Design Document Rubric

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- | --- |
|  | Level | | | | |
| Element | 0-No evidence | 1-Little evidence | 2-Some evidence | 3-Evidence | 4-Ample evidence |
| 1. Product intro  2. (2x)  3. Conventions  4. (2x) | None of the four required elements are present | Writing conventions are somewhat followed. | Writing conventions are nearly always followed. | Product is somewhat introduced. | Product is introduced with enough detail for reader to understand what is being designed. |
| Product Goals (What do you want to accomplish?) | No written documentation. | At least one product goal is identified and described. | At least two product goals are identified and described. | At least three product goals are identified and described. | At least four product goals are identified and described in detail of how the student will measure that they have been accomplished. |
| Learning goals (What do you want to learn?) | No written documentation. | At least one learning goal is identified and described. | At least two learning goals are identified and described. | At least three learning goals are identified and described. | At least four learning goals are identified and described in detail of how the student will measure that they have been accomplished. |
| Product achievements (What did you accomplish?) | No written documentation. | At least one achievement has been met and documented. | At least two achievements have been met and documented. | At least three achievements have been met and documented. | At least four achievements have been met and documented. Documentation is specific and detailed on how the goals have been met. |
| Learning achievements (What did you learn?) | No written documentation. | At least one achievement has been met and documented. | At least two achievements have been met and documented. | At least three achievements have been met and documented. | At least four achievements have been met and documented. Documentation is specific and detailed on how the goals have been met. |
| Process | No written documentation. | The design and learning process is described with little detail. | The design and learning process is described with some detail. | The design and learning process is described with ample detail. | The design and learning process is described with ample detail in such a way that readers can learn from the written document and any accompanying materials. |
| Drawings / Models / 3D Prints / Programs (4x) | No Drawings / Models / 3D Prints / Programs. | Little progress on Drawings / Models / 3D Prints / Programs. | Some progress on Drawings / Models / 3D Prints / Programs. | Drawings / Models / 3D Prints / Programs are adequate evidence to demonstrate learning and product goals have been met. | Drawings / Models / 3D Prints / Programs are ample evidence to demonstrate learning and product goals have been met and/or exceeded. |
| Final Score (out of 40) and Grade. | Does not meet standards | Can meet standards with help | Somewhat to mostly meets standards | Meets standards | Exceeds standards |

Include this rubric with your design document.

The design document may be formatted according to the student’s liking. However, please use a font no larger than 12 point. Fonts with serifs are somewhat easier to read.

Improved SMFL Game Engine

Tristen Yim

Planned Features:

* All features of the original game engine
* Updates to the tutorial which explain what to change to allow backwards compatibility
* A secondary, stripped-down version of my engine which only contains the optimizations
* Support for game objects without sprites (Game objects with sprites will be called SpriteGameObjects)
* Improved collision detection, which involves storing all objects that can be collided with in a quadtree
* Support for “solid” objects, i.e., ones which objects with certain tags cannot move past
* Simplified text objects
* Support for tile maps
* Support for multiple render layers and collision layers
* UUIDs assigned to each object
* Support for multiple methods of searching objects without involvement of a collision, with some methods involving tags, others UUID, and others position in 2D space
* Methods to find objects that are the closest to a certain object
* A native debug feature which displays LPS
* A native debug feature which draws boxes around the collisionRect of all SpriteGameObjects with a certain tag
* Native fullscreen support
* Offscreen object detection
* Offscreen sprite culling
* Camera movement support

Project Goals:

* Make at least one variant of this engine 100% backwards compatible with the original
* Optimize the engine to perform much better with more objects on screen
* Fast tilemap implementation
* Camera movement support

Learning Goals:

* Learn more about how other game engines work
* Learn how to make quadtrees
* Learn how to make tile maps
* Learn how to make multiple render and collision layers