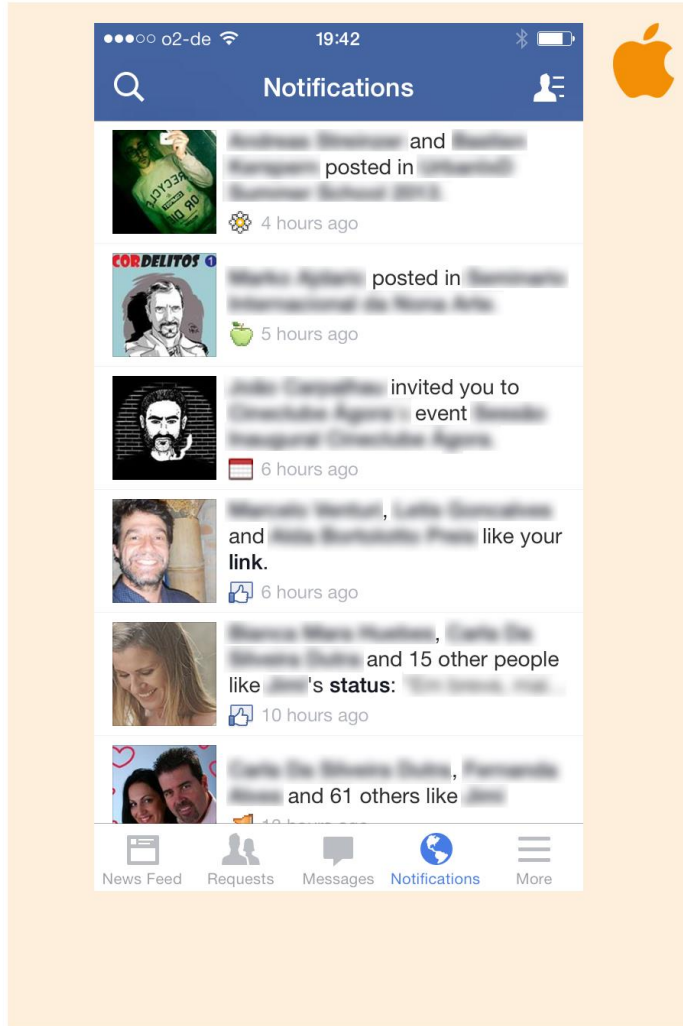
Google Maps



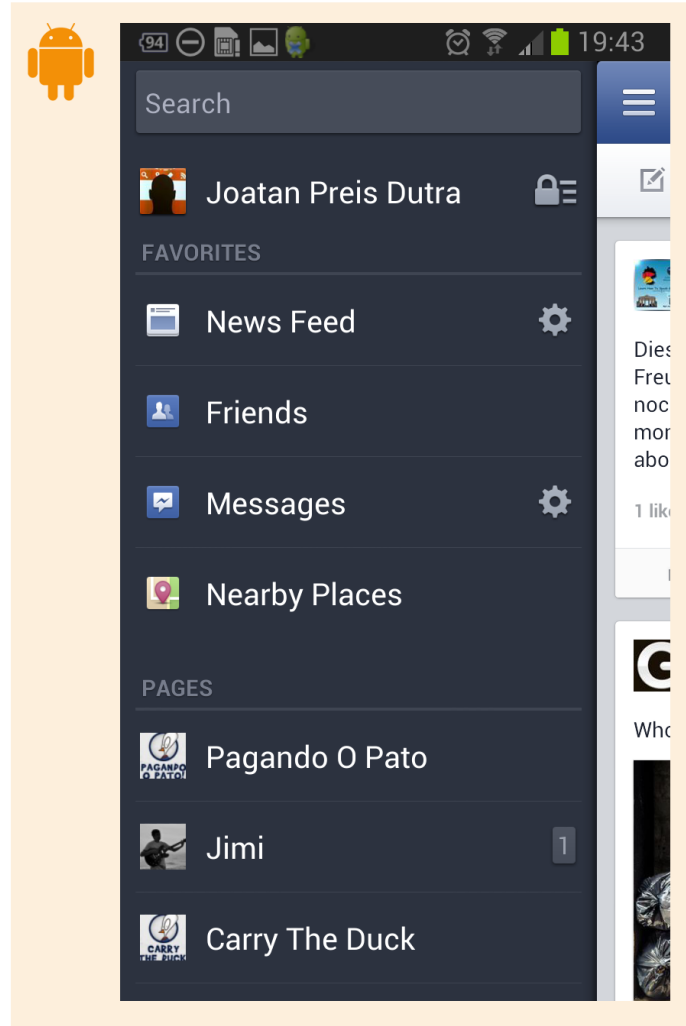
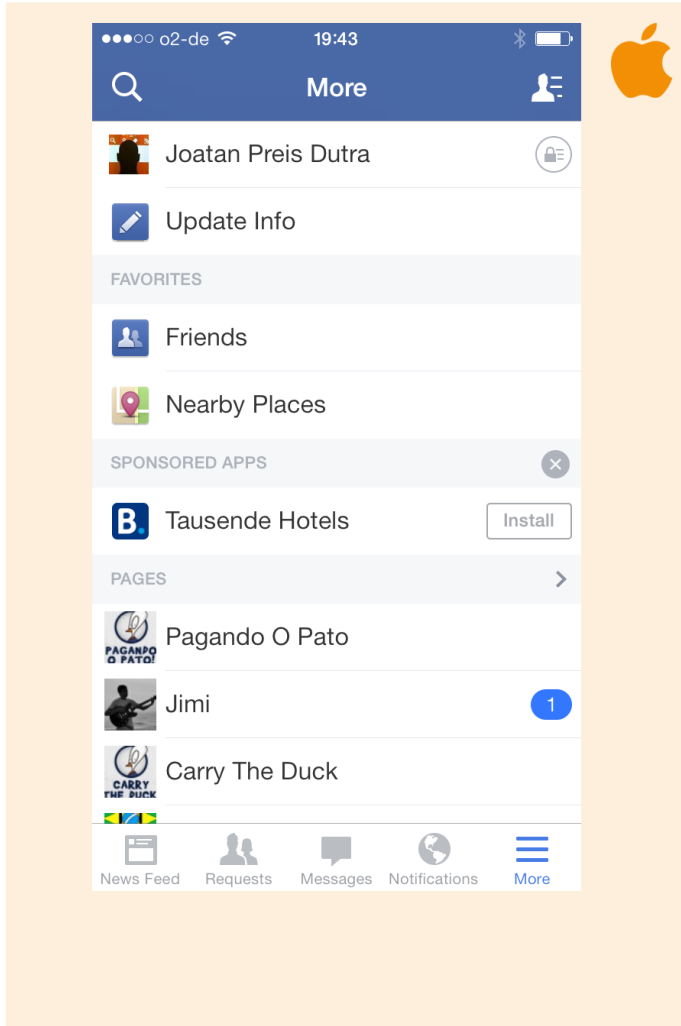
iOS vs. Android - Differences



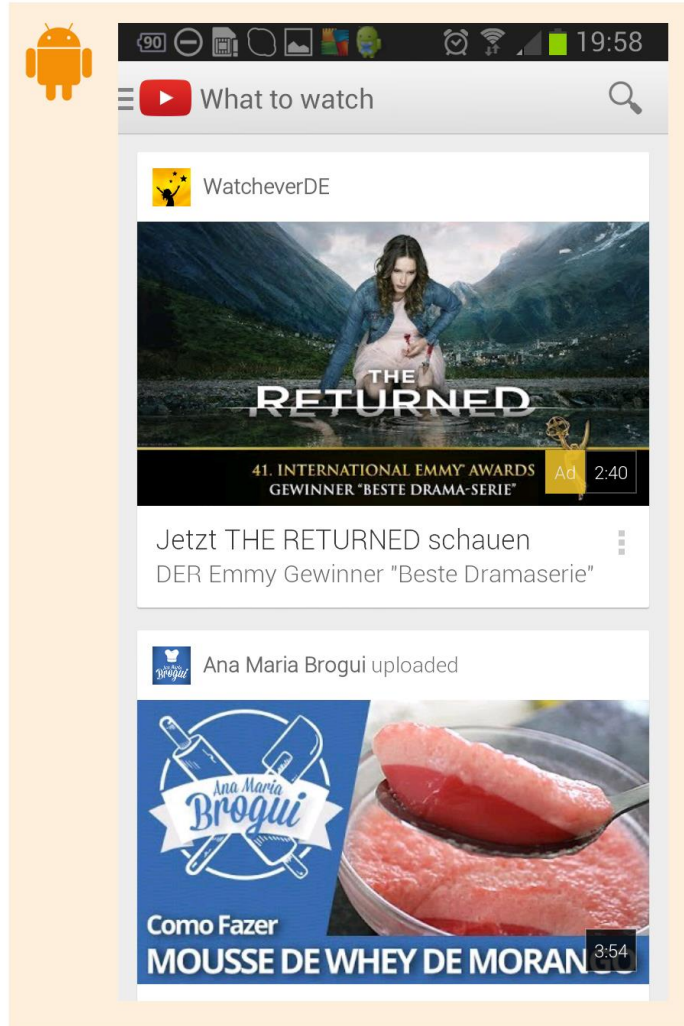
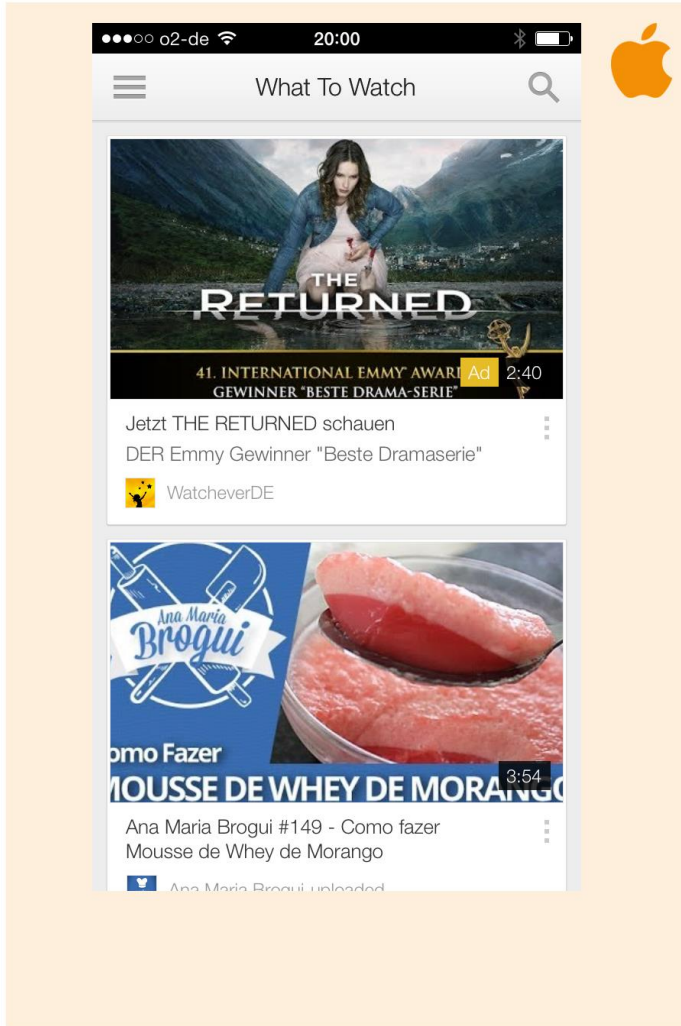
iOS vs. Android - Differences



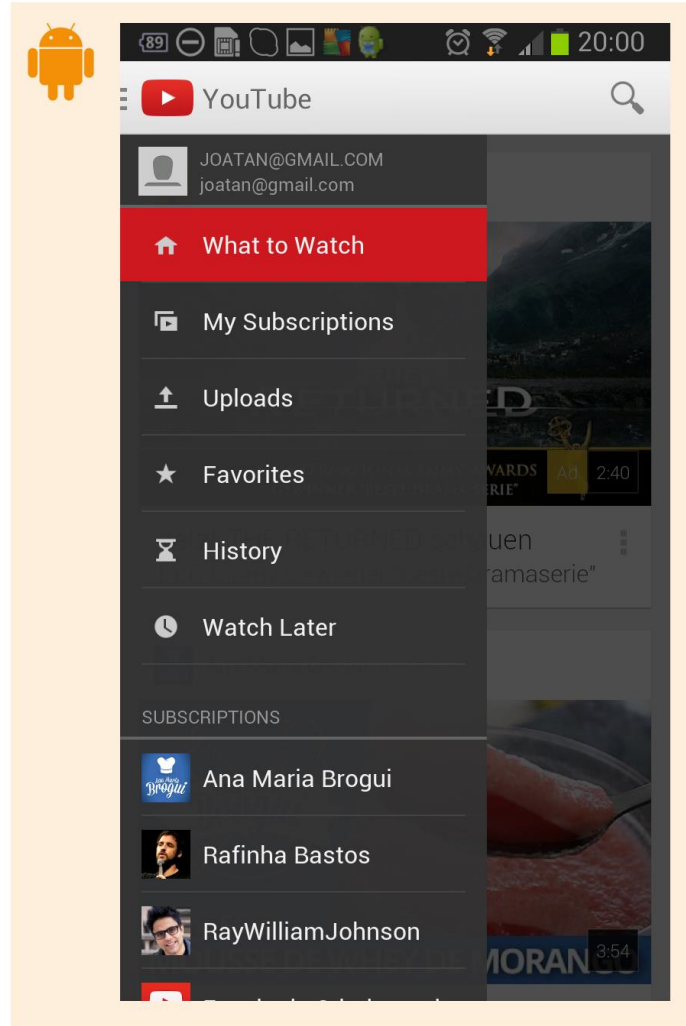
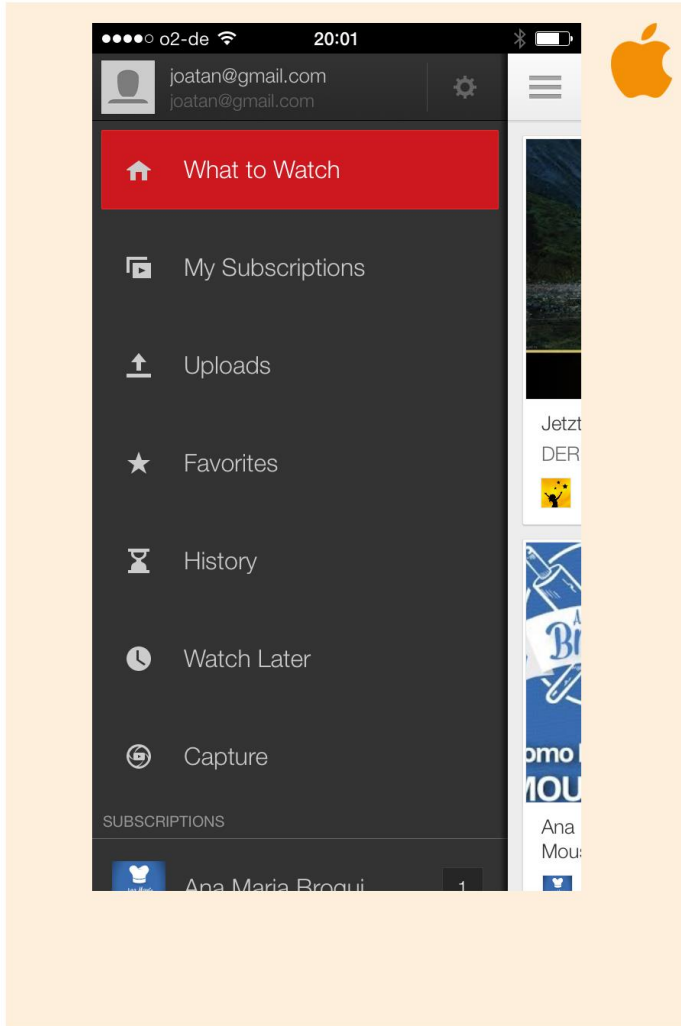
iOS vs. Android - Differences



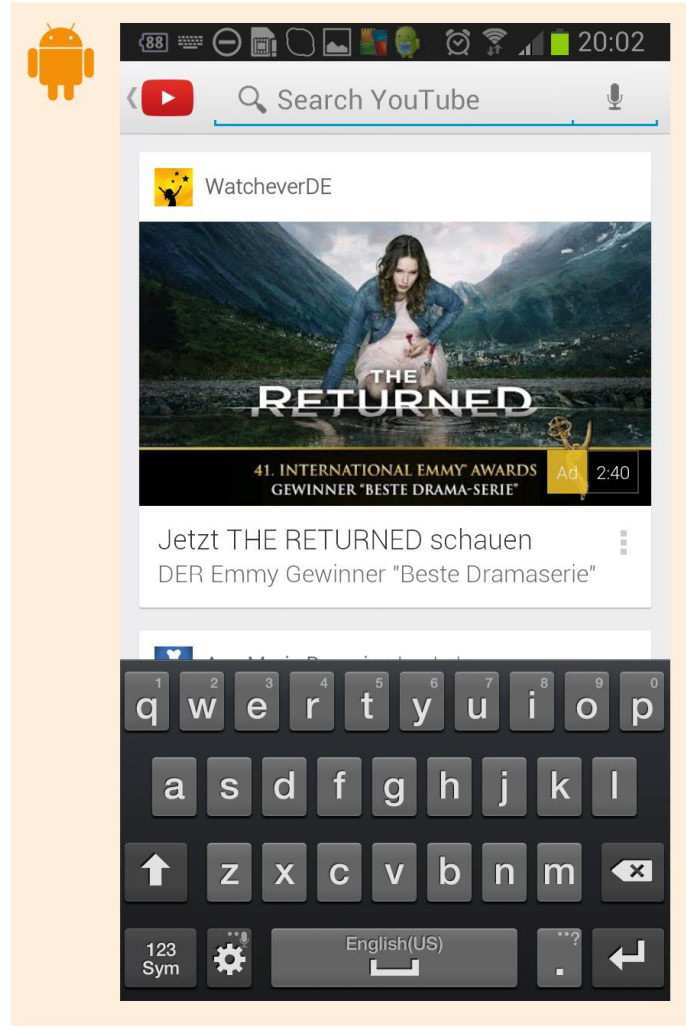
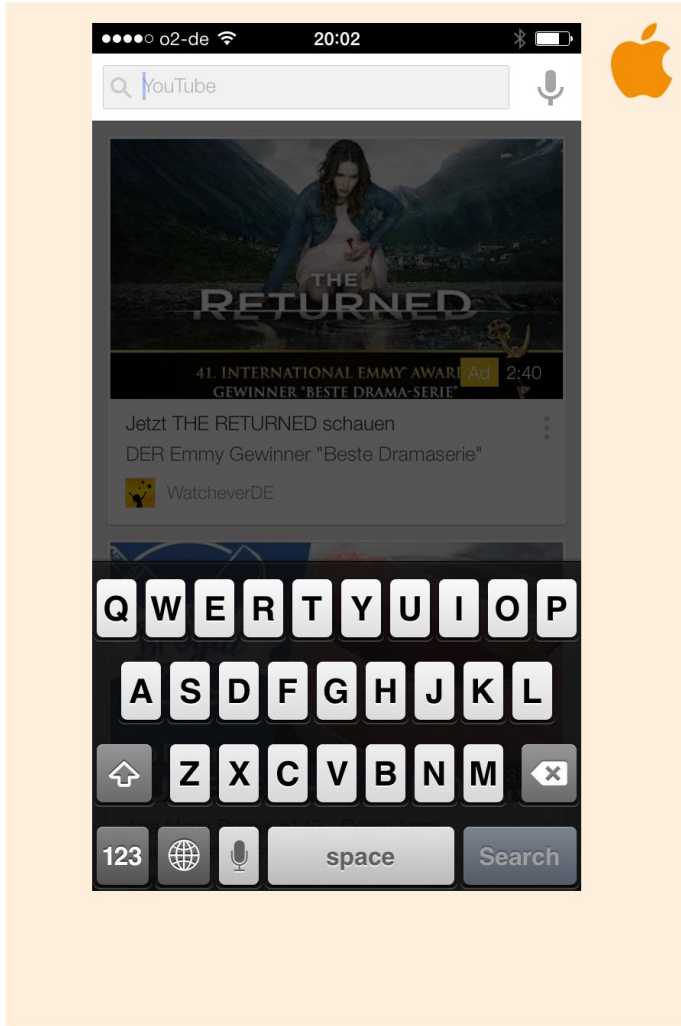
iOS vs. Android - Differences



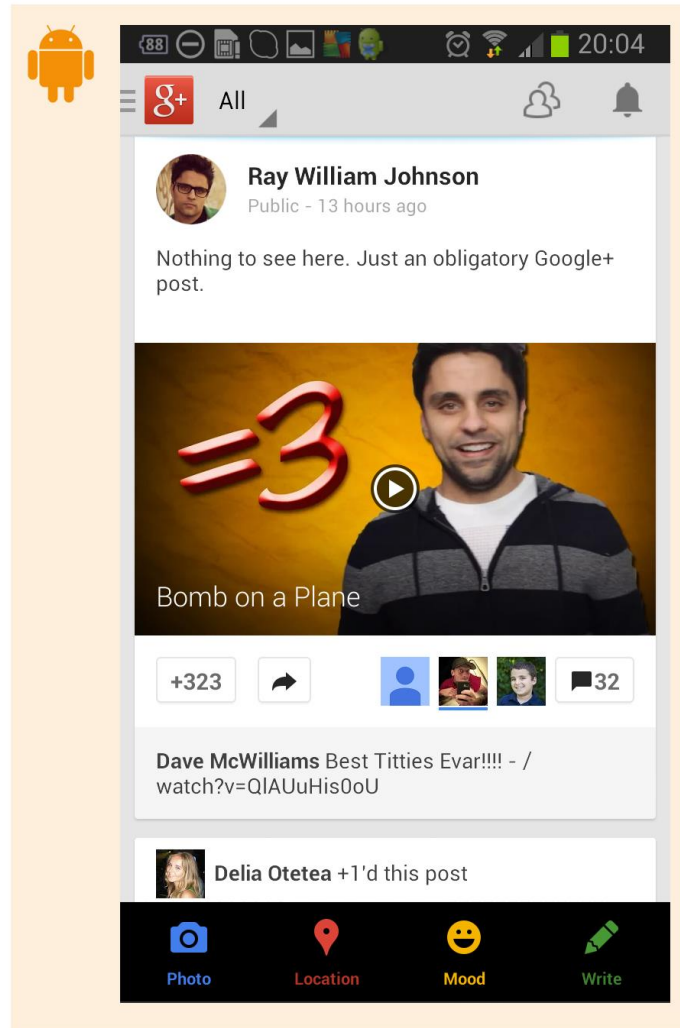
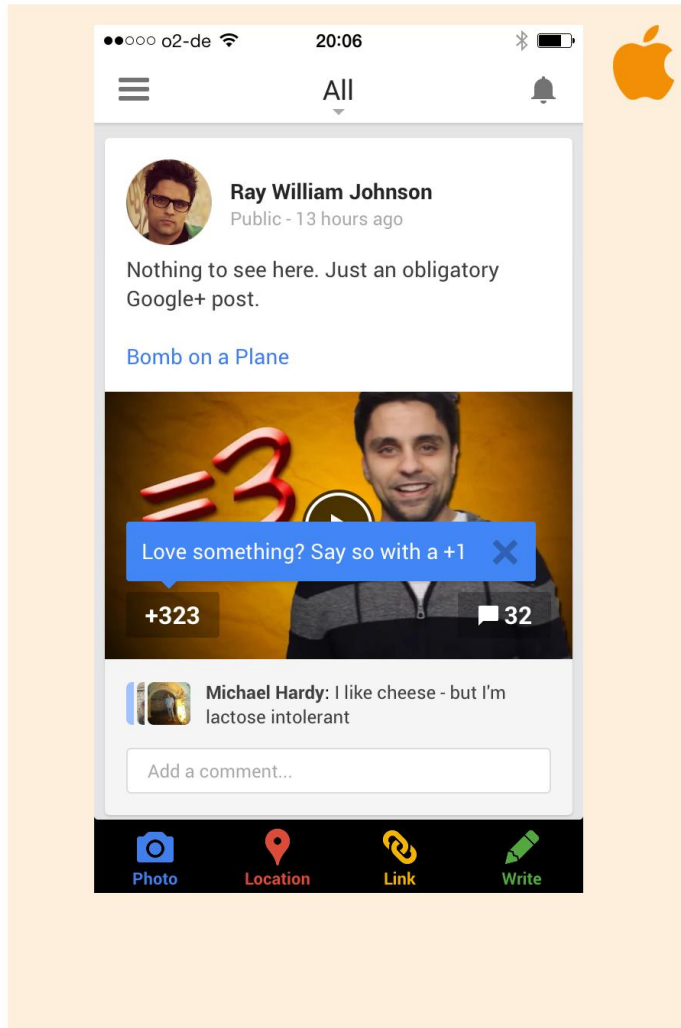
iOS vs. Android - Differences



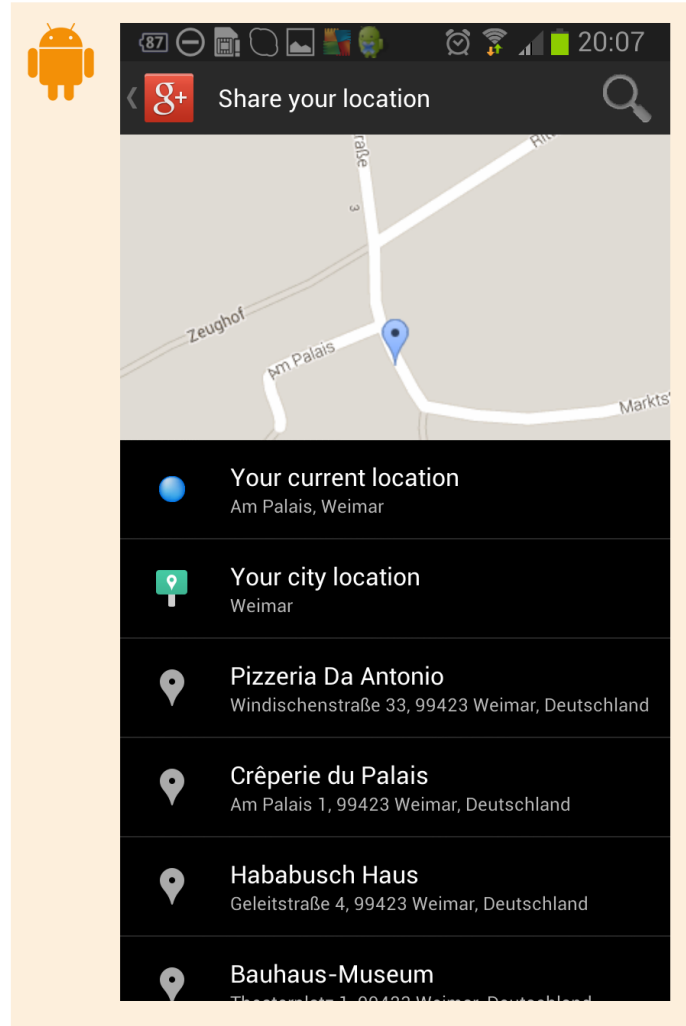
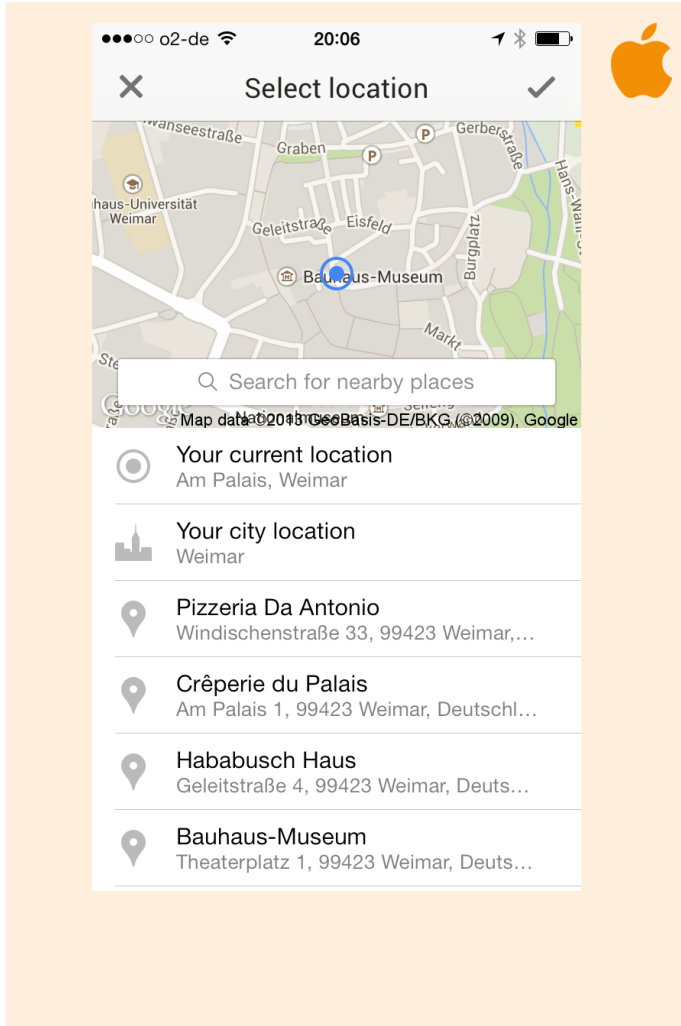
iOS vs. Android - Differences



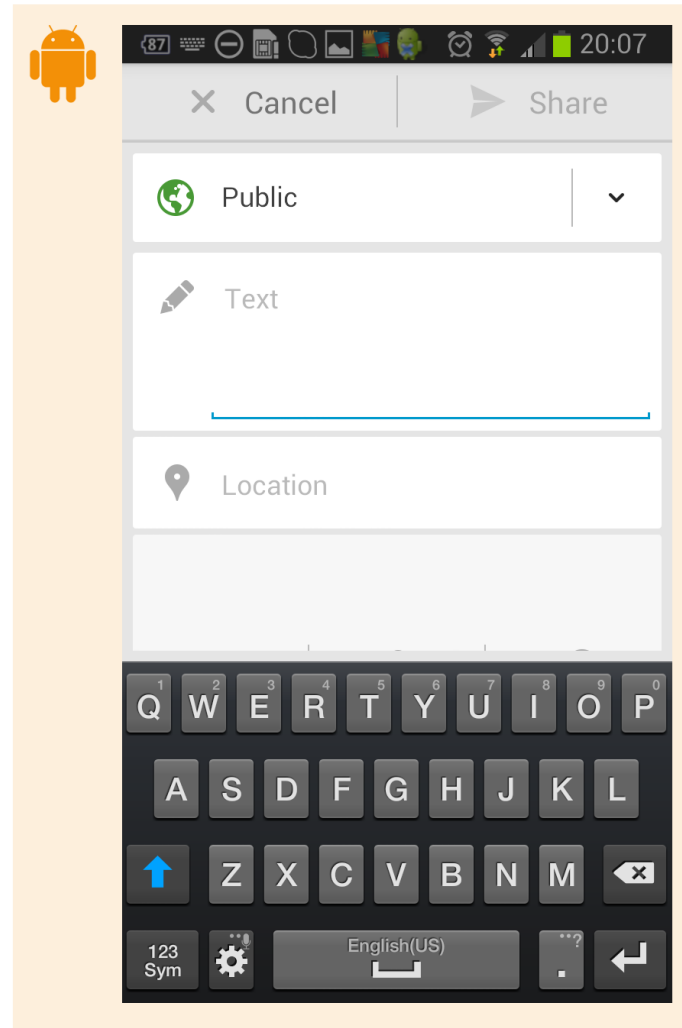
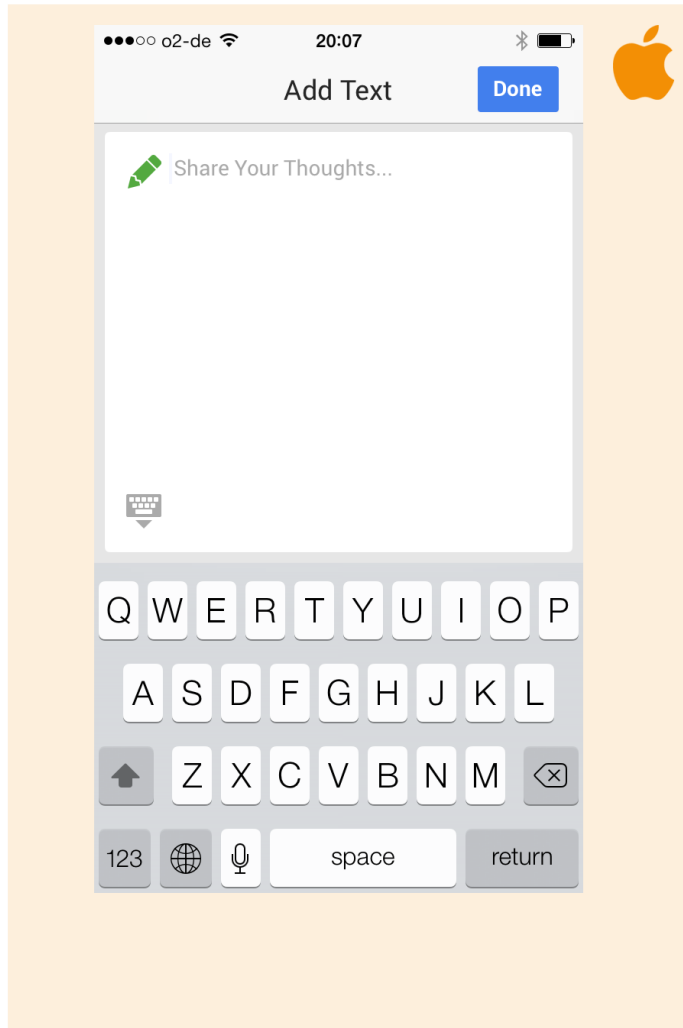
iOS vs. Android - Differences



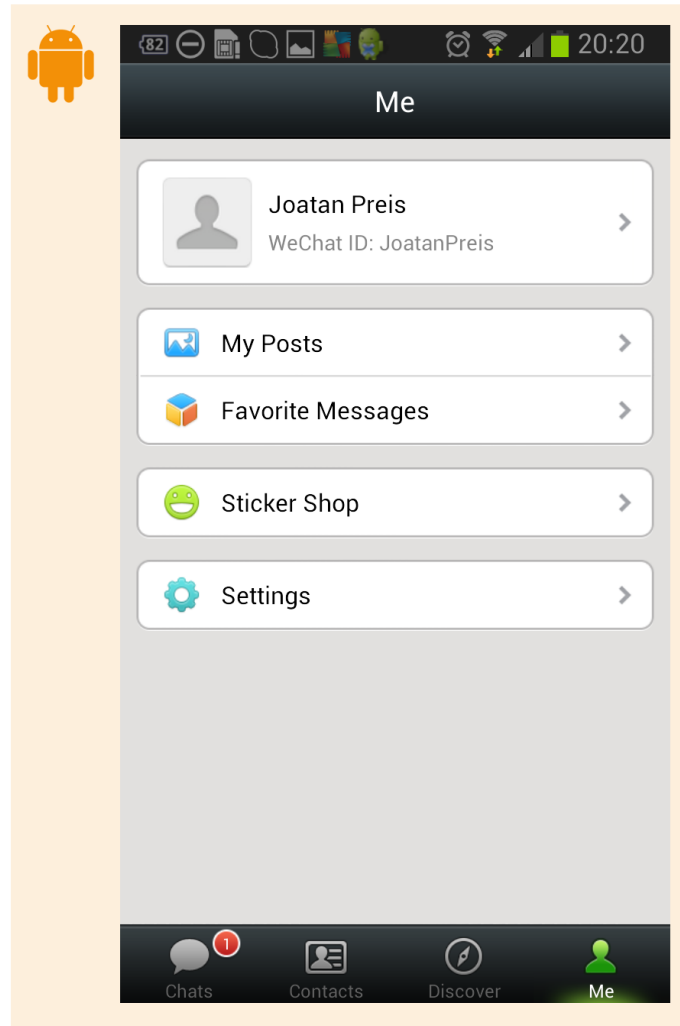
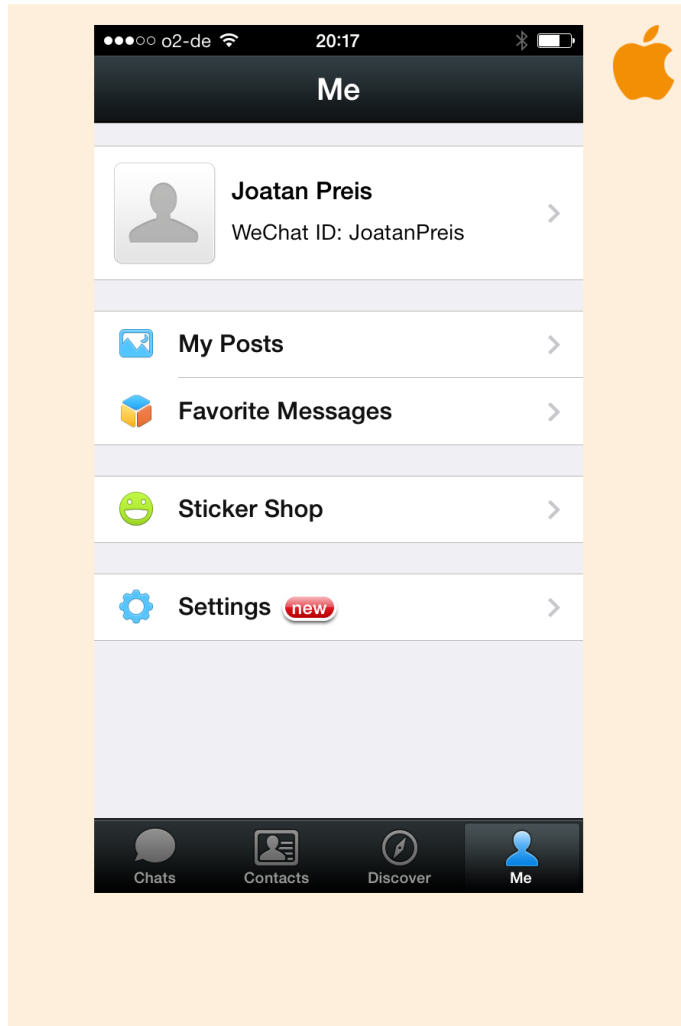
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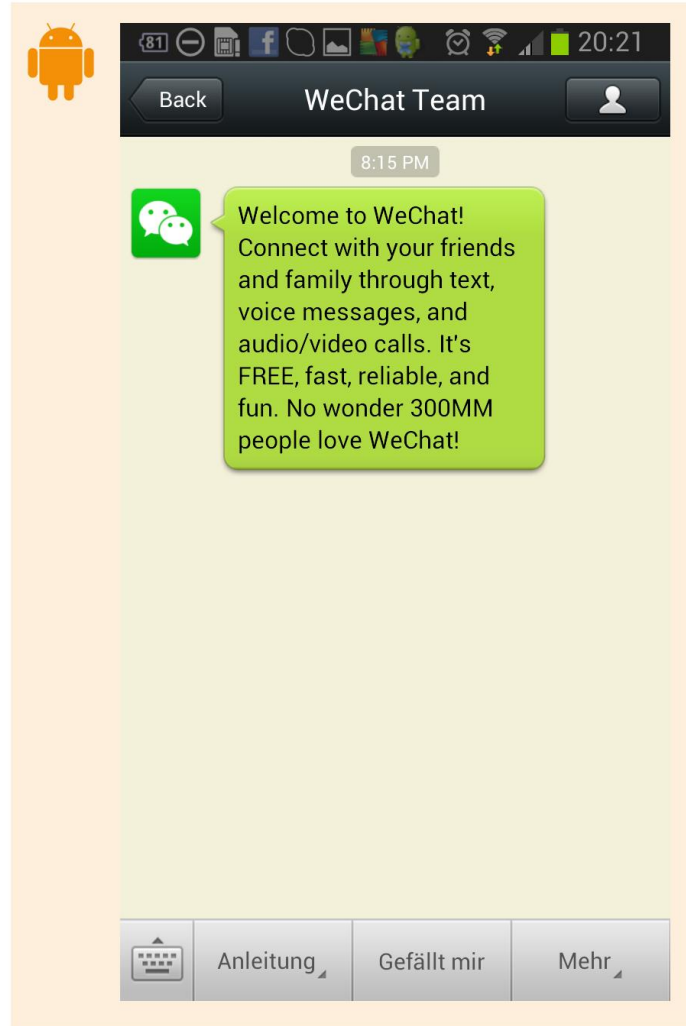
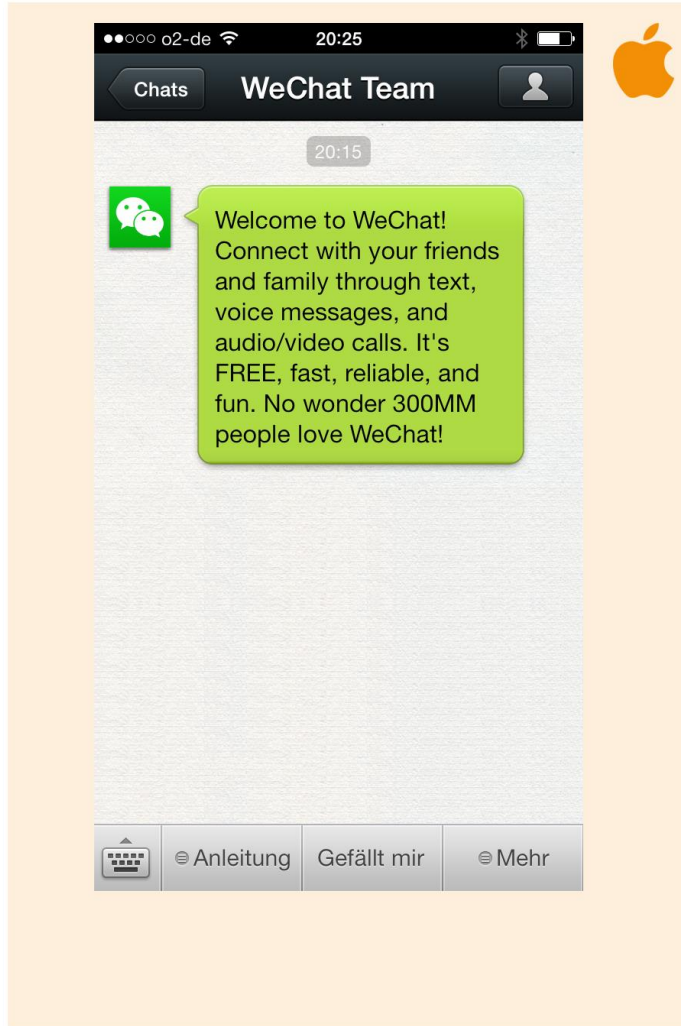
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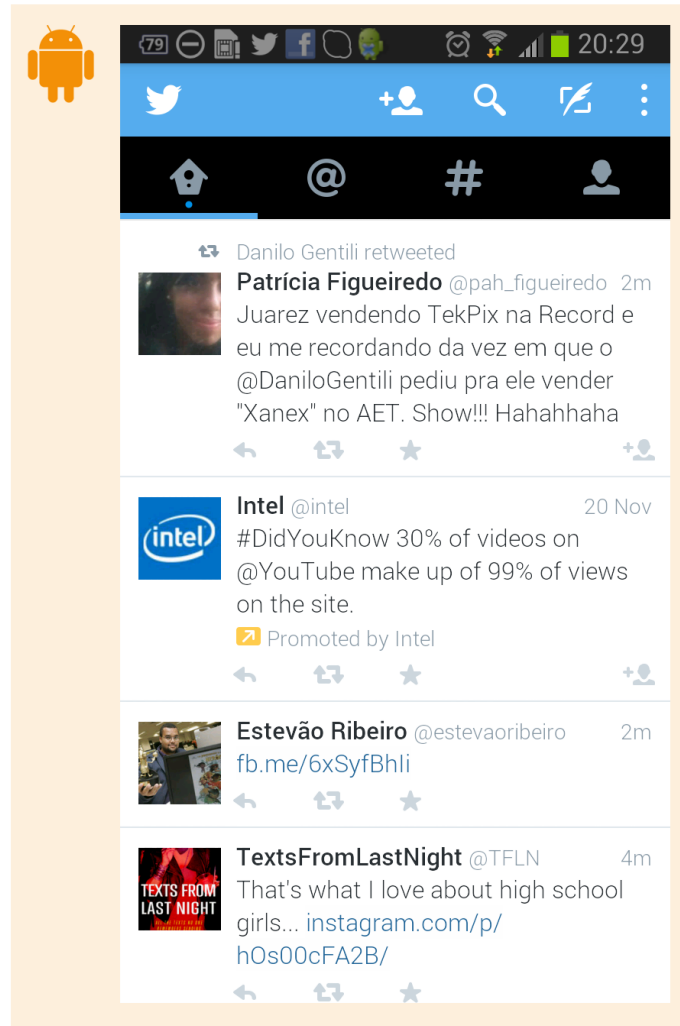
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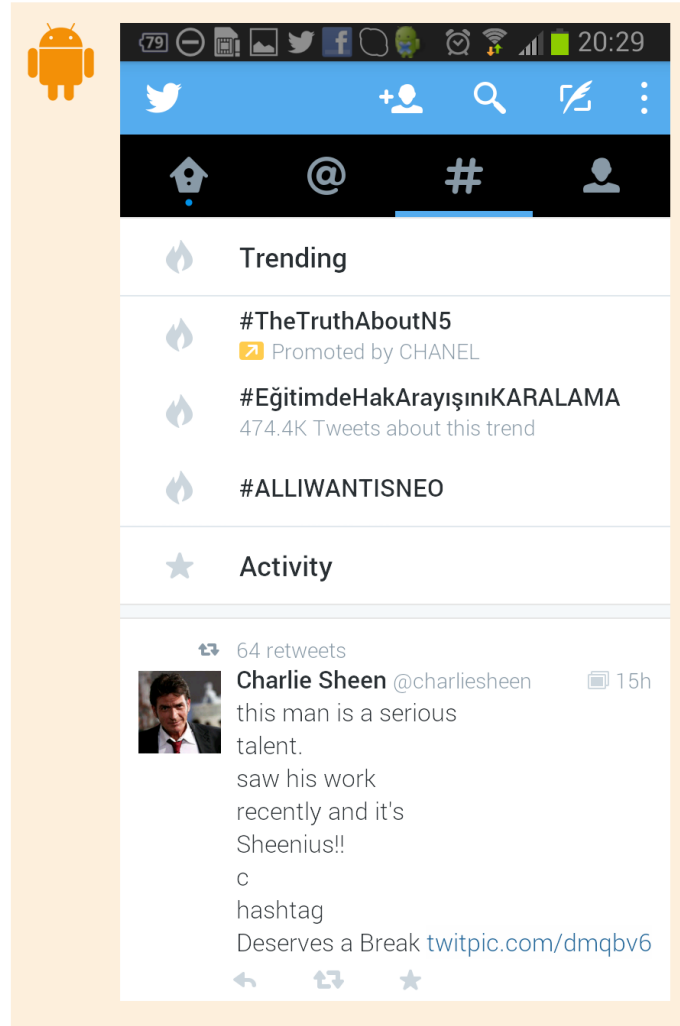
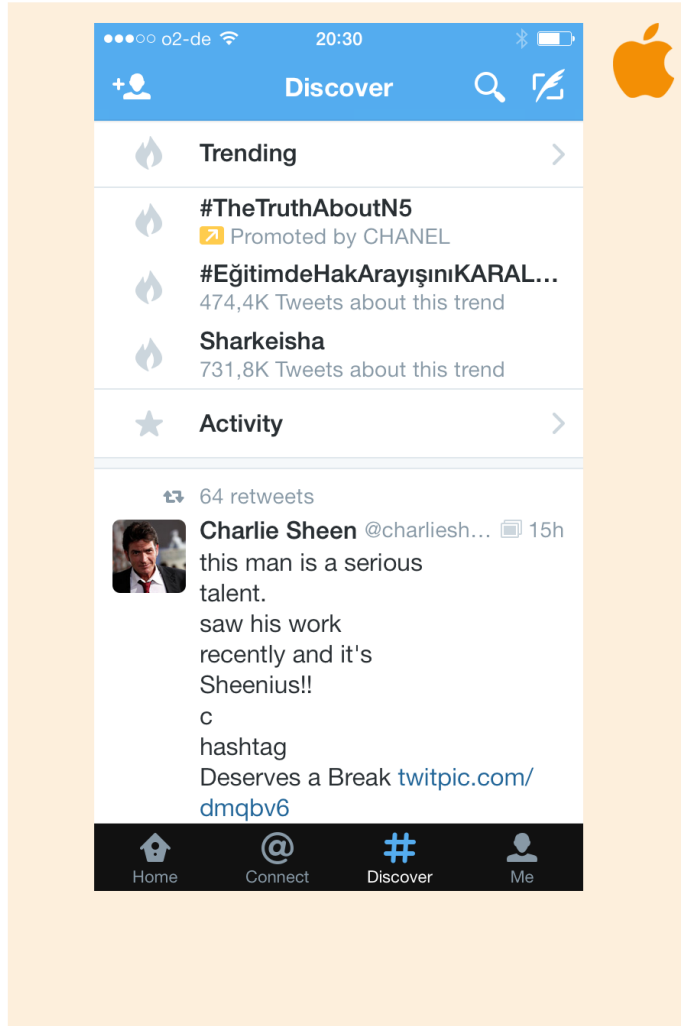
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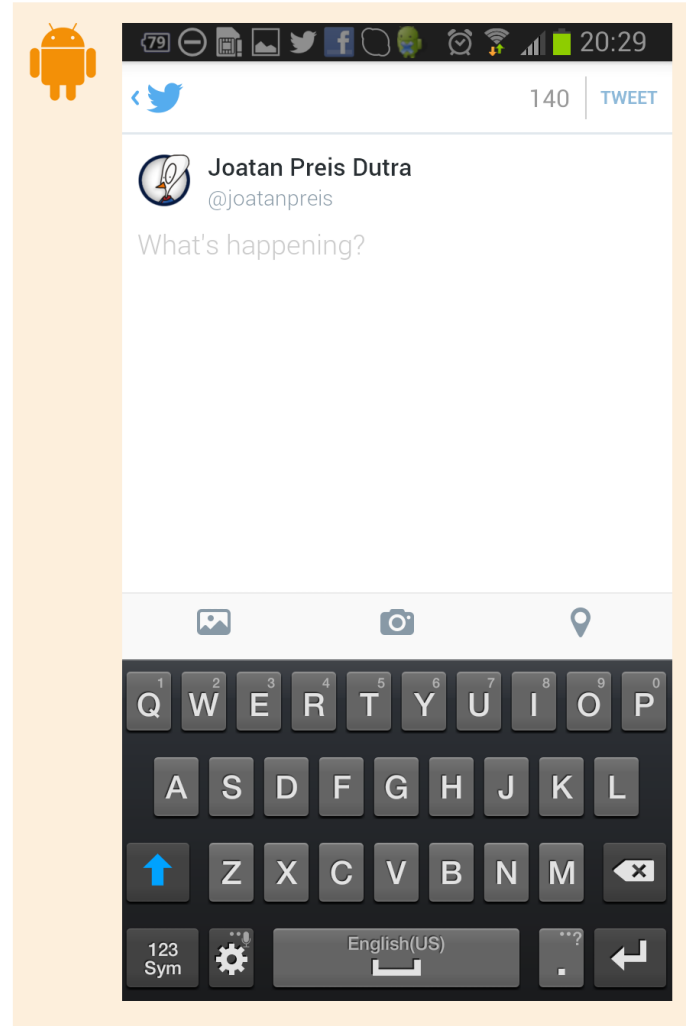
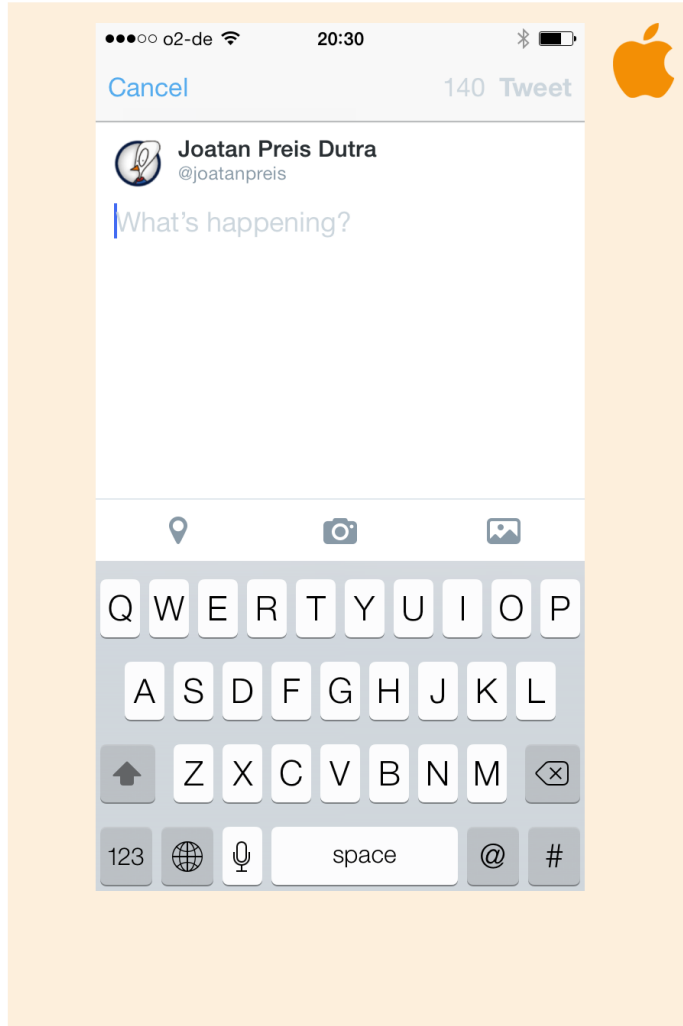
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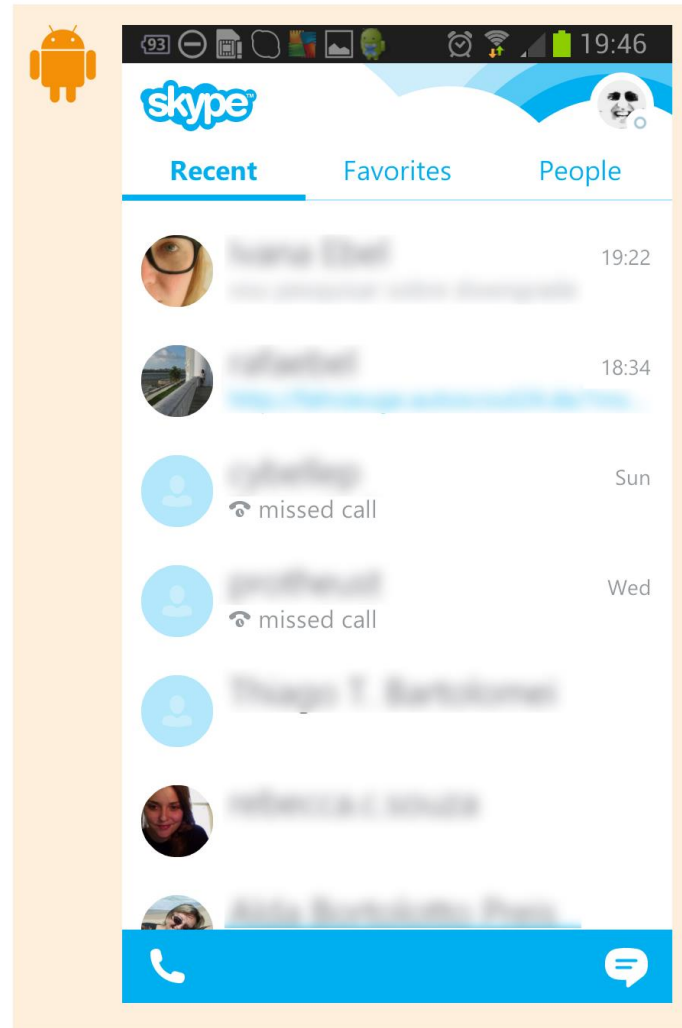
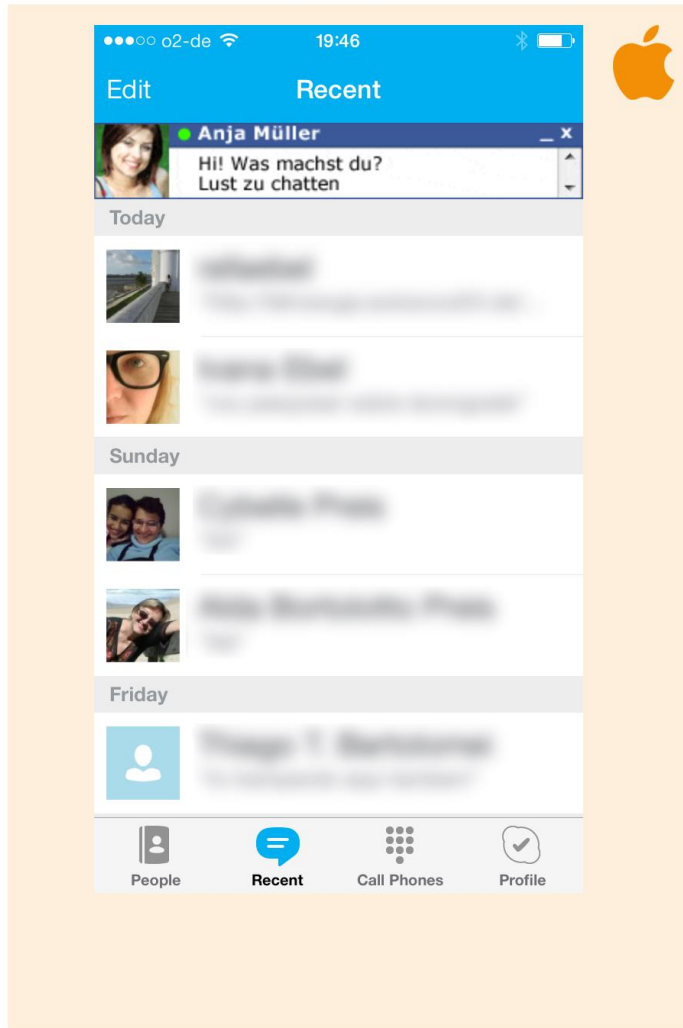
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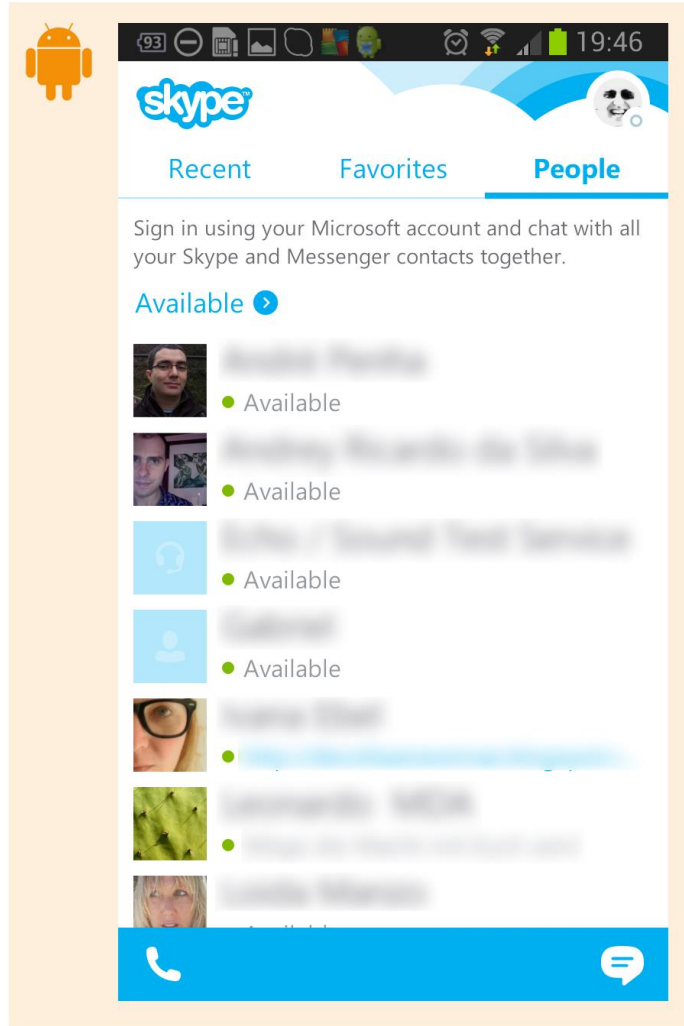
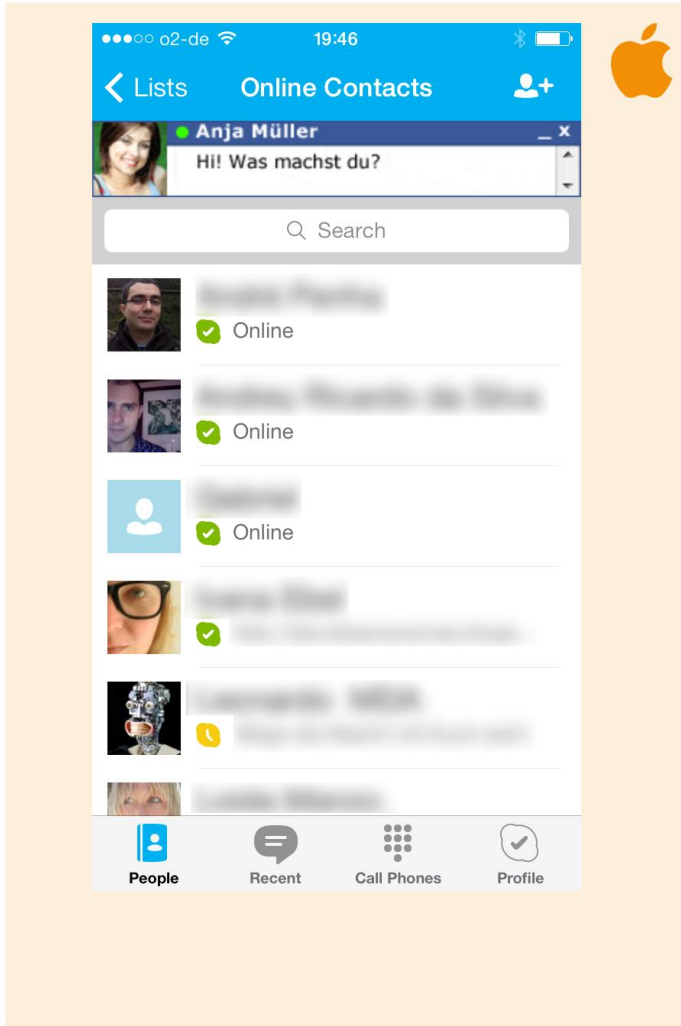
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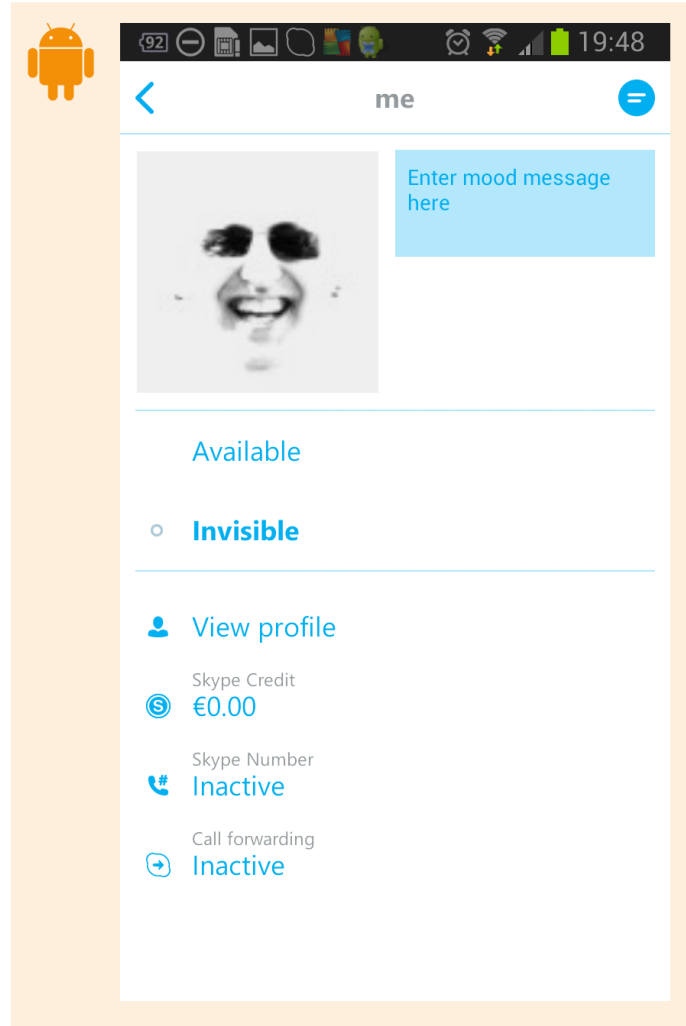
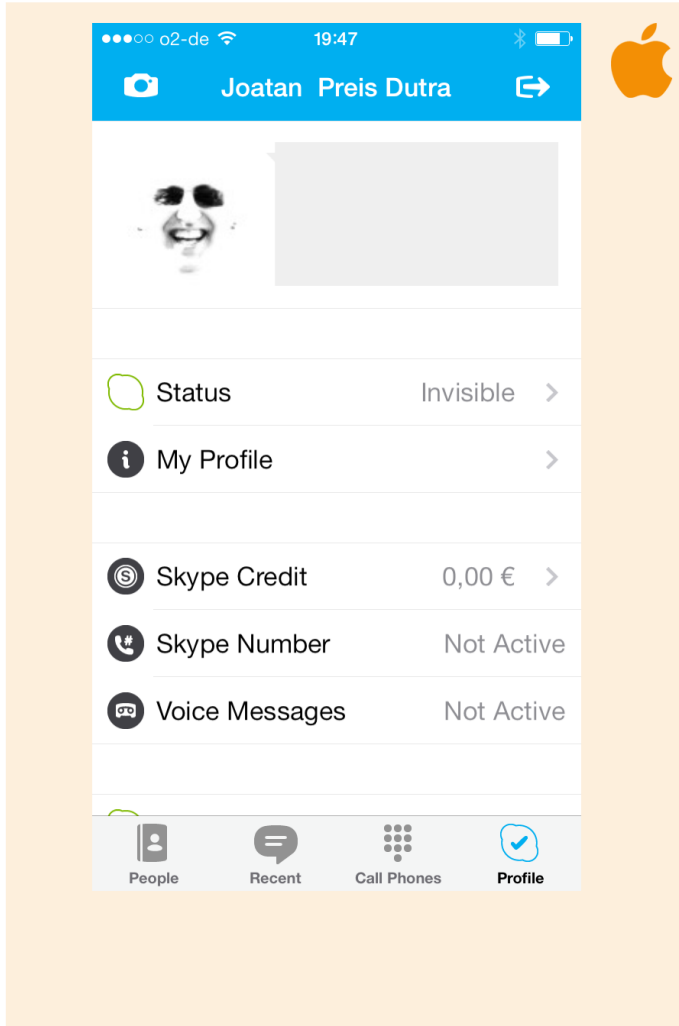
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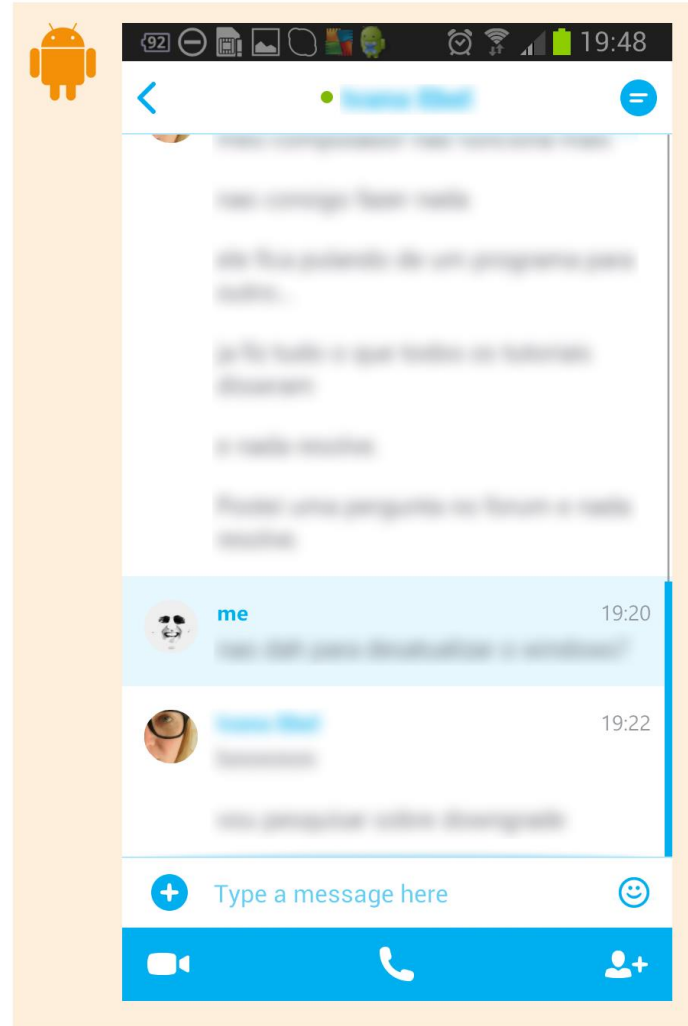
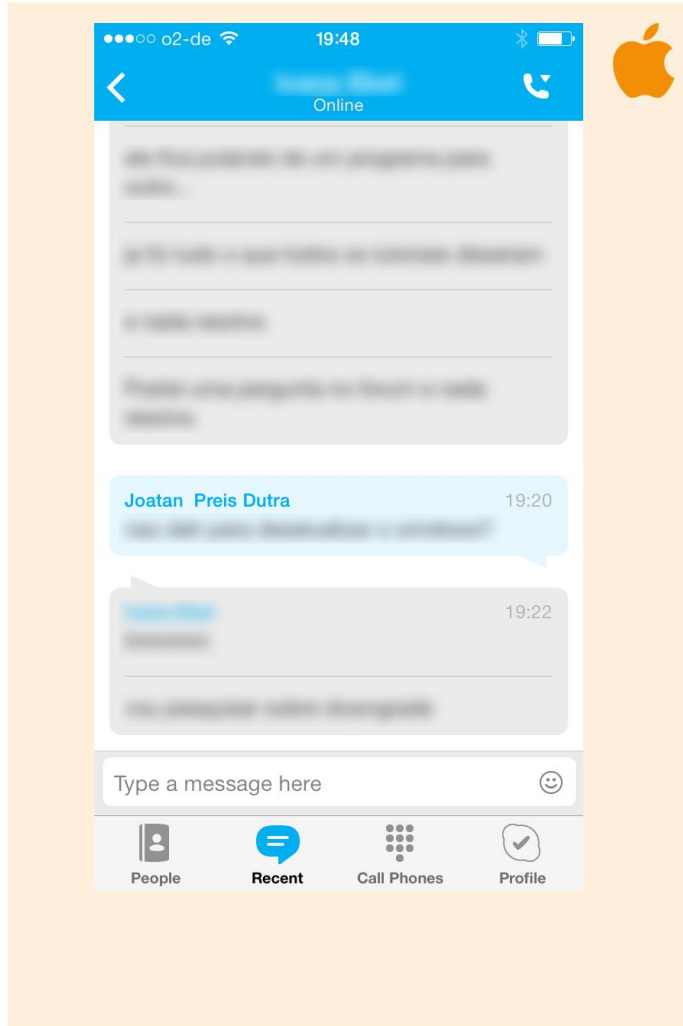
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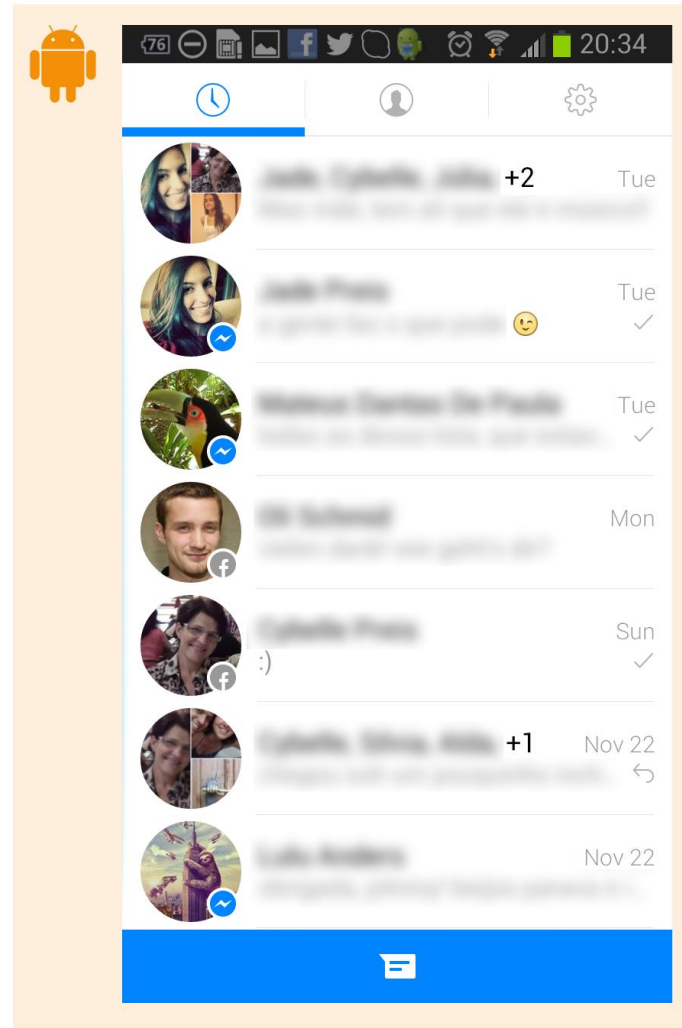
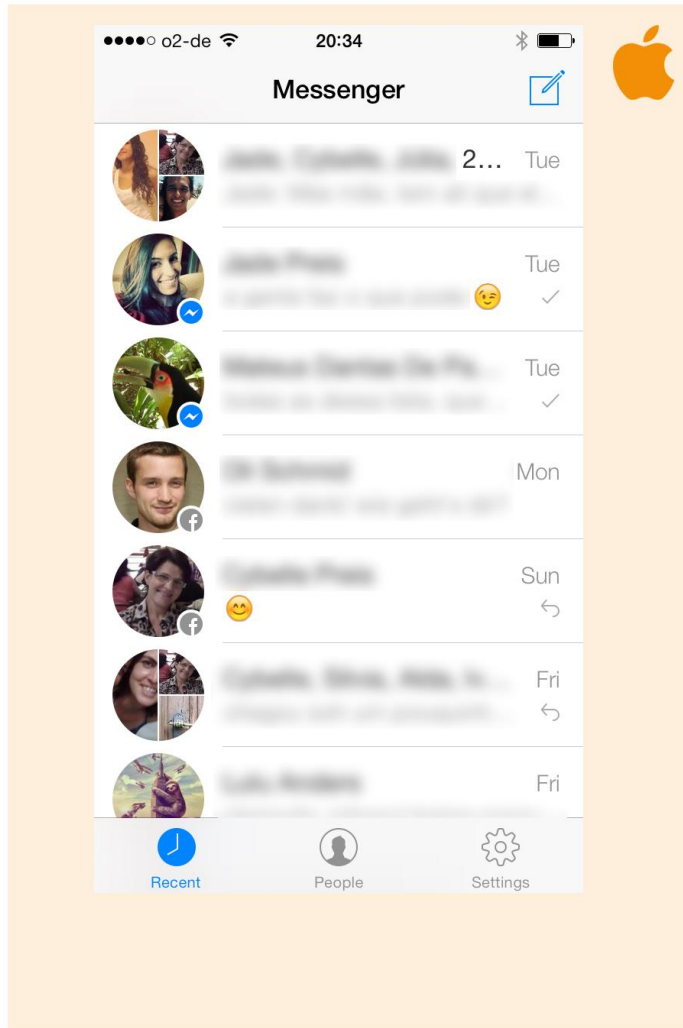


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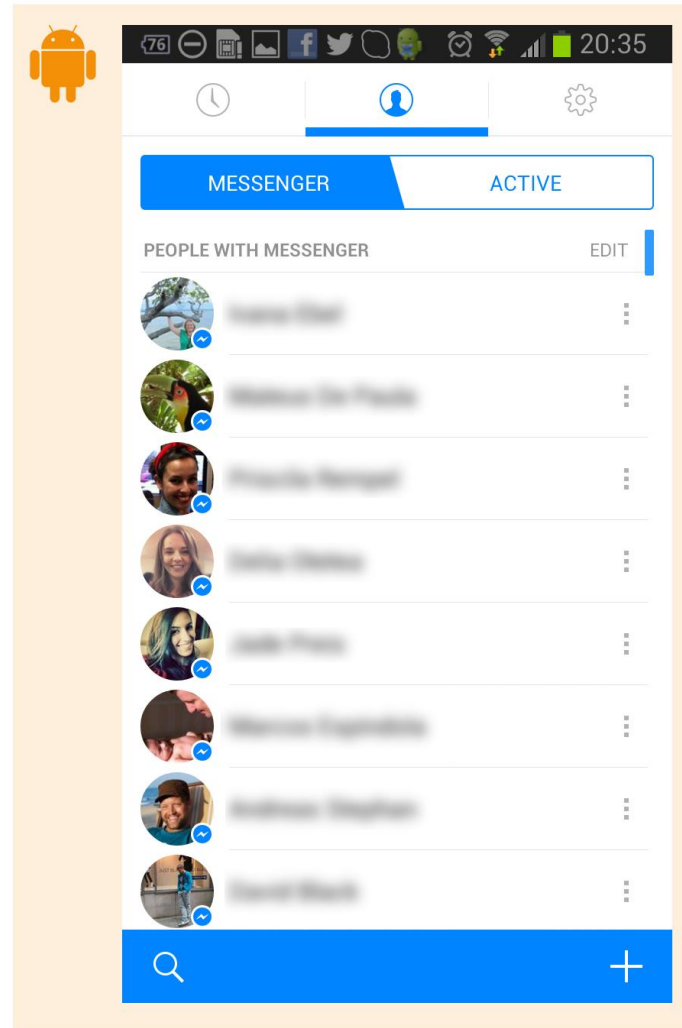
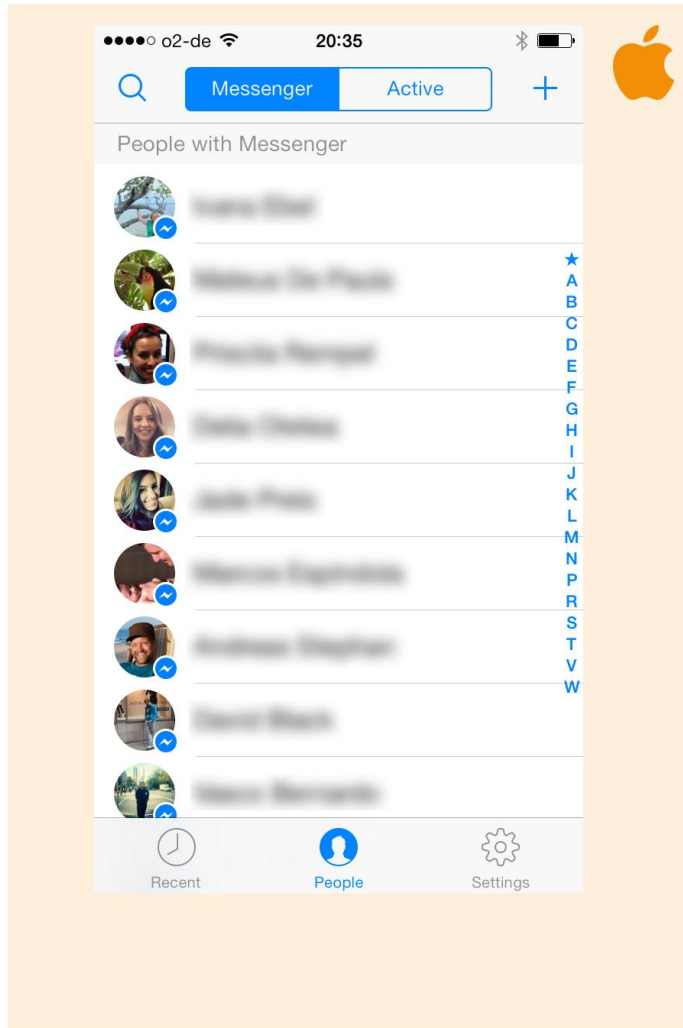
iOS vs. Android - Differences

Facebook Messenger



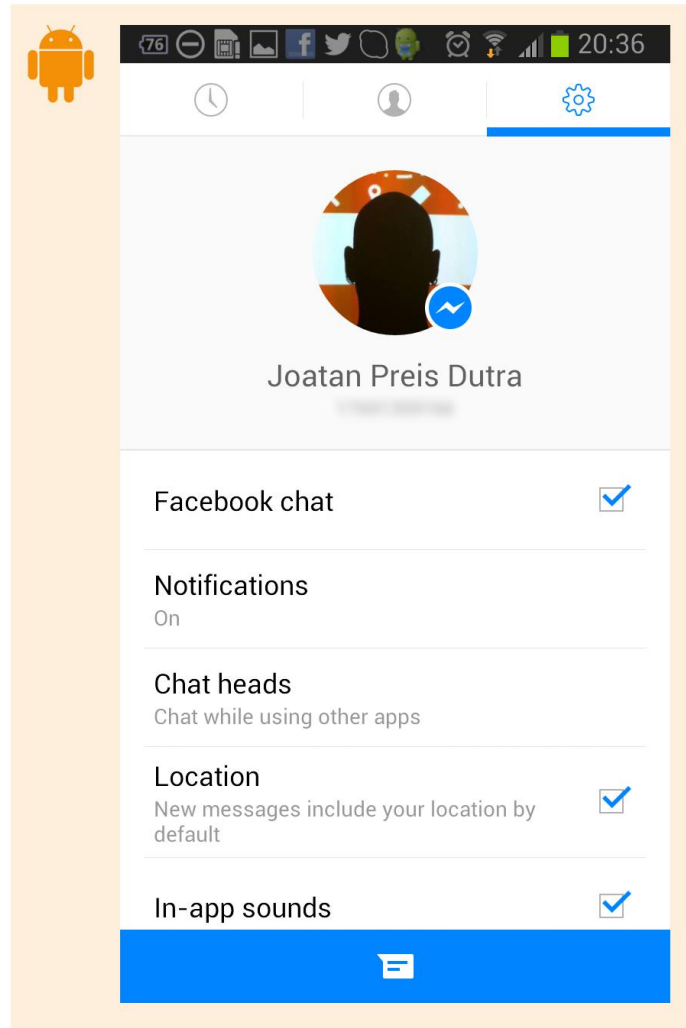
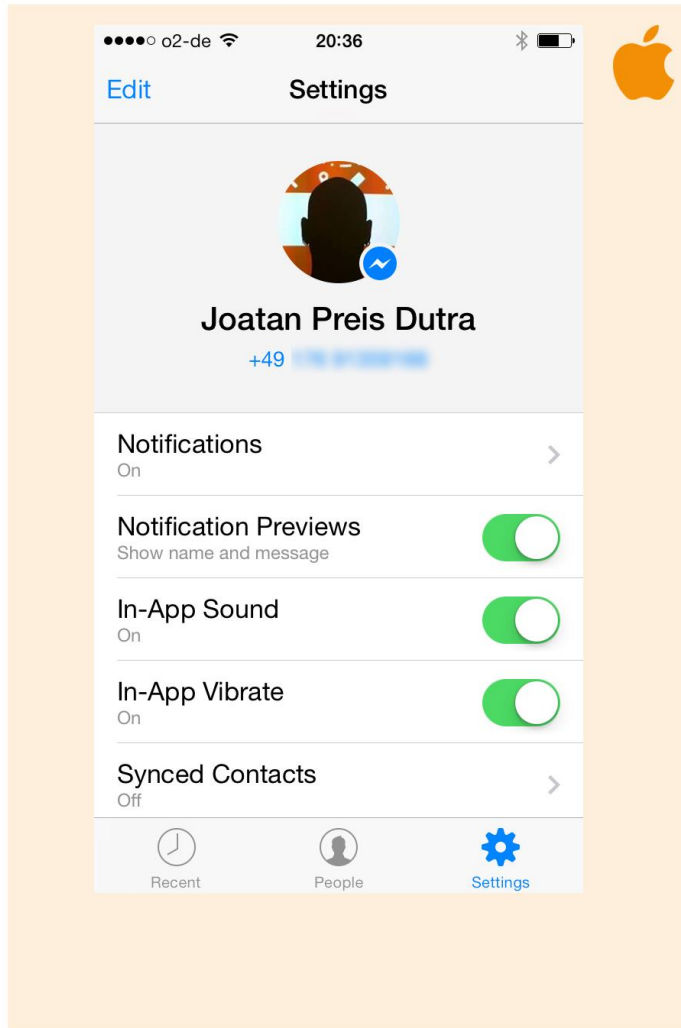
iOS vs. Android - Differences

Facebook Messenger

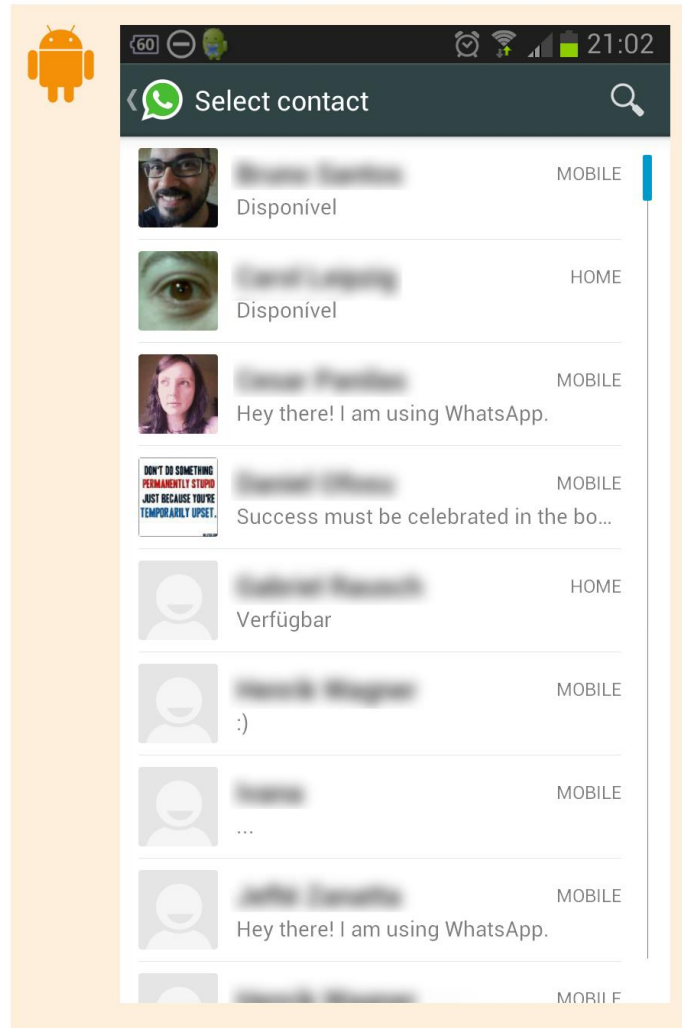
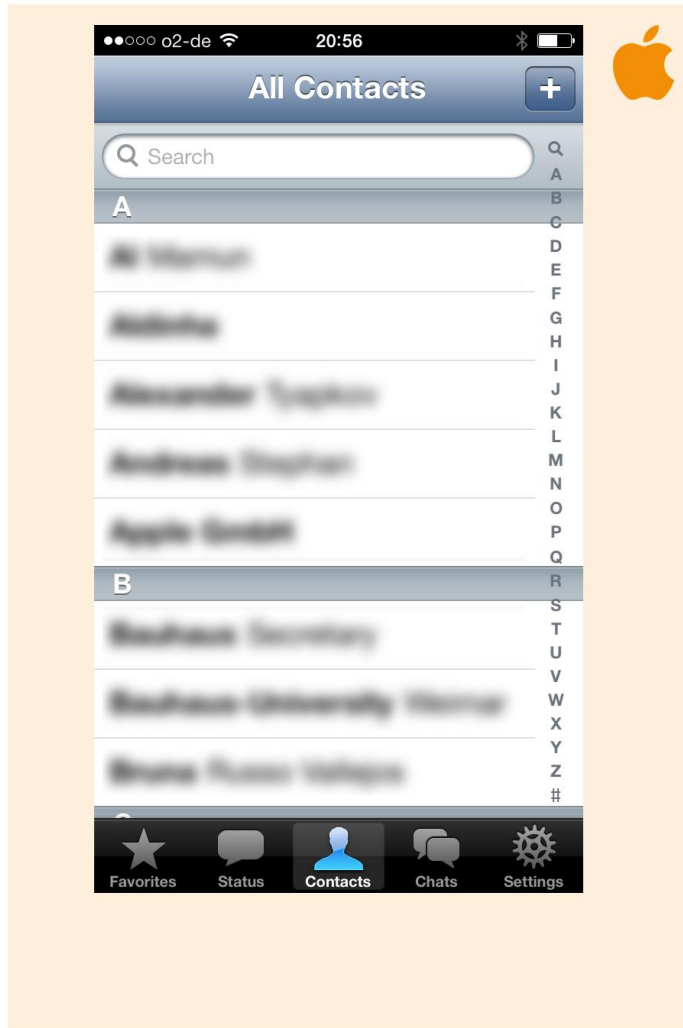


iOS vs. Android - Differences

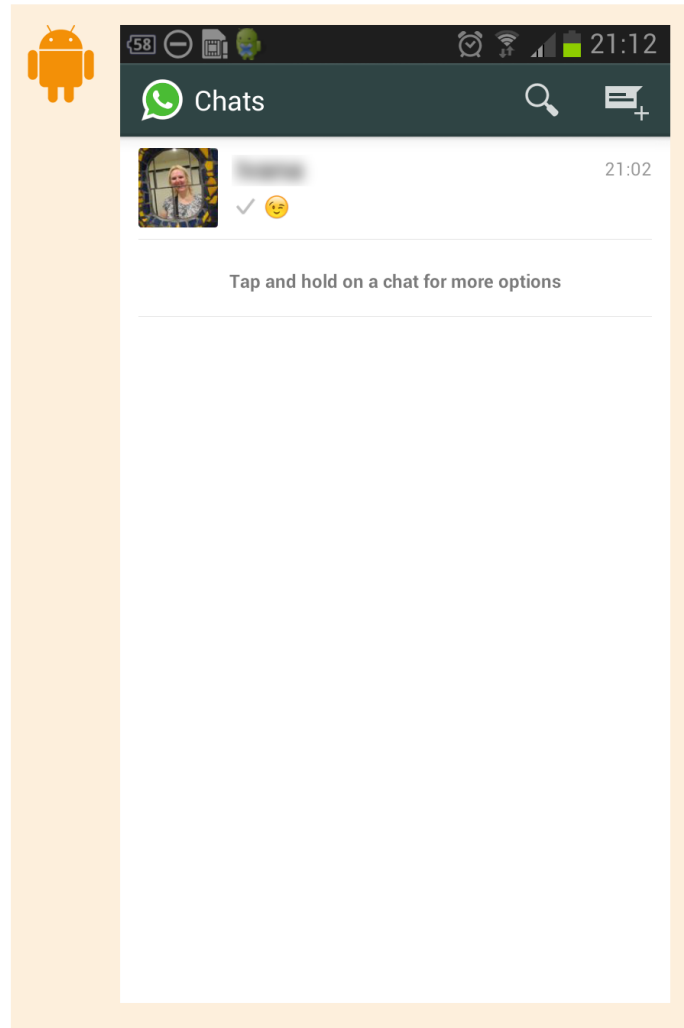
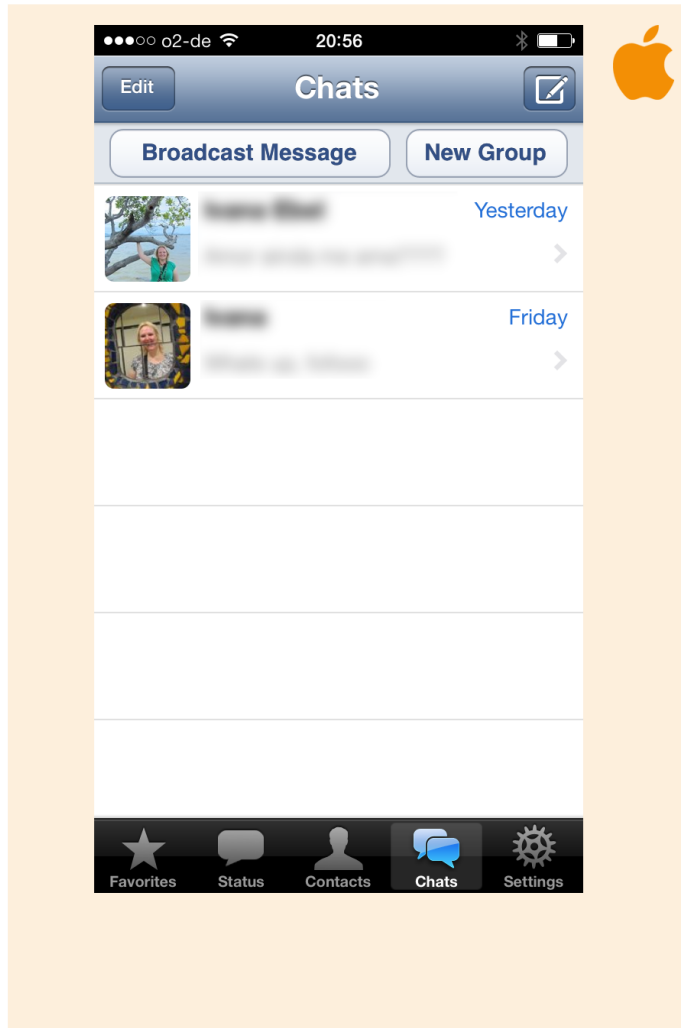
Facebook Messenger



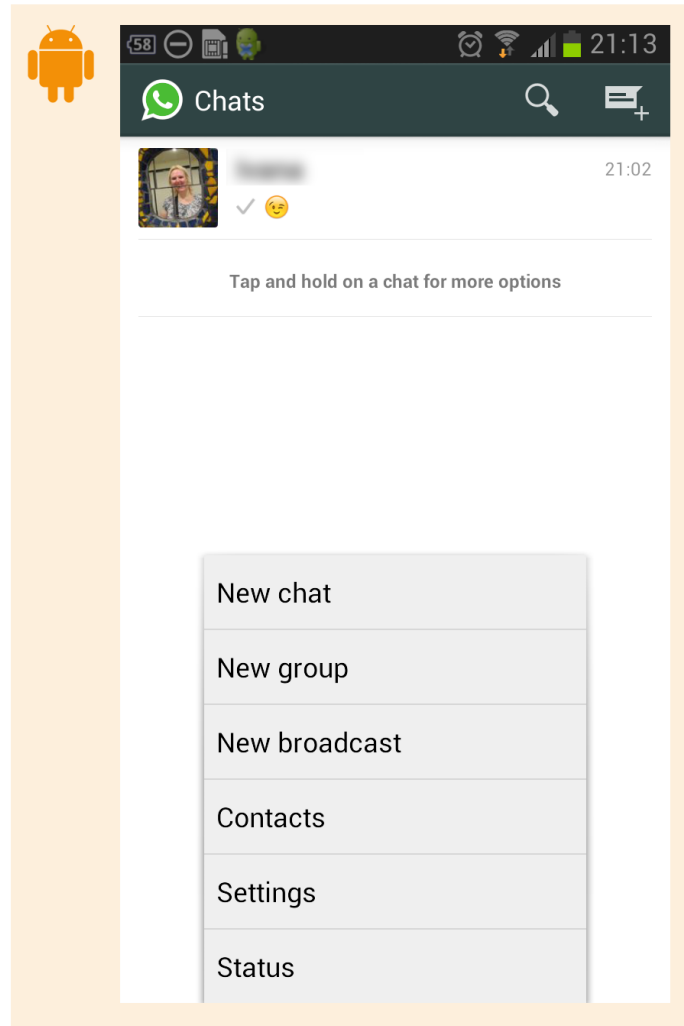
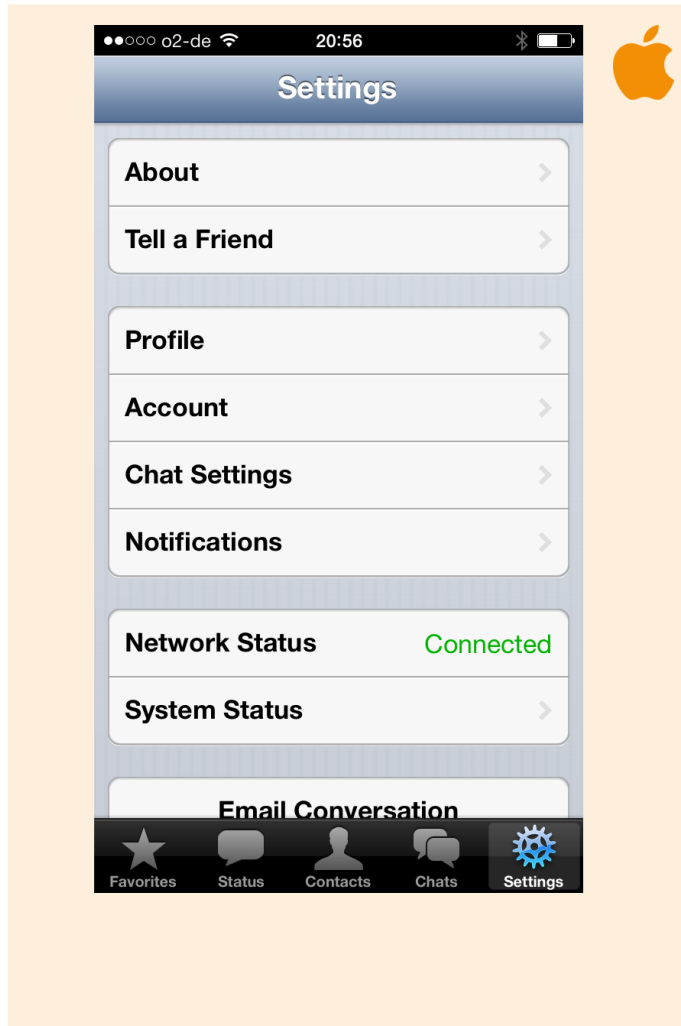
iOS vs. Android - Differences



iOS vs. Android - Differences



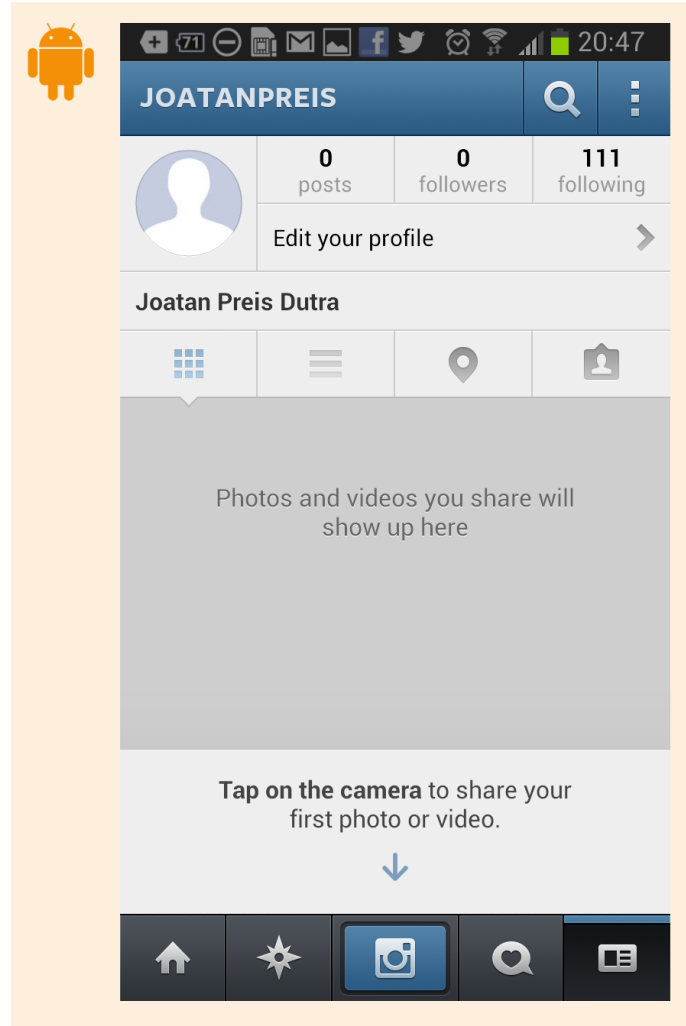
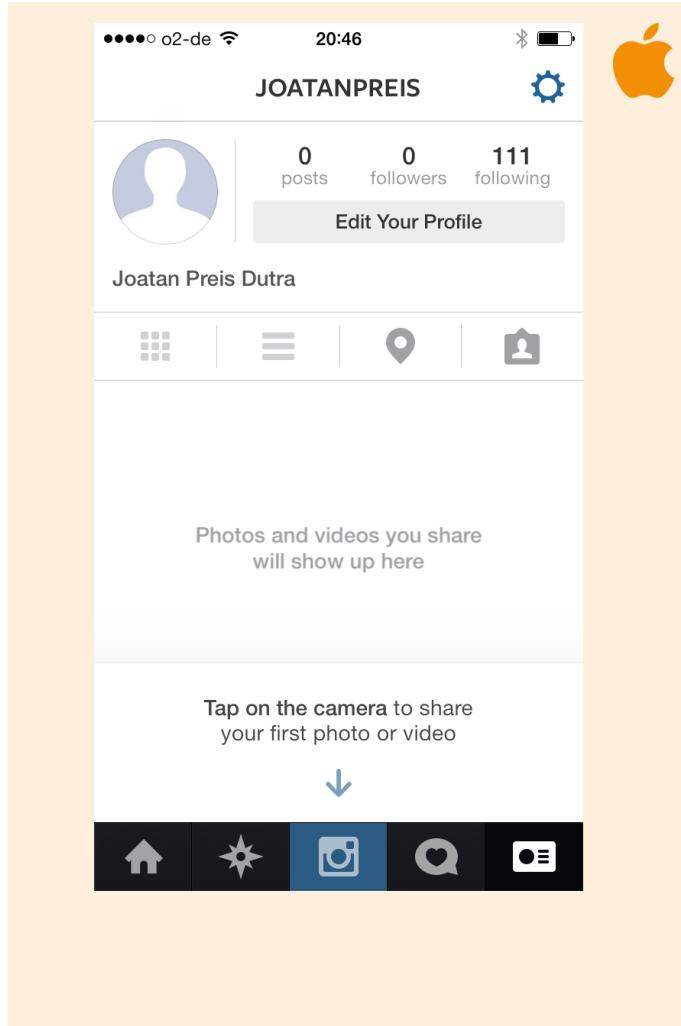
iOS vs. Android - Differences



iOS vs. Android - Differences



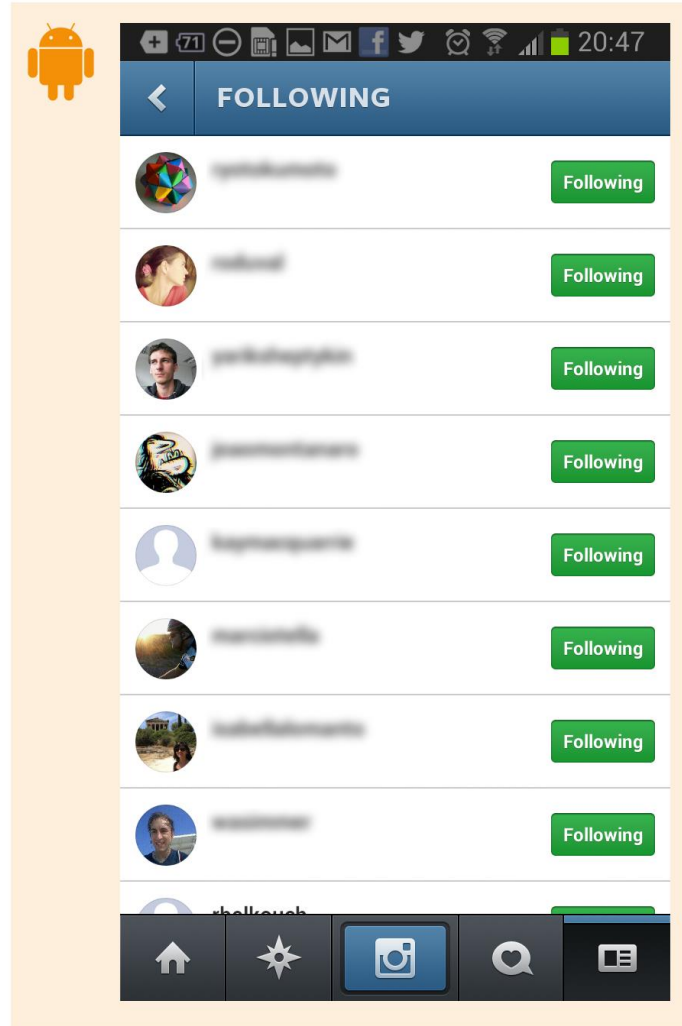
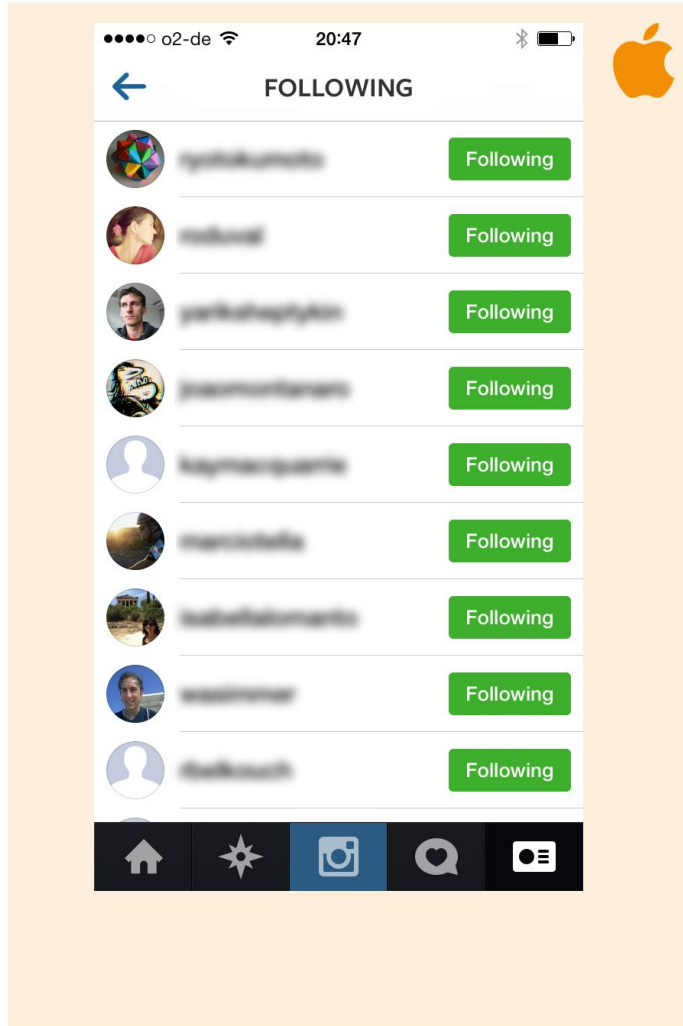
Instagram



iOS vs. Android - Differences



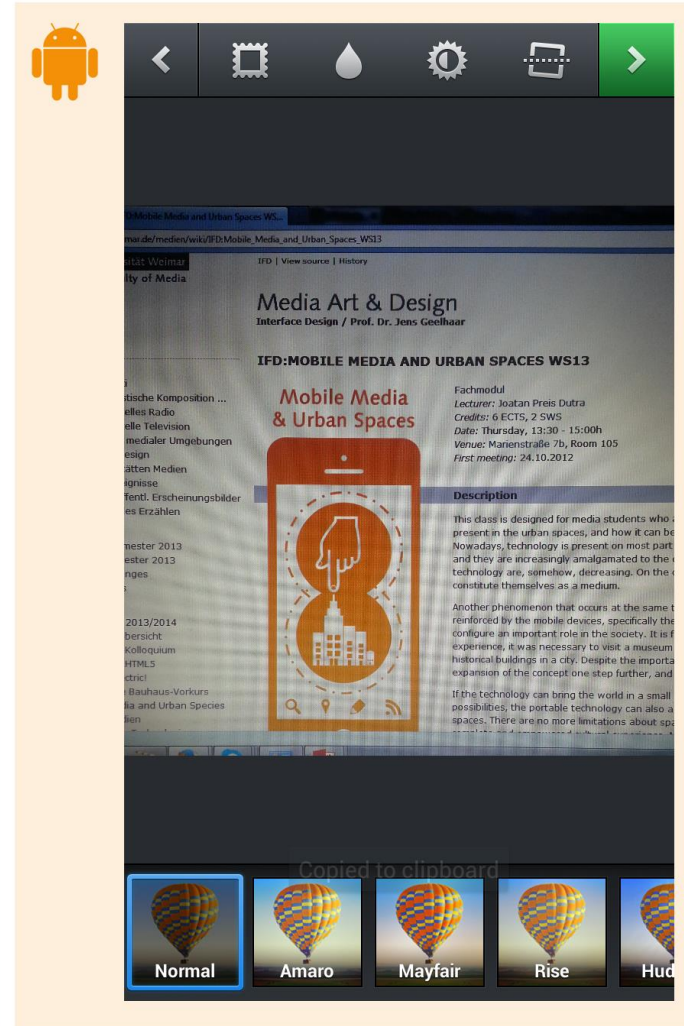
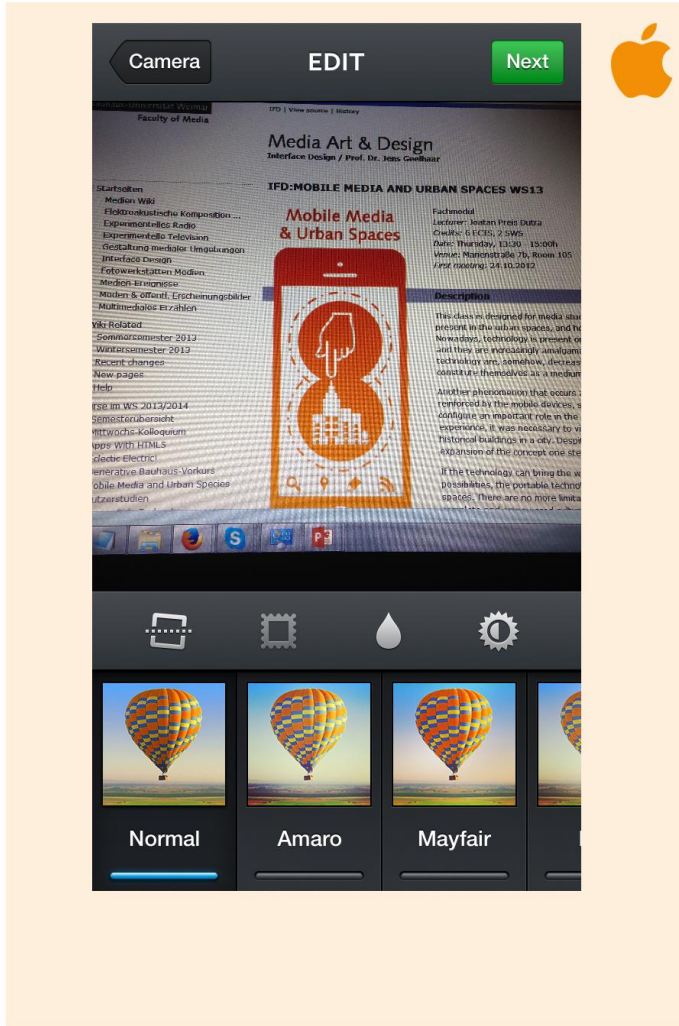
Instagram



iOS vs. Android - Differences



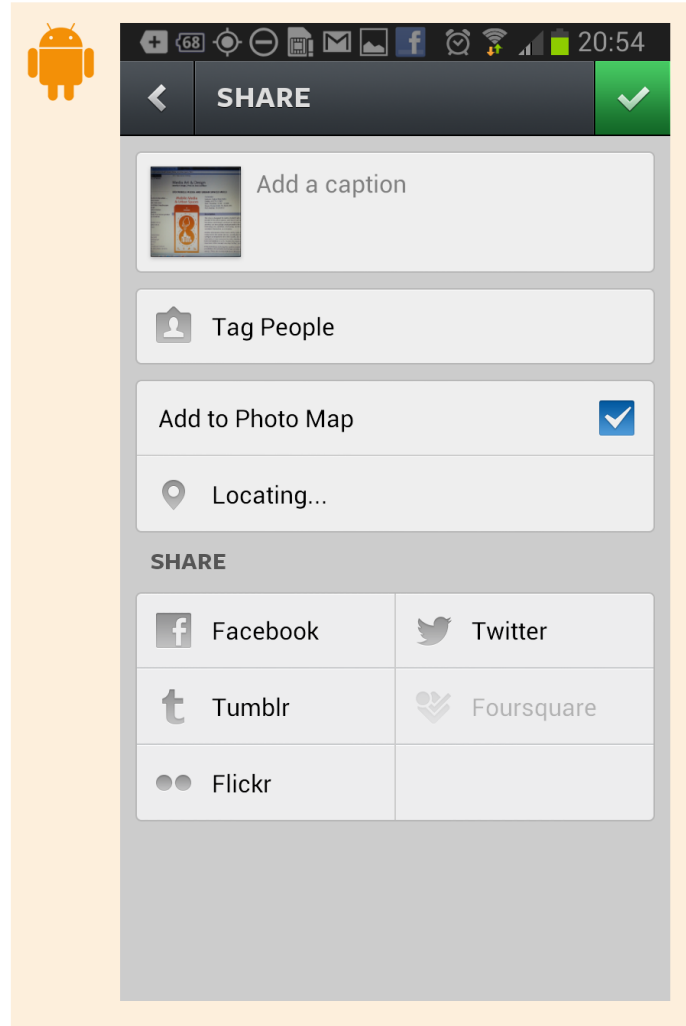
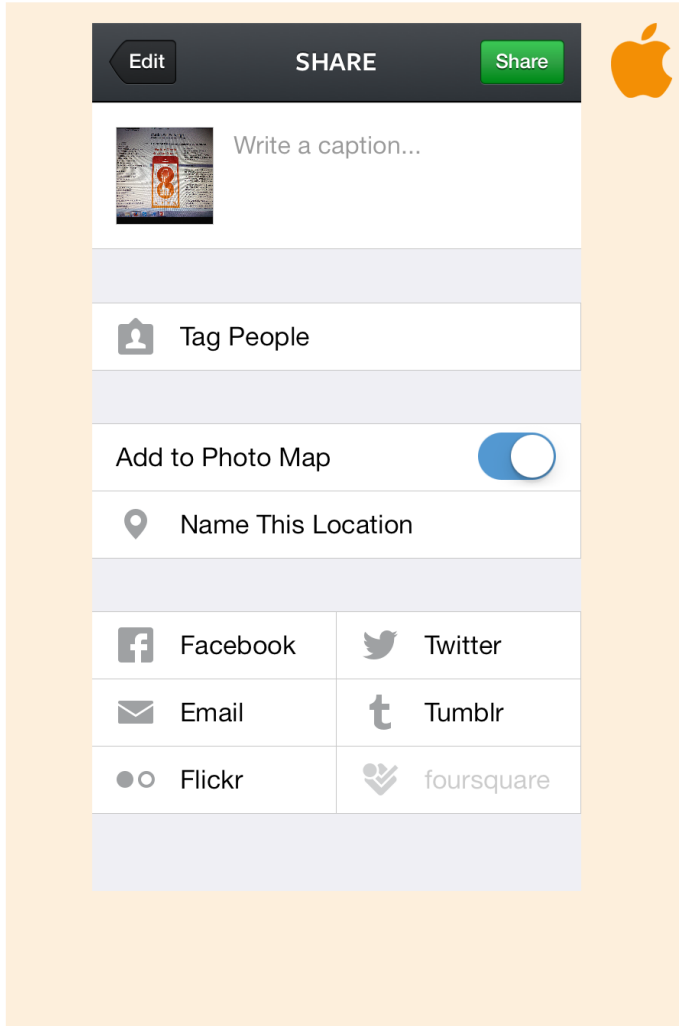
Instagram



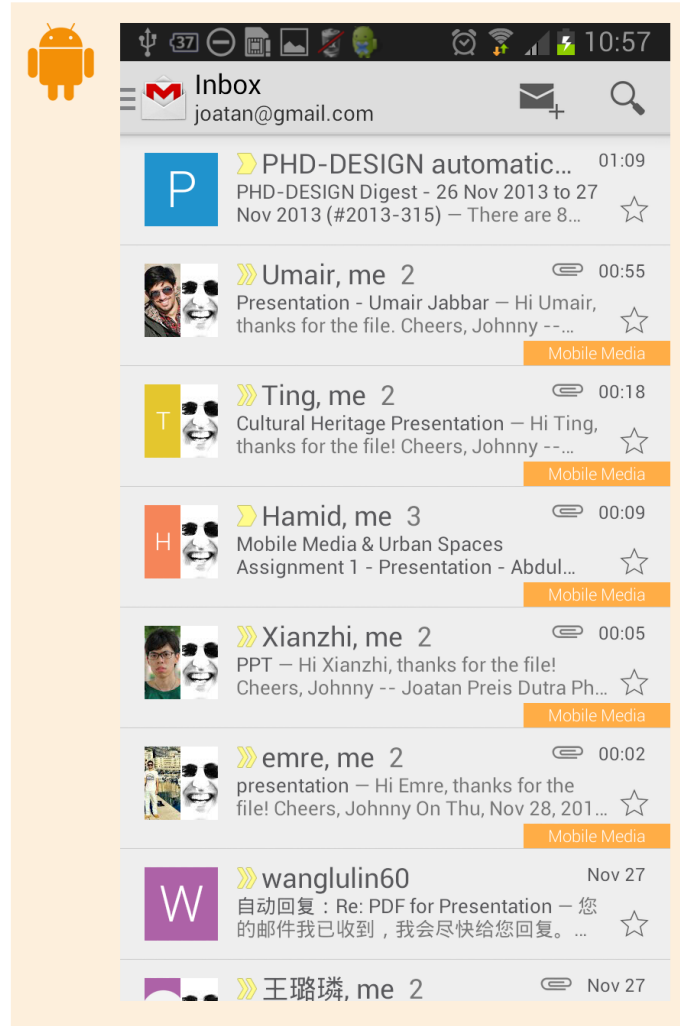
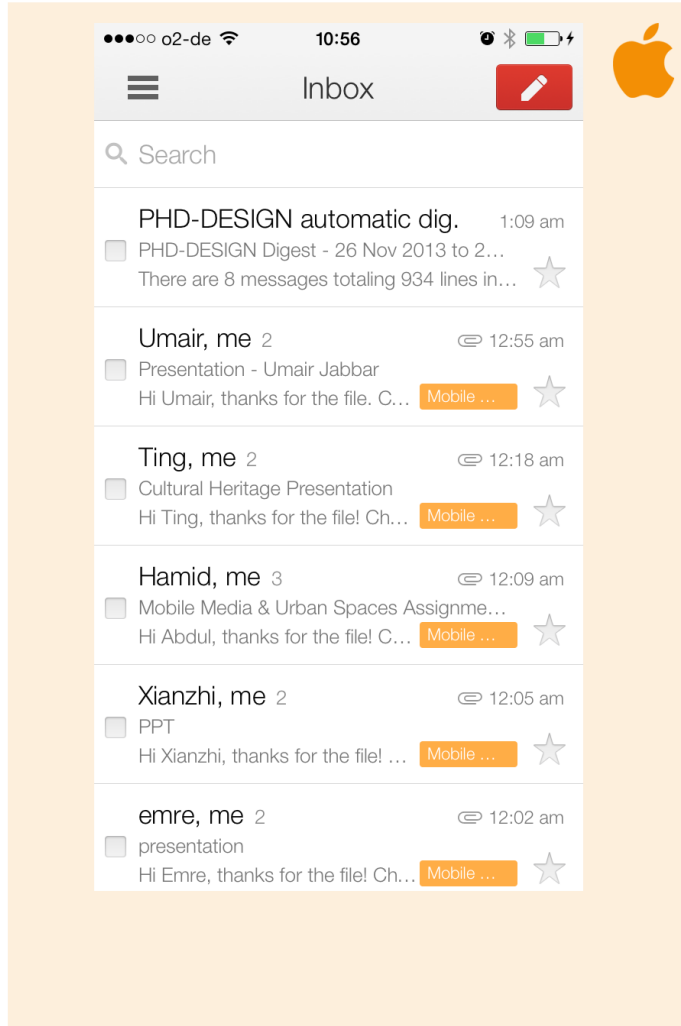
iOS vs. Android - Differences



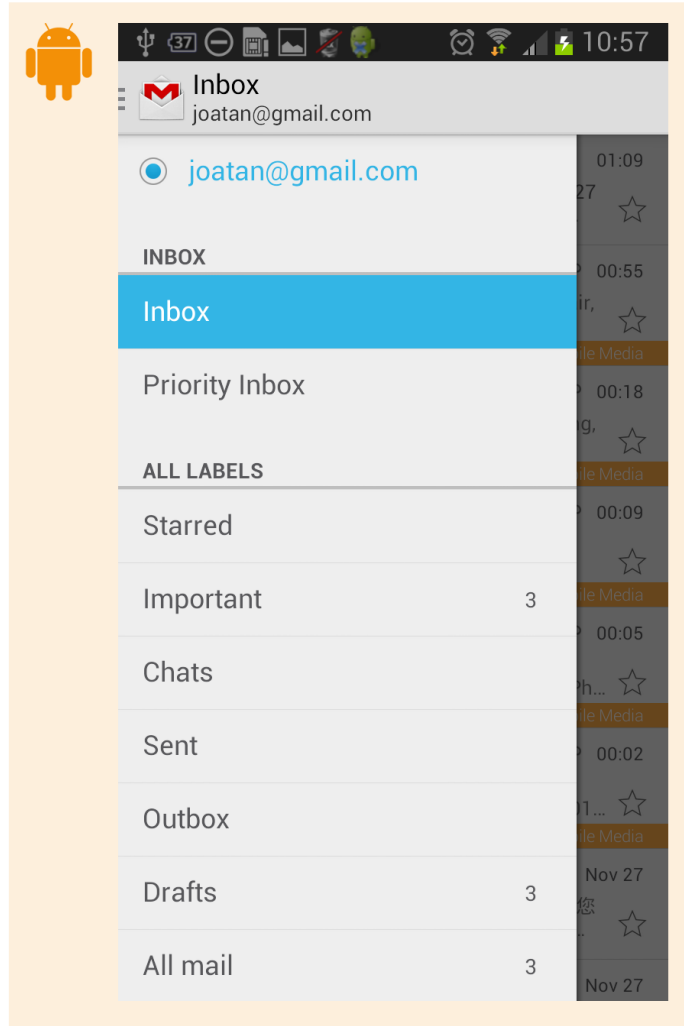
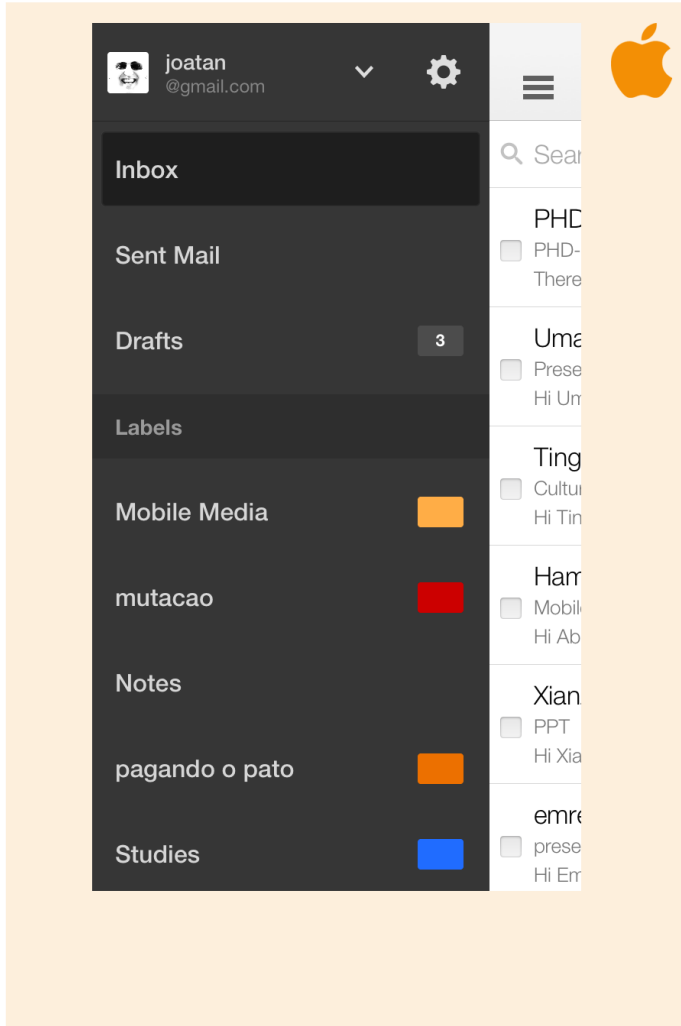
Instagram



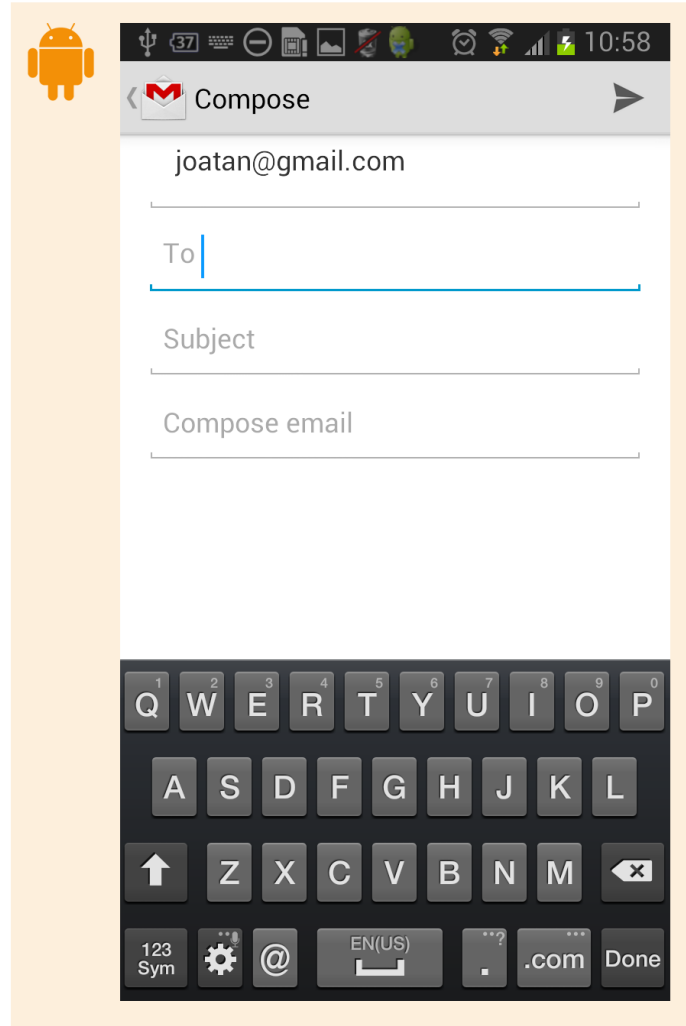
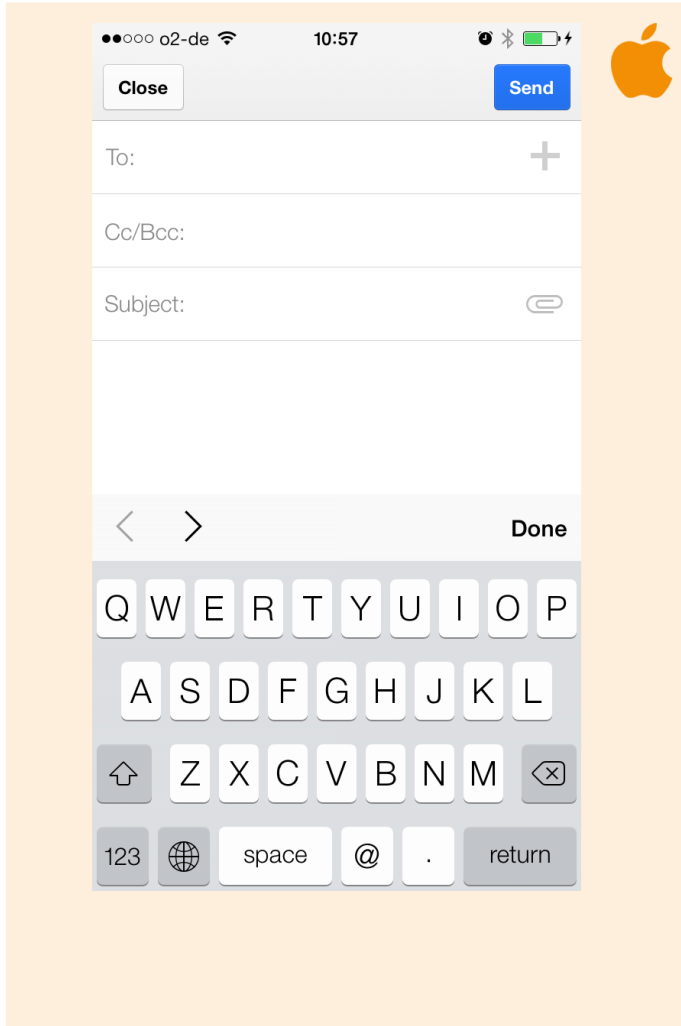
iOS vs. Android - Differences



iOS vs. Android - Differences



iOS vs. Android - Differences



iOS vs. Android - Differences

More examples available at

Johnson, J. (2013, January 11). Android vs. iPhone - Differences in UI Patterns and Design. Retrieved May 21, 2013, from

<http://www.slideshare.net/jeremy/android-vs-iphone-differences-in-ui-patterns-and-design>

- Endnote
- NPR News
- Spotify
- PinterestAmazon
- Yelp!
- Foursquare
- Expedia
- etc

Examples using

- HTC One V (Android - 480 × 800 pixels)
- iPhone 5 (iOS 6.1.4 – 640 x 1136 pixels)

iOS & Android

Which one is better?

It is just a matter of taste



Mockup

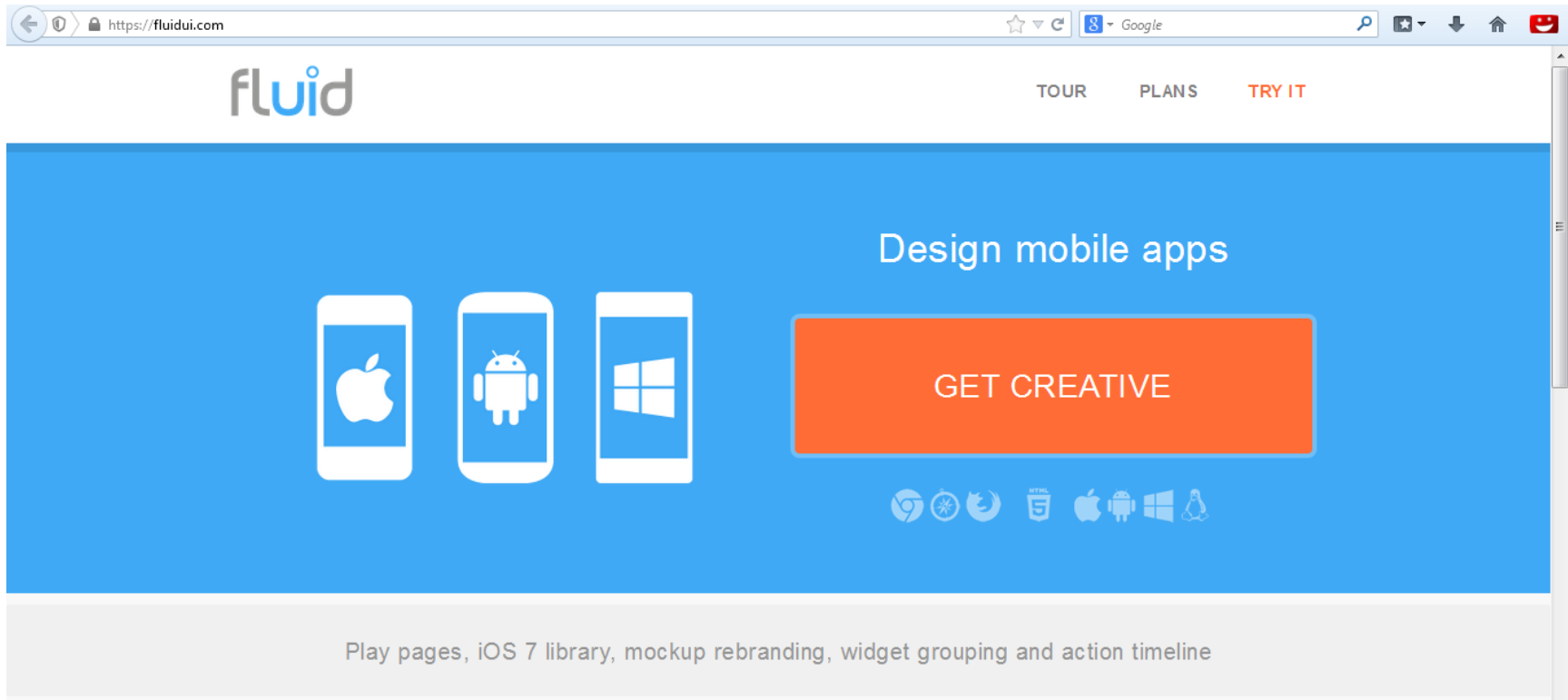
How to do

Mockups

- Online Tools
- Photoshop Templates
- Vector Templates

Mockup

Online Tool: fluid <https://www.fluidui.com/>



Mockup

Desktop Tool: pencil <http://pencil.evolus.vn/>



PENCIL PROJECT

An open-source GUI prototyping tool that's available for ALL platforms.

Pencil is built for the purpose of providing a free and open-source GUI prototyping tool that people can easily install and use to create mockups in popular desktop platforms.

The latest stable version of Pencil is **2.0.3** with many enhancements and bug-fixes.

Download for Windows
Version 2.0.3, .exe, ~22 MB

For other platforms?
[See all downloads »](#)

Home Features Downloads Stencils & Templates Wiki

Medical Session Details

OpenPencil 2.0 - Patient Details - Medical Session Details

Project News

November 28th, 2012 - Pencil version 2.0.3 has been released with minor enhancements and bug fixes.

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Mockup



iOS 7 Template

- <http://bit.ly/19hlole>



Android Template

- <http://bit.ly/12NjzN6>

Overview

Tips & Guidelines

Overview

General Tips



Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 384) (adapted from Weiss, 2002, pp. 66–70)

- **“Select” versus “Type”**

Text entry on a small device can be difficult. Where possible, and where it is appropriate to the application, the user should be offered a selection option rather than be made to enter text. Finding the best solution will require both thought and user testing.

Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 384) (adapted from Weiss, 2002, pp. 66–70)

- **Be consistent**

Ensure that the same terminology is used within an application and that the same terminology is used between handheld applications. In the absence of guidelines, try to borrow ideas from applications that have been well designed and have a high degree of usability.

Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 384) (adapted from Weiss, 2002, pp. 66–70)

- **Consistency between platforms**

While the same terminology can be used between handheld applications, you will need to think carefully when adapting an application from a desktop to a handheld device. It is not necessarily the case that terminology that works for a desktop will work for the smaller screened handheld device.

Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 384) (adapted from Weiss, 2002, pp. 66–70)

- **Design stability**

In the event of, say, a connectivity failure, the system should allow the user to pick up from where he or she left off when the connection is restored. For example, if the user is completing some sort of form and a wireless connection goes down, the data in the fields from previously should not be lost and have to be reentered.

Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 384) (adapted from Weiss, 2002, pp. 66–70)

- **Provide feedback**

The system should support the user with feedback regarding what the application is doing. Feedback in relation to, say, the use of an application or navigation within it could be provided via an assigned information key.

Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 384) (adapted from Weiss, 2002, pp. 66–70)

- **Forgiveness**

The UI should be tolerant of user errors and provide an Undo function by, where feasible, a specially designated Back key.

Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 384) (adapted from Weiss, 2002, pp. 66–70)

- **Use metaphors**

Real-world metaphors in line with the size of the display should be used. For example, while a desktop metaphor would be inappropriate for a cell phone, the use of an address book for storing telephone numbers would be okay.

Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 385) (adapted from Weiss, 2002, pp. 66–70)

- **Clickable graphics should look clickable**
If a graphic is clickable, then it should have defined borders and the graphic should have high contrast with the background color. Conversely, graphics that are static should not appear to be clickable.

Prototype Presentation: Tips

UI Design Guidelines for Handheld Devices

(Stone & Open University, 2005, p. 385) (adapted from Weiss, 2002, pp. 66–70)

- **Use icons to clarify concepts**

Icons should be meaningful and representative of the concepts they are meant to convey.

Prototype Presentation: Tips

Most Important:



Be **CREATIVE** and
LOGICAL

and try something
NEW!

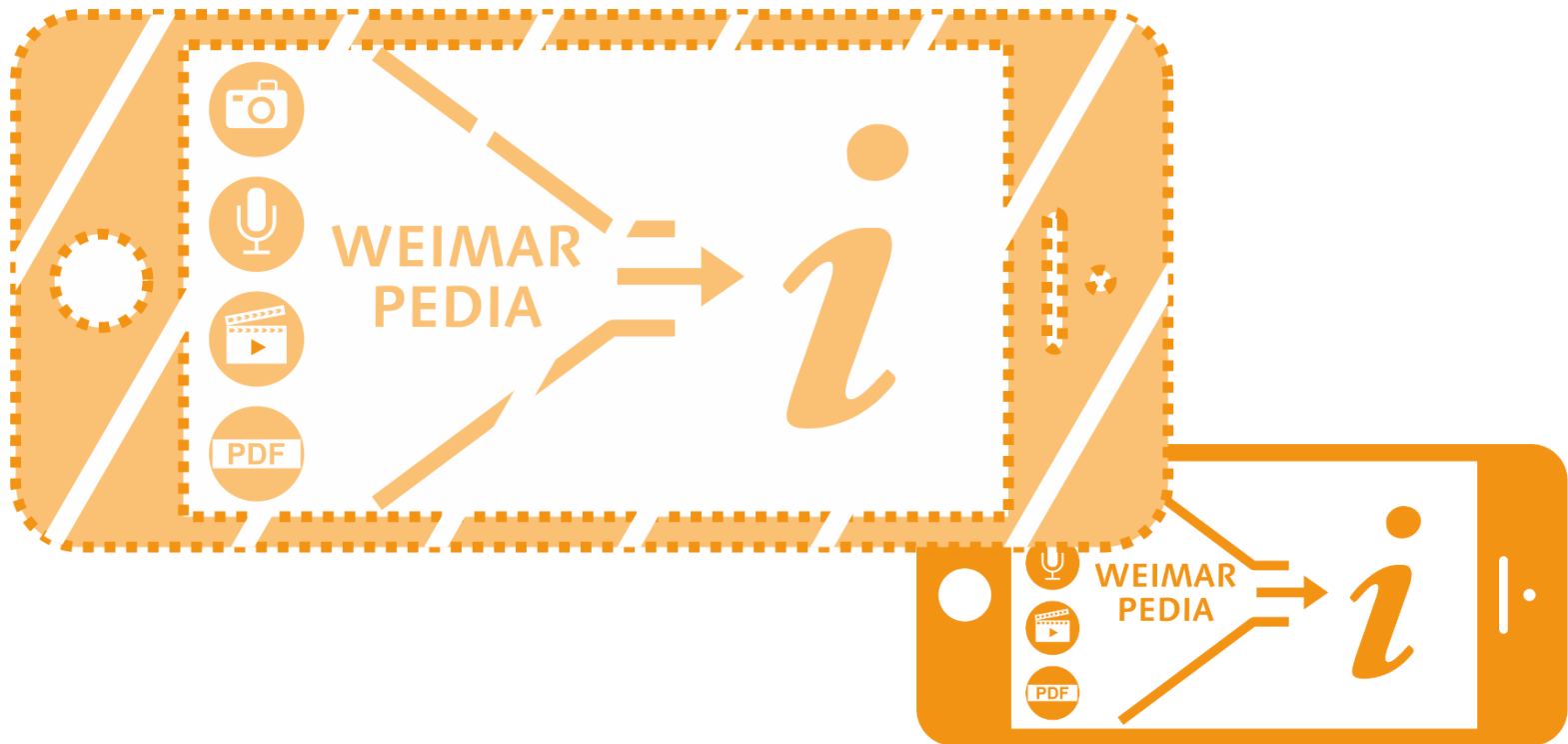
Image retrieved and modified from <http://estudioimg.files.wordpress.com/2012/05/two-sides-of-brain.png>

2nd Presentation

What should be done

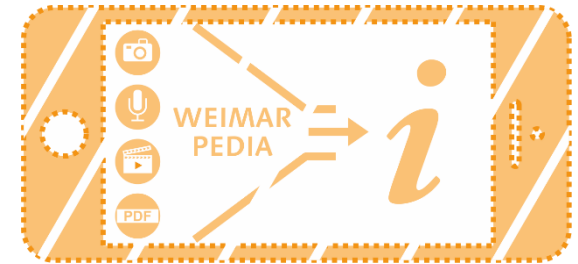
2nd Presentation (19.12.2013)

Meeting presentation (draft)
+ - 8 minutes



2nd Presentation (19.12.2013)

Meeting presentation (draft)

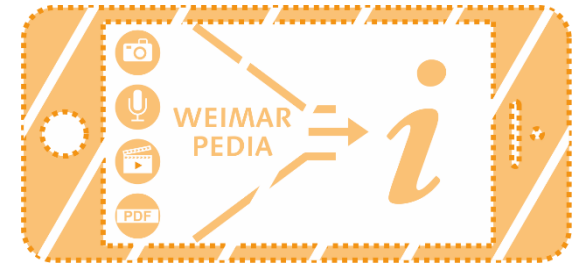


For this moment, it is just needed the app idea with navigation and content structure;

The main point is to present your idea, followed by discussion before doing the final version.

2nd Presentation (19.12.2013)

Meeting presentation (draft)



For the first/draft version, should be explored the app idea and structure, in order to receive the feedback and possible adjustments suggestions for the final version.

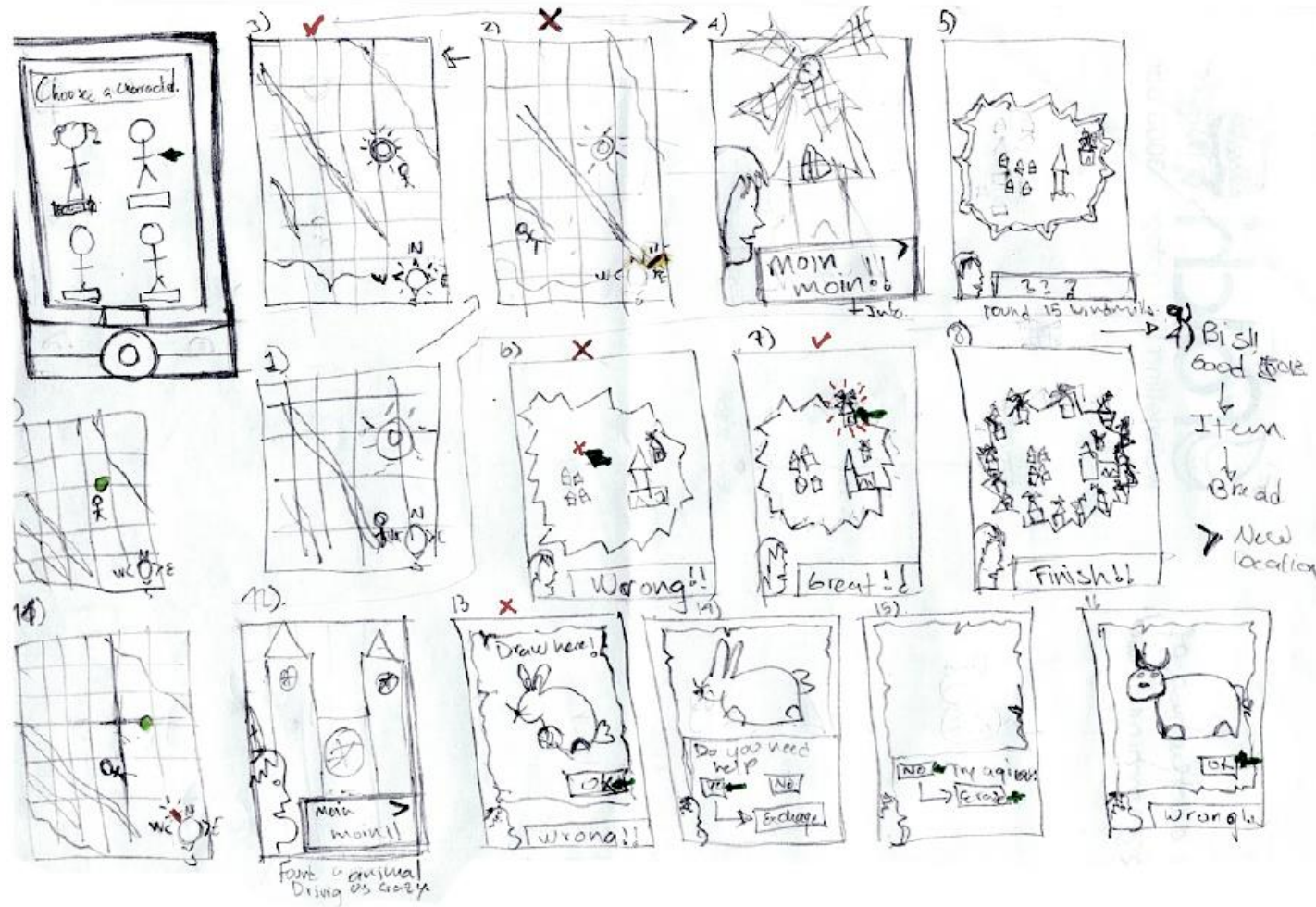
2nd Presentation (19.12.2013)



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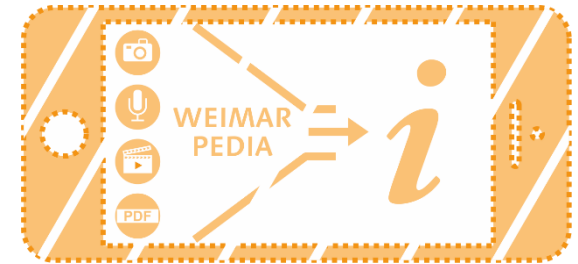
For
app
feed
for

he



2nd Presentation (19.12.2013)

Meeting presentation (draft)



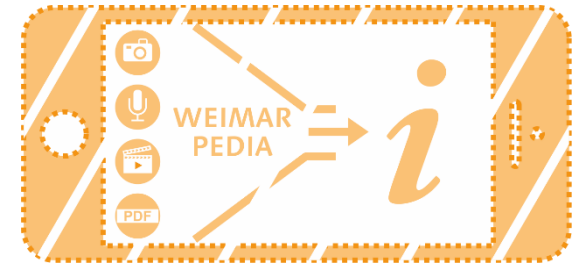
The conceptual prototype, developed for mobile devices, should use collaborative/participatory activities, applied for cultural purposes.

This prototype must be developed using the *weimarpedia.de* content.



2nd Presentation (19.12.2013)

Meeting presentation (draft)



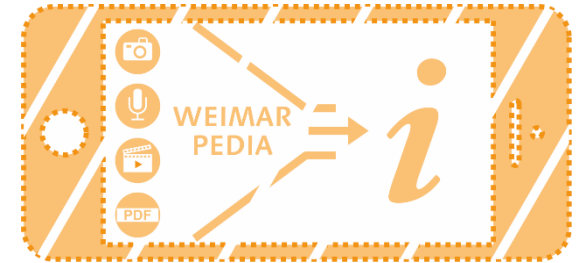
The **Weimarpedia.de** project contains:

- Karte: **Map**
- Lexikon: **Encyclopedia**
- Galerie: Gallery from students
- Materialien: Materials for teachers

More references at class #02 Mobile Media & Urban Spaces – Cultural Heritage
http://www.uni-weimar.de/medien/wiki/images/IFD_mobile-media_urban-spaces_02_cultural-heritage.pdf

2nd Presentation (19.12.2013)

Meeting presentation (draft)



Each student will have around
8 minutes

Choose your time slot at:

[http://www.uni-weimar.de/medien/wiki/IFD:Mobile_Media_and_Urban_Spaces_WS13/presentations#Draft Meeting - 19.12.2013](http://www.uni-weimar.de/medien/wiki/IFD:Mobile_Media_and_Urban_Spaces_WS13/presentations#Draft_Meeting_-_19.12.2013)

2nd Presentation – FINAL VERSION



2nd Presentation (January 2014)

Final Version



- Every student will use their own computer
- No need to deliver the presentation before, but it must be on our wiki page no longer than 24 hours after the presentation.

2nd Presentation (January 2014)

Final Version



Keep in mind that the Weimarpedia.de content deals with:

- **Geo-Location** (Map)
- **Cultural Information** (Encyclopedia)
- **Collaboration** (Students can upload content)

2nd Presentation (January 2014)

Final Version



It is possible to use any kind of existing technologies, but you should show how it would work, with mockups and screens illustrations.



2nd Presentation (January 2014)

Final Version



Be aware also for official guidelines of the chosen platform



2nd Presentation (January 2014)

Final Version



Questions you should think about:

- What is the main purpose of your app
- “Where is the beef?” = What is new about it?
- Why people would use it?
- How the users will collaborate with it?
- Will it enhance the knowledge about Weimar and its Cultural Heritage sites?

2nd Presentation (January 2014)

Final Version



Each student will have
25 minutes

2nd Presentation (January 2014)

Final Version

At the 20th Minute,
it will be shown a
Green card.

Here the time is fine
– it is just a reminder
that there is still one
minute to go.

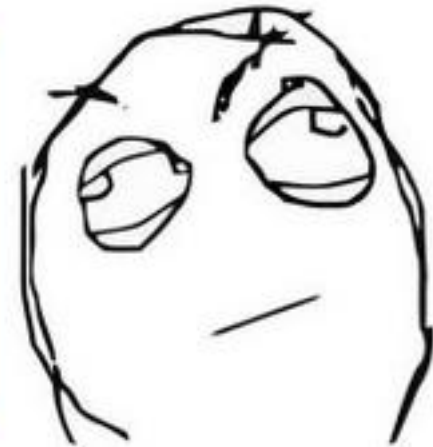


2nd Presentation (January 2014)

Final Version

At the 23th Minute,
it will be shown a
Yellow card.

Here the time is over
– and the student
should hurry to finish
the presentation.



2nd Presentation (January 2014)

Final Version

At the 25th Minute,
it will be shown a
Red card.

Here the
presentation will be
interrupted.



References

References for further readings

References

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Thank You!



Mobile Media & Urban Spaces

Bauhaus-Universität
Weimar

04. Mobile Guidelines





<http://tiny.cc/mobilemedia2013>



http://www.uni-weimar.de/medien/wiki/IFD:Collaborative_Mobile_Media_SS13