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| **Assessment 2** | **Practical Project** |
| **Word Limit or equivalent (e.g. time)** | Artefact |
| **Weighting** | 50% |
| **Learning Outcomes Assessed** | 1. Apply database design techniques, e.g. entity relationship diagrams to plan and develop a database for storing information that can be accessed via a website 2. Apply features of data definition/data manipulation language to perform basic data manipulation and information retrieval operations 3. Develop web pages that integrate static and dynamic content, and interact with a database |
| **Submission date** | Friday 3rd May 2019 |
| **Feedback date** | Before 3rd June 2019 |
| **Module Leader** | Temitope Alade  [t.alade@worc.ac.uk](mailto:t.alade@worc.ac.uk) Room CH2010 |
| **Verified by** | Stuart Kerrigan  [s.kerrigan@worc.ac.uk](mailto:s.kerrigan@worc.ac.uk)  Office: CH1004 |

**COMP1341 Introduction to Web and Database Development 2018-19 Assignment 2**

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**If anything about this assignment is not clear to you, please contact the module leader.**

**You are expected to plan your time and work to manage your overall assessment workload.**

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| What you need to do | You are required to design and implement a database driven website or information system. This database may be integrated into your website created in assignment 1.  This assignment is comprised of two (2) main parts. The first part is the actual design of a relational database and the second part is the implementation (building) of the database and its web-based application. You must complete both parts.  **Part 1: Designing a relational database**   * 1. Design a relational database by drawing an Entity Relationship Diagram (ERD) showing entities (tables), relationships (e.g. one-to-one, one-to-many) and relationship names for your system. Break down any many-to-many relationships into one-to-many relationships. The diagram should contain a minimum of 4 entities (tables). The ERD should be drawn using a computer, e.g. Visio or shapes in Word and use the notation taught in the sessions. Explain your ER-D and state any assumptions   2. Compile a data dictionary for the entities, i.e. for each entity, list the attributes, attribute length, attribute data type and a short description of each attribute. For each entity there should be a minimum of 4 attributes (with the exception of link tables). Also identify the primary keys (underline the primary keys) and foreign keys (put an asterisk next to the foreign keys). Include any validation rules that may be appropriate. State any assumptions   Design the input and output pages that will form the basis of your database view on your site. Include 2 input forms and 1 output screen/form. Include details of tables, attributes, validation and Pseudocode/Structured English to show the logic of your design/application. State any assumptions and expand on the above to explain the logic of your design. A Menu Map to show the whole system.  **Part 2: Implementation of the database**  This part of the assignment should be submitted as a Word document showing screenshots of the PHP with embedded SQL together with a working URL of your website (which should show the dynamic content retrieved from your database) along with site files. Please see specific handing in directions further down this document.   1. Create the database for the website or information system designed in part 1 above using PHP linked to phpMyAdmin. When creating your database tables identify the data type and size for each attribute and the keys (e.g. primary key). Make sure that your database is relational by using the relationships and foreign keys specified in part 1. Populate the database with dummy data (ensure you have enough data records for each table in order to be able to manipulate your data). 2. Use PHP with embedded SQL to display data, insert into and delete data from your relational database within a new webpage/s of your website from a database administrator/maintainer perspective. Please note that marks will not be given to the design of the webpage/s; however, clarity of input forms and output of data will be taken into account. 3. Include annotated screenshots explaining the PHP with embedded SQL for the creation of the database and its population with data to show your understanding of the data definition / data manipulation language (e.g. DDL, DML) and PHP.   For the annotated screenshots show:   * 1. Connect to the database   2. Create table   3. Insert into the database   4. Display data from the database   5. Delete from the database   6. Show at least one join |

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| How you should present your work **Report Template** | Your work should be submitted to the blackboard as a single zipped file (.zip format only, showing your student number (e.g. **COMP1341-001-YourStudentNumber**) containing your website folders and files, and your report (in WORD or PDF format).  You are required to use the assignment template below, which is located on page 5. Your report should include the following on the title page:  Module name and code  Student number  Submission date  Assignment Number/Title  Your report must also contain the address of your site on the teaching server (i.e. a working web link to your site) together with any further access information that might be required.  **PLEASE NOTE:** the URL link to your website must work properly at the time of grading. If your tutor cannot access the website, it cannot be marked.  References (use the University Harvard referencing system, support is available through the library [www.worc.ac.uk/library/guides/study-skills/referencing](http://www.worc.ac.uk/library/guides/study-skills/referencing)) |

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| How we’ll give you guidance | Each week you’ll see the module content identifies how that week’s topic relates to the assessment. We’ll remind you in-class of which section of the report the material relates to. You must also take responsibility for asking if anything is unclear or if you require extra support.  If you want to check if your work will fall foul of plagiarism (copying someone else’s work without an appropriate attribution) check out this library guide for support <http://libguides.worc.ac.uk/guides/study-skills/plagiarism> |

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| How and when to hand the assessment in | Work must be should clearly show your student number. **You are required to keep a copy of work handed in**. You should submit your work by the 3pm deadline on **Friday 3rd** May 2019. You should submit your work to Blackboard, which is available via your student portal.  If you have issues with Blackboard, Turnitin or PebblePad you will need to contact [eos@worc.ac.uk](mailto:eos@worc.ac.uk) |

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| How the assessment will be marked | The assessment of your work will consider both the design of a relational database (50%) and the implementation of the database on your website (50%).  Specific criteria is in the Grading Matrix for this assignment, which can be found on page 7 |

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| How you will get feedback | If you would like formative (ungraded) feedback on the status of **part 1** of this assignment, you may submit whatever files you have completed into Blackboard by **Friday 1st March at 3pm.** No submissions will be accepted via Blackboard after this date. The tutors will give appropriate written feedback on the status of your submitted files and work (but no grading), and will upload feedback via Blackboard. It is not mandatory that you submit anything, but it is highly recommended. Formative feedback for Part 2 will happen during seminar sessions throughout the semester.  You will receive feedback on the completed assignment via SOLE within 20 working days of the hand in date. Please read it carefully so you understand why the work has received the grade it has and to reflect on the feedback to improve your grades in future assessments. |

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| If you have problems submitting work or submitting work on time | **Firstly, contact someone, your Module Leader or personal Academic Tutor.**  I**t is essential that you submit your work, in order to be able to pass the module.**  Work which is submitted late will be subject to grade penalties as below.   * Students who submit course work late but within 5 days of the due date will have work marked, but the grade will be capped at the minimum pass grade unless an application for mitigating circumstances is accepted. * Students who submit work later than 5 days but within 14 days of the due date will not have work marked unless they have submitted a valid claim of mitigating circumstances.   For full details of submission regulations see Taught Courses Regulatory Framework at <http://www.worcester.ac.uk/registryservices/documents/TaughtCoursesRegulatoryFramework.pdf> |

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| If you are ill or have personal problems | The University has a system for applying for mitigating circumstances where things happen, beyond your control, which affect your assessments. Don’t suffer in silence. Speak to your Module Leader, your Personal Academic Tutor or a Programme Advisor.  Full details of Procedures for Dealing with Exceptional Mitigating Circumstances are available at <http://www.worcester.ac.uk/registryservices/679.htm> |

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| If you engage in academic misconduct (cheating) | Do not use material from sources without acknowledging them using a recognised referencing system. Do not copy another student’s work. If you do you will be referred to the School’s Academic Integrity Tutor and may face further penalties. Details in your Course Handbook accessible via SOLE and at [http://www.worcester.ac.uk/registryservices/documents/Proceduresforinvestigationofa llegedacademicmisconduct.pdf](http://www.worcester.ac.uk/registryservices/documents/Proceduresforinvestigationofa%20llegedacademicmisconduct.pdf) |

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| If you don’t pass at the first attempt | DON’T PANIC. In the event you are required to take reassessment you will receive formal notification of this via a letter from Registry Services posted on the SOLE page after the meeting of the Board of Examiners. The letter will normally include a copy of the reassessment task(s). Deadlines for re-assessment can be found in the University Calendar at <http://www.worcester.ac.uk/registryservices/655.htm> |

**Assignment 2 Template**

**COMP1341 (Introduction to Web and Database Development)**

**Assignment 2**

**Semester 2 - 2018/19**

**Student number = 123456**

**WEBSITE (with database) URL: www.**

□ I do not want my work to be used anonymously to help future students

**Assignment 2 Template: Database implementation  
  
  
Part 1: Database Design**

1. **Working URL for website with database***Insert the URL here*
2. **Design of the relational database***Insert designs (e.g. ERD and relationships) here*
3. **Data dictionary***Insert data dictionary and assumptions etc. here*
4. **Design of the input and output pages***Insert designs and further requirements here*

**Part 2: Implementation of a database**

**Note: Remember to include all of your site files, in a .zip file. Remember to follow requirements (A) and (B) on part 2.**

1. **Annotated screenshots explaining the PHP with embedded SQL:**

*Insert annotated screenshots of:*

* 1. *Connect to the database*
  2. *Create table*
  3. *Insert into the database*
  4. *Display data from the database*
  5. *Delete from the database*
  6. *Show at least one join*

### **Grading Matrix**

### This matrix captures the assessment criteria for this part of the coursework.

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|  | **Student Number: 123456** | **Academic Year and Semester:** 2018/19. Semester 2 | | **Learning Outcomes:**   1. Apply database design techniques, e.g. entity relationship diagrams to plan and develop a database for storing information that can be accessed via a website 2. Apply features of data definition/data manipulation language to perform basic data manipulation and information retrieval operations 3. Develop web pages that integrate static and dynamic content, and interact with a database | |
|  | **Module Code/Title:** COMP1341 Introduction to Web and Database Development | **Assignment No/Weighting:**  Assignment 2/ 50% | |
|  | **Occurrence:** | **Assessment Title:**  Artefact | |
|  | **Assessment Criteria** | | | | |
|  | **Designing and implementing a relational database** | | | | |
| GRADE | **Apply design techniques to design and document a relational database.** | **Skill using the database design concepts to map these to interface design to show understanding of the system** | | **Ability to create a simple database using the design and apply features of data definition and data manipulation language.** | **Demonstration and application of core technical skills using MySQL and PHP to display input and output from a database through a dynamic website** |
| A | Application of design techniques to design and document a relational database that demonstrated exceptional understanding of Relational Database concepts. Normalised to 3rd normal form. Entities, relationships and relationship names identified and correct notation used. Clearly defined any assumptions and explanation of ERD included. Data Dictionary included for each entity with all relevant attributes.  Realistic size, data type and short description given for each attribute. | A clear and in depth design showing the input and output screens. Included details of tables, attributes, validation and logic of the design elements. Clearly annotated and explained. Menu map to show whole system | | Application of database design to implement the database that demonstrated exceptional understanding and skill. Database fully functional and understanding of data definition/data manipulation language shown through create table, insert into, select from, delete from, select from multiple tables. Extra such as Boolean and arithmetic operators may have been used. | Demonstrated exceptional understanding of PHP and MySQL and has gone beyond the limits of the tasks taught and extended work has been undertaken.  Connection established and accurate database content displayed.  Code annotated.  All data correctly output and input and validation where appropriate used. Logical display of content and included (CMS) Content Management System implemented.  Fully functional system |
| B | Application of design techniques to design and document a relational database that demonstrated a good understanding of Relational Database concepts. Normalised to 3rd normal form. Entities, relationships and relationship names identified and correct notation used. Keys correct but one or two attributes either missing or data type incorrect or other minor omissions | Good design elements showing the input and output screens. Included details of tables, attributes, validation and logic of the design elements, with minor omissions. Clearly annotated and explained.  Menu Map included | | Application of database design to implement the database that demonstrated a good understanding and skill of database implementation.  Database functional and understanding of data definition/data manipulation language shown through create table, insert into, select from and delete from | Demonstrated good understanding of PHP and MySQL. Connection established and database content displayed with minor errors.  Input forms and output of data successfully implemented and working. Data from new records displayed. CMS with minor omission has been successfully implemented and working. Good functionality demonstrated |
| C | Application of design techniques to design and document a relational database that demonstrated some understanding of Relational Database concepts. Some entities, relationships and relationship names identified and notation used mostly correct.  Demonstrated some understanding of data dictionary concepts for each entity. Some keys identified correctly and attributes stated for each entity. Size, data type and short description given for each attribute, some of which are unrealistic. | Some understanding of the design elements shown. Annotations either incorrect or lacking on some of the screen designs. Explanation/assumptions not clear.  Menu Map included but may have minor omissions | | Application of the design to implement the database demonstrated some understanding and skill of database implementation. Database mostly functional, some understanding of data definition/data manipulation shown through create table, insert into, select from and delete from, mostly correct. Some elements of joins have been used. | Demonstrated some understanding of PHP. Connection established and most of the database content displayed or some of the data incorrectly displayed or data not valid.  An attempt made at CMS. Some minor errors in links or display |
| D | Application of design techniques to design and document a relational database that demonstrated limited understanding of Relational Database concepts. A number of entities, relationships and relationship names identified incorrectly and a number of errors with notation used.  Data Dictionary includes a number of keys incorrectly identified and some attributes not included for entities. Unrealistic size, data type and short description given for each attribute. | May be lacking in understanding of the design elements required or shows an unstructured design. Shows lack of understanding of the purpose of the task  Incorrect attributes and/or tables with little annotation. No attempt made to show logical design.  Menu map missing or only partially done | | Application of design to implementation demonstrated lack of understanding and skill of database implementation. Some problems with the functionality of the database, understanding of data definition/data manipulation. Some problems with and/or not attempted create table, insert into, select from and delete from or very basic one table manipulation only attempted for all of the insert, delete or select | Demonstrated lack of understanding of PHP and MySQL. Problems with connection and/or database content display. No attempt made at input forms and/or very little of the database data shown. Lack of functionality. Links not working properly |
| Fail (E-G) | Application of design techniques to design and document a relational database that demonstrated little or no understanding of Relational Database concepts. Keys not identified and not enough attributes stated for each entity. Size, data type and/or short description not given for each attribute. | Shows lack of understanding of the purpose of the task or very little attempt at mapping the database design to the interface  Mostly Incorrect table/ attributes.  No annotation or logical design.  Menu Map missing or not complete or incorrect | | Shows lack of understanding of the purpose of the task or very little attempt at mapping the database design to the implementation.  No real attempt to apply feature of the database (DDL/DML) | Shows lack of understanding of the purpose of the task or very little attempt at functionality  No real attempt to apply feature of MySQL/PHP |
|  | **General comment:** | | | | |
|  | **What you can do better in future assignments:** | | | | |
|  | **How successful completion of this assignment helps your employability:** | | | | |
|  | **Assignment Grade:** | **Marker:** | **Moderator\***: | | |

\* *This person is responsible for moderating a sample of student work for this module. Your work may, or may not, have been included in this sample*

**RESULTS ARE PROVISIONAL UNTIL AGREED BY THE BOARD OF EXAMINERS**