LIVERPOOL JOHN MOORES UNIVERSITY

Module Proforma

Approved, 2022.02

Summary Information

Module Code	7107COMP
Formal Module Title	Computer Systems Technology
Owning School	Computer Science and Mathematics
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Rubem Pereira	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings

Partner Module Team

Contact Name	Applies to all offerings	Offerings

Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours

Lecture	22
Tutorial	11

Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	To evaluate the effect of distribution, benefits and problems, on the design and implementation of computer based solutions, using performance analysis tools. To assess critically a variety of principles, tools and techniques used for the design of distributed computer systems.

Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Analyse the requirements of a distributed system and critically review the suitability of existing distributed systems paradigms.
MLO2	Design a distributed computer system considering the performance implications of various design alternatives.
MLO3	Demonstrate mastery of advanced and research topics in distributed operating systems and middleware.
MLO4	Select appropriate middleware tools for the of design a distributed application.

Module Content

Outline Syllabus
Distributed Computer Systems Architectures - Parallel and Distributed Architectures. The main aims associated with Distributed Solutions.Distributed Systems Concepts and Architectures - Concepts of distribution, the Client Server and Peer to Peer Models. Networked applications, Message passing, Remote Procedure Calling and Remote Method Invocation mechanismsThe World Wide Web model as a case study. Performance enhancing solutions. Network Operating Systems. Operating systems, communications subsystems and Middleware technology.Distributed File Systems Design: File servers, file replication and consistency, caching mechanisms and other performance enhancing techniques.Advanced and research issues in high performance distributed systems

Module Overview

Additional Information

Modern computing technologies and their trends are presented. The distributed paradigm is analysed, including distributed operating systems and applications. The Client/Server and P2P models and their support for distributed applications is presented. Current hardware technological advances are covered. Middleware case studies are used to illustrate distributed solutions.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Report	Distributed systems design	40	0	MLO2, MLO1
Centralised Exam	Examination	60	2	MLO1, MLO3, MLO4