

MOBILE CROSS BROWSER TESTING

SETUP AND PRACTICAL EXAMPLES

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**A CHALLENGE
ACCEPTED**
VERSION 3.0

Agenda

- Why
- How
- BrowserStack
- Local
- Tips
- Q&A



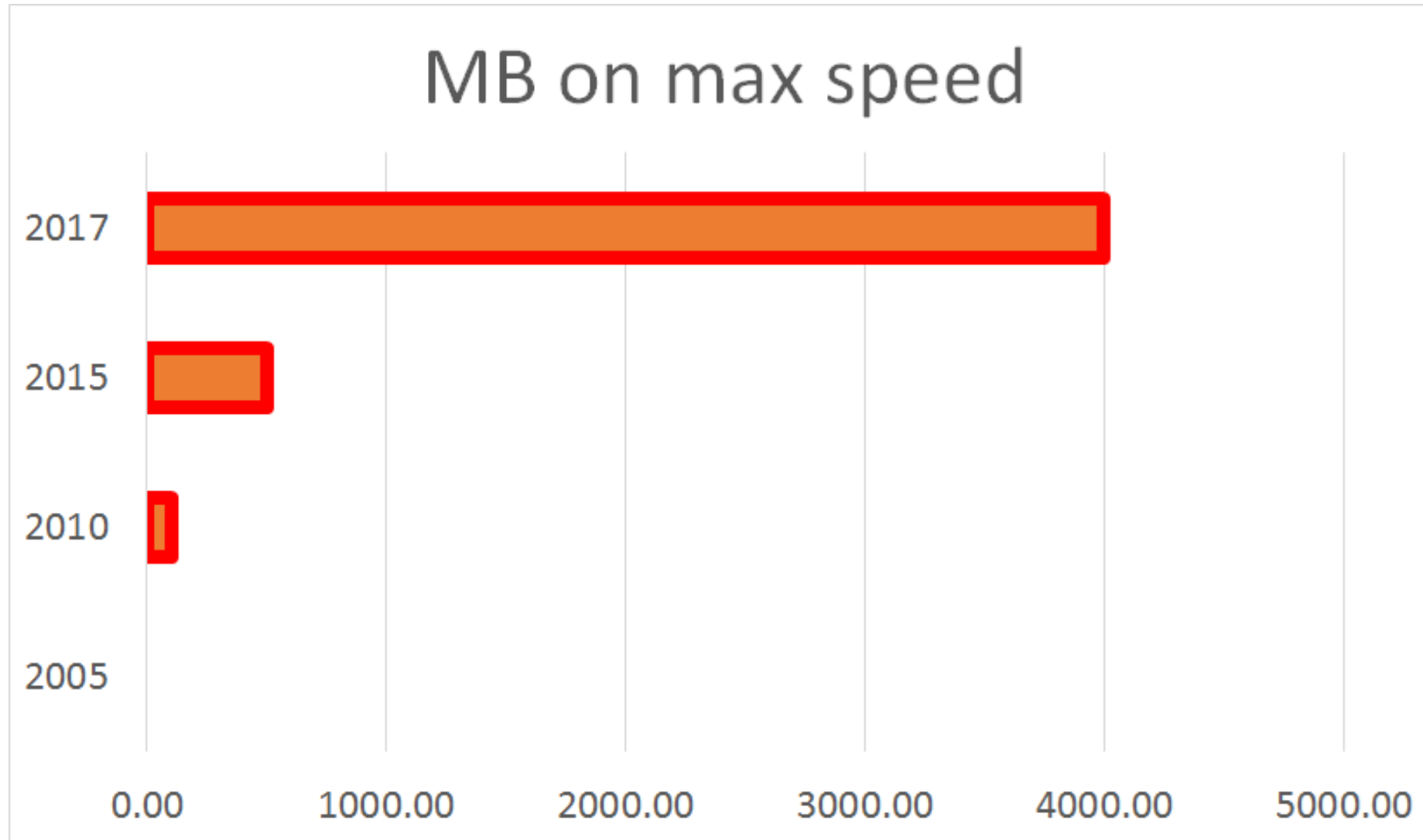
WHY?

EVOLUTION

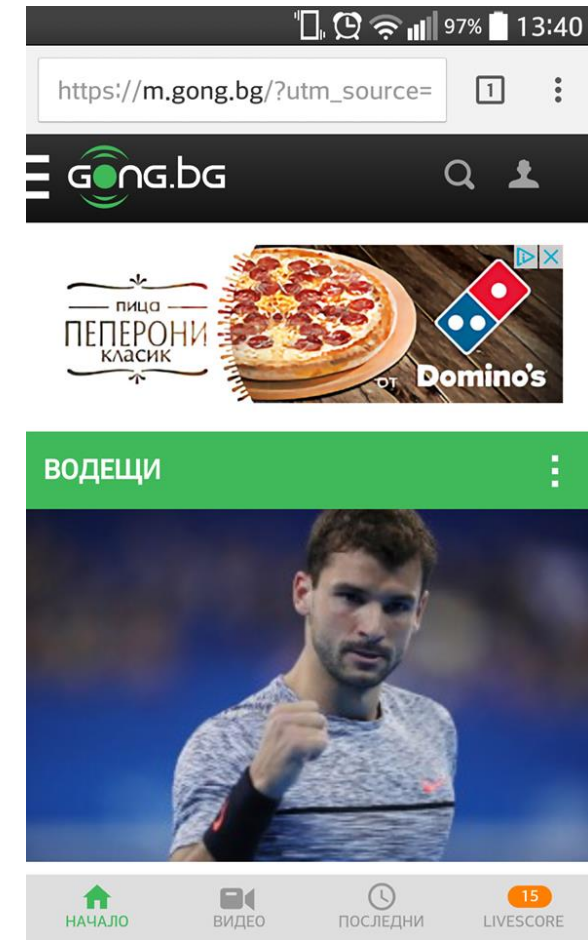
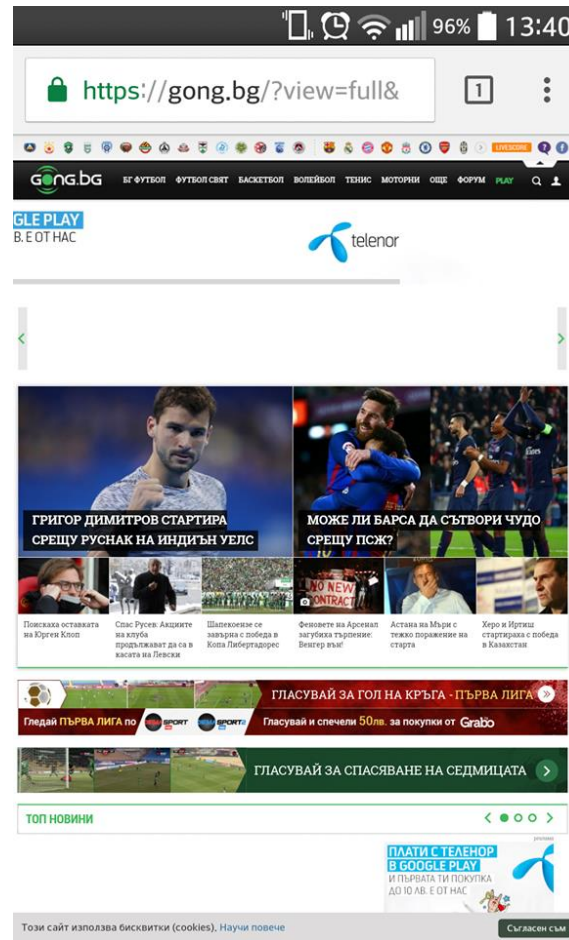
Technology evolves



Network Operators



Site Improvements



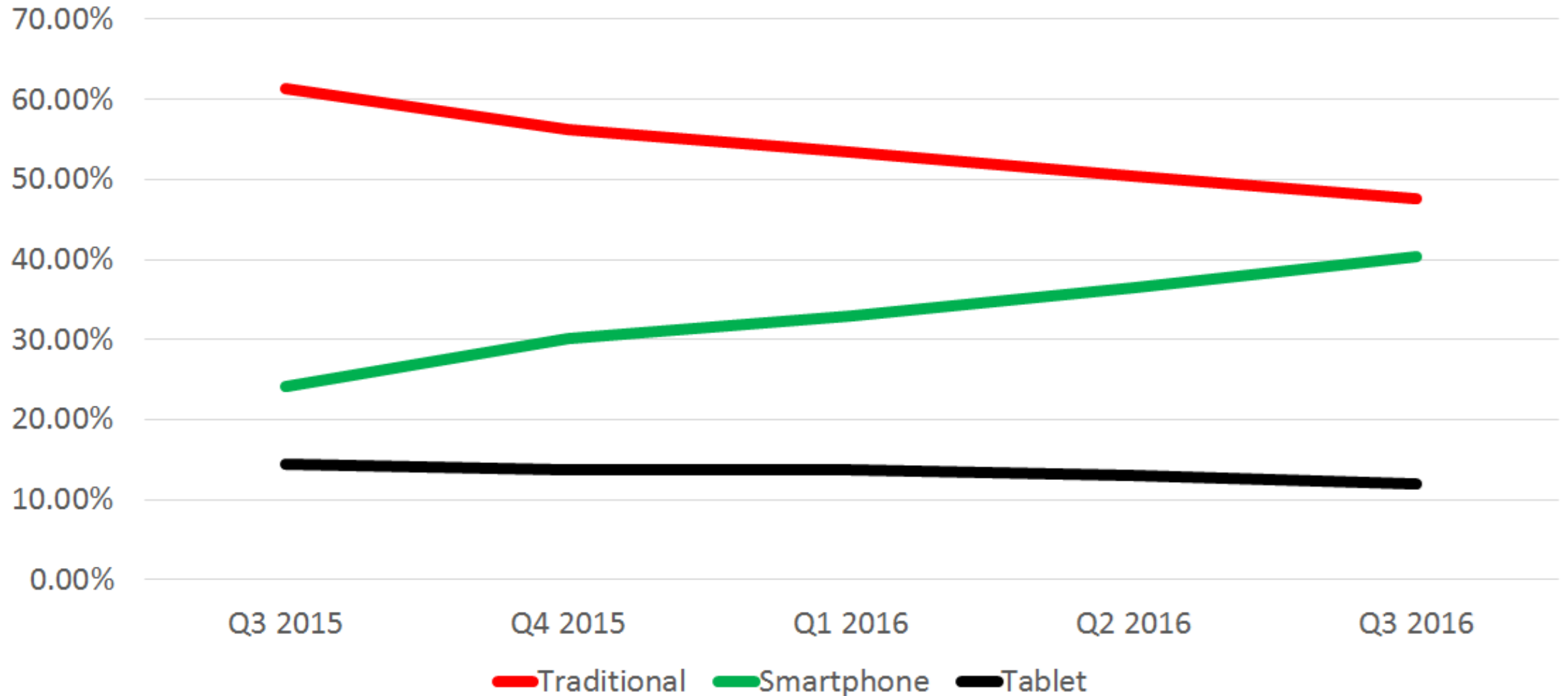
Trends Q3 2015 – Q3 2016

Website Visits by Device		Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016
GLOBAL	Traditional	61.40%	56.20%	53.35%	50.43%	47.67%
	Smartphone	24.14%	30.05%	33.02%	36.57%	40.33%
	Tablet	14.46%	13.75%	13.64%	12.99%	12.00%

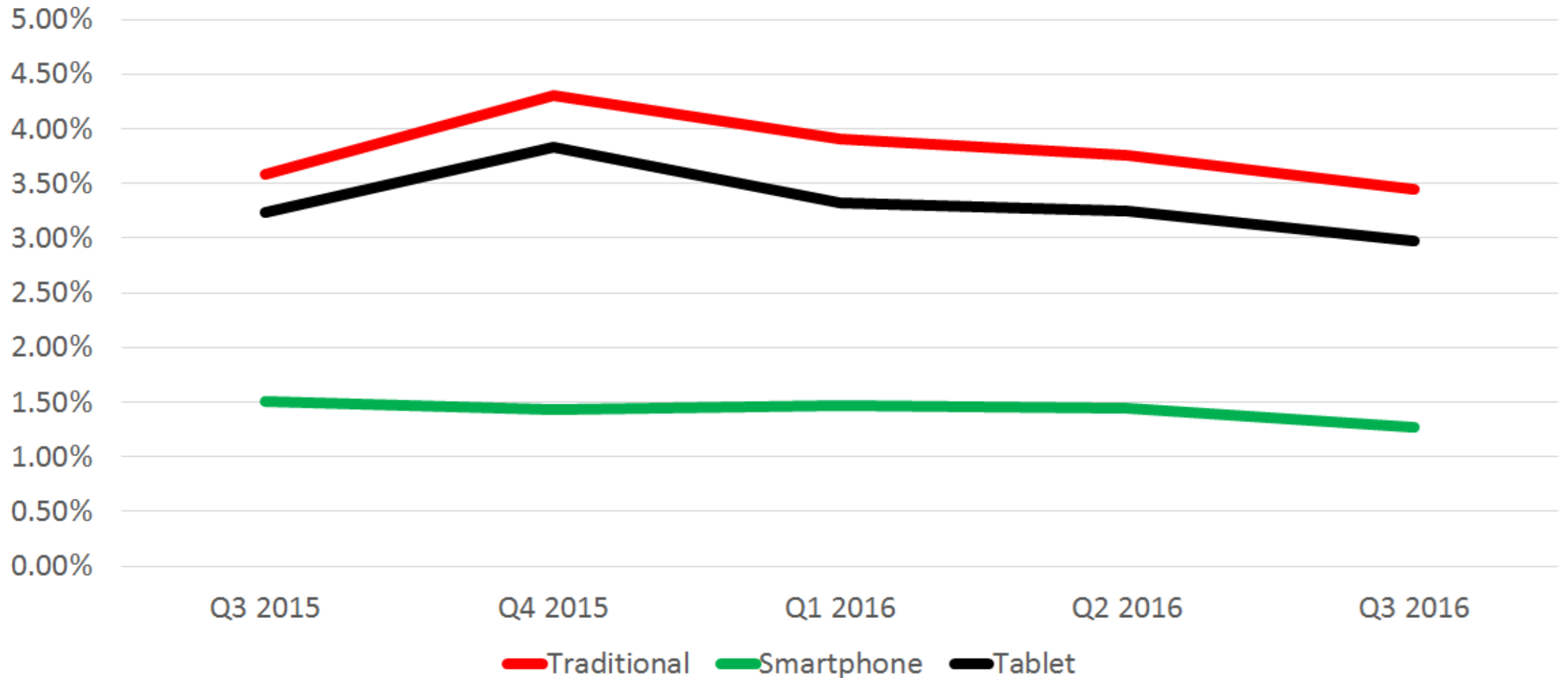
Conversation Rates by Device		Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016
GLOBAL	Traditional	3.58%	4.30%	3.91%	3.76%	3.45%
	Smartphone	1.51%	1.43%	1.47%	1.45%	1.27%
	Tablet	3.24%	3.83%	3.32%	3.25%	2.98%

Source: **Monetate Ecommerce Quarterly research**

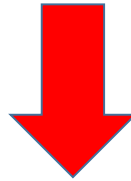
Website Visits by Device



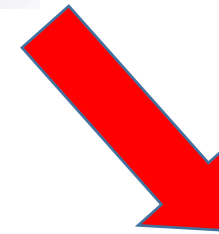
Conversation Rates by Device



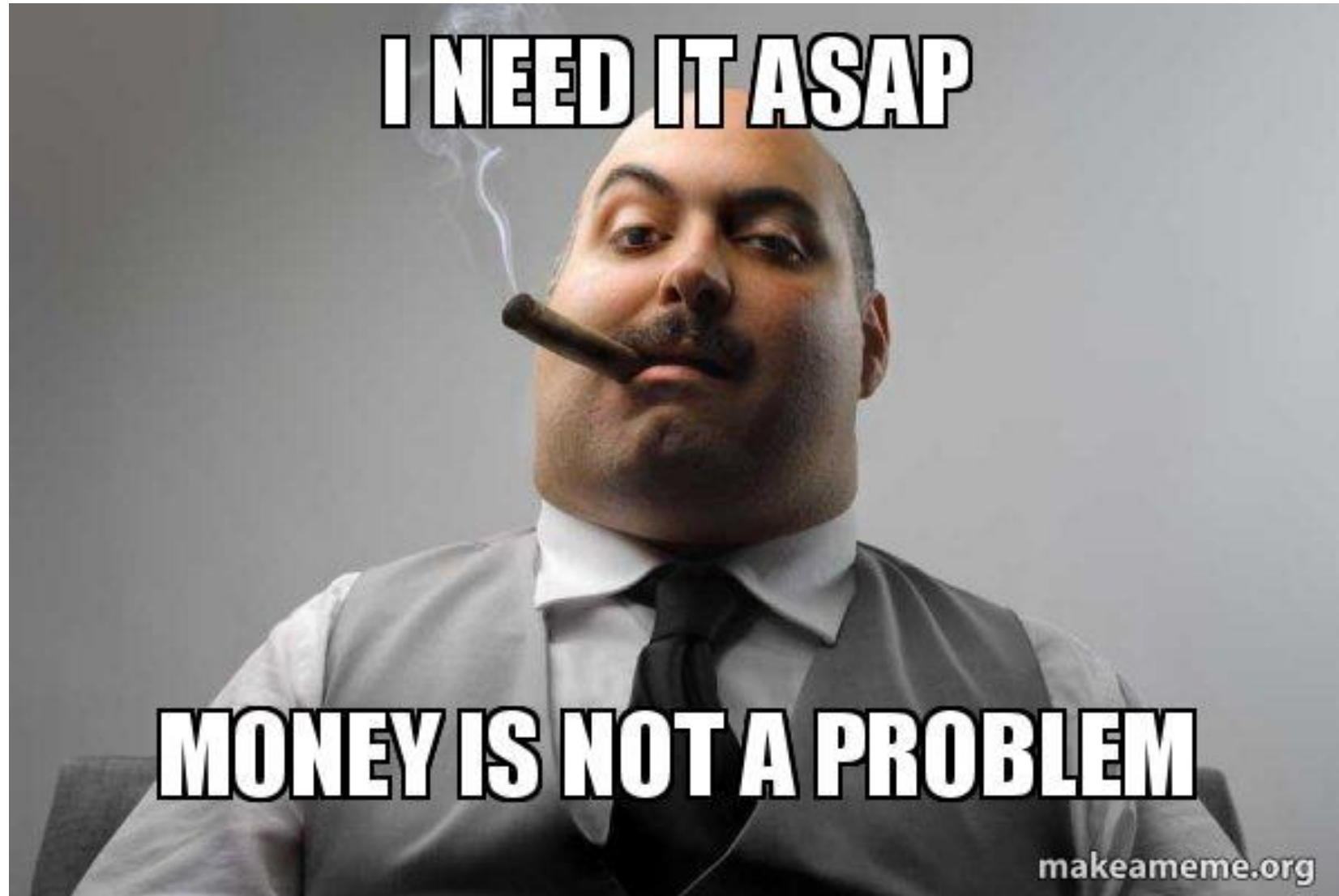
HOW?



BrowserStack



OTHERS



BrowserStack

- Setup – really easy
- Documentation – almost perfect
- iOS Simulators $\leq$ **iOS 9.1** (latest **10.2**)
- Android $\leq$ **5.0** (latest **7.1**)
- Old browser versions
- BOSS SAID – **MONEY IS NOT A PROBLEM**

BrowserStack

- Create account in BrowserStack
- Get your username and automate key

```
public String getHubUrl(String username, String automateKey) {  
    String server = "hub-cloud.browserstack.com";  
    String user = username;  
    String key = automateKey;  
    return "http://" + user + ":" + key + "@" + server + "/wd/hub";  
}
```

BrowserStack

```
DesiredCapabilities capabilities = new DesiredCapabilities();  
capabilities.setCapability("os", "ios");  
capabilities.setCapability("browser", "iPhone");  
capabilities.setCapability("device", "iPhone 6S Plus");  
capabilities.setCapability("version", "9.1");  
capabilities.setCapability("browserstack.debug", "true");
```

BrowserStack

```
DesiredCapabilities capabilities = new DesiredCapabilities();  
capabilities.setCapability("os", "android");  
capabilities.setCapability("browser", "Android");  
capabilities.setCapability("device", "Google Nexus 5");  
capabilities.setCapability("version", "5");  
capabilities.setCapability("browserstack.debug", "true");
```

DEMO

GREAT JOB AND WELL DONE

BTW THE PRICE WAS?

I WAS KIDDING



**FIND SOMETHING
CHEAPER**



Why not build it

Lets do it

- appium
- Apple hardware for iOS Simulators
- Any hardware for Android Emulators

Setup

- Apple hardware + App Store account
- JDK
- Xcode
- appium



Capabilities

```
DesiredCapabilities cap = new DesiredCapabilities();  
cap.setCapability(MobileCapabilityType.PLATFORM_NAME, "iOS");  
cap.setCapability(MobileCapabilityType.PLATFORM_VERSION, "10.2");  
cap.setCapability(MobileCapabilityType.DEVICE_NAME, "iPhone 7");  
cap.setCapability(MobileCapabilityType.AUTOMATION_NAME, "XCUITest");  
cap.setCapability(MobileCapabilityType.BROWSER_NAME, "safari");  
cap.setCapability("launchTimeout", 180);
```



Setup

- Any hardware
- JDK
- android SDK
- appium





Setup

- Any hardware
- JDK
- android SDK
- appium



Setup

- Apple hardware + App Store account
- JDK
- Xcode
- appium

Emulators

	AVD (Android Virtual Device)	Genymotion
Personal use	Free	Free
Commercial use	Free	Paid
Speed	Slow	Fast

Android Capabilities



```
DesiredCapabilities cap = new DesiredCapabilities().android();
cap.setCapability(MobileCapabilityType.PLATFORM_NAME, "Android");
cap.setCapability(MobileCapabilityType.PLATFORM_VERSION, version);
cap.setCapability(MobileCapabilityType.DEVICE_NAME, device);
cap.setCapability(MobileCapabilityType.BROWSER_NAME, browser);
cap.setCapability(MobileCapabilityType.PLATFORM, Platform.ANDROID);
cap.setCapability("fastReset", true);
if (browser.equalsIgnoreCase("chrome")) {
    ChromeOptions options = new ChromeOptions();
    options.addArguments("ignore-certificate-errors");
    options.addArguments("disable-translate");
    cap.setCapability(ChromeOptions.CAPABILITY, options);
}
```

DEMO



Computer



Recycle Bin



LocalEnvE...



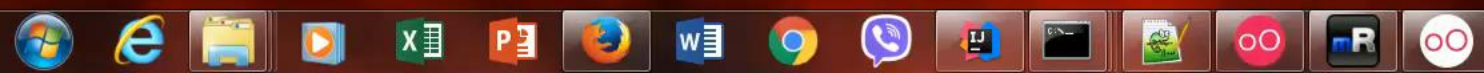
Data



AVD

Example.mp4

CSKA SOFIA





TIPS

Add all simulators / emulators in **Selenium Grid**



The screenshot displays the Selenium Grid Console v.3.0.1 interface. The top header bar is dark blue with the Selenium logo and the text "Grid Console v.3.0.1" on the left, and a "Help" link on the right. The main content area is divided into two columns, each representing a DefaultRemoteProxy node.

Left Column (Node 1):

- Header: DefaultRemoteProxy (version : 1.6.3), id : http://172.24.64.211:4723, OS : MAC
- Tab: **Browsers** (selected), Configuration
- Content: WebDriver v:10.2

Right Column (Node 2):

- Header: DefaultRemoteProxy (version : 1.6.3), id : http://172.24.64.226:4724, OS : ANDROID
- Tab: **Browsers** (selected), Configuration
- Content: WebDriver v:6.0 [Browser](#) (with a mouse cursor pointing at the link)

At the bottom left of the console, there is a link labeled [view config](#).

Local environment setup is better
but takes time and resources
to be done in the right way

Cheat wisely and learn

Use BrowserStack free account if you have a problem and you want to see whether they have fixed it

Execution Speed



Genymotion



AVD Intel Atom



AVD ARM

TOO MUCH ...

- JUST FOR YOU
- <https://github.com/NikolayStanoev/mobile-automation>





Thank you!

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