

**MODULAR PROGRAMME**

**COURSEWORK ASSESSMENT SPECIFICATION**

**Module Details**

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| Module Code UFCF85-30-3 | Run 15SEP/FR/JUN15/1 | Module Title  Enterprise Systems Development |
| Module Leader  Chris Simons, Mehmet Aydin | Module Coordinator | Module Tutors Chris Simons, Mehmet Aydin |
| Component and Element Number  B1 | | Weighting: (% of the Module's assessment)  50 |
| Element Description Coursework Assignment | | Total Assignment time |

**Dates**

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| Date Issued to Students:  02/11/2015 | Date to be Returned to Students  02/11/2015 |
| Submission Place:  Blackboard (as a complete zipped Netbeans project)  Plus: In-class demonstration | Submission Date   03/12/2015 |
| Submission Time 2.00 pm |

**Deliverables**

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| 1. Zipped Netbeans project 2. In-class demonstration in week 19 (W/C 30th Nov) or week 20 (W/C 7th Dec). |

**Module Leader Signature**

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| Dr Mehmet Aydin |

# Enterprise Software Development (UFCF85-30-3)

## Group Coursework Assignment

### Description

You (as a group) are asked to design and implement a software system using the features and functionality of the examples from the course book, the practical classes, had demonstrated in the lecture or been referred to in the scope of the course.

**You should design and build your system using JSP/Servlets using MVC on a Java EE such as Glassfish or Apache Tomcat server - with a local mySQL Relational database backend. You will be required to demonstrate and discuss your working system using Netbeans IDE and mySQL.**

You must use the best practice techniques as demonstrated or suggested in the lectures, practical/tutorial classes or given on Blackboard.

Your group will treated as a unit and any individual member may be required to demonstrate complete knowledge of the system you are presenting.

# Marking

Your work will be marked in two steps.

Step 1 Ten test case scenarios (50 marks)

Step 2 An explanation of how your system works including design and development considerations. (50 marks)

### Assessment System

You are required to submit your work in the Blackboard VLE as a zipped Netbeans project.

Demonstrations will take place in scheduled practical classes at the end of semester one.

* You must download (from Blackboard) and unzip your project.
* You must run the SQL scripts provided to create and populate the required tables.

Your Netbeans project and mySQL server must be runnable on the normal FET lab machines (or your own laptop which you must bring).

* It is your responsibility to attend scheduled classes – failure to demonstrate your system in class will be treated as a non-submission.
* All group members will be awarded the same mark -
  + However, any group member failing to take part in the demonstration will be assessed as a non-submission and given zero marks.

The quality of your verbal expression in this demonstration is important – incoherent explanations will not achieve high marks. Please be advised that the demonstration lasts for a fixed duration of 15 mins per group, so be prepared to concisely demonstrate and explain your system.

## Specification

Alpha-Cab is a minicab company, which is planning to develop a **web-based booking system** to organise their services giving access to all stakeholders including customers so as to boost the quality of the services. The company has one head office and multiple drivers to organise its services accordingly. The main expectations are as follows:

* The head office would like to keep all the registry data and business rules, as well as to operate the whole system accordingly. The operations include registering new drivers (cars) and new customers, and keeping customer records up-to-date. The head office also does booking operations with assigning each customer request to a driver based on availability.
* A customer is expected to book a car for a particular transportation with date and time using a client interface, where the following information of customer will be needed for booking: Name, Address, Destination address, date and time. Once is booked the charged fee should also be appended.
* The system should be operated via MySQL database (DB), where the connectivity will be maintained via a server and DB operations should be carried out using SQL. Other relevant processing will be done by Java EE components orchestrated by Servlet(s).
* Three different client types are expected: Head office (admin), Customer, Driver. **Web-based** access is to be granted to the clients.
* The drivers should be able to get the list of the jobs assigned to them each day
* The head office should be able to display all the bookings they completed each day, and be able to calculate their daily turn over.

During the development you will be supplied with a sequence of test cases, which will include all or some of these functions:

1. Login to the system as a typical user (e.g. user = "admin", password= "admin") and create a Session lasting for 20 minutes.
2. List all drivers and all customers registered for the head office
3. Prepare a list of jobs for each driver
4. Prepare a daily report (including the turnover, and the number of customers served)
5. List all customers served per day including the destinations and the charge incurred.
6. Let a customer book a cab for a particular date and time - (if it is the 1st time, the office should add a new customer record, the office should assign the customer to an available driver).
7. Add more drivers to the list
8. Create a customer invoice - showing incurred cost and VAT for a total cost.
9. Remove a driver
10. Change the price of a destination

Additionally - a clear and understandable example of "**Web Services**" is requested that be incorporated into the system - merely for proof of concept. *For instance, the distance between two addresses can be calculated via* ***Google map services****, or alternatively* ***Weather services*** *can be included in the page(s) to demonstrate the use of Web Services.* It can be useful for the system to use "**Filtering**" - a clear example of this would also be favourably considered (“**Filtering**” is discussed in Chapter 13 of HF book).

You may assume the system will accept cookies. No threading/concurrency considerations are required. All data must be stored and retrieved from the mySQL database.

You will be supplied with one SQL script to build tables containing some samples of drivers, customers and journeys. (**Alphacab.sql**).

## For the Demonstration

Each group member should be prepared to perform any of these tasks or explanations.

You will show that your database contains only the drivers, customers and journey details, which will be provided to you well before the due date.

You will be asked to step through the test cases in the order provided.

You will discuss design and development considerations - for example by producing and explaining one or more "Interaction Diagrams" (e.g. Chapter 3, page 88 of course book).

You will be asked to show and explain your code - which must be readable and commented.

# Demonstration and Marking

## Step 1 The Test Cases.

* These must be demonstrated sequentially and as described.
  + Marks could be lost – e.g. for a lack of clarity or failure to demonstrate tests sequentially.
* Each successful test case is worth 5 marks (total 50).
  + Normally a test will pass or fail
  + Do not combine the Test Cases - each must be a distinct operation.

**You must run the SQL script supplied**

### Ambiguity

If you think there may be some ambiguity in the specification or Test Cases you must check for clarification with the tutor in your normal practical class. False assumptions may cost you marks.

## Step 2 Design Talk through.

You should briefly and concisely explain the design and implementation of the following features of your system (50 marks)

* The MVC pattern and project file structure (10 marks)
* The relational database (10 marks)
* Sessions (10 marks)
* The DD (web.xml) (10 marks)
* Show and Explain how you used Web Services and Filtering (10 marks)