### Staffordshire University logoFaculty of Computing, Engineering and Sciences

# COIS40897 Skills for Computing Professionals DRAFT

**Assignment - Worth 60% of module marks**

**All students MUST attend the presentation / demonstration stage to receive marks for those parts. Non-attendance at any part will result in zero marks for those sections.**

**All dates are shown in the assignment in the relevant section. Standard submission rules apply. Late submissions attract ZERO marks for that section, and will forfeit the opportunity for feedback of that section.**

**All submissions are electronically via blackboard.**

**The University Regulations regarding extenuating circumstances and plagiarism will apply.**

# Learning Outcomes (assessing 1,3,4 and 5)

# Demonstrate the key academic study skills for research, communication (verbal and written) and collaboration.

# Demonstrate the ability to analyse an award-related job advertisement and make an application for the job.

# Demonstrate the practical skills required for the design, creation and use of a database including the querying, insertion, update and deletion of data.

# Design, implement and test at least one component of a software artefact with appropriate documentation to fulfil the requirements of a specification.

# Collaborate in a software development team, and reflect on the benefits and challenges of working in a team.

# Scenario

Carreg Music has approached the group about developing a PHP-based web application for music details, music reviews and concerts. They have seen IMDb for movies and TV, and last.fm for music, but neither of these fulfil their requirements.

They have sent you some points for the initial requirements of the site in a separate document. They have also arranged a slot on 24th February to discuss these requirements, and for you to ask any questions to confirm any assumptions you have made.

# Part One (Individual Work) – Databases (30% of assignment)

**Hand-in - 15:00 17th March 2015 electronically on blackboard – upload the presentation plus a copy of all tables, and queries)**

This section is to design, build and test the database you will need for your web application.

**Tasks**

1. Design the database using normalisation techniques, making sure all your fields are of suitable length / type
2. Create the database in MYSQL (**on your university account**), making sure all fields have the correct format
   1. Add data to your tables to test the queries below
3. Create the following queries.
   1. All artists (all fields) ordered by artist name in ascending order.
   2. All artists (all fields) ordered by artist name in descending order.
   3. All ‘Just Announced’ Concerts
   4. 5 randomly selected concerts in the UK
   5. All the comments for tracks with the genre of ‘Rock’
   6. All the comments for the track ‘We Will Rock You’ by Queen
   7. The full title and artist name of all music tracks released between 01/01/2014 and 31/12/2014 ordered by release date
   8. The full title and artist name of all music tracks with a genre of ‘Pop’ ordered by full title ascending
   9. The full title and artists of all collaborating tracks featuring Robbie Williams
   10. The average rating for ‘Ellie Goulding’ tracks (including collaborations)
   11. A count of all music tracks split by rating (0-5)

**Presentation**

You will be asked to **present** in 10 minutes the following in a given slot on 17th / 19th March 2015 during the class time.

1. A list of any assumptions you made
2. An Entity Relationship Model, using the diagramming techniques shown in the lecture, for the given scenario, explaining the stages you went to arrive at this design
3. A demo of your database, showing for each table, its fields, field types and lengths. Indicate which are your primary and foreign keys, and any default values / auto generated content.
4. A demo of your queries and results for each, stating how you tested the SQL was correct.

# Part Two (Group Work) (50% of assignment)

**Demos / Presentations – Week beginning 5th May 2015**

**Hand-in - 15:00 5th May 2015 electronically on blackboard – upload the presentation plus a link to your web application**

Taking the roles of your award area, produce the web application for the given requirements (in the Scenario and the Q and A session).

The application must be written in PHP / MYSQL / HTML5 / CSS and JavaScript. **All other technologies / other languages / any frameworks MUST be agreed with the lecturers beforehand.**

**For Design**

* Follow and conform to current web standards in HTML, CSS and JavaScript
* Follow current web design trends / good practices in web design for your target audience
* Contain graphics suitable for the web
* Contain a logo designed and created by your group

**For Programming**

* Take the content from a database, which you created by reflecting on the feedback from Part One
* Be programmed using an agreed standard for your group, optimising and re-using your code where possible.
* Be tested in a suitable manner for a database backed PHP web site

**In a 15 minute presentation / demonstration (followed by up to 5 minutes of questions), your group must**

1. **Demo** your final database, showing all tables (approximately 2 minutes)
2. **Demo** your finished web application showing how the requirements are fulfilled (approximately 10 minutes)
3. **Present** any testing done on the web site – showing what was changed due to testing (approximately 3 minutes)

# Part Three (individual) (20% of the assignment)

**Hand-in - 15:00 8th May 2015 electronically on blackboard – upload the report**

Write a 1000 word reflective report on the following

1. The roles of each member of the team
2. The process you followed to communicate effectively within your team
3. The benefits and challenges you faced when working in the team
4. A peer assessment form