



IT 4403 ADVANCED MOBILE AND WEB DEVELOPMENT STUDY GUIDE

MODULE 2: MOBILE WEB OVERVIEW

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OVERVIEW AND LEARNING OUTCOMES

Mobile computing has led the latest trend for the information technology world, so as to the web development. It has impacted user interface design principles and practices, as well as web application architectures. There are two main areas involved in mobile web development. One is about mobile friendly website design, and the other is mobile application development based on web technologies.

In this very first module, let's have a general overview the mobile web world. We will:

1. Explain key differences of the mobile web environment compared to the desktop web.
2. Compare basic development options of mobile applications: native app, mobile web, hybrid.
3. Describe the ways web technologies are used for mobile web site and web app development.
4. Compare basic delivery options of mobile website: one web, adaptive, mobile version site.

This learning module is related to course learning outcome #1.

TASK LIST

1. Complete the core readings and the lecture notes listed in learning materials. Use the questions in "Review and Research" section to guide your reading.
2. Use the lecture notes as a reading and learning guide; follow the resources presented in the notes for further information and additional learning.
3. Review and research (optional; please discuss them in the discussion board if you want to):
 - a. What are the major differences between mobile and desktop when visiting websites? What are the major user behavior changes when viewing web on the smart mobile devices?
 - b. What are the choices of delivering mobile version web sites and applications? What is ONE Web?
 - c. How are web technologies used to develop mobile web app? What are the advantages compared to native app development?
 - d. Nielsen thought web sites are the future mobile strategy (<http://www.nngroup.com/articles/mobile-sites-vs-apps-strategy-shift/>). What's your opinion? Do you agree or disagree with him? What are the major considerations for a particular mobile application service? <https://medium.com/swlh/browsers-not-apps-are-the-future-of-mobile-c552752ff75>
4. Follow the "setting up web dev environment" tutorial and set up a public web sites. You will put all your exercises and project there this semester. If you have question and need advice, also use the discussion board.

LEARNING MATERIALS

1. Core online readings:
 - a. Mobile web differences: <https://www.paradoxlabs.com/blog/mobile-vs-desktop-10-key-differences/>
 - b. Mobile development options
 - i. Mobile web app: <https://www.scnsoft.com/blog/mobile-web-app-types>
 - ii. Developing Mobile Web Applications: When, Why, and How <https://www.toptal.com/android/developing-mobile-web-apps-when-why-and-how>

- c. ONE web (responsive), adaptive, and separate mobile site (Google describes the three techniques):
<https://www.thinkwithgoogle.com/marketing-resources/experience-design/building-websites-multi-screen-consumer/>
2. Lecture notes: included some stats you may find interesting. Follow the links in the slides for more information.
 - a. <https://www.edocr.com/v/k52p5vj4/jgzheng/Mobile-Web-Overview>
3. Tutorial: web dev environment tutorial.pdf
4. Additional readings and resources
 - a. Some history: http://www.phonearena.com/news/Evolution-of-mobile-web-browsing_id9059
 - b. <http://bradfrost.com/blog/post/the-many-faces-of-adaptive-design/>
 - c. https://en.wikipedia.org/wiki/Mobile_Web
 - d. <https://www.wired.com/2013/05/the-two-flavors-of-a-one-web-approach-responsive-vs-adaptive/>
 - e. Why Separate Mobile & Desktop Web Pages? <http://www.lukew.com/ff/entry.asp?1390>
 - f. <https://developers.google.com/search/mobile-sites/>
 - g. One web: <http://adactio.com/journal/1716/>
 - h. <https://developer.mozilla.org/en-US/docs/Web/Guide/Mobile>
 - i. Mobile site design for performance: <https://queue.acm.org/detail.cfm?id=2441756>