Assessment Information/Brief 2022-23

To be used for all types of assessment and provided to students at the start of the module.
Information provided should be compatible with the detail contained in the approved module specification although may contain more information for clarity.

Module title	**Client Server Systems**
CRN	50249
Level	5
Assessment title	**Assignment 2**
Weighting within module	This assessment is worth 50% of the overall module mark.
Module Leader/ Assessment set by	**Lee Griffiths,**
Submission deadline date and time	**19/4/2023 by 4pm**
How to submit	**Please read this carefully.**

1. Your solution is an extension of Assignment 1
2. A compressed **.zip** folder **must be submitted** to Blackboard in the Assessments area containing the complete folders and all files associated with your solution to the assessment task – there is a typical submission limit of 50MB – you should not need to exceed that.
3. A Word or .pdf document which contains all your main project code including the .php and .phtml and JS files **you have created** presented neatly and readable in the following way:

   a. Front page with full name, university ID and title (Client Server systems Assignment 2)
   b. Any Model files that you have added or modified since Assignment 1
   c. Any Controller files, associated View files and JS files that you have added or modified since Assignment 1
   d. Any CSS files you have created (not Bootstrap files or JS map API library files needed)
   e. Clear screen screenshot of the main database table records.

   For this assignment we would expect around 6 model files and 4-6 controller/view pairs. This is just a guide.

   f. a copy of the Assignment 2 Assessment Criteria and Marking Scheme grid (see later) with your self-assessment of your performance for each requirement – use the yellow
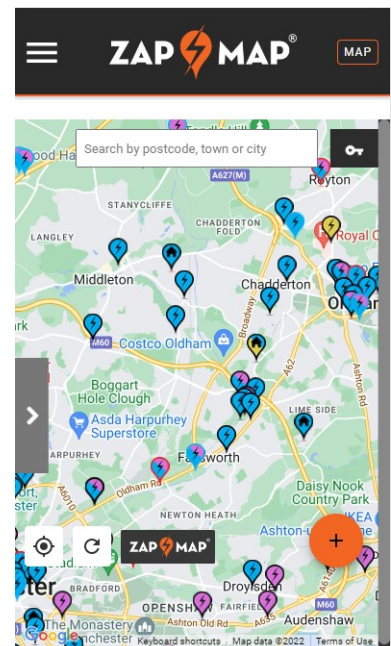
Assessment task details and instructions

Your task is to further develop the features of your Assignment 1 PHP MVC web application by using the Client Server technologies covered in the Trimester 2 workshop exercises (**mostly JavaScript**) – *do not use jQuery*. Your enhanced features must be written in **plain JavaScript** and for the highest marks you need to build classes in your JavaScript code, follow a design pattern and generally take an Object Oriented development approach. You need to do the following:

1) You need to develop an interactive live mapping feature which extends your Assignment 1 solution. It needs to allow **authenticated** (logged in) users to list/view all available charge points by their stored location on a map using mapping code techniques covered in the class. It should be similar to the **www.zap-map.com** shown right, but does not need to be as sophisticated. The map should initially center on the logged-in users own location using geolocation techniques .

   You will need to make use of coordinate data that you store in your database for each charge point. Location data (lat/lng) can be generated using a tool such as **www.mockaroo.com**. You should use plain JavaScript AJAX techniques to implement your **live system**. Do not use web sockets or jQuery– these are beyond the scope of this work.
   (60 marks for this mandatory section)

2) Then choose **one** of the following to develop your system further **(40 marks).**

   - AJAX implementation of live search feature and results for including feature information where appropriate and search filters. Consider browser memory usage. The search feature must be powerful and allow effective narrowing of results to a small number for a large dataset.
   - AJAX implementation of "infinite scrolling" or "load more" on demand dynamic results of data listing (based on material in Workshops 15 & 16 and JS user interface event handlers) with appropriate number (1000s) of data items to demonstrate it well. Consider a sliding window of results to limit browser memory usage.

Total 100 marks

Assessment   See "**Marking Scheme**" on the next page (page 4) as well as "**Grade Descriptors**" at

Criteria	the end of this document (pages 7-9).

You should look at the assessment criteria to find out what we are specifically looking at during the assessment. |

Assessment Criteria for Semester 2.

You should attend all lectures and workshops to fully understand what is required from work. All AJAX work should use native JS calls such as HTTPRequest or fetch, **not jQuery**.

You should look at the assessment criteria to gauge your solution and progress. **Note that this is only a guide to marking – credit will be given where appropriate.**

Mark range %	100-80% Outstanding to Excellent (60-48 marks)	79-60% Very Good to Good (48-36 marks)	59-40% Fair to Adequate (36-24 marks)	39-20% Unsatisfactory to Poor (24-12 marks)	19-0% Very poor to Extremely poor (12-0 marks)
Mapping **required feature** 50 marks	**Industry ready** application with **excellent performance** and **efficient data usage**. • Excellent OO code structure including reusable **classes**, design pattern(s) in both JavaScript and PHP as appropriate. *(up to 10 marks)* • Extensive use of **HTTPRequest** on **three or more** features of the solution UI to improve efficiency and performance using AJAX. *(up to 10 marks)* • Excellent and **secure input** validation, and demonstration of **security protection** such as URL tokens. *(up to 10 marks)* • **JSON or XML** data formats used for AJAX. PHP DB classes modified/extended to produce JSON/XML as necessary. *(up to 10 marks)* • **Sophisticated** map system with AJAX driven **real-time notifications** and **map updates**. Current user geo located. *(up to 10 marks)* • Excellent and consistently commented code. *(up to 10 marks)*	• Reusable JavaScript **functions** or **classes** added to perform robust input validation and displaying data to the users **dynamically**. • At least **two** AJAX type data transactions to acquire data from the PHP backend. • **JSON or XML** data formats used for AJAX. • **Useful** map system functioning using **AJAX**. Current user geo located. • Good comments evident throughout.	• Some JavaScript added to perform input validation and/or displaying data to the users dynamically. • At least **one** AJAX type data transactions to acquire data from the PHP backend. • Plain text data format used for AJAX. • **Basic** map/list system functioning using AJAX. • Some useful code comments evident.	• Some JavaScript added to perform basic input validation and/or displaying location data to the users from PHP backend but non- functioning or incomplete/has issues and unsatisfactory system. • **Significant amounts of code taken from internet sources.** • Minimal code comments.	• Little or no JavaScript or extra features added to your semester one work. • **Significant amounts of code taken from internet sources or other students.** • No code comments.
Chosen feature 30 marks	**Industry ready** feature with **excellent performance** and **efficient data usage**. • **Excellent** OO code structure including reusable **classes**, design pattern, in both JavaScript and PHP as appropriate. *(up to 8 marks)* • Extensive use of **HTTPRequest** on different features of the feature to improve efficiency and performance using AJAX. *(up to 8 marks)* • Excellent and **secure input** validation, and demonstration of **security protection** such as URL tokens. *(up to 8 marks)* • JSON or XML data formats used for AJAX. PHP DB classes modified/extended to produce JSON/XML as necessary *(up to 8 marks)* • Excellent and consistently commented code *(up to 8 marks)*	• Reusable JavaScript **functions** or classes added to perform robust input validation and displaying data to the users **dynamically**. • At least **two** AJAX type data transactions for your chosen feature. • JSON or XML data formats used for AJAX. Good comments evident throughout.	• Some JavaScript added to perform robust input validation and/or displaying data to the users dynamically. • At least **one** AJAX type data transaction for the chosen extra feature. • Plan text data format used for AJAX. Some useful code comments evident.	• Some JavaScript added to perform basic input validation or displaying data to the users but non- functioning, incomplete and unsatisfactory extra feature. • **Significant amounts of code taken from internet sources.** Minimal code comments.	• Little or no JavaScript or extra features added to your semester one work. • **Significant amounts of code taken from internet sources or other students.** No code comments.
Change a form validation to Java script 5 marks	• Explain in which field and wat type of validation used				

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Smooth the user experience with 3 JavaScript functionalities (3 case each case 5 marks) 15	• Explain each functionality

Knowledge and Understanding	**Assessed intended learning outcomes** On successful completion of this assessment, you will be able to: 1. assess a range of server-side programming technologies and the programming languages that support these technologies, and discuss the circumstances when each is used; 2. assess a range of client-side programming technologies and the programming languages that support these technologies, and discuss the circumstances when each is used;
Practical, Professional or Subject Specific Skills	1. design, create, test and demonstrate software implementing a data-driven web application, programming in industry standard scripting languages and connecting to industry standard database packages; 2. identify security risks in a web application, and follow good practice guidelines to minimise these; Transferable Skills and other Attributes 3. work within legal constraints, such as data protection, accessibility and copyright.
Employability Skills developed / demonstrated	**Communication NO** **Critical Thinking and Problem Solving YES** **Data Literacy YES** **Digital Literacy YES** **Industry Awareness YES** **Innovation and Creativity YES** **Proactive Leadership NO** **Reflection and Life-Long Learning YES** **Self-management and Organisation YES** **Team Working NO**
Feedback arrangements	Your work for this assignment will be marked from the live system online and the document containing your code. Feedback, and marks will be provided via Blackboard.
Academic Integrity and Referencing	Students are expected to learn and demonstrate skills associated with good academic conduct (academic integrity). Good academic conduct includes the use of clear and correct referencing of source materials. Here is a link to where you can find out more about the skills which students need: Academic integrity & referencing Referencing **Academic Misconduct is an action which may give you an unfair advantage in your academic work. This includes plagiarism, asking someone else to write your assessment for you or taking notes into an exam. The University takes all forms of academic misconduct seriously.**
Assessment Information and Support	**Support for this Assessment** You can obtain support for this assessment by attending all timetabled sessions and working through all published material on Blackboard. You can ask for help in timetabled workshop sessions.

You can find more information about understanding your assessment brief and assessment tips for success here.

Assessment Rules and Processes
You can find information about assessment rules and processes in Blackboard in the Assessment Support module.

Develop your Academic and Digital Skills

Find resources to help you develop your skills here.

Concerns about Studies or Progress
If you have any concerns about your studies, contact your Academic Progress Review Tutor/Personal Tutor or your Student Progression Administrator (SPA).

Personal Mitigating Circumstances (PMCs)
If personal mitigating circumstances (e.g. illness or other personal circumstances) may have affected your ability to complete this assessment, you can find more information about the Personal Mitigating Circumstances Procedure by contacting student affair and looking at student Manuel.

In Year Retrieval Scheme	Your assessment is **not** eligible for in year retrieval.
Reassessment	If you fail your assessment, and are eligible for reassessment, you will need to resubmit on or before the resit deadline in summer 2023 – typically the end of July. For students with accepted personal mitigating circumstances for absence/non submission, this will be your replacement assessment attempt. Explain what happens if a student needs to be reassessed, will the reassessment be the same, what is the submission date? [Note for staff: the reassessment task should normally be the same as the original task unless there is a good academic reason to offer a different task] We know that having to undergo a reassessment can be challenging however support is available. Have a look at all the sources of support outlined earlier in this brief and refer to the Personal Effectiveness resources.

Grade Descriptors

Extremely poor (0-9).

Totally inadequate demonstration of required knowledge.

Not able to apply the practical and analytical skills from their programmes.

No appropriate design methodology.

No demonstration of analysis evaluation or synthesis.

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No evidence of the ability to self-manage a significant piece of work and critical self-evaluation of the process.

Little academic value; presentation is extremely poor; work has no structure or clarity; extremely poor use of language; no references; no attempt to provide evidence of sources used.

Very Poor (10-19).

Virtually no relevant knowledge demonstrated.

Fails to adequately apply the practical and analytical skills from their programme.

Very poor use of design methodology.

No meaningful analysis or evaluation or synthesis.

Unable to self-manage a significant piece of work and to identify appropriate issues for critical self-evaluation of the process for reflection.

Academic arguments presented are inappropriate or very poorly linked; presentation is very poor; work has little discernible structure or clarity; very poor use of language; lack of ability to source adequate material; very poor referencing.

Poor (20-29).

Inconsistent or inaccurate knowledge.

Limited and inappropriate and inaccurate application of the practical and analytical skills from their programme.

Poor use of methodology.

Descriptive, occasional attempts to analysis or evaluate material but lacks critical approach to evaluation or synthesis.

Identifies issues for reflection but lacks evidence of reflective processes.

Some but inconsistent ability to self-manage a significant piece of work or critical self-evaluation of the process.

Confusion or weakness in academic argument; presentation is poor; work is disorganised and lacks clarity; poor use of language; poor use of reference material; inappropriate or out dated sources with numerous referencing errors.

Unsatisfactory (30-39).

Limited evidence of knowledge.

Inappropriate application of the practical and analytical skills from their programme.

Unsatisfactory design methodology.

Mainly descriptive evidence of analysis, inconsistent critical approach, little evaluation or synthesis.

Follows processes of reflection but fails to demonstrate insight; lacks coherence in the self-management of a significant piece of work.

Presentation is unsatisfactory; work is limited in terms of structure, coherence or clarity; limitations in academic style; unsatisfactory referencing with errors; limited ability to support content with relevant sources.

Adequate (40-49).

Basic knowledge with occasional inaccuracies.

Appropriate yet basic application of the practical and analytical skills from their programme.

Superficial depth or limited breadth, but an overall adequate identification of design methodology.

Critical analysis evident, with some evaluation and synthesis, although limited evidence of reflection.

Some evidence of an ability to self-manage a significant piece of work and critical self-evaluation of the process.

Some appropriate academic argument although not well applied and lacking in clarity; presentation of work is adequate in terms of structure, coherence, clarity and academic style; some inconsistencies; some grammar and syntax errors which detract from the content; narrow range of sources; referencing in presented work is adequate with some inconsistencies or inaccuracies; over utilises secondary sources; references used are inappropriate in terms of currency.

Fair (50-59).

Mostly accurate knowledge with satisfactory depth and breadth of knowledge.

Solid application of the practical and analytical skills from their programme

Fair use of design methodology.

Sound critical analysis and evaluation or synthesis.

Demonstrates basic ability of synthesise information in order to formulate appropriate questions and conclusions; reflective process is utilised, with insight demonstrating planning for future practice; shows the ability to self-manage a significant piece of work and critical self-evaluation of the process.

Relevant academic argument; presentation of work is fair in terms of structure coherence, clarity and academic style; some inconsistencies in grammar and syntax; fair range of sources identified with appropriate referencing and few inaccuracies; appropriate use of primary and secondary sources.

Good (60-69).

Consistently relevant accurate knowledge with good depth and breadth.

Clear and relevant application of the practical and analytical skills from their programme.

Good use of design methodology.

Clear, in depth critical analysis, evaluation and academic argument with synthesis of different ideas and perspectives.

Utilises reflection to develop self and practice; aware of the influence of varied perspectives and time frames; demonstrates an ability to self-manage a significant piece of work and critical self-evaluation of the process.

Presentation of work is well organised with good use of language to express ideas or argument; very few inconsistencies in grammar and syntax good; good range of sources; well referenced with very few inaccuracies; good use of primary and secondary sources.

Very Good (70-79).

Comprehensive knowledge demonstrating very good depth and breadth.

Clear insight into links between the practical and analytical skills from their programme.

Strong use of design methodology.

Very good analysis and synthesis of material with evidence of critical and independent thought.

Demonstrates ability to transfer knowledge between different contexts appropriately; balanced and mature approach to reflection used to enhance practice and performance; clear ability to self-manage a significant piece of work and critical self-evaluation of the process.

Presentation is of a very good standard, demonstrating a scholarly style. Very good grammar and syntax. Clear evidence of referencing to a wide range of primary and secondary sources which are used effectively in supporting the work.

Excellent (80-89).

Excellent depth of knowledge in a variety of contexts.

Coherent and systematic application of the practical and analytical skills from their programme.

Excellent use of design methodology.

Excellent critical analysis and synthesis.

Integrates the complexity of a range of knowledge and excellent understanding of its relevance; confident in their ability to self-manage a significant piece of work and critical self-evaluation of the process

Arguments handled skilfully with imaginative interpretation of material; presentation is excellent, well-structured and logical; demonstrates a scholarly style; excellent grammar and syntax.

Outstanding (90-100).

Outstanding knowledge.

Exceptional application of the practical and analytical skills from their programme.

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Excellent professional execution of design methodology.

Outstanding critical analysis and synthesis.

Excels in self-managing a significant piece of work and critical self-evaluation of the process show an aptitude to formulate new questions, ideas or challenges.

Incorporates evidence of original thinking; presentation is outstanding demonstrating a fluent academic style.

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