

Assignment Brief | UG | AY25-26



Assignment submission



Marks and feedback

Assessment deadline	Marks and feedback
To be submitted Before 10 a.m. on:	20 working days after deadline (L3,4, 5,6 and 7)
	15 working days after deadline (block delivery)
05/12/2025	12/01/2026
Please note, for Exams the date is arranged centrally aligned to the academic calendar. Exams timetables will be released 6 weeks before the exam period.	

Key assignment details	
Unit title & code	CIS045-3 Distributed Service Architectures
Assignment number & title	1
Assignment type	Coursework: produce video for your own code
Weighting of assignment	60%
Size or length of assessment	Video of max. 10 minutes
Use of generative AI	Permitted for code; not for video
Use of self-plagiarism	Permitted for code; not for video

Understanding the assignment brief	
Assignment brief to be discussed during an in-class session with students within the first 2 weeks of the unit.	Week 2
Uploaded screen/podcast explaining the assessment, the rubric and marking criteria.	See BREO shell



Completing your assignment

What am I required to do in this assignment?

This assignment asks you to reflect on various concepts, paradigms and architectures related to Computer Science. Based on your code you will do a video to discuss the four themes **software design principles (low coupling and high cohesion)**, **event-driven programming**, **interoperability**, and **virtual identity**. You will develop code in a main-stream programming language chosen by you. Your main submission is the video; but you will also submit supporting evidence that shows that you worked on the code.

Example code will be demonstrated during the practical sessions using Java and Eclipse; there will also be some discussion of JavaScript and PHP. This is an individual assignment.

The Code:

You are asked to develop a game using the 'Heart Game' API - <https://marcconrad.com/uob/heart/doc.php> Basic examples are available in Java <https://github.com/marcconrad/comparativeintegratedsystems> and JavaScript <https://marcconrad.com/uob/heart/>. You can develop code based on these examples or do your own code from scratch (using any programming language). **The final code must be sufficiently complex for you to produce a meaningful video.** For this reason, you should regularly discuss your progress with the tutor during the practical session.

Timeline of the Assignment

Week	Tasks	Software topics covered
1	Introduction to the IDE and basic examples.	Overview of different programming language, history, application areas.
2	Introduction to the Assignment	Low Coupling & High Cohesion
3	Development of artefact. You are expected to use external sources and document their use.	GUI and Events
4		Interoperability
5		Authentication & Cookies
6		From Week 6 onward we will cover further topics in the lecture that do not relate directly to the four topics to be covered in your video.
7		
8	Feedback session with tutor to check progress	
9	Finalize code based on feedback received.	
10	Production of video and additional material.	Revision Session for Exam
11	Assignment Submission	

12 & 13	Exam Week	No Lecture
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Deliverables:

1. An authentic video of maximum 10 minutes length where you talk about your code and compare and reflect upon the four themes **software design principles, interoperability, event-driven programming and virtual identity**.
2. Additional material to accompany the video; this must include the full source code of a working implementation. **If you use any code from others (other students, external websites, LLMs) this must be referenced within the documentation of the source code.** You may also include a transcript of the video, design documentation, evidence of testing and integration of external software. Note that this additional material is not marked directly but only serves to inform the video.
3. Evidence that you presented your work to the tutor in Week 8 or earlier.

Please note that this is an individual assignment. Although you can and should collaborate with other students you have to individually produce the video, and you are individually responsible for the submission of all the additional material. You must also make clear what code has been written by you and where you used code from others.

In Week 8, or earlier, you will present your work to the tutor. This session serves to provide evidence that you are actively working on your code.

The grade will be capped by 58 if your submission has one of the following issues. The grade will be capped by 48 if your submission has two or more of the following issues:

- You did not present your code in or before Week 8.
- Code does not address the requirements of the case study.
- No dedicated submission of code (code only visible in video)
- Your video does not have your own voice.

The video must use relevant terminology and be focused around the four themes. It should start with a short demonstration of the working system followed by substantive discussion of the four themes *within the context* of your code. The video must be *authentic*, i.e., it should be obvious that the video reflects your understanding and knowledge of the code and the four themes. Substantive editing of the video is therefore discouraged.

Further Notes

Please check BREO regularly for further clarifications and details on the tasks. Take note of the FAQ that answers several questions about the assignment.

Note that copying someone else's code is plagiarism and hence an academic offence. However, the following is allowed and encouraged:

To ask other students for help, to ask for guidance and help in internet forums, use of example code that is available on the internet or in books, use of third-party scripts, code generated by large language models (generative AI). **Any such help must be clearly acknowledged and referenced.** Any embedded code which does not originate from you must be clearly marked as such; however, you can freely use the example code provided on the

BREO site of the unit. If in doubt, ask your tutor if and how you can use a particular source. References to other software used should be made in the format of comments in your code.

Submissions after the hand-in date will not be accepted unless mitigation has been approved by the University's Student Engagement and Mitigation Team. Please see <https://www.beds.ac.uk/student-support/mitigation/> for details.

What do I need to do to pass? How do I achieve a good grade?

In order to pass you need to submit a video where you explain code in a meaningful way; see the marking rubric, column “40%-49%” below for details.

For a good grade make sure to attend the (a) lectures to understand the essence of the topics that the video is about and (b) the practical sessions where you can and should discuss the progress of your software artefact with your tutor.



Marks and Feedback

How will my assignment be marked?

Your assignment will be marked according to the threshold expectations (see the Unit Information Form uploaded on BREO) and the specific marking criteria below (marking rubric). Please read carefully as they will help you prepare and evaluate your own work before you submit. They will also help you understand the grade and feedback received once marked.

	70%+ (1st Class)	60-69% (2:1)	50-59% (2:2)	40-49% (3rd Class) Threshold Standard	30-39% (Fail)	0-29% (Fail)
1	You critically discuss the structure of your code regarding its components (such as, classes, libraries or packages) while considering alternative approaches when implementing your code.	You confidently reflect on how your code is structured regarding its various components (such as classes, libraries, packages) and how these address different concerns of your application.	You clearly identify the responsibilities of some of the various software components in the code.	You mention how your code is organized into various components.	There is some vague understanding that your code has been organized into components; but you are not able to show it.	Not able to explain how code is structured into components.
2	You justify the approach taken when implementing events and event handler into your software.	You confidently reflect upon how events are generated in your application and what mechanisms are in place to handle these events.	You clearly identify various events and their role within your code.	You mention event-driven programming and can relate it to your code.	Events are mentioned; but it is unclear where in your code they are implemented	Not able to explain how events work in software development.
3	You critically justify the approaches you have taken to include third-party software, such as a web service, into your application.	You confidently reflect on how your code works together with other code written in a different architecture or running on a different system.	You clearly identify where your code interoperates with someone else's code and what protocol is used to accomplish this.	You mention interoperability and you can relate it to the code.	There is some understanding how interoperability works but it is not linked to your code.	Not able to explain interoperability
4	You critically discuss the authentication mechanisms that are used by your code to establish virtual identity and the role they play to make your application secure while also considering alternative approaches.	You confidently explain how you have used authentication mechanisms in your code to establish virtual identity.	You clearly identify where you use passwords and / or cookies in your code.	You mention virtual identity and can relate it to your code.	You know what virtual identity is; but you cannot relate it to your code.	Not able to explain virtual identity.

Additional information

How does this assignment relate to 'my learning in this unit and help me develop knowledge and skills that I will need for my future?

In the lectures we will discuss the various topics that you will implement into code and discuss in the video. The practical sessions provide time and opportunity to discuss your progress with the tutor. Example code will be provided in Java and JavaScript; but you are free to use a different programming language for this assignment.

Within the University of Bedfordshire, graduate competencies refer to the skills, knowledge, attributes, and abilities that individuals are expected to possess upon completing their education at the graduate level. Our graduate competencies are the fundamental building blocks in preparing you for the future world of work. They form the foundation for learning outcomes within and beyond your course. They are relevant for every subject, and you can work towards them in different ways, so that you can attain and benefit from them even if you have lots going on outside university. These competencies will be integrated across your course and units.

The table below indicates graduate competencies gained relevant to this assessment.

Graduate competencies:	
Digital Literacy	✓
Collaboration and Communication	✓
Problem solving and critical thinking	✓
Creativity and Entrepreneurship	✓
Adaptability and Resilience	✓
Global Citizenship	
Course specific competencies, e.g., use of external software packages and APIs; software architecture, security aspects.	✓

What should I be aware of when preparing my work? How and where should I submit my work?

To submit assignments at the University of Bedfordshire, you will typically use the [BREO](#) (Bedfordshire Resources for Education Online) platform. Within BREO, locate the specific assessment you need to submit, and then follow the instructions provided to upload your work.

The University has produced a [guide](#) that is designed to help you understand the processes we use to deliver and manage assessment-related processes, what support is available to you and how we agree and approve your results. It also provides you with an explanation of the codes we use when we issue results and transcripts.

When submitting work for assessment, you must ensure that it is all your own work. Failure to do this could result in sanctions, including removal from your course. The [Academic Integrity Resource \(AIR\)](#) has been designed to introduce you to academic integrity and how to demonstrate this during your studies. Remember to use the [self-help resources](#) to support your skills in academic writing. You could also improve your assignment grades by accessing [free university support](#) to develop a wide range of relevant and valuable academic skills.

For exams, you should familiarise yourself with the guidance information available here: <https://www.beds.ac.uk/exams/>

Practice exams can be taken for all exam types before exams week. Please see section [Prepare for your exam](#).