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App Development Workshop

Manuel Leibetseder, BSc | 28.06.2019

FH OÖ, Campus Hagenberg | Department Mobility & Energy

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Introduction

- whoami
- Mobile Facts
- Development Trends
- iOS/Android/Cross Platform
- iOS by Example

\$ whoami

- Manuel Leibetseder
- 29 years old
- Bachelors degree in Mobile Computing
- HAK DIBI graduatee (2009/10)
- Swift and Kotlin enthusiast

Mobile Device Usage in General

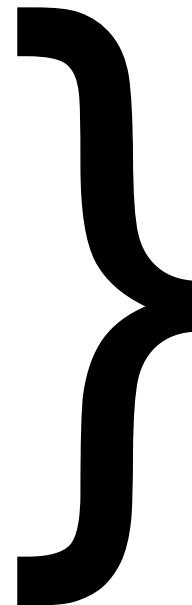
- Avg. person unlocks phone 80 times per day (~2,3hrs)
- ~2600 strokes, swipes, taps per day
- e.g. 54% of Facebook logins coming from apps
- 87% of smartphone usage happens in apps

Development Trends >2018

- Artificial Intelligence
- Machine Learning
- Augmented Reality
- Internet of Things
- Smart Home
- Chat Bots

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User Interface?

User Experience?

Smartphone

Smartphone

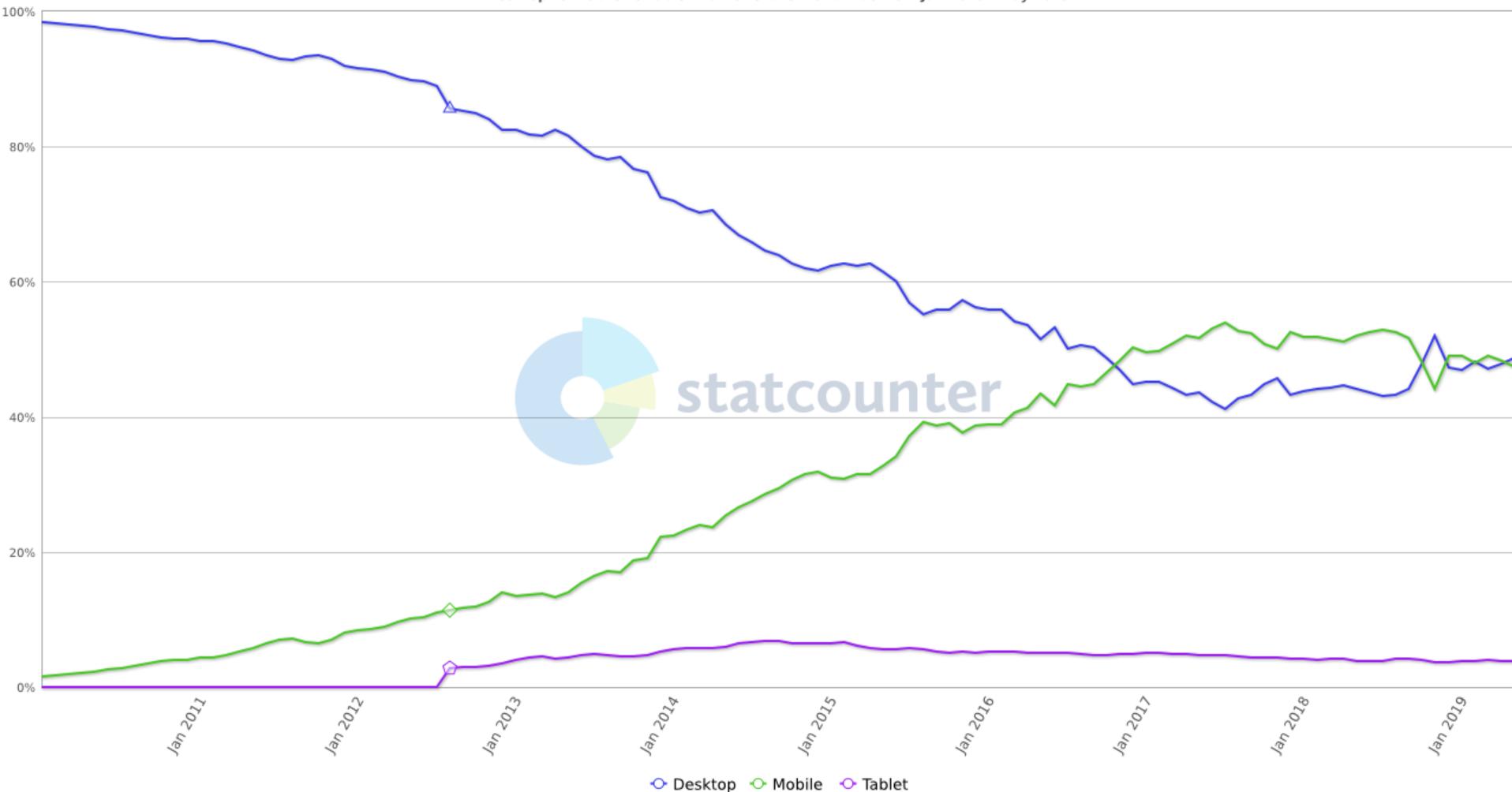
Tablet

Smartphone

Tablet

Wearables

StatCounter Global Stats
Desktop vs Mobile vs Tablet Market Share Worldwide from Jan 2010 - May 2019



Platform Facts

iOS	Android	Cross Platform
Apple	Google	Depends
Native	Native	Mostly Web/Translation
Swift/ObjC	Kotlin/Java	TS/JS/C#
XCode/AppCode	Android Studio	Ionic, Flutter, Xamarin, ...

App Development Details

- User Interface
- User Experience
- App
- Backend
- Database

User Interface Design/User Experience

- Platform specific Guidelines
 - Human Interface Guidelines (iOS)
 - User Interface Guidelines (Android)
- Design = Look and Feel
- Experience = Intuitive Flow
 - User wants to reach a certain Goal as fast as possible
 - Clear what to do
 - Easily can go back to starting point

But how do I UI/UX?

- UI:
 - Idea of Design
 - KISS (keep it simple, stupid!)
 - Minimalistic
 - Focus on Content
- UX:
 - Avoid extra steps
 - Keep user in control
 - “User journey to reach a goal/solve a problem”



CAMPUS HAGENBERG

1.602 Studierende, 20 Studiengänge

5.802 Alumni

INFORMATIK, KOMMUNIKATION, MEDIEN STUDIENANGEBOT

Bachelor

Master

Lehrgänge

Doktorat

Automotive Computing

Hardware-Software-Design

Kommunikation, Wissen,
Medien

Medientechnik und -design

Medizin- und Bioinformatik

Mobile Computing

Sichere Informationssysteme

Software Engineering

DE
EN



8:44

Hardware Store



pc

iMac 27" 2015

€ 499.99



pc

iMac 21.5" 2011

€ 399.99



accessory

Google Daydrea...

€ 30.0



phone

Google Pixel

€ 125.0



Store



Shopping Cart

Tools of a Developer

- Pinterest (Ideas)
- Dribbble (Ideas)
- Photoshop/Illustrator (UI)
- Sketch (UI)
- InVision (tapable Prototype)
- Balsamiq (UX Design)

Design

Mobile UI

User Interface

Android

Logo

iPhone

Icon

Fantasy

Shoes Outlet

Apple Watch

Website

>



von Dawid Tomczyk



MOO

 Anzeige von
MOO

Sport Tracking App



Backend

- Cloud gets more important
 - AWS
 - Azure
 - Firebase
- Modern Development with:
 - Node.js
 - Spring (Java/Kotlin)
- Docker/Kubernetes (Containerization)

Database

- SQL (PostGreSQL)
- NoSQL (MongoDB)
- NewSQL (InMemoryDB)

App Development

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iOS

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iOS Developer Tools

- Paw/Postman/ARC/Knuff
- SourceTree/GitKraken/Github Client
- Fastlane
- Cocoapods/SPM (Swift Package Manager)
- DevCleaner
- OpenSim

iOS Developer Resources

- GitHub Awesome Swift, iOS, Animations, Server-Side
- iOS Good Practices
- iOS Dev Directory
- iOS Dev Weekly Newsletter
- SwiftTips
- Medium Blogs

Where to start?

- Stanford iOS/Swift Course
- Hacking with Swift
- Swift "30 Projects Challenge"
- Rey Wenderlich Tutorials
- Youtube-Course

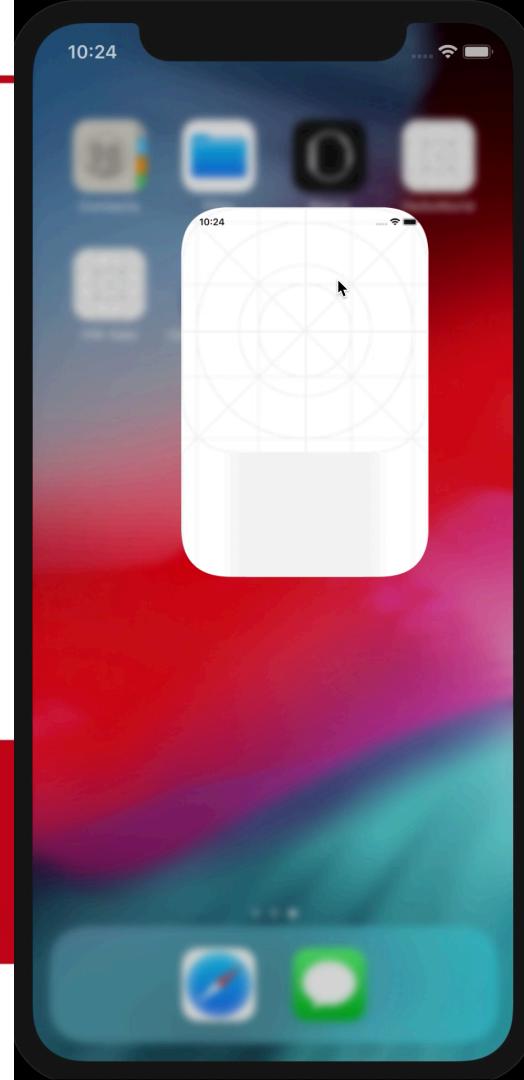
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Fanga ma moi au!

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bit.ly/2Na9Uki

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iOS 13

- SwiftUI
- Catalyst
- iPadOS
- PencilKit
- No more Storyboards
- Swift 5.1
- NFC
- And a lot more!

Questions?

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Thank You!

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Resources

- User Interface/User Experience:
 - <https://developer.apple.com/design/human-interface-guidelines/ios/overview/interface-essentials/>
 - https://developer.android.com/guide/practices/ui_guidelines/
 - Interactive Technologies Lectures (MCM)
- Backend/Database:
 - <https://start.spring.io>
 - Databases (MC)

Resources

- Developer Tools
 - <https://github.com/luosheng/OpenSim>
 - <https://github.com/advanced-rest-client/arc-electron>
 - <https://github.com/KnuffApp/Knuff>
 - <https://sqlitebrowser.org>
 - <https://github.com/advanced-rest-client/arc-electron>
 - <https://paw.cloud>
 - <https://www.getpostman.com>
 - <https://apps.apple.com/us/app/devcleaner/id1388020431>
 - <https://fastlane.tools>

Resources

- Developer Resources:
 - <https://github.com/matteocrippa/awesome-swift>
 - <https://github.com/vsouza/awesome-ios>
 - <https://github.com/iCHAIT/awesome-macOS>
 - <https://github.com/dkhamsing/open-source-ios-apps>
 - <https://github.com/Awesome-Server-Side-Swift/TheList>
 - <https://iosdevdirectory.com>
 - <https://github.com/futurice/ios-good-practices>
 - <https://github.com/JohnSundell/SwiftTips>

Resources

- Learning Swift/iOS:
 - <https://medium.com/tag/ios-app-development>
 - <https://itunes.apple.com/us/course/developing-ios-11-apps-with-swift/id1309275316>
 - <https://www.hackingwithswift.com>
 - <https://github.com/soapyigu/Swift-30-Projects>
 - <https://www.youtube.com/watch?v=Ulp1Kimblg0>

Resources

- Facts:
 - <https://calvium.com/44-facts-mobile-apps-yes-44/>
 - <https://www.dotcominfoway.com/blog/infographic-future-of-mobile-app-development-2018>
 - <https://www.statista.com/statistics/272595/global-shipments-forecast-for-tablets-laptops-and-desktop-pcs/>
 - <https://instabug.com/blog/cross-platform-development/>
 - <http://gs.statcounter.com/platform-market-share/desktop-mobile-tablet/worldwide/#monthly-201001-201905>

Resources

- iOS 13:
 - <http://www.iphonehacks.com/2019/06/ios-13-features-whats-new.html>
 - <https://useyourloaf.com/blog/wwdc-2019-viewing-guide/>
 - <https://www.techradar.com/news/10-wwdc-2019-things-you-probably-missed>
 - <https://patrickbalestra.com/blog/2019/06/07/wwdc-2019-the-things-you-may-have-missed.html>