2024 / 25

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South East Technological University

Module Descriptor

Multimedia Databases (Computing and Mathematics)

Multimedia Databases (A14028)

Short Title: Multimedia Databases
Department: Computing and Mathematics
Credits: 5 **Level:** Advanced

Description of Module / Aims

This module will introduce the student to the principles and practice of designing distributed and object-oriented databases. The student will gain an understanding of multimedia database concepts, the architecture and design of a multimedia database. This module will also examine the procedures involved in the management and mining of multimedia databases.

Programmes

		stage/semester/status
COMP-0633	BSc (Hons) in Creative Computing (WD_KCRCO_B)	4 / 8 / M
COMP-0633	BSc (Hons) in Multimedia Applications Development (WD_KMULM_B)	4 / 2 / M

Indicative Content

- Advanced Database Concepts: Distributed, Object-Oriented
- Multimedia Data & Metadata
- Modeling Multimedia (MM) Databases: Architectures, Information Models
- Managing MM Databases: Query Processing, Storage Management
- Mining MM Databases: Technologies & Techniques, Mining MM Data
- Management of Text, Image, and Video Databases

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Appraise the concepts, standards, and systems relating to distributed and object-oriented databases.
2. Evaluate the semantic nature of multimedia data, classify, generate and extract metadata for multimedia data types.
3. Determine the requirements and structures for the design, implementation and management of a multimedia database application.
4. Critique technologies and techniques appropriate to mining a multimedia database.
5. Evaluate statistical methods for text analysis, appropriate technologies for image processing and moving images.
6. Design and implement a MM database for a business scenario.

Learning and Teaching Methods

- The lectures will introduce the theory content to the student. The student will be encouraged to participate in class discussions and ask questions to support their learning process.
- The practical classes facilitate the student in implementing the theory learned in the lectures which in turn will form the continuous assessment.

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	24	
Practical	24	
Independent Learning	87	

Assessment Methods

	Weighting	Outcomes Assessed
Final Written Examination	50%	1,2,3,4,5
Continuous Assessment	50%	
Project	50%	2,6

Assessment Criteria

<40%: Unable to interpret and describe key concepts of distributed, object-oriented and multimedia databases.

40%–49%: Be able to interpret and describe key concepts of distributed, object-oriented and multimedia databases.

50%–59%: Ability to discuss key concepts of the design, management and mining of multimedia databases and have the ability to discover and integrate related knowledge in other knowledge domains.

60%–69%: Be able to solve problems within the design, management and mining of multimedia databases by experimenting with the appropriate skills and tools.

70%–100%: All the above to an excellent level. Be able to analyse and design solutions to a high standard for a range of both complex and unforeseen problems through the use and modification of appropriate skills and tools.

Supplementary Material(s)

- Connolly, T. and C. Begg. *Database Systems: A Practical Approach to Design, Implementation and Management*. 6th ed.. NY: Addison-Wesley, 2015.
- Dunkley, L. *Multimedia Databases: An Object Relational Approach*. UK: Pearson Education, 2003.

Requested Resources

- Room Type: Computer Lab