

# Developing Enterprise IM Skills

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Muscat / Sultanate of Oman

## Course Description:

Business instant messaging (IM) is a quick form of communication which allows you to talk to colleagues and customers via an online chat window. Choose the right instant messaging client and use it effectively.

## Introduction to Instant Messaging

What is Instant Messaging (IM)? IM is a way for you to communicate instantly with your friends over the Internet. That might not sound so different to email. Have you ever noticed how cumbersome it is to have a brief conversation via email? You have to click Reply to each message, and then find the right spot in the message to type something new, and then send it. Then you have to wait for the next message to arrive! IM lets you to have a conversation almost as naturally as on the phone or face to face, by typing messages into a window shared between you and your friend's screens.

## Course Outline:

- Introduction
- Literature review
  - Introduction to instant messaging (IM) systems
  - Existing products
  - Security concerns
  - The advent of 'business-strength' | 'security IMs
  - Discussion and selection of suitable development languages
- C and C++
- Java
- Server-side scripting languages such as PHP
- Review and selection of development languages
- GUI support in Java
- Network programming in Java
- Database Connectivity in Java
- Security in Java
  - Discussion and selection of suitable security techniques
- Kerberos
- Telnet and SSH
- SSL
- Review and selection of security techniques
- Underlying principles behind SSL
- Secure communication between client and server using SSL
- Implementations of SSL
- How SSL can be used in a Java application
  - Summary
- Requirements
  - Introduction to requirements
  - Use case breakdown

- Requirements analysis
- User registers details
- User logs into messenger
- User initiates a conversation with a contact
- User is invited into conversation by another contact
- User logs out of messenger
- Design
  - Introduction
  - Selection of web server and database technologies
  - Registration and messenger download
  - Displaying online users
  - Secure database transactions
  - Secure conversation between contacts
- The principles behind RMI
- Initiating a secure conversation
- Receiving a secure conversation
- Database design
- System architecture
- Security plan
- Implementation
  - Implementation decisions
  - Configuring the web server
  - Securing the Apache web server
  - Configuring the MySQL server
  - Registering user details on the website
  - Securing the database connection
  - The Messenger application
- The Login Box class
- The Messenger class
- The Conversation Handler Interface
- The Conversation Window class
- The Conversation Handler Server class
  - Creating a signed JAR file and making it downloadable
  - Running the signed jar file with secure database connection
- Security testing
  - The secure Apache web server
  - Verifying the JAR file
  - Testing the secure database connection
  - Client communication via the server

### **Introduction**

- Welcome and Course Overview
- System Requirements / Prerequisites and Caveats

### **E-commerce Overview**

- First Generation E-commerce
- Second Generation E-commerce
- The Next Generation
- E-commerce Terminology

### **First Steps with Our Client**

- The Design and Development Process
- The Sales Call and First Analysis
- Detailed Description of the Client Company

- A Close Look at the Customers
- Detailed Description of the Products
- Client Goals Financial Expectations
- Reviewing the Competition

#### **Details from the Client**

- Past and Future Customer Purchases
- Customer Expectations of the E-commerce Site
- Supporting an Internet Sales Channel
- Supporting Internet Customers
- Justification and Challenges for E-commerce With This Client

#### **Choosing the Type of E-commerce**

- Hosted Stores
- Shrink-wrapped E-commerce Plugins
- Enterprise E-commerce Server Software
- Custom E-commerce Development
- Application Programming Language Choices

#### **Contracts and Specifications**

- Specifications: Before or After the Contract?
- Estimating Timelines for E-commerce Sites
- Sample Contract and Possible Issues
- Specifications: Design and Content
- Specifications: E-commerce Functionality

#### **Site Planning and Flow Diagrams**

- Location, Location, Location
- Mapping Product Browse and Search
- Mapping Purchase Flow
- Site Map and Navigation Elements

#### **Design**

- Colors, Logo, and Look and Feel
- Home Page Elements and Layout
- Product Search Results
- Product Detail View
- Administration Area Home Page
- Using Design to Reinforce Credibility
- Three Comps for Client Review

#### **CFML Mock-up**

- CFML Mock-up: Images
- CFML Mock-up: CSS Part 1
- CFML Mock-up: CSS Part 2
- CFML Mock-up CSS Part 3
- Header and Footer Files

#### **Financial and Security Decisions**

- Payment Processing Overview
- Credit Card Options
- Live Credit Card Processing
- PayPal
- Accepting Checks Online
- Making the Transaction Secure

- Other Security

### **Sales Tax and S&H Charges**

- Charging Sales Tax
- Charging for Shipping
- Shipping Charge Options
- Other Shipping Questions
- Drop Shipping
- Charging Handling Fees

### **Data Elements and Integration**

- The Chasm Between Inventory and E-commerce
- Data in Two Databases
- Exporting and Importing E-commerce Data
- Data Storage Requirements
- Maintaining Records and Proving Sales Approval

### **Data Structure**

- Choosing the Database
- Basic Table Schema
- Reviewing the Products Table
- Reviewing the Contacts Table
- Reviewing the Orders Table
- Reviewing Order Lines and Order Shipping
- Table Relationships

### **Development**

- Coping With Statelessness
- Development Methodologies
- Directory Structure and store.cfm Router
- Add Item to Cart Part 1
- Add Item to Cart Part 2
- Add Item to Cart Part 3

### **Shopping Cart View**

- Cart Router Template
- Cart View Part 1
- Cart View Part 2
- Cart View Part 3
- Cart View Part 4
- Change, Delete, and Product Detail
- Add Item Count To Navigation

### **Checkout Billing**

- Checkout Billing Part 1
- Checkout Billing Part 2
- Checkout Billing Part 3
- Checkout Billing Part 4
- Validate Billing Information

### **Checkout Shipping**

- Checkout Shipping Part 1
- Checkout Shipping Part 2
- Checkout Shipping Part 3

- Validate Shipping and Sales Tax

### **Order Summary**

- Order Summary Part 1
- Order Summary Part 2
- Confirm Order

### **Order Processing**

- Process Payment Part 1
- Process Payment Part 2
- Finish Processing Part 1
- Finish Processing Part 2

### **Conclusion**

- Recap and What is Left