

National College of Ireland

MSc in Mobile Technologies – Full-time – Year 1 – MSCMTD
Postgraduate Diploma in Mobile Technologies – Part-time – Year 1 – PGDMT

Autumn/ Repeat Examinations – 2015/16

Saturday 13th August 2016
2.00pm – 4.00pm

Mobile Architecture and Security

Prof. John Murphy
Mr. Mikhail Timofeev

Answer **ALL** questions

Duration of exam: 2 hrs
Attachments: None

1.
 - (i) What is known as *Device Defragmentation (DD)* issue in mobile application solutions and how this can be tackled? How can *WURFL* be used in order to minimise impacts of *DD*? [15 marks]
 - (ii) What is *Threat Modeling*? Give an example of a threat model and list some of the controls for each type of threat with respect to a hybrid mobile application. [10 marks]
2.
 - (i) Give a detailed overview of *JavaScript Security Model* and explain what *Same-Origin Policy* is in this context. [15 marks]
 - (ii) Give a brief overview of the following *Mobile Design Patterns*:
 - a) The Logon-and-Forget Pattern
 - b) The A-la-Carte-Menu Pattern
 - c) The As-Soon-as-Possible Pattern
 - d) The Do-as-Romans-Do Pattern
 - e) The Babel-tower Pattern[10 marks]
3.
 - (i) Define *Three Mobile Axioms* of a mobile application strategy. [10 marks]
 - (ii) Compare and contrast *Business-to-Consumer (B2C)* and *Business-to-Business (B2B)* strategies. Explain what *MEAP* is within the context of *B2B*. [10 marks]
 - (iii) Briefly describe the *N-tier Architecture* and it's components. [5 marks]
4.
 - (i) Give examples of *Injection Attacks* and give one example of how it can be carried out. [10 marks]
 - (ii) What is an *Application Life-Cycle*? What are the possible states that any mobile application can swing between? [5 marks]
 - (iii) List the main factors influencing the choice of *Deployment Options* for mobile applications. [10 marks]