

Module Code:	COM731
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Module Title:	Media Development & Distribution
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Level:	7	Credit Value:	20
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Cost Centre(s):	GACP	<u>JACS3 code:</u>	I320
		<u>HECoS code:</u>	100956

Faculty:	Arts, Science and Technology	Module Leader:	Rich Hebblewhite
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Scheduled learning and teaching hours	21 hrs
Guided independent study	179 hrs
Placement	0 hrs
Module duration (total hours)	200 hrs

Programme(s) in which to be offered	Core	Option
MSc Computer Game Development	✓	<input type="checkbox"/>
MComp Computer Game Development	✓	<input type="checkbox"/>

Pre-requisites
None

Office use only

Initial approval: 28/11/2018
 With effect from: 01/09/2019
 Date and details of revision:

Version no:1
 Version no:

Module Aims

This module will focus on the design and implementation of apps and integration with modern distribution platforms.

This aim of the module is to empower students to develop a comprehensive understanding of the current technical issues that relate to the development of modern apps and the processes by which they are published and distributed.

Students will be required to consider current techniques and trends relating app monetisation, deployment, market awareness and ethical issues. The balance between security, the user interface, performance and accessibility will be also be examined.

Intended Learning Outcomes

At the end of this module, students will be able to:

Key skills for employability

- KS1 Written, oral and media communication skills
- KS2 Leadership, team working and networking skills
- KS3 Opportunity, creativity and problem solving skills
- KS4 Information technology skills and digital literacy
- KS5 Information management skills
- KS6 Research skills
- KS7 Intercultural and sustainability skills
- KS8 Career management skills
- KS9 Learning to learn (managing personal and professional development, self-management)
- KS10 Numeracy

At the end of this module, students will be able to

Key Skills

At the end of this module, students will be able to		Key Skills	
1	Design and develop apps using appropriate techniques, technology and tools	KS4	KS5
2	Demonstrate a critical awareness of accessibility, ethical and compliancy issues relevant to modern publishing platforms	KS1	KS6
		KS7	
3	Devise and execute a rigorous test plan appropriate to modern development projects	KS9	

Transferable skills and other attributes

Derogations

None.

Assessment:

The module will be assessed through the implementation of a technical design and development portfolio. The portfolio will be divided into two key areas; Product Design and Product Development.

The product design phase will demonstrate current techniques relating to requirements gathering, design, market analysis and ethical considerations. The fundamental objective is to ensure students generate ideas and concepts that are fit for purpose, appropriate to the development platform and compliant with modern legal and ethical standards.

The product development phase will demonstrate a prototype app that is appropriate to the development platform, reflective of the product design phase and rigorously tested as part of a cohesive test strategy.

Guidance: Please indicate the type(s) of assessment (eg examination, oral, coursework, project) and the weighting of each (%). Normally, each intended learning outcome should be assessed only once.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	1-3	Portfolio	100%		4000

Learning and Teaching Strategies:

Lectures, supported by tutorials and practical sessions where students get the opportunity to put theory into practice and experiment with current techniques and related technology.

The lectures will focus on presenting key topics and concepts, whereas the practical/tutorial based learning will provide exposure to hardware and software platforms and the use of toolkits for designing and developing apps.

These sessions will also support the study of underlying subject-based concepts and principles including object orientated programming, program design, quality assurance, audience awareness and Human-Computer Interaction (HCI).

Formative, self-directed exercises will be used to support transfer of knowledge and understanding.

Syllabus outline:

Interface design; areas include Human-computer interaction, screen size and screen dpi.

Event-driven programming; areas include touch screen, system services.

System programming; areas include multi-tasking, running threads, networking and resource management.

Graphics programming; areas include using standard graphics API and OpenGL

Database programming; areas include local and remote databases; Create, Read, Update and Delete (CRUD) of SQL based databases.

Deploying apps and app publishing.

Position determination and location aware apps.

Smart Device Development Environments; environments including Android Studio, Apple XCode and Microsoft Visual Studio.

Smart device emulation and virtualisation.

Testing and debugging.

Bibliography:

Essential reading

Dutson, P. (2016), Android Development Patterns: Best Practices for Professional Developers (Developer's Library), Addison-Wesley Professional; 1st Edition

Other indicative reading

Whitechapel, A. McKenna, S. (2013), Windows Phone 8 Development Internals (Developer Reference), Microsoft Press; 1st Edition

Draper, B. (2016), Java Programming: A Complete Guide For Beginners To Master And Become An Expert In Java Programming Language, CreateSpace Independent Publishing Platform, 1st Edition

Knott, D. (May 2015), Hands-On Mobile App Testing: A Guide for Mobile Testers and Anyone Involved in the Mobile App Business, Addison-Wesley Professional, 1st Edition

Kreibich, J.A. (2010), Using SQLite: Small. Fast. Reliable. Choose Any Three, O'Reilly Media, 1st Edition

Horton, J. (2015), Learning Java by Building Android Games - Explore Java Through Mobile Game Development, Packt Publishing, 1st Edition

Languedoc, K. (2016), Build iOS Database Apps with Swift and SQLite, Apress, 1st Edition

Smyth, N. (2016), Android Studio Development Essentials - Android 7 Edition: Learn to Develop Android 7 Apps with Android Studio 2.2, CreateSpace Independent Publishing Platform, 1st Edition

Chopra, S. (2015), iOS Game Development By Example, Packt Publishing, 1st Edition

Nahavandipoor, V. (2014), iOS 8 Swift Programming Cookbook: Solutions & Examples for iOS Apps, O'Reilly Media, 1st Edition

Journals:

ACM Digital Library (available electronically through the library)

Computer Networks and Computer Communications (journals available electronically via Science Direct through the Library)

Professional Body Websites:

The British Computer Society (BCS) <http://www.bcs.org/>

The Institution of Engineering and Technology (IET) <http://www.theiet.org/>

The Institute of Electrical and Electronics Engineers (IEEE) <http://www.ieee.org> The Association of Computing Machinery (ACM) <http://www.acm.org/>