7.

Agenda

History

Mobile app testing strategy

- Device selection
- Delivery

Mobile apps types

Mobile testing guide

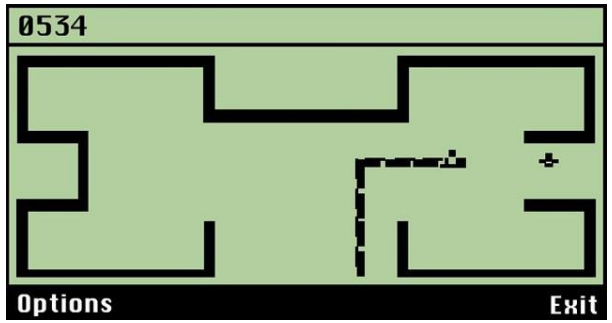
Application activity lifecycle

Mobile UX guideline

Tools

Mobile apps, development

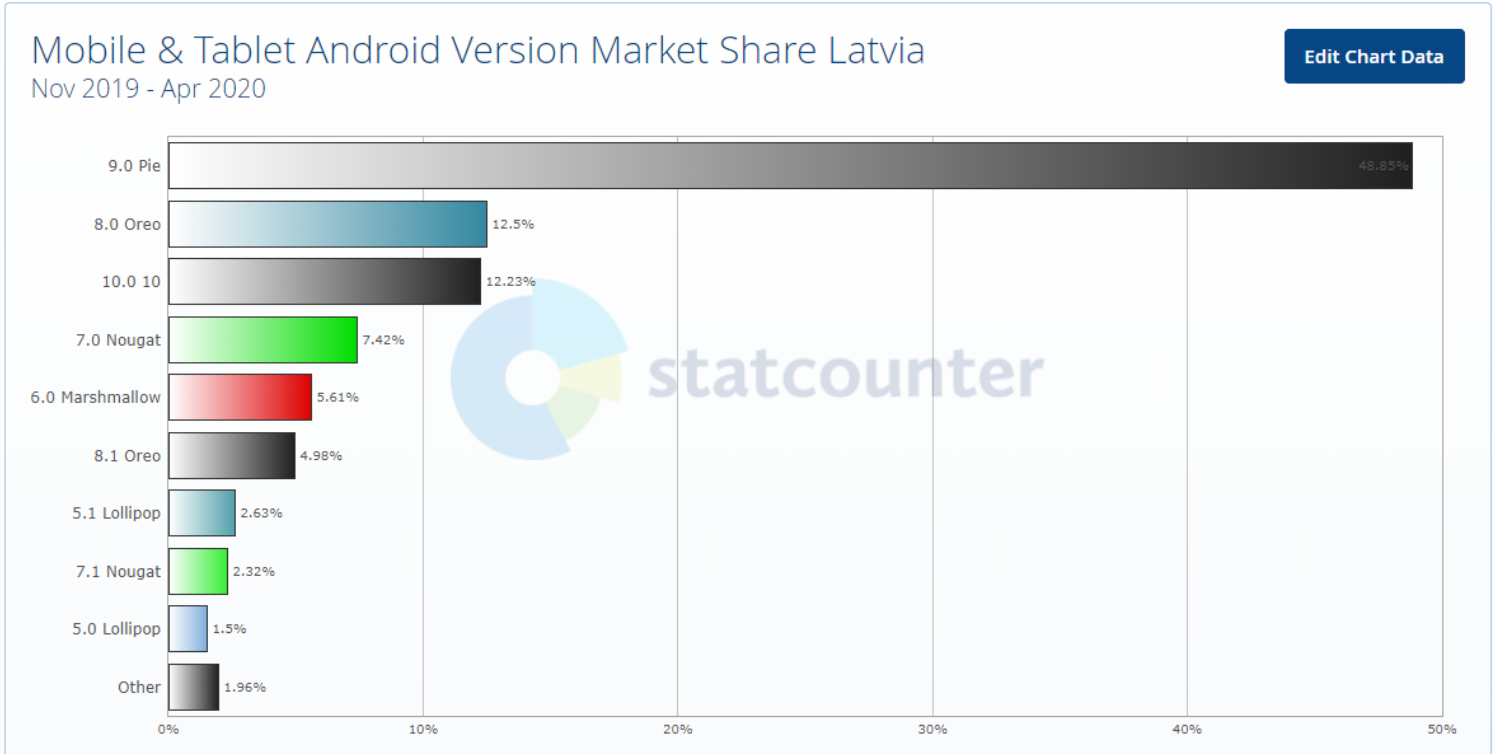
- Phone main goal – to make calls
- First apps – contact book
- Personal Digital Assistant (PDA) devices
- Mobile become replacement for Computers



Mobile Apps, growing

- First mobile protocol – WAP
- Internet Marketing
- App Markets
- Extremely growing market

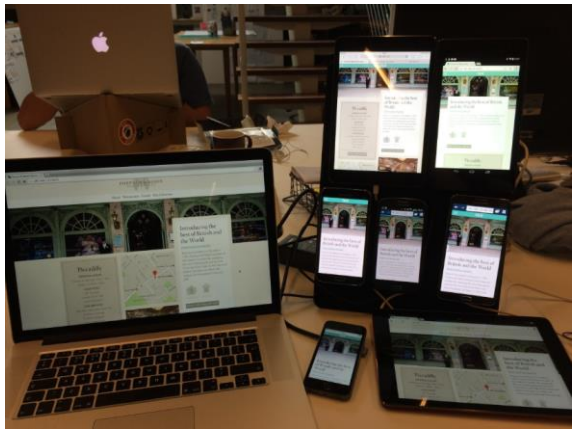
Mobile Apps, actual market



Mobile device selection

How to choose test devices:

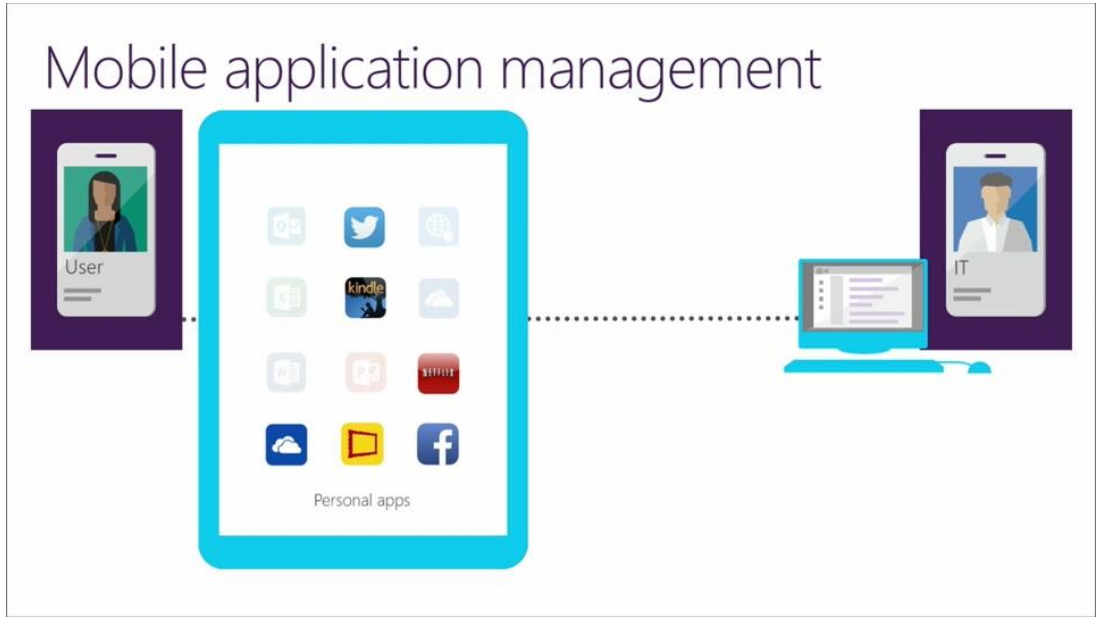
- Market shares, Popularity
- Client Statistics, Requirements
- Available devices on local market
- Available company devices
- Personal devices
- Emulators
- Device farms



MAM – mobile delivery

Delivery on test devices
TestFlight, HockeyApp, Fabric by Twitter, Beta by Crashlytics, and TestFairy are the most popular tools in the category "Beta Testing / Mobile App Distribution".

"Must have for iOS development" is the primary reason developers pick TestFlight over its competitors, while "Crash analytics" is the reason why HockeyApp was chosen.



Types of mobile apps

Web app

Mobile Web application, in fact, is the website opened in the gadget (smartphone or tablet) with the help of the mobile browser.

- Easy development
- Easy access
- Easy update
- Mobile Web App requires no installation

- No offline capabilities support.
- Limited functionality in the comparison with Hybrid and Native Apps. (no access to the file system and local resources).

Native app

Native App is the application, which has been developed specifically for one platform (Android, iOS, Windows 10, BlackBerry).

- Works offline
- Can use all features of its device
- Advanced user experience
- Push notifications can be used for users alert

- Creation is expensive in comparison to the Mobile Web apps
- Requires high costs for the maintenance

Hybrid app

Hybrid App is the mix of the Native App and Mobile Web App. It can be defined like mobile website content exposition in the application format.

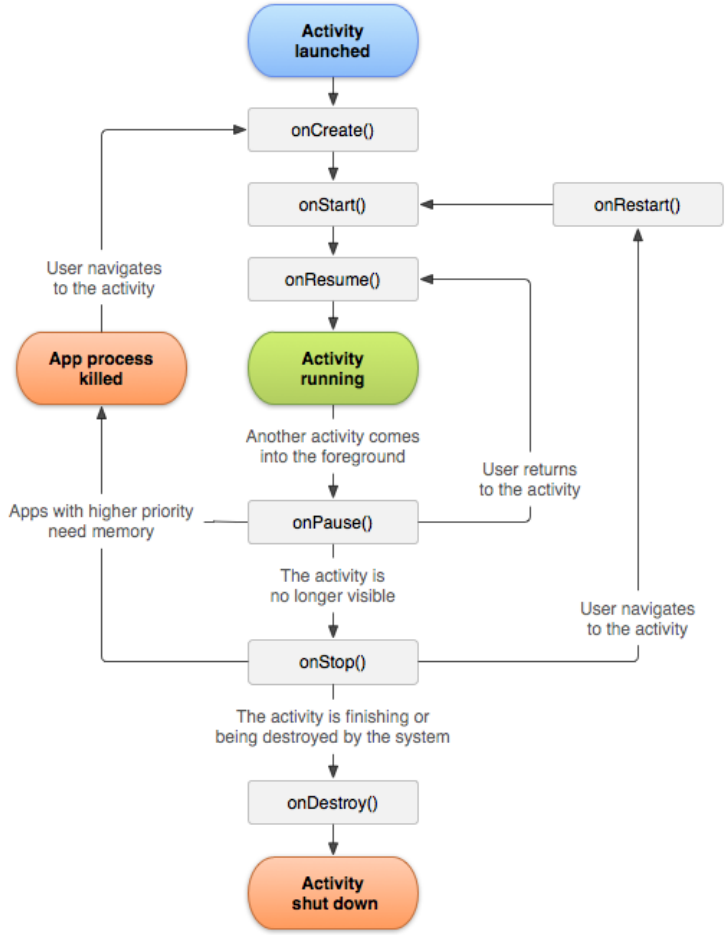
- More cost effective in comparison to the Native App
- Easy distribution
- Embedded browser
- Device features

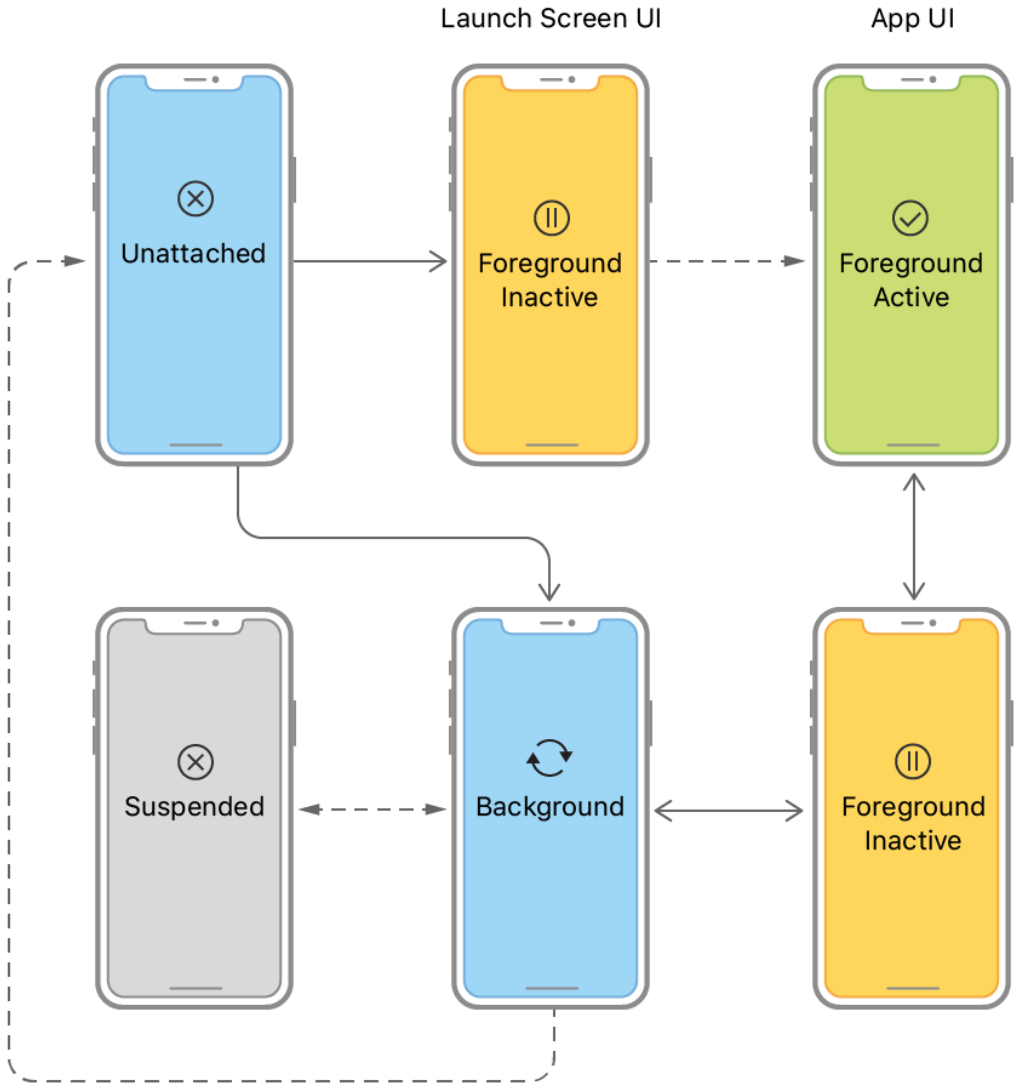
- Works not so fast as Native App.
- Graphics are less accustomed to the OS in comparison to Native App.

Mobile Testing Guide

- Common aspects (platforms, devices, orientation, pixel perfect, external modules, target)
- Analysis by app pages (requests, timers, cache, refresh)
- Controls (SF, HW)
- Permissions
- Lists, Pagination (lazy loading, filters, sorting)
- Social Networks interaction
- Device specific, Interruptions (on/off/lock, call, alarm, flightmode, bluetooth)
- Notifications

Application Activity Lifecycle





Mobile UI/UX guidelines

iOS vs. Android UI Design: The Main Differences

Here are the **most important differences** that UX/UI designers need to take into account when "translating" an app from iOS to Android or vice versa:

DESIGN ELEMENT	IOS	ANDROID
Minimum tap target size	44x44 pt	48x48 dp (What's a dp?)
Main app navigation	Bottom nav	Tabs at top of screen
Secondary app navigation	Bottom nav "More" OR on-page UI	Bottom nav OR "hamburger button" side menu
Primary button/action	Top nav, right side	Floating action button
Secondary actions	On-page UI	Top nav, right side
Single-choice lists	List with checkmark for selected item	Radio button list
Multiple-choice lists	List with switches OR list with checkmarks for selected items	Checkbox list OR list with switches
Confirm or allow undo of destructive actions	Modal dialog to confirm choice	Allow Undo via temporary on-screen notifications

Mobile testing Tools

- Charles
- Wireshark
- Fiddler
- Browser DevTools Emulator
- ADBa
- IDE
- Simulators or Emulators
- Cloud based Farms

Emulators and Simulators

Emulators/simulators are special tools, which emulate/simulate functionality and behavior of mobile devices.

Emulator is the original device replacement. Though you can run soft and apps on your gadget, you have no ability to modify them. Emulators are more appropriate for the mobile site testing.

Simulator doesn't replicate device's hardware, but you have an ability to set up the similar environment as the original device's OS. So, it is better to use mobile simulators to test mobile application.

Cloud-based testing of mobile app

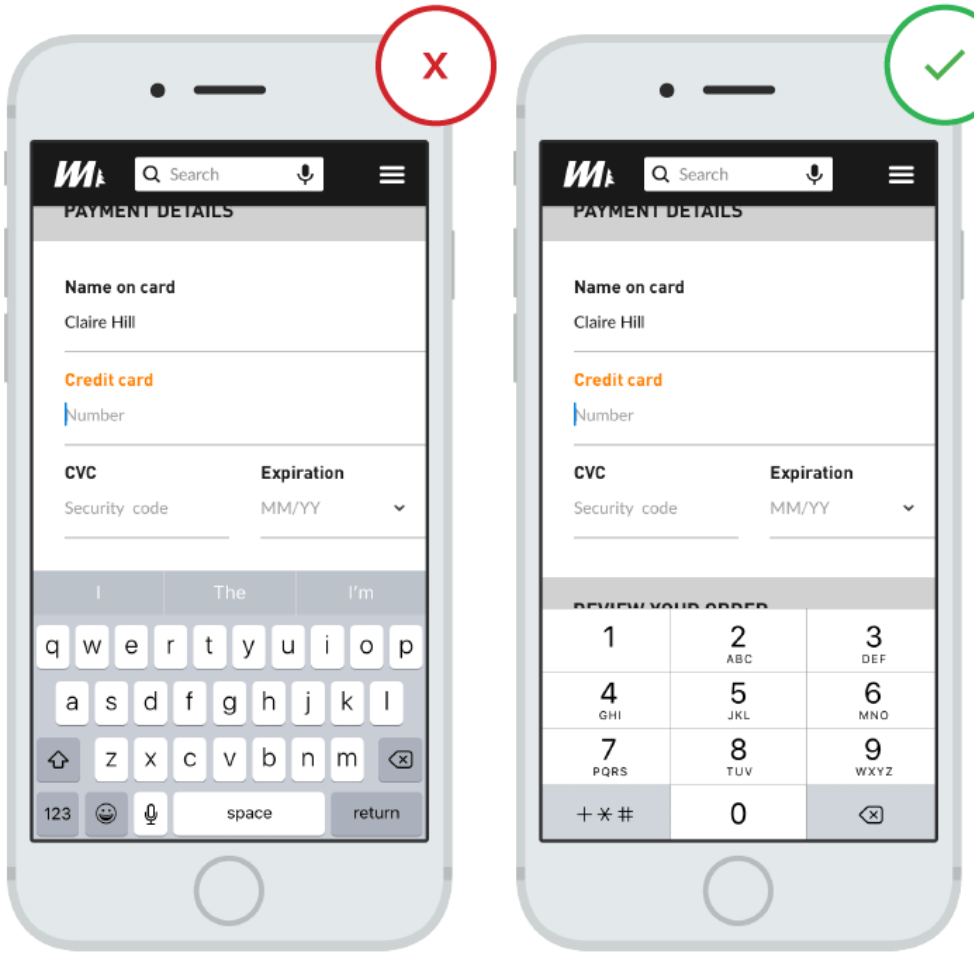
Main advantages of this approach:

+ Easy availability.
+ An ability to run mobile devices on multiple systems and networks.
+ An ability not only to test, but also update and manage apps in the cloud.
+ Cost effective.
+ High scalability.
+ The same script can be run on several devices in parallel.

Some weak points:

- Less of the control.
- No so high level of the security.
- Dependence of the Internet connection.

Bugs in mobile apps: example



X The user is required to tap the number key in the keyboard to enable number entry.

✓ An appropriate numeric keyboard is automatically provided for fields that require numeric entry.

HomeWork 7

Потестировать мобильное приложение Wase для любой из платформ - IOS\Android, используя чеклист, приведенный ниже.

Составьте на основе данного общего чеклиста, список проверок для приложения навигатора - Wase для любой из мобильных операционных систем(Android or IOS) и любого девайса (можно использовать ваш личный девайс).

Главная задача понять специфику мобильных приложений, и научиться понимать особенности платформы и работать с основными функциями девайса и операционной системы.

1. Составить чеклист
2. Пройти по чеклисту и проставить статусы pass\fail\blocked
3. В случае статуса fail - надо завести баги в джиру и написать в табличку
4. В случае blocked надо написать комментарий почему прохождение проверки заблокировано.
5. Результатом работы должен быть тест репорт в джире с статусами и всеми заведенными багами.

Учтите, что работа будет в одном проекте, командная.
Смотрите какие баги уже были заведены, заводить одинаковые баги не стоит. Дополняйте, перепроверяйте существующие баги на разных платформах.