

School of Computer Science  
University of St Andrews  
2022-23

CS4303 - Video Games  
Practical: The Game

This Practical comprises 45% of CS4303. It is due on Tuesday 9<sup>th</sup> May at 21:00 (NB MMS is the definitive source for deadlines and weights).

The deliverables consist of:

1. A **group report** in PDF of up to 3500 words (this is an advisory, rather than compulsory, limit) discussing your game design and its evaluation.
2. A short **individual report** in PDF, briefly discussing who did what, and any special circumstances.
3. A player's **guide** for your game.
4. The Processing **source code** for your game.
5. A commented **video** of your game in action.

## Background

This practical is intended to give you the opportunity to implement the game idea you pitched in The Pitch practical.

## Problem Specification

Develop in Processing a game of your own design. This should not be a direct clone of an existing game, but this does not mean your game concept has to be entirely original. It is acceptable to give an existing design your own twist, for example space invaders with a puzzle element (cf. [Ikaruga](#)) – combining genres can be quite fruitful in coming up with something new.

The genre of your game is entirely up to you, but note that *the degree of technical challenge is a factor in marking*. If, therefore, you decide to create a text-based, menu-driven visual novel, then the baseline technical challenge will be low. If so, consider how you might add sophistication – in this case, for example, can parts of the story your novel tells be generated procedurally? It is suggested that you avoid anything that requires you to invest your time heavily in creating art assets, unless this is a skill you already have. Abstraction is perfectly acceptable: shooting, platforming, puzzling all would work well with abstract (e.g. simple geometric shapes) art.

## Group Report

Document your design and implementation in a report covering:

- **Design:** This should significantly extend the pitch you produced for The Pitch Practical, and hence cover: Title, Genre(s), Player(s), Opponents, Rules/Mechanics and Goals. Make use of annotated screenshots from your game to illustrate these points. If, following feedback from The Pitch Practical, you decided on a completely new design, then you should explain why.
- **Implementation:** This section should cover a description of anything implemented which has a notable technical challenge, or you deem worthy of mentioning. For example, a spatial partitioning collision detection, or a novel approach to procedurally generate a rather complex structure such as a credible narrative for your game.
- **Context:** Set your game in context by describing how its features relate to existing games, and how it differs from similar games.
- **Evaluation:** Describe how you tested and evaluated your game. Discuss any parts of your game you changed based on your observations obtained during testing.
- **Critical Appraisal:** This section should critically review your game, evaluate its strengths and weaknesses and reflect on what could be improved from the experience.

## Individual Report

In addition to the main report, you should also submit in a separate document a brief description of who did what in the project and any special circumstances that you consider that should be taken into account.

## Marking

The practical will be marked following the standard mark descriptors as given in the Student Handbook (see link below). There follows further guidance as to what is expected:

- To achieve a mark of 7 or higher: A rudimentary game implementation with a low degree of technical challenge, adequately evaluated and reported.
- To achieve a mark of 11 or higher: A game implementation with a reasonable degree of technical challenge, although few if any original elements, reasonably well evaluated and reported.
- To achieve a mark of 14 or higher: A game implementation with a good degree of technical challenge, with some original elements, well evaluated and reported.
- To achieve a mark of 17: An excellent game implementation with a good degree of technical challenge, with some original elements, very well evaluated and reported.

- To achieve a mark greater than 17: in addition to the requirements for a mark of 17, evidence of exceptional achievement in terms of technical challenge and/or originality.

## Pointers

Your attention is drawn to the following:

- Mark Descriptors:

<https://info.cs.st-andrews.ac.uk/student-handbook/learning-teaching/feedback.html>

- Lateness:

<https://info.cs.st-andrews.ac.uk/student-handbook/learning-teaching/assessment.html>

- Good Academic Practice:

<https://info.cs.st-andrews.ac.uk/student-handbook/academic/gap.html>