

Liverpool John Moores University

Title: INNOVATIONS IN SOFTWARE DEVELOPMENT
Status: Definitive
Code: **6018KCOM** (118264)
Version Start Date: 01-08-2011

Owning School/Faculty: Computing and Mathematical Sciences
Teaching School/Faculty: Kaplan Financial Singapore

| Team | Leader |
|-------------|--------|
| Glyn Hughes | Y |

Academic Level: FHEQ6
Credit Value: 24.00
Total Delivered Hours: 72.00
Total Learning Hours: 240
Private Study: 168

Delivery Options

Course typically offered: Standard Year Long

| Component | Contact Hours |
|-----------|---------------|
| Lecture | 24.000 |
| Practical | 24.000 |
| Tutorial | 24.000 |

Grading Basis: 40 %

Assessment Details

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|------------|-------------------|---|---------------|---------------|
| Report | AS1 | Investigation concerning the ETL process. | 30.0 | |
| Technology | AS2 | Group mobile application development. | 35.0 | |
| Technology | AS3 | Group RIA development. | 35.0 | |

Aims

To investigate the role and operation of data warehouses in the field of business intelligence and to apply the process of Extract, Transform & Loading (ETL) in constructing data warehouses.

To examine the variations in platform capability when developing mobile applications that aim to replace or augment normal applications and to relate those

considerations to the development process.

To utilize the principles of Object Orientation (OO) and the capabilities of modern Application Programming Interfaces (API) in the development of Rich Internet Applications (RIA) that strives to make software web based and thusly available as a service.

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the operation of data warehouses in support of business intelligence.
- 2 Specify and develop mobile applications for typical platforms.
- 3 Appreciate the functional variations between normal and compact APIs.
- 4 Specify and develop RIAs across clients and servers.
- 5 Employ OO design and programming when producing applications for typical APIs.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

| | | |
|----------------|---|---|
| ETL process | 1 | |
| Mobile App Dev | 2 | 3 |
| RIA dev | 4 | 5 |

Outline Syllabus

Business Intelligence and the Analytical Database.

Extract Transform & Loading.

Multi-Dimensional Modelling.

Star & Snow Flake Schemas.

Aggregations.

Analytical Extensions to SQL's SELECT Statement.

Restrictions of compact APIs and Smart Device specific API capabilities.

Web Based Applications versus Mobile Applications.

RIA History & Overview.

Interface Design - using Scripting or Designers.

Media Integration.

Object Oriented Design & Programming review.

Client Side Scripting.

Data Communication through Web Services.

Learning Activities

Learning activities will be through lectures and tutorials where students will be encouraged to ask questions and discuss case studies and supported labs where students will be encouraged to put theory gained in lectures and tutorials into

practice.

References

| | |
|------------------------|--|
| Course Material | Book |
| Author | Golfarelli, M. |
| Publishing Year | 2009 |
| Title | Data Warehouse Design: Modern Principles & Methodologies |
| Subtitle | |
| Edition | |
| Publisher | McGraw Hill Osborne |
| ISBN | 0071610391 |

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|------------------------|-------------------|
| Course Material | Book |
| Author | Murphy, M. |
| Publishing Year | 2008 |
| Title | Beginning Android |
| Subtitle | |
| Edition | |
| Publisher | APRESS |
| ISBN | 1430224193 |

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|------------------------|-----------------------------------|
| Course Material | Book |
| Author | Esposito, D. |
| Publishing Year | 2008 |
| Title | Programming Microsoft ASP.NET 3.5 |
| Subtitle | |
| Edition | |
| Publisher | Microsoft Press |
| ISBN | 0735625271 |

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|------------------------|-------------------------|
| Course Material | Book |
| Author | MacDonald, M. |
| Publishing Year | 2009 |
| Title | Pro Silverlight 3 in C# |
| Subtitle | |
| Edition | |
| Publisher | APRESS |
| ISBN | 1430223812 |

Notes

This module allows the students to explore and gain competence within numerous

areas of modern software development. The focus of development is contemporary in that each area explored, is an important field of software development that is key to the growth of Information Technology in the world today.