Assessment Information/Brief 2020/21

Module title	**Client Server Systems**
CRN	50249
Level	5
Assessment title	**Assignment 1**
Weighting within module	This assessment is worth 50% of the overall module mark.
Submission deadline date and time	**10/12/2020 by 4pm**

Module Leader/Assessment set by
Lee Griffiths, Newton 220, l.s.griffiths@salford.ac.uk

How to submit
Please read this carefully. The following items must be submitted online by the submission date for assessment:-

1. Completion of 3 online tests on Blackboard – details given in the lectures.

2. A working solution installed onto your web space on the university Poseidon server (https://poseidon.salford.ac.uk:10000/) such that the system can be tested from anywhere. Create an appropriate URL such as http://*yourusername*.poseidon.salford.ac.uk/clientserver/
3. 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. (The functionality will be assessed in one-to-one demonstration of your solution which will be set after the submission date).
4. A Word or .pdf document which contains a copy of the Assessment Criteria and Marking Scheme grid with your self-assessment of your performance for each requirement. This should be included in your Blackboard submission and on your live website with a suitable URL on the website e.g. /clientserver/AssessmentCriteria.docx

Assessment task details and instructions

Your task is to develop an online real-time auction system (similar to https://www.the-saleroom.com/) using PHP, MySQL and HTML/CSS. The system should allow admin user (auction house management) to post lists of items for an auction and other users to place bids. Items for sale in an auction system are called **LOT**s.

Noteworthy details to gain high marks:

- The core PHP architecture **needs** to follow an **Object Oriented Model-View-Controller** Design Pattern approach. This is covered in the lecture and you practice it by following the workshop material. **You are not allowed to use jQuery or a high level PHP framework.**
- The website should provide listings of items based on the record data stored in a database and other appropriate information. Information should be displayed using HTML with CSS (the use of Bootstrap or Materialize frameworks is encouraged). **You are not allowed to use jQuery**.
- As a minimum for the auction items, each record needs to include: Auction ID, Auction start datetime, Item LOT ID, Posting User (admin from auction house), Item Title, Item main description, Image attachment as required – you can add other features to enrich the dataset if you wish. You must think about the design of your database and normalise your database tables using suitable foreign key definitions. E.g The same Auction ID will be used for a number of Item LOTs.
- As a minimum for users, each record needs to include: User ID, User details (e.g. name, username/email) and you need to think how a user's bids will be recorded next to an Item LOT. Information stored about users must include their email address, which is used as their username, and password. All passwords must be appropriately encrypted.
- Anonymous website visitors may search by auction collections (LOTs that are associated with an Auction ID) and items and see item details but not be able to bid for an item.
- Authenticated website visitors should be able to bid for an item and these items should then appear in a "current bid list" for that user and it must be possible to view, and edit item bids values in the list up until the date and time that the auction is scheduled to start.
- Your site must be designed and built to handle 1000s of records (users, auctions, items) and you need to demonstrate its ability by creating a large test data set (100s of users and 1000s of records). You can generate test/mock data with a tool like www.mockaroo.com
- You must consider security and performance at every step and design the user experience for multiple platforms and abilities. For example, security should consider filtering malicious code from item text, including client script injection and SQL injection (details on Blackboard). Performance should minimise page weight including media associated with an item description (e.g. processing uploaded images to reduce their dimensions and file size).

The website should be developed using *MySQL* on the university Poseidon server to hold all the relevant information and the *MVC Design Pattern* with the *Bootstrap* (or other) CSS framework, as demonstrated in the workshops.

You are free to use *phpMyAdmin* or *MySQL Workbench (or any suitable tool)* to administer the database for example creating and populating the *MySQL* tables or handling product and stock levels. You may also use SQLite and work with a local file rather than the university MySQL database server.

Assignment 2 of this module (in Trimester 2 – January to May) will require you to focus on some aspects of your Assignment 1 system and refining them by making use of more advanced dynamic client server technologies to improve the user experience (UX) e.g. dynamic searches and real-time interaction, geolocation, imaging as appropriate all using AJAX techniques – details to follow.

Assessed intended learning outcomes

On successful completion of this assessment, you will be able to:

Knowledge and Understanding
A1 - assess a range of server-side programming technologies and the programming languages that support these technologies, and discuss the circumstances when each is used;
A2 - 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
B1 - 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;
B2 - identify security risks in a web application, and follow good practice guidelines to minimise these.

Transferable Skills and other Attributes
B3 - work within legal constraints, such as data protection, accessibility and copyright.

Module Aims

1. to provide the skills required to develop modern data-driven interactive web applications
2. to appreciate the issues involved with combining client-side and server-side components
3. to use industry-standard software development tools and techniques.

Feedback arrangements
Feedback, and marks will be provided during one to one demonstrations of the system in January 2021.

Support arrangements
You can obtain support for this assessment by attending all timetabled sessions or emailing/Teams chat with the module leader. During busy parts of the teaching period email replies may take up to 2 working days.

askUS
The University offers a range of support services for students through askUS.

Good Academic Conduct and Academic Misconduct
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 require http://www.salford.ac.uk/skills-for-learning.
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. You can find out how to avoid academic misconduct here https://www.salford.ac.uk/skills-for-learning.

Assessment Information
If you have any questions about assessment rules, you can find out more here.

Personal Mitigating Circumstances
If personal mitigating circumstances may have affected your ability to complete this assessment, you can find more information about personal mitigating circumstances procedure here.

Personal Tutor/Student Progression Administrator
If you have any concerns about your studies, contact your Year Tutor or your Student Progression Administrator.

Assessment Criteria

Mark range %	100-80%	79-60%	59-40%	39-20%	19-0%
	"An auction system ready to deliver to go live"	"A usable auction system with useful features" 	"A minimum viable auction system" 	"Basic  data/items listings"	"Non- functioning system" 
Completion of online tests (10 Marks)	Up to 10 marks available cumulatively across 3 Blackboard based Tests covering the material discussed in Trimester 1. HTML/CSS/PHP questions. Various deadlines spread over Trimester 1.				
Use of Bootstrap with appropriate navigation features (10 Marks)	Considerable amount of code demonstrating very good use of Bootstrap (or other grid system)	Reasonable amount of code demonstrating good use of Bootstrap (or other grid system)	Reasonable amount of code demonstrating some use of Bootstrap (or other grid system)	Small amount of code using MVC correctly, and basic template layout.	No MVC or template layout
Well designed and appropriately populated database tables (10 Marks)	Appropriate number of tables, with relevant fields and types, complex cross-referenced using foreign keys, joins, and each populated with a large number of useful realistic records and image references (1000s)	Appropriate number of tables, with relevant fields and types, cross-referenced using foreign keys, joins, and each populated with a large number of records (1000s)	Some tables, with relevant fields and types, cross-referenced using foreign keys, and each populated with a reasonable number records (100s)	A few independent tables, with relevant fields and types, each populated with a few records (10)	Main table, with relevant fields and types, and populated with a few records
Well designed OO code using MVC Design Pattern, with appropriate names (20 Marks)	Considerable amount of OO code demonstrating correct use of MVC, classes/properties and methods, using PDO to access the database. Well commented code. Demonstrable performance enhancements.	Reasonable amount of OO code demonstrating correct use of MVC, classes/properties and methods, using PDO to access the database. Well commented code. Implementation of performance enhancements.	Small amount of OO code demonstrating correct general use of MVC, classes/properties and methods, using PDO to access the database. Some code comments. Consideration of performance.	Small amount of OO code demonstrating limited understanding of MVC, classes/properties and methods, or database access. Basic code comments.	Very little code demonstrating no real understanding of MVC, classes/properties and methods, or database access. Little or no code comments.
Ability to create self-registration, records and login (10 Marks)	Users can register themselves and login successfully using encryption for their passwords. Anti-spam feature used. Some form of session used to maintain state. Malicious code filtering on items. Driven by excellent, logical OO design.		Users can register themselves and login successfully. Some form of session used to maintain state.	Registration and login not fully implemented/working correctly	Registration and login not implemented, or not working
Ability to display information from records stored in the database (20 Marks)	Users can retrieve and display auction and item details, including images. Sophisticated, responsive layout using CSS/Bootstrap. Includes paging and web scraping protection. Demonstration of system with large number of realistic records/users – you can generate this data. Driven by excellent, logical OO design.	Users can retrieve and display auction and item details, including images. Good responsive layout using CSS/Bootstrap. Includes paging. Demonstration of system with large number of records/users – you can generate this data. Driven by excellent, logical OO design.	Users can retrieve some auction/item details. Basic cellular listing layout using tables or divs with some formatting evident. Attempting display of items and replies.	Users can retrieve some item details. Simple table or list of text data,	Users cannot retrieve or display details from the database
Ability to search auctions and items and	Comprehensive, interactive faceted search to narrow down output. Complex SQL statements. Users can add, view and	Free text search facility with 2 or 3 extra filters combined into search. Users can add, view items	Free text search facility working but basic. Some filters implemented, but	Basic text search facility may have issues.	Some search/filters partly implemented or no

place bids (20 Marks)	edit items in their “bidding list” – notification of outbidding. Driven by excellent, logical OO design.	to their “biding list”. Basic OO implementation.	may have issue. Attempt at “bidding list”		implementation

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 August. For students with accepted personal mitigating circumstances, this will be your replacement assessment attempt.

Reassessment details will be announced on Blackboard after June when the normal teaching period ends.

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.

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.

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.