JÖNKÖPING UNIVERSITY
School of Engineering

KURSPLAN
Development for Mobile, Wearable and Smart Devices, 6 högskolepoäng

Development for Mobile, Wearable and Smart Devices, 6 credits

Kurskod:	TDWS26	**Utbildningsnivå:**	Avancerad nivå
Fastställd av:	VD 2016-03-01	**Utbildningsområde:**	Tekniska området (95%) och samhällsvetenskapliga området (5%)
Gäller fr.o.m.:	2016-08-01		
Version:	1	**Ämnesgrupp:**	DT1
Diarienummer:	JTH 2016/1168-313	**Fördjupning:**	A1F
		Huvudområde:	Informatik

Lärandemål

After a successful course, the student shall

Kunskap och förståelse
- demonstrate comprehension of user experience design for mobile, wearable and smart devices
- display knowledge of principles of development of cross-platform applications for mobile devices
- show familiarity with the Internet of Things – the technology of connected devices – and user experience design for it

Färdighet och förmåga
- demonstrate skills of object-oriented programming in a scripting language
- demonstrate skills of creating high-fidelity prototypes and wire-frames for mobile devices
- demonstrate the ability to create a cross-platform mobile application

Värderingsförmåga och förhållningssätt
- demonstrate the ability to choose an appropriate design of user experience based on the type of a device

Innehåll

Contents

The course continues the subject of user experience design by first focusing on high-fidelity prototypes and wire-frames for mobile and wearable devices. After introducing the technology of connected devices, the focus shifts to the design for smart devices, and cross-device interactions. The development part starts with the recapitulation of object-oriented programming in JavaScript. Cross-platform development of mobile applications is introduced next with the help of mobile application frameworks and libraries such as PhoneGap and Parse. It includes building a mobile application being able to manage user accounts, store data, and use different services provided by the mobile device platform.
The topics covered in the course include:

- user experience design for mobile, wearable and smart devices
- high-fidelity prototypes and wire-frames
- IoT (Internet of Things) – the technology of connected devices
- embedded device design
- user experience design for connected products and cross-device interactions
- object-oriented programming in JavaScript, UML class and sequence diagrams
- cross-platform development of mobile applications with HTML, JavaScript, and CSS
- mobile application frameworks with Foreign Function Interface (FFI)
- building a CRUD Application (Create-Read-Update-Delete)
- integrating applications with social web APIs
- location detection, camera access and user management

Undervisningsformer

The course consists of lectures and laboratory work.

Undervisningen bedrivs på engelska.

Förkunskapskrav

Passed courses at least 90 credits within the major subject in Informatics, Computer Science, Computer Engineering, Interaction Design (with relevant courses in web programming), and completed course User Experience Design, 6 credits. Proof of English proficiency is required (eller motsvarande kunskaper).

Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

The final grade will only be issued after satisfactory completion of all assesments.
The final grade for the course is based upon a balanced set of assesments.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Laborationer	3 hp	5/4/3/U
Projektarbete	3 hp	5/4/3/U

Kurslitteratur

Beginning App Development with Parse and Phonegap by Stephan Alber, APress, 2015.
Designing Connected Products: UX for the Consumer Internet of Things by Claire Rowland, Elizabeth Goodman, Martin Charlier, O'Reilly Media, 2015.
The literature list for the course will be provided one month before the course starts.