

Faculty of Science and Engineering

Referred Coursework – 2017/18 Academic Year

PLEASE NOTE: If you have been referred in the **COURSEWORK** element of this module and are required to be reassessed by **COURSEWORK**, please complete this referred work.

Module Code: AINT254
Module Title: Interactive Systems Workshop
Module Leader: Dan Livingstone
School: Computing Electronics and Mathematics

DEADLINE FOR SUBMISSION: 3pm on Thursday 16th August 2018

SUBMISSION INSTRUCTIONS FOR CANDIDATES
<p>Referred coursework must be submitted electronically using the online submission facility in the DLE by the published deadline.</p> <p>If you have any queries on submission or in relation to the referred work, please contact the Module Leader in the first instance, if they are unavailable please contact the Faculty Office on 01752 584584 immediately so any problems can be rectified.</p>

If you require any part of this publication in larger print, or an alternative format, please contact:

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AINT254 Interactive Systems Workshop: Referral Assignment Specification

Module Leader Dr Dan Livingstone

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[Module Descriptor]

This module provides a series of workshops in interactive systems for game developers with a core lecture series resulting in a substantial individual student project. The workshop series will also introduce students to tools and methods used in industry, developing Professional practice. Personal enterprise and ethical issues are also covered.

[Aims]

- To establish an understanding of skills required to develop game products
- To establish professional approach to version control and iterative development
- To implement high quality prototypes using industry standard production methods

[Assessed Learning Outcomes]

At the end of the module the learner will be expected to be able to:

1. Implement prototypes following an agile methodology
2. Demonstrate version control, problem solving and iterative development
3. Effectively document and promote individual development process.

[Summary of Module Content]

Game development using contemporary 3D game engine, object oriented design, data structures for game engines, memory management, debugging, console architectures. Input devices, gesture, vision, touch, integration of contemporary game controllers and novel interfaces. Game play models and interaction design. Establishing a developer profile and professional practice.

[Module Delivery]

This 20 credit module consists of a weekly 3hr workshop with a combined lecture practical delivered in BGB211 and a 2hr tutorial delivered in BGB211 for 12 weeks. Marius Varga will lead the 3hr Workshop sessions for project development. Dan Livingstone will lead the 2hr tutorial sessions for developer profile activity for initial 5 weeks . Marius Varga will provide a project surgery in 2hr tutorials for subsequent weeks The module runs in Semester 1 with assignment review in the final teaching week and assessment by Demo and Viva with module staff in the 1st assessment week after xmas break. Livingstone and Varga jointly assess the Refer to the [DLE module site](#) for details.

NB: For a 20 credit module there will be on average 50hrs of taught content and staff led activities with 150hrs of independent study - students are expected to work through exercises, read and assimilate provided resource materials and prepare for the next session, final assessment will include elements from further study materials, extending taught materials. It is essential you apply your study skills and provide evidence of this additional work.



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[Referred Coursework]

You have been referred in this module for poor performance in one or more of the following elements:

1. Poor attendance of workshop sessions resulting in missing developmental work
2. Poor application of taught methods and approaches resulting in unresolved project work
3. Failure to attend module feedback/presentation/assessment sessions

To pass this module you will need to repeat or the missing elements and significantly improve the final coursework including full documentation technical implementation using iterative development approach, regular and appropriate comments on GIT in addition to evidence of testing and iteration of core mechanics to produce an original solution.

NB: For a 20 credit module there will be on average 50hrs of taught content and staff led activities with 150hrs of independent study - students are expected to work through exercises, read and assimilate provided resource materials and prepare for the next session, final assessment will include review of core elements from tutorial sessions applied to team project management, web presence and iterative development. ***You may find it useful to review these materials before beginning referred coursework***

[Assignment Overview]

100% coursework. Part 1 Mechanics Prototype: A unique/custom game mechanic prototype for a single player or two players on a single screen, iterated to a high standard. This element is worth up to 70% You will demonstrate an agile approach with iterative development in Unity3D using version control. You should repeat or update any missing exercises from the initial six weeks (see the [module DLE site](#)) You will then extend and apply a selection of these approaches to your original solution, which will integrate unique/custom game mechanics and advanced programming concepts.

The final submission will be supported by a *developer playthrough* demonstrating core features with in game audio and a separate *developer walkthrough* with commentary uploaded to youtube (unlisted) set up in a play list on your youtube channel (or submitted as standalone mp4 files on memory stick) . Use [Open Broadcaster](#) to capture. You can borrow a studio quality USB microphone for use in BGB labs.

NB:

1. The developer playthrough is a full screen capture of your project/demo in use, playtesting key features/mechanics in action, if it is a two player game this playthrough should be done with two players etc!
2. The developer walkthrough should show the unity editor with explanation of your implementation, ie explain code elements used, open editor panels and demo core features then summarise your approach.

(This is in place of formal demonstration to staff and is an opportunity for you to take credit for the aspects of the project you found the most challenging/rewarding or that demonstrate originality/use of more advanced coding)



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Part 2 Developer profile is worth up to 30% and is focussed on your personal development and includes the following elements; Piazza contribution and engagement, effective project management with regular iteration and version commenting and developer minisite. Students should also continue to develop and maintain their web presence in readiness for placement or progression to final stage. This includes embedded youtube commentaries of development stages, summaries of progress, embedded files/links as appropriate and linked in profile. Your developer profile submission will include links to repo, project management, developer/portfolio site (wordpress, bootstrap or hand coded) which must include a representative selection of coursework from stage 1 and 2 project based modules.

[Assignment Specification]

Part 1: Project & Documentation 70%

ALO1. Implement prototypes following an agile methodology

ALO2. Demonstrate version control, problem solving and iterative development

Mechanics Prototype; A unique/custom game mechanic prototype for a single player or two players on the single screen, iterated to a high standard.

Active GIT repository with readme evaluation (feedback from peer/staff review, Play through screen capture and desktop builds (latest iteration) refer to provided template for deliverables.

Objective is to explore relevant game mechanics for different forms of single/co operative game play on a single screen on a given theme. For example a unique game mechanic for a spinning character that fights enemies through rapid spinning or a unique climbing character that glides from wall to wall etc.

Provide an initial one page outline of initial concept identifying core mechanics and controllers for the planned project

Implement a series of experiments to test and iterate your core mechanics evidenced and commented/identified in your repo.

Implement experiments in Unity and test - ideally with other students (document testing process with screen/movie captures).

Integrate most successful experiments into a single/co op game for two players on a single screen using two different controllers and applying advanced programming concepts and problem solving skills for final submission.

If a coop game, provide alternate control setup for two players on a standard keyboard: WASD, cursor keys, control, option, space and escape.



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Indicative breakdown:

Game mechanic implementation(explore, test, iterate and refine) - 25%

- Basic game mechanic(code provided by the tutor or other sources) with minimum contribution from the student - 5%
- Interesting/novel game mechanic with proof of testing/iteration and refinement 20%

Applied Advanced programming concepts - 15%

- Minimum implementation of 1 advanced core mechanic with no real understanding of the concept or value of used method - 5%
- Extensive use of advanced programming concepts going beyond the elements taught in the lectures, showing clear mastery of the concepts and skilfully used to improve legibility and understanding - 15%

Prototype turned into a game - 15%

- Adding extra elements to the project, factoring staff recommendation from session 12 review in order to make it more appealing/playable/engaging (sounds, custom shaders, particles, animations, menus, special effects, etc.)

Published project - 10%

- Published project(exe for download, web player, apk, etc) on personal site - 5%
- Published project on an established gaming platform(Itch.io, Kongregate, Steam, etc) - 10%

Extension and refinements to the project - 5%

- Adding additional elements to the project - multiple controls(keyboard/mouse, game controllers),
- Extensive use of version control (GIT, Perforce, SVN, etc)
- Following coding conventions and extensive code comment

[Assignment Submission]

Cover sheet with full submission details and USB memory stick to include:

Readme file with index of assets, name, module code

Link to repoll developmental work (repo) and prototypes archived in repo with descriptive comments

Proposal document outlining core mechanics and primary features

Playable demo of game mechanics/core features

Final zipped folder containing executables for mac and win, project, filled in template submitted to Faculty office by the due date



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Part	Description	Deadline	Percentage
Part 1	Individual project: iterative development with documentation ALO1. ALO2.		70
	Folder of assets including project file and executable for Mac and Windows on USB memory stick with readme file with references, links to resources used and repo submitted to Faculty office with cover note by due date.	Refer to DLE referral section for this module	70

Part 2: Developer Profile 30%

ALO3. Effectively document and promote individual development process.

Ongoing use of appropriate tools and resources as evidenced by regular updates, comments and activity on recommended 3rd party services, tools and resources supported by a project 'playthrough' and a 'Developer walkthrough with commentary' of final part 1 submission uploaded to Youtube by week 24 (Trello, Twitter, LinkedIn, Developer/Portfolio site..

Indicative breakdown:

Personal profile/Industry engagement, project management tools - 30%

- Use of project management tools (Trello) - 5%
- Developer/portfolio site -10%
- Social Media (Twitter and Linked in) 5%
- Youtube playthrough and developer walkthrough 10%

[Assignment Submission]

Upload of completed template in .pdf format to DLE confirming URL's to services used ie GIT Repo, Piazza, management tool, youtube by referral deadline listed on DLE site

Part	Description	Deadline	Percentage
Part 2	Online Developer profile ALO3. Session 12		30
	Developer profile template with links and short project summary uploaded to DLE referral section as formal confirmation or URL's in .pdf template	Refer to DLE referral section for this module	30



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Project Requirements:

To achieve the learning outcomes for this assignment you will need to provide evidence through your submissions and web presence, indicative elements listed below.:

Fail - under 40

- Minimalistic game mechanic, usually copied from a tutorial with no real contribution from the student
- No engagement with Piazza, Trello and a developer profile with no effort to engage

Bronze Standard 40 - 50

- Minimalistic game mechanic, with some evidence of student contribution
- Minimalistic implementation of advanced programming concepts
- Minimum effort to turn the project into a game
- Maintain very basic version control using GIT, no real evidence of iterations
- No publication of the game
- Some evidence of Piazza and Trello engagement and a developer profile with some evidence to engage

Silver Standard 50 - 60

- Average game mechanic, with clear evidence of student contribution
- Good balance of advanced programming concepts
- Good attempt to turn the project into a game but the game needs balancing/more iterations
- Good use of version control
- Game published on the personal site
- Evidence of Piazza and Trello usage and a developer profile with clear evidence of engagement

Gold standard 70 - 80

- Unique or extensively customised game mechanic
- Deep understanding of advanced programming concepts, with extensive implementation
- Project looks and feels like a game product, balanced with the sum of the elements creating an immersive and engaging experience
- Extensive use of version control, with clear iteration cycles
- Game published on an indie game platform with positive reviews from users
- Extensive use of Piazza with clear evidence on helping others, savvy use of Trello and a developer profile with big impact

Higher grades can be awarded for exceeding the standard requirements/expectations and demonstrating advanced evidence complementing the learning outcomes

Please refer to all the lecture content & further study resources on the [DLE](#).

NB: A Countdown for module deadlines, direct links and guides for using GIT are provided on the CGD resource page <http://homepage.iss.io/>

