

RESEARCH JOURNAL — LEGACY GAME SYSTEMS

Version 1.0
BSc Computing for Games
COMP310

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Introduction

In this assignment, you will collaborate to create a wiki focusing on 6502 assembly programming and homebrew NES game development.

Bla bla bla motivation.

This assignment is formed of several parts:

- (A) **Write** a draft plan in the wiki for the library, that will:
 - (i) **write** User Stories for the library
 - (ii) **list** the key sources to support the library.
 - (iii) **list** a series of Unit Tests to be carried out during the development of the library
- (B) **Develop** the first draft of the library, this should include the key classes/functions for the library
 - (i) **summarise** the key features of the library;
 - (ii) **write** entries in the wiki to support these key components of the library
 - (iii) **revise** any issues raised by your tutor and/or your peers.
 - (iv) **detail** the results of the Unit tests
- (C) **Develop** the final draft of the library
 - (i) **summarise** the key features of the library;
 - (ii) **write** entries in the wiki to support these key components of the library
 - (iii) **revise** any issues raised by your tutor and/or your peers.
 - (iv) **complete** a peer assessment
- (D) **Discuss** your contribution to the wiki & library with your tutor in the viva session in class.

Assignment Setup

This assignment is an **development** and **wiki task**. Fork the GitHub repository at the following URL:

<https://github.com/Falmouth-Games-Academy/comp220-maths-lib>

Use the existing directory structure and, as required, extend this structure with sub-directories.

Modify the .gitignore to the defaults for **Visual Studio**. Please, also ensure that you add editor-specific files and folders to .gitignore.

A Trello board has also been setup, please ensure that you visit the following link to become a member - <https://trello.com/invite/b/fAFs8G9h/f3f7671ef0511c139dc00715e229e002/comp220-maths-library-2017-18>

"There are two ways of constructing a software design: One way is to make it so simple that there are obviously no deficiencies and the other way is to make it so complicated that there are no obvious deficiencies."

— C.A.R. Hoare

"The computing scientist's main challenge is not to get confused by the complexities of (their) own making."

— E. W. Dijkstra

"Controlling complexity is the essence of computer programming."

— Brian Kernighan



ACM SIGGRAPH is the premier conference on computer graphics, with contributions to it highly respected by the games industry.

Part A

Part A consists of a **single formative submissions**. This work is **collaborative**.

Please ensure that you have added all User Stories to the Trello board. Any discussion on the generation of this should be evident on the history of the wiki page for the features of the library.

The key sources should be added to a **sources page** on the wiki, again this should be a collaborative effort and it should be evident from the history of the page (and discussion) that everyone has contributed to this.

The Unit tests should be detailed on a **testing card** on the Trello board and these should be given more detail on a wiki page called **testing**.

Please ensure that all changes have been made to wiki and pull request has been made by week 3.

You will receive **immediate informal feedback**.

Part B

Part B consists of a **single formative submissions**. This work is **collaborative**.

To complete Part B, you should carry out a first pass implementation of the library. At this point key classes such as Vectors and Matrices should be created, in addition to these classes then some of the key operations should also be implemented such as addition, multiplication, dot product, cross product etc. All code written at this point should be fully commented in the Doxygen style, these docs should also be uploaded to a wikipage called **docs**

The results of Unit tests should be detailed on the **testing** wiki page.

Please ensure that all changes have been made to wiki and pull request has been made by week 6.

You will receive **immediate informal feedback**.

Part C

Part C consists of a **single formative submissions**. This work is **collaborative**.

To complete Part C, you should update the maths library to include more functionality such as a class to support Quaternions.

The results of Unit tests should be detailed on the **testing** wiki page.

Please ensure that all changes have been made to wiki and pull request has been made by week 10.

Finally, you should fill out a peer assessment for each student in the class.

You will receive **immediate informal feedback**.

Part D

Part D consists of a **single formative submission**. This work is **individual** and will be assessed on a **threshold** basis.

To complete Part D, bring the final version of the library to the viva session in class. Be ready to discuss your work with your tutor.

You will receive **immediate informal feedback**.

Additional Guidance

FAQ

- **What is the deadline for this assignment?**

Falmouth University policy states that deadlines must only be specified on the MyFalmouth system.

- **What should I do to seek help?**

You can email your tutor for informal clarifications. For informal feedback, make a pull request on GitHub.

- **Is this a mistake?**

If you have discovered an issue with the brief itself, the source files are available at:

<https://github.com/Falmouth-Games-Academy/bsc-assignment-briefs>.

Please make a pull request and comment accordingly.

Marking Rubric

Criteria marked with a ‡ are shared by the group. All other criteria are individual.

Criterion	Weight	Refer for Resubmission	Novice Competency	Novice Proficiency	Professional Competency	Professional Proficiency	Expert Competency
Basic Competency Threshold	40%	At least one part is missing or is unsatisfactory.	The student participated in the peer review activity, with enough work available to allow a meaningful review. The student gave a meaningful review of at least one peer's work. The student participated in the viva, with enough work available to hold a meaningful discussion. Sources have been cited in an appropriate manner, without any obvious errors. There are no breaches of academic integrity.				
Structure	5% ‡	There is little structure to the wiki.	There is some structure to the wiki.	The wiki is structured somewhat sensibly.	The wiki is structured somewhat effectively.	The wiki is structured effectively.	The wiki is structured highly effectively.
Coverage	5% ‡	The wiki gives a superficial coverage of the topic. There is much superfluous material.	The wiki gives an incomplete coverage of the topic. There is some superfluous material.	The wiki gives an adequate coverage of the topic. There is some superfluous material.	The wiki gives a somewhat comprehensive coverage of the topic. There is little superfluous material.	The wiki gives a comprehensive coverage of the topic. There is very little superfluous material.	The wiki gives an extremely comprehensive coverage of the topic. There is no superfluous material.
Specificity, verifiability & accuracy of claims	10%	No citations to evidence to claims. Substantial errors and/or misinterpretations.	Few claims have a clear source of evidence. Significant errors and/or misinterpretations.	Some claims have a clear source of evidence. Many errors and/or misinterpretations.	Many claims have a clear source of evidence. Some errors and/or misinterpretations.	Most claims have a clear source of evidence. Few errors and/or misinterpretations.	All claims have a clear source of evidence. Almost no errors and/or misinterpretations.
Depth of insight	15%	Little insight is demonstrated. Material is summarised in the student's own words.	Some insight is demonstrated. Attempts are made at discussion beyond summary.	Much insight is demonstrated. Discussion is inferential in nature.	Considerable insight is demonstrated. Discussion is analytical in nature.	Significant insight is demonstrated. Discussion is analytical and evaluative in nature.	Extensive insight is demonstrated. Discussion is highly analytical and evaluative in nature.
Synthesis	15%	No connections are made between different sources.	Basic connections are made between different sources.	Reasonable connections are made between different sources. Connections go beyond mere description.	Strong connections are made between different sources. Connections are analytical in nature.	Sources are synthesised into a coherent narrative. Connections are analytical and evaluative in nature.	Sources are synthesised into a highly coherent narrative. Connections are analytical and evaluative in nature.
Community engagement	10%	No contribution has been made to the wiki.	A few contributions have been made to the wiki. Contributions are isolated, with little to no engagement in community discourse.	Some contributions have been made to the wiki. The student has made some attempt to engage in community discourse.	Many contributions have been made to the wiki. The student has actively engaged in the community discourse.	A significant number of contributions have been made to the wiki. The student has participated in steering the community discourse.	An extensive number of contributions have been made to the wiki. The student has played a key role in driving the community discourse.
Spelling & grammar	5%	Substantial spelling and/or grammatical errors.	Many spelling and/or grammatical errors.	Some spelling and/or grammatical errors.	Few spelling and/or grammatical errors.	Almost no spelling and/or grammatical errors.	No spelling or grammatical errors.