### Introduction

- **Advanced** …
  - … not the basic stuff
  - … significant prior knowledge is expected

- **Internet** …
  - … well, Java really (J2EE more to the point)
  - … used to develop web applications

- **Programming** …
  - … it’s a very practical subject
  - … mainly programming

### Contacts

- **Coordinator:**
  - Chris Wong
  - Room: CB10.04.426, Phone: 9514-7938
  - Email: chris.wong@uts.edu.au

### Objectives

- **Primary objective:**
  - "Implement a medium sized web application incorporating multiple data sources, transaction integrity, data and application security for more than one front-end delivery mechanism"

- **Other objectives:**
  - describe, conceptually, a full e-commerce application
  - describe components of multi-tier web application
  - describe robustness, availability, security features
  - explain transaction concepts
  - introduce security features
  - compare and contrast web application architectures
  - recommend solution for arbitrary web application

### Text & References
Subject Outline

- The subject outline handout is the "contract" between you and UTS
- READ IT and don’t hesitate to ASK if you have any questions about it
- I’ll discuss the key points next...

Pre-requisite knowledge

- 32516 Internet Programming or equivalent
- Good Java programming skills !!
  - This subject will not teach you how to program in Java
  - This subject will introduce you to various Java class libraries, but it will still be largely up to you to apply that knowledge in the context of a Java application

Pre-requisites (cont)

- Java skills should include using CLASSPATH and packages
- You should know how to write HTML and should be able to create a basic web site with a Form.
- You should know some basic Unix skills
  - Editing documents (vi or gedit etc)
  - Using bash shell, setting environment variables
  - Using x-windows (we use Gnome or KDE)
  - We use RedHat Linux, Fedora Core.
- You should have used an IDE like BlueJ or Eclipse

Topics

- Web Application Design Issues & Principles
- Servlets
- Java Server Pages (JSP)
- Database Connectivity (JDBC)
- JNDI
- Enterprise Java Beans (EJB) x 2
- XML and web services
- Security
- Transactions
- Dealing with Legacy Systems
- Design Practices in enterprise applications

Assessment-1

Three assessment items:

- Assignment 1 (30%) – 3-tier application
  - Code & demo due: 6pm Tuesday 13th September (before lecture!!!!)
  - INDIVIDUAL ASSIGNMENT

Assessment-2

- Assignment 2 (40%) – E-business project
  - Draft architecture/progress report due: week 9
  - Draft design/progress report due: week 10
  - Code & demo due: 5pm week 13 (2nd Nov)
  - GROUPS of 2 (or 3 – will confirm later)
Assessment-3

- Final exam (30%): Closed book
  - Multiple choice +
  - Short answer

Assignment 1

- Three-tier application
  - Build a small application consisting of three tiers:
    - user interface (tier 1)
    - business logic (tier 2)
    - data access (tier 3)
  - Develop a simple web interface
    - But don't concentrate on GUI.
  - Uses Java Servlets and/or JSP for tier 2
  - Uses a database for tier 3 (Oracle etc)
- Individual work
  - MUST demo in lab, otherwise max mark is ½ marks!
  - This is a "warm up" for the main project

Assignment 2

- E-business project
  - Build an n-tier e-business application
    - Using 2 back-end data sources, e.g. database and XML data
    - Incorporate transactions, security, etc.
  - Done in groups of 2 (or 3 – to be determined)
    - inform tutor of team by week 4
  - Individual ONLY with permission of coordinator.
  - Early Draft architecture & design reports
  - Final documentation, code & demo on week 13
  - MUST demo in lab, else max ½ marks

Assessment Conditions

- No contract cheating – do not outsource your assignments
- Special condition:
  - You must pass your individual assessments, otherwise you get a MAX of a pass mark
  - ie: asst1 + exam >= 30%
- So if you get asst1=15/30 & asst2 = 40/40 & exam= 14/30 (totaling 69% Credit), you get 50 P instead!!!

Online support

- Use the website
  - http://online.uts.edu.au
  - "Advanced Internet Programming"
  - Announcements, news and questions/answers will be listed there.
  - See also the FAQ, software, machines menu items
  - Be aware that course notes and lab materials will be updated if necessary during the semester...
- See also:
  - http://start.it.uts.edu.au (documentation menu)

Text Book

- An electronic copy is also available by the Library at:
How we will do it

- Each week will focus on a different aspect of building an enterprise system
- Lecture will highlight important features
- Does **NOT** cover everything
- Private reading/practise is essential!

How we will do it

- Labs are where most of the learning will happen
- We use Oracle WebLogic Server on Linux
  - Some early labs to familiarise you with WebLogic
  - Later labs and assignments all use WebLogic
- We use Oracle 11g database server
  - But you can use any JDBC compatible database eg: MySQL, PointBase, ODBC etc
  - But no formal support for it!

Code Management

- We will use SUBVERSION to manage your development
- We have Subclipse installed
- Compulsory to "check-in" your project each week
- You must allow your tutor read access
- Use develop.eng.uts.edu.au

- If you don't submit weekly,
  -1 mark penalty per week

Lab arrangements

- Use Linux workstations in building 10
  - these are fast Core2 workstations, 4gb memory!
  - Boot using Linux, not Windows 2K/XP
  - do **not** use the "rerun" server
- We have a Frequently Asked Questions (FAQ) on the website – use it!!!

Alternative arrangements

- You can use lab workstations remotely
  - for doing assignments from home, etc.
- You can install WebLogic at home or laptop
  - (Windows & linux versions are available)
- You can bring in your laptop for labs & demo.

Prizes

- Customware Asia Pacific Advanced Internet Programming prize $500
- Categories:
  - (1) Undergraduate: BSc(IT) or BBus BSc(IT)
  - (2) Postgraduate: MIT or MSc(internetworking)
Questions?