

Architecture (2)

Group Name

Cohort 1, Group 4

Group Number

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Members

Jude Hall

Rosie Hogg

Ishraan Ismail

Sam Wildgust

Ruby Hanson

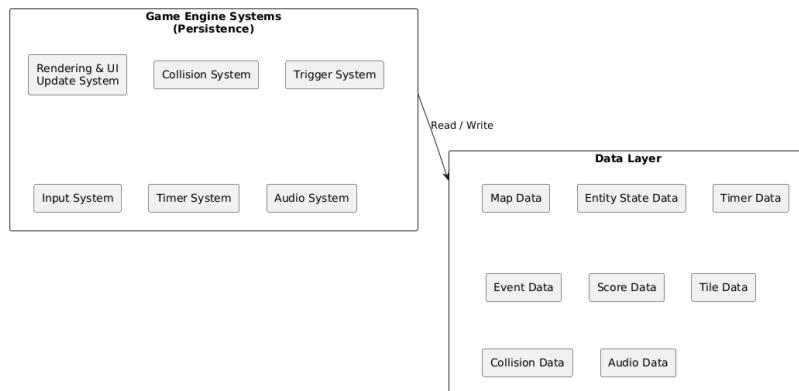
Tom Devany

Tomas Asllani

Introduction:

This document presents the updated software architecture for the project developed in assessment 2. It builds upon the original architecture created in assessment 1 and reflects the structural and design changes introduced as part of extending the existing codebase.

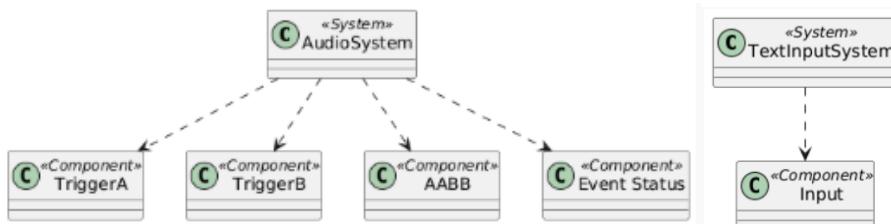
Figure 1



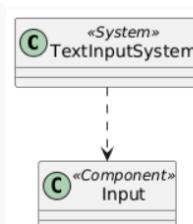
This abstracted, simple diagram shows the addition of the new audio system that controls the sound effects and background music in the game. It is an addition to the Monolithic closed-layered diagram seen on page 3 of <https://eng1-group9.github.io/website/Arch1.pdf>. The working system has been added to the Game Engine Systems as it works similarly to the other referenced systems. We also added 'Audio Data' to the Data Layer to show that the Audio System reads from the assets under that category.

Figure 2

a)



b)

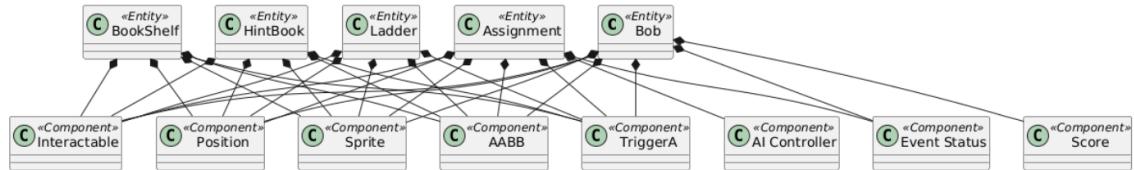


These diagrams show the addition of the systems that we implemented into the game and how they link to the components. It is an abstracted view of figure 2, on page 4 of the <https://eng1-group9.github.io/website/Arch1.pdf> document, and done in this way to show our changes so that they do not directly impact the existing ECS structure, only adding to it. No changes have been made to the components.

'AudioSystem' is linked to all trigger components and 'Event Status' because the sound effects are meant to show when an event has occurred.

'TextInputSystem' is only linked to the input component as the text box it shows is interacted with by the player, and is mostly based on the game UI.

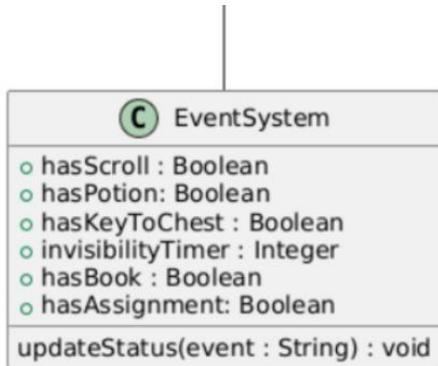
c)



This diagram shows the addition of the Entities to the ECS diagram seen from the reference above. All of the entities contain the same components as the other entities from Assessment 1 such as Longboi and Scroll: therefore linking AABB, TriggerA (Triggers), Sprite, Interactable and Position. This ensures that the Assessment architectures are consistent.

The Bob entity also has a link to Score as that interactable entity affects score, and a link to Event Status as it occurs a positive event where the player gains 30 seconds to the timer. The Assignment entity has links to Event Status and AI Controller as it has a positive event where it causes the Dean to be stunned for 3 seconds, and as the AI Controller controls the Deans movement, this is a direct effect to this component.

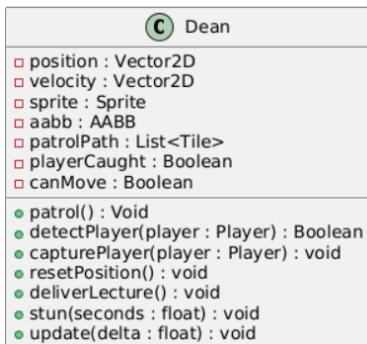
Figure 3



This figure directly links to figure 3, located on page 4 of <https://eng1-group9.github.io/website/Arch1.pdf>. It demonstrates the changes to the 'EventSystem' class that links to the Player function.

'hasBook' and 'hasAssignment' were variables added to show the addition of new events. One positive, and one negative. This was put here to reflect the behaviour of similar positive and negative events, like 'hasKeyToChest' (negative).

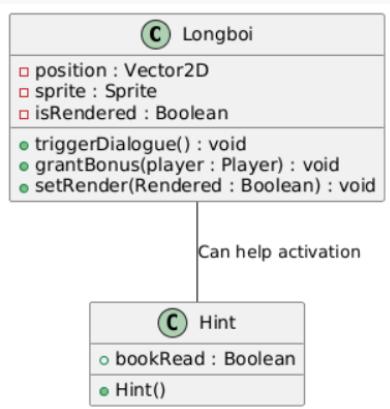
Figure 4



This diagram links to the Dean class diagram, figure 4 seen on page 5 of <https://eng1-group9.github.io/website/Arch1.pdf>. It was edited to add the positive event of the Dean being stunned in Assessment 2. This is through the addition of 'canMove' as a variable, and the functions 'stun()' and 'deliver()'. The formatting followed the existing diagram, not every

method and attribute were seen in the original diagrams so we kept this structure for the additional abstracted methods.

Figure 5



This diagram shows the addition of the 'Hint' abstracted class, added to figure 5, on page 5 of <https://eng1-group9.github.io/website/Arch1.pdf>. 'Hint' was added in this way to follow the existing structure that was organised in Assessment 1. It demonstrates that Longboi has a related variable 'bookRead' and method 'Hint()' that can help activation as the player can use the Hint to unlock Longboi, however it is not necessary to complete the event.

Figure 6

For figure 6, seen on page 6 of <https://eng1-group9.github.io/website/Arch1.pdf>, no changes were necessary. Though there were edits to the Deans function, the collision system that affects the negative event was not affected - the player still could lose time when the Dean was stunned.

Figure 7

For figure 7, seen on page 6 of <https://eng1-group9.github.io/website/Arch1.pdf>, no changes were necessary to be made as we did not make any modifications to the pause system in Assessment 2.

Figure 8

The final diagram seen on page 7 of <https://eng1-group9.github.io/website/Arch1.pdf> required no additional changes. This diagram does not include the individual events that cause the player to win the game, and we have not made changes to existing systems to affect the way winning mechanics work. Though we added 'Audio System', this has not been added to the diagram as it is not a function that directly affects the way the player wins the game.