Introduction

- Cindy Liu

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- BrightSpace Self-Enrolment

- Module name: Web Development 2

- Module: CMPU2022

Course Schedules

- ➢ 2 hours lectures
  - Thursday 12:00-14:00 (CQ-LG20 Small Tiered Lecture Theatre 4)
- ➢ 2 hours labs
  - Friday 13:00-15:00 (Four Groups in four lab rooms)

Course Notes

- All course content will be available through BrightSpace.

- The module has been set to facilitate self enrollment.

- If you cannot access the content please email Cindy asap!!

- cindy.liu@TUDublin.ie

Course

To date, have looked at mostly "static" website

➢HTML

➢Client side javascript/ stylesheets etc

This course focuses on enabling dynamic web applications

Module Description

Modern web applications comprise at least three distinct tiers:

1. the front tier, where content is presented using HTML, CSS, XML, XSL-T, scripting and other technologies, all of which are treated in the pre- requisite module Web Development I.

2. the middle tier, where content is dynamically generated from data stored in the database at the

Module Description

3. back tier. The purpose of this module is to develop the student's skills so that they can develop all three tiers of a web application.
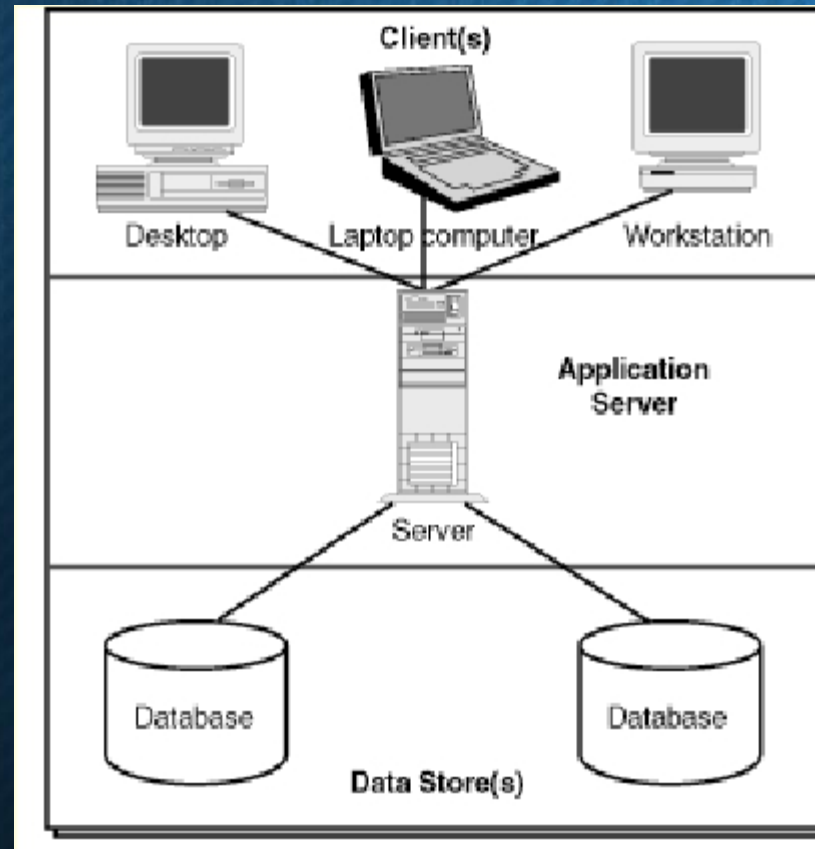
Module Description

- Database issues are treated in the Databases module,so the key requirement here is integration of the database with the middle layer.

- PHP as the core of the module being introduced to the student in order to get a flavour of the server side technology to development.

- In addition, the foundation on the Internet architecture treated in the Web Development Imodule is extended by examining the core protocols of the Internet within the TCP/IP model.

Learning Outcomes

- Understand the capabilities and functionality provided by a **web server** and have practical experience of installing and configuring a web server

- Understand, recognize and have some practical experience of a variety of **server-side technologies** available for development of web applications

- Appreciate and understand the **difference** between the available server side technologies

Learning Outcomes

- Be able to select and justify an appropriate **application architecture** for a web application

- Understand how to and have practical experience of accessing **databases** across the web

- Be able to design and develop a **web application** that uses a server side database

Couese Outlines

Internet Infrastructure and Protocols:

TCP/IP protocol stack. OSI protocol stack. Connection oriented protocols.

Connectionless protocols. Basic routing. Functions of IP. IP addressing.

TCP. UDP. The Domain Name service. Name resolution.

Couese Outlines

Tiered Architectures : n-Tier architectures.

Client, server, database. Roles of layers.

Interaction between layers. Client server architectures. Management of database. Role of application servers.

Couese Outlines

Web servers: web servers in an internet architecture; installing and configuring a web server; servicing HTTP requests; features provided by a web server; comparing and contrasting different servers.

Server Pages: developing a server side application using markup language embedded with programming code

Couese Outlines

Accessing databases: connecting to a database, embedded SQL, available databases, database features necessary in a web application

Server side technologies: overview of available server side technologies, CGI, Perl, PHP, Python, ASP, JSP, Java servlets; contrasting comparing capabilities and functionality available for server side development; recent advances inserver side technologies

Couese Outlines

- ➢ Structure
  - 2 hour lecture
  - 2 hour lab

- ➢ Paper Examination – 50%

- ➢ Assessment - 50%
  - Project (70%)
  - Lab exercises (30%)

Course Materials

- Lectures Notes on Brightspace

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