MOBILE AND RESPONSIVE WEB APPLICATIONS

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Introduction

- Web technology has been stable and reliable factor in globalization and communication for years

- With increase of data transfer speeds greater design possibilities have been enabled and usability has come to focus

- Smartphones and mobile applications

- Web technology has responded with responsive web design and rapid advancement in possibilities to mimic mobile applications

Main questions and focus

- Whether to develop native mobile or web applications?
- Can web applications' interfaces really resemble mobile applications in satisfactory way?

- With greater speeds of data transfer there are other aspects that deserve more attention such as usability and design of user interfaces

Usability and user interface design

- ISO 9241 defines usability as: The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

- User at the center

- Importance of user interface design: navigation, site organization, searching ease, user-controlled navigation, links, cross-platform design, writing style, and multimedia capabilities

- Many websites are not well designed

Responsive web

- Mobile market

- Simplified and minimized mobile design

- Cross-platform design

- Responsive design

- When confronted with the need to create an application for smartphone and mobile platform, developer can choose to develop in native, web or hybrid technology

Native applications vs. web applications

- Make the most out of mobile technology
- Costly and time-consuming: fragmentation, the web, control, and consumer expectations
- Web technologies which offer developer possibility to develop everything just once in one technology
- Web technology saves money and time

Going responsive

- CSS frameworks: Twitter Bootstrap, Foundation, Skeleton, HTML5 Boilerplate, HTML KickStart

- Research results show that developers feel that all possible approaches (native, web-based or hybrid) are suitable depending on particular application

- Research results show that web and hybrid approaches are gaining popularity among developers and that web technology (HTML5 and JavaScript) is developers top choice for building cross-platform applications

Native possibilities

- Cross-platform frameworks: PhoneGap, Appcelerator Titanium, MoSync, Xamarin, Sencha Touch, Telerik AppBuilder

- It can be presumed that in some point it will be possible to completely mimic mobile applications by using web applications and that native mobile application will be absolutely necessary just in some cases such as for example mobile games which require full utilization of smartphone's hardware

Using responsive mobile web applications

- To adapt web design to different monitors and resolutions
- To adapt web design to mobile browsers
- To emulate mobile applications
- 87 random smartphone users
- Croatia and Slovenia
- 54 participants from Croatia and 33 from Slovenia
- The mobile versions of websites is not something that most of visitors use
- Less amount of information, the need to scroll

Research results

Questionnaire item	Mean	Std. dev.
When I visit websites I immediately switch to full site if mobile version is loaded	3,871	0,749
I prefer mobile versions of websites over full sites	2,028	0,587
Mobile websites are easier to use and I prefer to use them over full sites	2,214	0,423
Full sites are better because of more information that can be seen at once	4,068	0,824
I don't use mobile versions of websites because they lack information and features comparing to full sites	3,687	0,642
I find mobile versions of websites easier to use because of no need to increase or decrease content	1,842	0,481
I would use mobile websites more often if they were richer in content	2,785	0,398
I prefer increasing/ decreasing the content in full sites over the need to scroll in their mobile versions	3,414	0,751
I can access information more quickly in full sites than in mobile versions	4,257	0,543

Conclusion

- Usability and user interface design has come into focus

- Mobile applications vs. web applications

- Responsive web design

- CSS and cross-platform frameworks

- To develop in native or web technology