University of London International Programmes

Computing and Information Systems/Creative Computing

CO3346 Sound and music

Coursework assignments 1 & 2 2017–18

Introduction

The following two coursework assignments are designed to enable you to obtain a broader and deeper understanding of specific material in this course. To obtain the most benefit you should read around the topics, rather than just reading enough to enable you to answer the particular questions asked.

This provides a valuable opportunity to become more expert in key areas of the subject than is otherwise possible when only studying towards exams. You will also further develop your creative portfolio.

Academic approach to discussion questions

You are expected to approach these coursework assignments in a rigorous and academic way. While it is fine to use internet search tools and Wikipedia to obtain a broad understanding of a topic, it is **essential** that you use reliable academic references to obtain your information. We expect you to approach the work in an informed and critical manner, and to develop an ability to form views based on evidence (substantiating any strong claims you may make), and to argue in support of your claims.

It is important that your submitted coursework assignment is your own individual work and, for the most part, written in your own words. You must provide appropriate in-text citation for both paraphrase and quotation, with a detailed reference section at the end of your coursework assignment (this should not be included in the word count). Copying, plagiarism and unaccredited and wholesale reproduction of material from books or from any online source is unacceptable, and will be penalised (see: How to avoid plagiarism). You may find it helpful to look at the end of any journal or conference paper to get an idea of how to cite your reference material appropriately.

If you make use of any code that you have not written yourself — whether you use it as is or make modifications to it — it is essential that you acknowledge this properly. Likewise, you are free to use material from the Creative Commons, but you must respect and adhere to any licensing information that is associated with the material.

Coursework assignment 1 – Randomness in generative music

The concepts of chance and randomness are related but different. In this coursework assignment and the next you are required to develop a strong understanding of both, related to the creative arts and particularly to music.

We start off with an examination of randomness in generative music.

Part A

What is randomness? Submit a short discussion of randomness that you will use as a basis for the rest of this coursework assignment. Though randomness is a very large topic, you should focus the discussion in a way that will be useful to you in answering the questions that follow. Your discussion need only be a couple of paragraphs, and is there to set the context for the rest of your work.

[5%]

Write a brief essay discussing aleatoric music, relating the following concepts:

1. chance music
2. randomness
3. computational aspects

Make sure to phrase your essay in appropriate academic terms, which includes the use of citation and reference; also ensure that you do not simply present a serial summary of the concepts. A good essay will probably be between about 500 and 1000 words, but these are not strict limits. We are also expecting you to be able to judge what level of investigation and exposition is appropriate.

[15%]

Part B

The subject guide contains a chapter on algorithmic composition that has a focus on swarm music. Submit a brief general discussion on the topic of randomness in algorithmic composition. As above, appropriate academic practice is expected; your discussion should be between about 500 and 1000 words.

[15%]

Part C

In the subject guide, there is a work-through of a swarm music implementation. Your task for this part is to implement a basic swarm system, following the guidelines in the subject guide. There may be parts that you need to adjust or tweak, but it is acceptable to use the code provided in the subject guide (you must make it work properly) to establish a baseline working swarm system that you can then take forward. You do not need to include the interactive aspect, only the swarming/flocking behaviour that is displayed as part of the sketch.

[35%]

Once you have a swarm system, examine the use of randomness in the sketch, and explore different aspects of it. You are to set up two different computational explorations which you should describe clearly, and then go about examining them and reporting on the results. The choice of exploration and the depth to which you examine them will be reflected in the mark awarded for this part of the coursework assignment.

[30%]

For this part, submit your basic system, as well as any other variations of code that are required to demonstrate to the examiners what you have done. You are also required to submit a report discussing the two computational explorations you've done.

Submit the above by uploading to the VLE:

1. A single PDF document containing your written answers to all the questions and discussions asked for. The file should be named using the following convention:

    `YourName_SRN_CO3346cw1.pdf`, where `YourName` and `SRN` are your full name as it appears on your student record and your UoL student number respectively. Make sure you clearly indicate, through headings, which parts of the PDF are answering which questions.

2. A single zip file called `YourName_SRN_CO3346cw1_PartC.zip`, containing one directory called `Swarm`, which contains all `.pde` file(s) and any associated data files for the sketch you developed for Part C. The main `.pde` file should be called `Swarm.pde`.

3. An optional further zip file called:
    `YourName_SRN_CO3346cw1_PartCExploration.zip` containing any additional files or sketches that are relevant to the exploration of randomness required, and any outputs or examples that are appropriate.

Students whose submissions do not respect the above requirements will have marks deducted.

[END OF COURSEWORK ASSIGNMENT 1]

Coursework assignment 2 – John Cage and the use of chance in composition

This coursework assignment has a significant practical aspect, which is to be based on clear focus and motivation.

John Cage was a significant contributor to the concepts of using chance and randomness in the composition of music. You should read a range of background material in this area and identify one or two aspects that you will then focus on.

These aspects should form the basis of a creative artefact that you should develop as the main part of this coursework assignment. So, you are to develop an artefact that is motivated by one or more aspects of the ideas that John Cage brought to musical composition. There needs to be some element of randomness or chance in what you include, and you must clearly explain how John Cage's ideas connect with the artefact you develop.

There are two written parts to the submission: first you are to present a description of the basis of the sketch that clearly indicates the connections with Cage's work. You do not need to include a complete history of Cage's work, nor a catalogue of all of his different ideas; however, you should include enough context to make the basis of the sketch clear. Appropriate citation and referencing is essential here.

The second written part is a discussion and evaluation of your sketch in terms of its effectiveness as a creative artefact, or exposition; and a relation to the wider context of music and creative computing. Both of the written submissions are about your own understanding of concepts and relevance, rather than demonstrating knowledge of a specific area. You will need to obtain that knowledge through background reading, but the written work you submit is about showing understanding and critical evaluation, rather than about repeating the information that you've read.

The artefact itself can take the work of the first coursework assignment as its basis, if you wish, but you are also free to start afresh with something completely different. You may use any development system that you choose but whatever you use must be able to be run (if relevant) and be inspected by the examiners. You can assume that a system such as *Processing*, or any of the other development environments used within the Creative Computing courses are appropriate; any others will require you to provide a platform on which the examiners can look at your work. You are encouraged to also include examples of the output of any system that you develop, if relevant, especially to demonstrate the aspects of randomness and Cage's work that you have used as motivation.

The work that is to be submitted is the following:

- Your description of the basis and motivation of the sketch, and the links to the work of John Cage.

  [15%]

- The artefact itself, which meets the brief that you have set up for yourself in the description above.

  [70%]

- Your discussion and evaluation of the artefact, in the terms described above.

  [15%]

Submit the above by uploading to the VLE:

1. A single PDF document containing your written answers to the first and third parts of this coursework assignment: the motivation, and the evaluation. These are two distinct discussions and should be labelled clearly in the PDF. The file should be named using the following convention: `YourName_SRN_CO3346cw2.pdf`, where `YourName` and `SRN` are your full name as it appears on your student record and your UoL student number respectively. Make sure you clearly indicate, through headings, which parts of the PDF are answering which questions.

2. A single zip file called `YourName_SRN_CO3346cw2_Artefact.zip`, containing the work you've developed and any examples that you have included.

[END OF COURSEWORK ASSIGNMENT 2]