

190a-4-Unity-Update-FixedUpdate-LateUpdate-YY-2022-2-15.odp

CTI One Corporation

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Date: Feburary 15, 2022 Project Lead: Harry Li, Ph.D. Members: Yusuke Yakuwa,



Update() vs FixedUpdate() vs LateUpdate()

https://docs.unity3d.com/Manual/ExecutionOrder.html

Update Order

When you're keeping track of game logic and interactions, animations, **camera** positions, etc., there are a few different events you can use. The common pattern is to perform most tasks inside the **Update** function, but there are also other functions you can use.

- FixedUpdate: FixedUpdate is often called more frequently than Update. It can be called multiple times per frame, if the frame rate is low and it may not be called between frames at all if the frame rate is high. All physics calculations and updates occur immediately after FixedUpdate. When applying movement calculations inside FixedUpdate, you do not need to multiply your values by Time.deltaTime. This is because FixedUpdate is called on a reliable timer, independent of the frame rate.
- Update: Update is called once per frame. It is the main workhorse function for frame updates.
- LateUpdate: LateUpdate is called once per frame, after Update has finished. Any calculations that are performed in Update will have completed when LateUpdate begins. A common use for LateUpdate would be a following third-person camera. If you make your character move and turn inside Update, you can perform all camera movement and rotation calculations in LateUpdate. This will ensure that the character has moved completely before the camera tracks its position.

Figure 1: Update Order

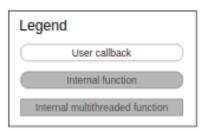


Update Functions Use Case

- 1. FixedUpdate(): Good for all physics related functions such as trigger or collision
- 2. Update(): Good for movement or input control
- 3. LateUpdate(): Good for camera that follows characters who have moved



Script Lifecycle Flowchart (1)



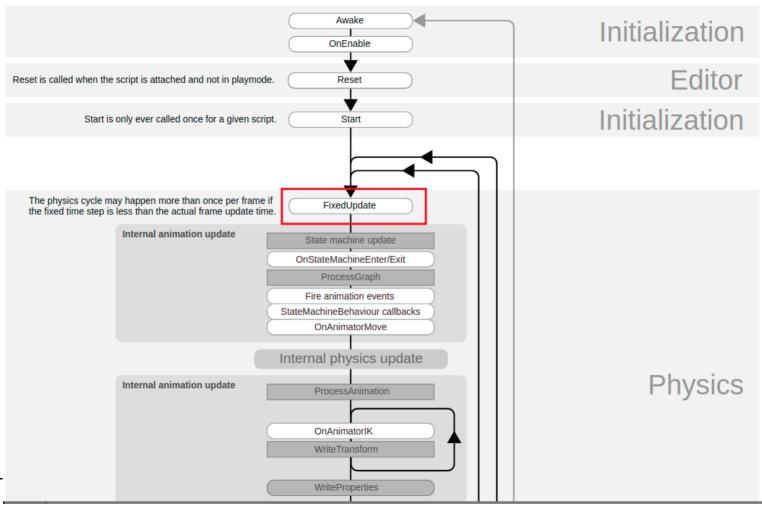
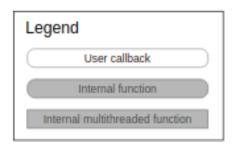


Figure 2: Script Lifecycle 1



Script Lifecycle Flowchart (2)



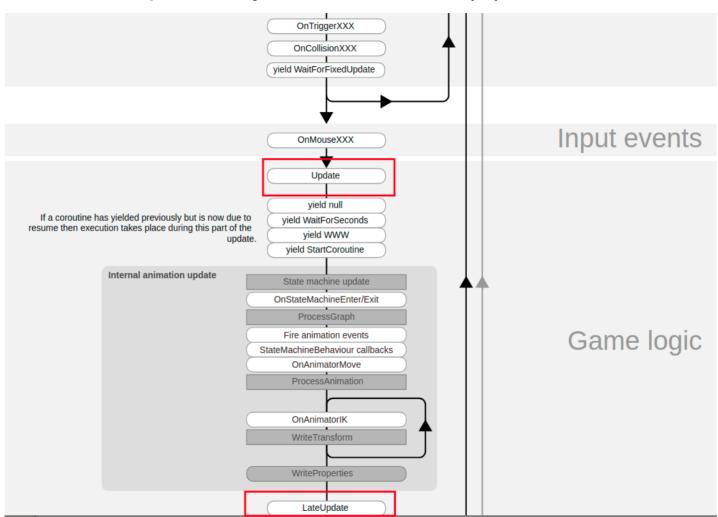
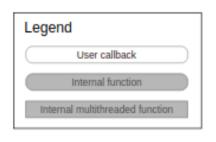


Figure 3: Script Lifecycle 2



Script Lifecycle Flowchart (3)



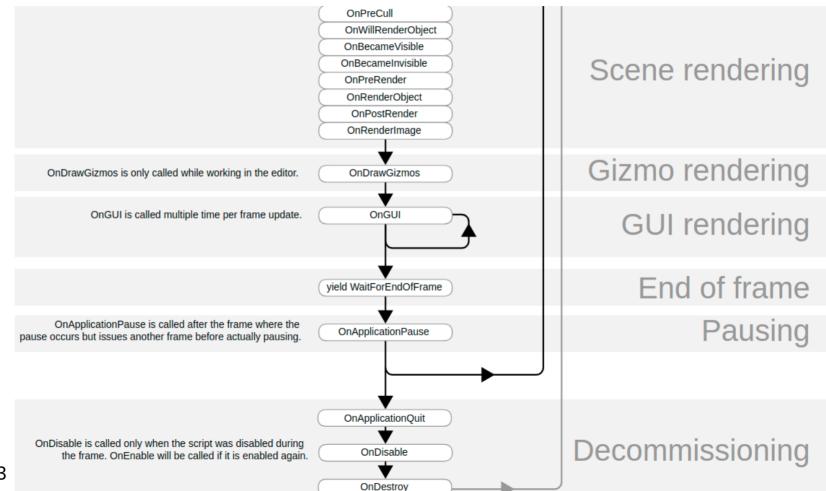


Figure 4: Script Lifecycle 3



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