Faculty of Computing, Engineering & Media (CEM)
Coursework Brief 2018/19

Module name:	**Game Prototype Development**		
Module code:	**IMAT1910**		
Title of the Assignment:	**Game Production**		
This coursework item is: (delete as appropriate)		Summative	
This summative coursework will be marked anonymously: (delete as appropriate)			No

The learning outcomes that are assessed by this coursework are:

1. Have the ability to evaluate and apply a range of established design elements, techniques and considerations to computer game construction within an international and global perspective.

2. Demonstrate knowledge and the ability to critically understand good practice in team and project management.

This coursework is: (delete as appropriate)		Group

This coursework constitutes 100% **of the overall module mark.**	
Date Set:	**Friday 25th January 2019**
Date & Time Due:	**Friday 5th April 2019 at 11:59 am**
Your marked coursework and feedback will be available to you on: If for any reason this is not forthcoming by the due date your module leader will let you know why and when it can be expected. The Associate Professor Student Experience (CEMstudentexperience@dmu.ac.uk) should be informed of any issues relating to the return of marked coursework and feedback. Note that you should normally receive feedback on your coursework by **no later than 20 University working days after the formal hand-in date,** provided that you have met the submission deadline.	**Friday 24th May 2019**

When completed you are required to submit your coursework via:

1. Turnitin via the link on Blackboard (project report only)
2. Assessment submission on Blackboard

If you need any support or advice on completing this coursework please visit the Student Matters tab on the Faculty of Technology Blackboard page.

Late submission of coursework policy: Late submissions will be processed in accordance with current University regulations which state:
*"the time period during which a student may submit a piece of work late without authorisation and have the work capped at 40% [50% at PG level] if passed is **14 calendar days**. Work submitted unauthorised more than 14 calendar days after the original submission date will receive a mark of 0%. These regulations apply to a student's first attempt at coursework. Work submitted late without authorisation which constitutes reassessment of a previously failed piece of coursework will always receive a mark of 0%."*

Academic Offences and Bad Academic Practices:
These include plagiarism, cheating, collusion, copying work and reuse of your own work, poor

referencing or the passing off of somebody else's ideas as your own. If you are in any doubt about what constitutes an academic offence or bad academic practice you must check with your tutor. Further information and details of how DSU can support you, if needed, is available at: http://www.dmu.ac.uk/dmu-students/the-student-gateway/academic-support-office/academic-offences.aspx and http://www.dmu.ac.uk/dmu-students/the-student-gateway/academic-support-office/bad-academic-practice.aspx

Tasks to be undertaken:

1. Forming of a group to undertake the task (three to five members).
2. Construction of a project management document.
3. Implementation of a 2D computer game prototype that is inspired by the theme **"Futuristic Driverless in Smart City"**.
4. Submission of a final report describing how a design document has been implemented into a game.

Deliverables to be submitted for assessment:

A single zipped folder including the below named using the group's name:

1. A project management document (Max. 4 pages) in Word or PDF. Meeting minutes could be attached as an appendix.
2. A zipped version of the Unity 3D project of a 2D computer game.
3. A final report (Max. 8 pages) in Word or PDF format. Design diagrams could be attached as an appendix. This is also to be submitted to Turnitin.
4. An excel form with peer review marks.

The final report (Max. 8 pages) in Word or PDF format should **also** be submitted to **Turnitin**. Both submission links for the zip file and for Turnitin project report submission will be available on Blackboard.

How the work will be marked:

Using the outlined matrix and returned electronically.

Module leader/tutor name:	Dr. Aladdin Ayesh
Contact details:	**aayesh@dmu.ac.uk / 0116 250 6295**

Assignment Brief

Your task

For this assignment you are required to work in a group to construct a game prototype, i.e. design and implementation. This is a group assignment so you will need to organise yourselves into ***groups of 3 to 5.*** Each group will act as a game development studio or company and all members should be in the same lab group. You will receive an individual grade within the context of your group. Your grade will be broken down as follows:

- Project management - 10%
- Prototype– 60%
- Final report – 30%

Assignment Deliverables

Project Management (10% of assignment mark)

Planning this assignment as a project should be your first task. Make sure to adopt a clear and suitable software development life cycle. Break down all of the tasks needed to complete the work and construct a Gantt Chart and/or Burn Down Chart. Your management meetings should be appropriately documented. Make sure to include the meetings' minutes and any other design documentation as well as the actual game implementation.

Tasks should be clearly assigned to each member of the group and progress should be tracked and recorded regularly as part of management meetings.

In your assignment submission you should include:

- ***A number of Gantt chart or Burn Down charts for each change in the design process.***
- ***Meeting minutes for each meeting taken.***

Prototype (60% of assignment mark)

The first management meeting could be a mind-storming session during which a design document may be agreed on which the team should construct a prototype of the game. This should:

- Use Unity 3D.
- Be in 2D.

You are not implementing the entire game but a prototype. As such, you should aim to implement at **least 5 minutes of progressive game play**. The purpose here is for you to demonstrate the mechanics, progression and balance of the game play. If there is less than 5 minutes of differing play, this can impact your mark.

Please note, that you are being assessed on your understanding of the course content. It is better to implement a prototype that demonstrates a few points well than attempting to construct a full game. No additional marks will be given for large games that do not demonstrate specific game design elements (for example, multiple similar levels that do not increase in difficulty).

While the emphasis is on implementing the prototype, you should also consider the technical aspects of the design and implementation:

- Consistent and appropriate labelling of game objects and resources.
- Game objects, events and actions should be composed in a structure that you are able to describe the foundations of.

Any existing sprite or audio libraries/sources that you use must be credited and referenced appropriately using a convention accepted by the university (Harvard, IEEE etc) .

Failure to do so is considered plagiarism and may result in failed coursework. Please do not submit work that is not your own.

The game should be built for PC deployment. *In your assignment submission you should include:*

- ***The Unity folder containing a PC build of the game that is then zipped.***

Final Report (30% of assignment mark)

The final report should complement your prototype. The purpose is to explain how you have gone from a game design document to the game implementation. If you have made any changes to the game design then you must justify your group's decision. A suggested structure for the report is:

1) Introduction
   - Which game was chosen and why?
2) Project Management

How did you approach project management?

   - Did you use any software development methodologies?
   - Did having regular meetings work well?
3) Implementation
   - Detail your technical plans (Script construction approach, UML used, mechanics adopted).
   - Explain how your group approached implementation of the main stages in the development. E.g. player control, scoring, end of level, game over etc.
   - Are there any elements of the game design that you needed to change? Discuss why this was?
4) Prototype Walkthrough
   - A set of instructions or a transcript describing one way of successfully playing the prototype.
   - This is not a restatement of the game design but an actual step-by-step view from the player's perspective. Similar to game FAQ's or walkthrough's found on the internet.
4) Play Testing
   - Perform a user study by getting a number of people to evaluate your groups game.
   - Design a survey/questionnaire and use it as a means of assessment.
5) Discussion
   - Discuss how the prototype differs from the GDD.
   - How do you feel about the implementation? Good points, bad points?
   - What was easy/difficult and why?
   - How could the design and implementation be improved further?
   - Is the implementation as you expected?
   - What were the outcomes of the user evaluation?
   - If given the chance, what, if anything, would you do differently?
5) Conclusions
   - Wrap up and summarise the whole assignment.

Please note that the questions are to give you an understanding of the kind of content expected and to encourage your thinking. They are not specific questions that you should write in the report. You should not limit your report to these questions.

Each individual **must** submit the defined Excel sheet outlining the peer review marks as shown below.

Peer Review Mark Sheet (No marks allocated)

For each component, your group will be given an overall grade. The grade will be shared between individuals based on peer evaluation. You will be required to allocate 100 points between your other team

members based on the amount you believe they have contributed to the submission. This will be done confidentially. These peer evaluation scores will then be used to allocate final marks to individuals ***unless the tutor has reason to believe peer evaluations have not been done confidentially or the process has not been wholly above board in any way.*** In this case the tutor will allocate individual marks.

Example allocation

	John	Paul	George	Ringo
John	-	35%	27%	30%
Paul	37%	-	43%	40%
George	38%	35%	-	30%
Ringo	25%	30%	30%	-
Sum	100%	100%	100%	100%

The marking of the project takes the form of:

Overall mark given: 62%

	John	Paul	George	Ringo	Total for Marking
John	-	35%	27%	30%	92%
Paul	37%	-	43%	40%	120%
George	38%	35%	-	30%	103%
Ringo	25%	30%	30%	-	85%
Sum	100%	100%	100%	100%	100%

As the mark for the project is 62% and John carried out 92% of the work, he receives a mark of 57%. Paul did more work (120%) and so gains a mark of 74%.

Coursework Marking Scheme

Student Name: **Student No.:** **Final Mark**

	0-30%	30-39%	40-49%	50-59%	60-69%	70-100%
Project Management (10%)	No or poor project plan delivered. Little thought given to project plan. No or very poorly constructed gantt / burn down charts that do not reflect the progress. No meeting minutes.	A minimal quantity of project planning with poorly constructed charts. Some meetings evidenced through minutes.	Project plan contains the minimum amount of information required for the project to go ahead through the use of a gantt / burn down chart. More than one iteration is shown. Meeting minutes that reflect in part the work carried out, however poorly constructed.	Project plan contains core information required for the project to be successful. Good plan containing milestones and deliverables. As necessary, a number of iterations of the gantt / burn down charts are contained reflecting changes in the process. Meeting minutes are constructed in a consistent and professional style.	Project plan contains detailed information required for the project to be successful. Very good plan containing milestones and deliverables. As necessary, a number of iterations of the gantt / burn down charts are contained reflecting changes in the process. Meeting minutes are constructed in a consistent and professional style.	An extensive plan containing milestones and deliverables. Changes and reiteration of the processes is reflected in the gantt / burn down charts. Meeting minutes are constructed in a consistent and professional style.
	0-30%	30-39%	40-49%	50-59%	60-69%	70-100%
Prototype Implementation (60%)	No or unplayable / poor implementation supplied. Little thought given to the implementation overall. Little or no structure within the Unity project with variables inconsistently named. Does not reflect 5 mins of playable content.	Some attempt made at implementation but has little reflection on the intended final game design documentation. Some structure to the Unity project in respect to game object names, script names etc, and overall structure. Repetitive or playable content that does not amount to the required 5 mins.	The basic elements of the proposed GDD are implemented but there are some flaws. The implementation loosely reflects the final game design documentation. A consistent structure within the Unity project can be seen in areas but there is evidence of a failure to implement it throughout. Repetitive or playable content that does not amount to the required 5 mins.	The implementation reflects the major aspects of the final game design document. Strong consideration of technical implementation (appropriate naming of game objects, structure etc) that is consistent and appropriate. The game contains 5 mins of playable content showing some of the game components.	The implementation reflects most aspects of the final game design document to a very good standard. Strong consideration of technical implementation (appropriate naming of game objects, structure etc) that is consistent and appropriate. The game contains 5 mins of playable content showing large variety of the game components.	The final implementation is to a very high standard and is an excellent reflection of the final game design document. Strong consideration of the technical implementation aspects. Greater than 5 mins of playable content that demonstrates all of the significant aspects of the GDD.

	0-30%	30-39%	40-49%	50-59%	60-69%	70-100%
Final Report (30%)	No or extremely sparsely / poorly written report. There is no description of the process of moving from GDD to implementation. No / incorrect references and written in the first person.	A poorly written report which only covers the most trivial aspects of the transition from GDD to implementation. No user evaluation. No / incorrect references and written in the first person.	Report written and presented to an acceptable standard in third person. Covers the basic subject matter and is appropriately presented but is rather too derivative and insufficiently analytical. References present but in an incorrect format.	A well presented report written to an acceptable standard. Some degree of critical analysis and insight. Only minor problems exist.	A well presented report written to a very good standard. A good degree of critical analysis and insight. Well structured.	Very well presented document in all aspects. Significant evidence of an ability to think critically. Well structured, use of the third person, and so representative of an industry document.
Feedback						