2024 / 25

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Ollscoil Teicneolaíochta an Oirdheiscirt

South East Technological University

Module Descriptor

Mobile Web Development (Computing and Mathematics)

Mobile Web Development (A14943)

Short Title: Mobile Web Development
Department: Computing and Mathematics
Credits: 10 **Level:** Postgraduate

Description of Module / Aims

Introduce the notations, programming languages, tools and techniques for the design, implementation and deployment of mobile, progressive web apps. Assuming a foundation-level understanding of HTML, CSS and web development, the module will explore the challenges associated with creating applications for mobile devices. In particular, the module will focus on HTML5 based approaches, with an emphasis on JavaScript/HTML/CSS avenues, coupled with JavaScript based approaches to server side/cloud based infrastructure.

Programmes

		stage/semester/status
COMP-0492	MSc in Computer Science (Enterprise Software Systems) (WD_KCESS_R)	1 / 0 / E

Indicative Content

- Internet and Mobile Web: HTTP; TLS; Client-server architecture; Device Capabilities
- Web User Interface/Experience: HTML5; CSS3; Responsiveness; Push notification; Connectivity independence
- Development: ES6+
- Cloud Infrastructure: Node.js based infrastructure; Cloud Deployment
- Mobile Web Frameworks and architecture: React; Ionic; Service workers; App shell architecture

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Design and develop a mobile web app that conforms to mobile app design guidelines.
2. Maximise an app's performance and engagement qualities using progressive web app techniques.
3. Integrate suitable build automation tools into the mobile app developments process.
4. Evaluate modern mobile web frameworks, and select best-of-breed components.
5. Assess, select and deploy caching strategies appropriate to the target application infrastructure.
6. Assemble a cloud based infrastructure and push simple services to selected cloud services.

Learning and Teaching Methods

- Combination of lectures and lab-based practicals.
- The lectures will cover the theory and supporting technologies behind modern mobile web application development.
- The lab-based practicals, building on the theoretical knowledge from lectures, provide exposure and to the tools and practical skills required to support mobile web application development.
- The practical content will use industry standard technologies, tools and techniques.
- Student will be encouraged to enhance their lab work and assessment submissions using self-directed research and learning into the state-of-the-art mobile web application development.

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	24	24
Practical	24	24
Independent Learning	222	222

Assessment Methods

	Weighting	Outcomes Assessed
Continuous Assessment	100%	
Assignment	50%	1,2,3,4
Assignment	50%	3,4,5,6

Assessment Criteria

<40%: Inability to apply a suitable framework to develop a mobile web application.

40%–59%: Be able to demonstrate compatancy in the tool suite and the ability to develop and deploy small-scale solutions.

60%–69%: In addition to above, implements solutions to medium-sized problems that demonstrate a good understanding of the main patterns and practices of mobile web app design.

70%–100%: All of the above to an excellent standard, and incorporates self-directed investigation into state-of-the-art mobile web technology.

Supplementary Material(s)

- Rodgers, R. *The Tao of Microservices*. New York: Manning, 2016.

Requested Resources

- Computer Lab: BYOD Lab