

Short Title:	Application Design & Development APPROVED
Full Title:	Application Design & Development
Module Code:	DMED H4027
ECTS credits:	5
NFQ Level:	8
Module Delivered in	2 programme(s)
Module Contributor:	Daniel McSweeney
Module Description:	This module introduces the learner to mobile application development. The module builds on learners prior knowledge of web development and JavaScript frameworks. It examines native and HTML 5 applications as well as other 3rd party tools for creating applications. The module examines best practice in design and development and examines methods of distribution and commercialisation.
Learning Outcomes:	
<i>On successful completion of this module the learner will be able to</i>	
<ol style="list-style-type: none"> 1. Describe the characteristics of mobile applications and mobile environments 2. Apply appropriate design and development approaches to mobile applications 3. Critically evaluate a range of design and development tools and frameworks for mobile applications 4. Build mobile applications for a variety of mobile platforms 5. Apply design patterns common in the development of mobile applications 6. Deploy, test and evaluate mobile applications 	

Module Content & Assessment

Indicative Content
Overview of mobile systems and applications - Introduction to mobile application development - Overview of mobile devices and platforms - Introduction to distribution and commercialisation
Mobile application Development - Characteristics of mobile applications - Native vs HTML5 applications - Development tools and platforms
Design process for mobile applications - Application definition statements - Defining feature sets - Identifying users needs - Agile development - Design tools and techniques - Prototyping tools - Development tools and platforms
Developing with frameworks - Overview of frameworks (e.g phonegap, Kony, Sencha etc) - Incorporating JavaScript libraries and frameworks
User interfaces for mobile applications - Designing interfaces - Design patters - Input modalities - Page navigation - Error handling
Data driven applications Understanding networks and data - Limitations of mobile devices - Connecting to web based data- Querying databases, JSON and AJAX
Packaging Applications - App package formats - Testing on mobile platforms and simulators - Development considerations for windows, IOS and Android
Distributing your mobile application - Understanding marketplaces - Commercial vs free applications - Models for commercialisation (in app etc) - Versioning and updates

Indicative Assessment Breakdown	%
Course Work Assessment %	100.00%

Course Work Assessment %				
<i>Assessment Type</i>	<i>Assessment Description</i>	<i>Outcome addressed</i>	<i>% of total</i>	<i>Assessment Date</i>
Lab work	Weekly lab work consisting of a number of topics including: Design tools and techniques, app definition statements, feature lists, prototyping tools, design patterns, development, incorporating rich media, data driven apps, testing and evaluation.	1,2,3,4,5,6	20.00	Every Week
Project	Creation of a mobile application. Emphasis on use of HTML 5 and industry standard frameworks. Project will concentrate on design, user need analysis, prototyping and emulation.	2,4,5	40.00	n/a
Project	Possible follow on project from project 1. Taking design outputs, emphasis is now on the development of fully functioning data driven mobile apps. Students will be expected to produce and test app on a mobile device.	1,4,5,6	40.00	n/a

No Final Exam Assessment %

Indicative Reassessment Requirement
Coursework Only <i>This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.</i>

ITB reserves the right to alter the nature and timings of assessment

Indicative Module Workload & Resources

Indicative Workload: Full Time

Frequency	Indicative Average Weekly Learner Workload
Every Week	30.00
Every Week	30.00
Every Week	45.00

Indicative Workload: Part Time

Frequency	Indicative Average Weekly Learner Workload
Every Week	30.00
Every Week	30.00
Every Week	45.00

Resources

Recommended Book Resources

Estelle Weyl 2013, *Mobile HTML5*, 1 Ed., O'Reilly Media [ISBN: 1449311415]

Theresa Neil 2014, *Mobile Design Pattern Gallery: UI Patterns for Smartphone Apps*, 2 Ed., O'Reilly Media [ISBN: 1449363636]

Supplementary Book Resources

John M. Wargo, *PhoneGap Essentials*, Addison-Wesley Professional [ISBN: 0321814290]

This module does not have any article/paper resources

Other Resources

Website: Beyond Labs, Inc *Mobile Design Patterns*
<http://www.pttrns.com/>

Website: Apple Inc. *Apple Developer Guides*, Apple
<https://developer.apple.com/>

Website: Google *Android Developer Guide*
<https://developer.android.com/guide/index.html>

Website: Microsoft *Beginner's Guide to Windows Mobile Development*, Microsoft
<https://msdn.microsoft.com/en-us/library/bb158619.aspx>

Website: *Appys*
<http://www.theappys.ie/>

Website: *Guidelines For Mobile Web Development*, Smashing Magazine
<http://www.smashingmagazine.com/guidelines-for-mobile-web-development/>

Module Delivered in

Programme Code	Programme	Semester	Delivery
BN_DDMED_8	Bachelor of Arts (Honours) in Creative Digital Media [240 ECTS credits]	7	Mandatory
BN_DDMED_B	Bachelor of Arts (Honours) in Creative Digital Media [Add on 60 ECTS credits]	1	Mandatory