Module: Mobile Development 361

Module name:	Mobile Development 361
Code:	MOB361
NQF level:	6
Type:	Fundamental – Diploma in Information Technology (Software Development stream - Mobile)
Contact time:	60 hours
Structured time:	10 hours
Self-directed time:	30 hours
Notional hours:	100 hours
Credits:	10
Prerequisites:	MSS361; MED361; MDB361; SWA261; SWT262

Purpose

The aim of this course is to introduce the student to the diverse possibilities of professional programming for mobile devices. Mobile development has become a very important field with mobile devices and the growing usage thereof. This course will educate those eager to harness this power of mobile development. This course will introduce mobile development as a whole to students including all available platforms.

Students will learn to develop native and progressive applications. Emphasis will be on learning to target the various technologies of interest. By the end of the course the student will be very competent in mobile application development and will have a good understanding of the alternative platforms.

Outcomes

Upon successful completion of this module, the student will be able to demonstrate:

- Integrated knowledge of the perspectives of mobile development, including an understanding of and the ability to apply and evaluate the key terms, concepts, facts, principles, rules and theories required to develop different application types of services.
- An understanding of the different application environments within different settings, and providing different types of services, and the ability to select suitable techniques for establishing user groups and their requirements for an application, including the usability requirements.
- The ability to identify, analyse, evaluate, critically reflect on a range of techniques to evaluate mobile applications, based upon relevant and discounting irrelevant factors, and their suitability to specific contexts, selecting the most appropriate techniques for a particular situation; and the ability to justify and explain how human factors influence aspects of design.
- The ability to take decisions and act ethically and professionally, when designing a suitable programme of user involvement that treats users ethically and equitably, and the ability to justify the design of a suitable interactive system which takes the accessibility and cultural issues into account.
- The ability to develop appropriate processes of information gathering to usability requirements in respect of the user, content and functionality; and the ability to

independently validate the main method of design and evaluate the relative strengths and weaknesses of each and their most appropriate uses with respect to the defined application.

- The ability to select a method of design and develop a suitable prototype for an interactive system.
- The ability to develop, communicate and present the design and results of evaluation of a prototype interface, defining the requirements, describing the design processes and evaluation criteria, using evidence gathered with established methods, to draw conclusions about the strengths and weaknesses of the application, focusing on aspects of usability, accessibility and experience.

Assessment

- Continuous evaluation of work assignments, with a mix of technical, design, usability, and user experience.
- Continuous evaluation of work through a summative test which assesses the theoretical knowledge.
- Continuous evaluation of project work, whereby the student must design an interface meeting the interface and usability requirements in respect of a specific user group, the content and the functionality. Students will work in groups and conduct peer assessments. The grade will reflect participation in the project, the role and mastery of course through a presentation on the developed application.
- Final assessment through a written examination.

Teaching and Learning

Learning materials

- Presentation notes and hand-outs

Prescribed books (EBSCO)

  📖 ***Mohamed S, Hafedh Al-Shihi HAS, Naveen S. Handbook of Mobile Application Development: A Guide to Selecting the Right Engineering and Quality Features. Bentham Science Publishers Ltd; 2021.***

Learning activities

The teaching is a combination between presentation of theoretical concepts and exercises and discussions. The essence of the course is to learn how to design effective, usable and engaging interactive systems. Design of these draws on the relevant theory, its application, based on various techniques. Lectures, assignments and project work will build discipline specific expertise in the area of designing, evaluating and building interactive systems. Assignments will be reviewed in class. The project involves working in a team, conducting user studies with members of the group taking complementary roles, designing applications and carefully critiquing these. The project culminates in a report, presentation and demonstration.

Notional learning hours

Contact	Distance	Other	Type of learning activities	% Learning
y	y	n	Lectures (face-to-face, limited interaction or technologically mediated)	40%
y	y	n	Tutorials: individual groups	20%
n	y	n	Syndicate groups	10%
n	y	n	Independent self-study of standard texts and references (study guides, books, journal articles)	10%
n	y	n	Independent self-study of specially prepared materials (case studies, multi-media, etc.	20%

Syllabus

- Mobile development basics
  - Overview
  - Mobile applications landscape
  - Mobile platforms
  - Limitations of mobile devices
  - Mobile application anatomy
- Advantages of developing in various platforms
- Architecture and application frameworks