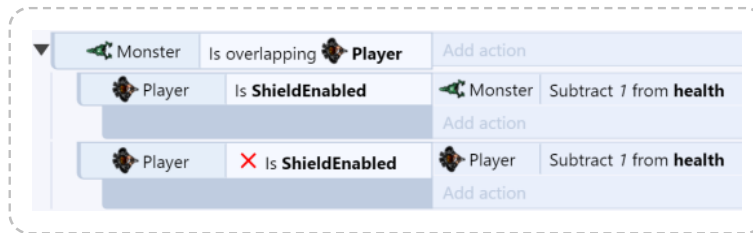


# SUB-EVENTS

View online: <https://www.construct.net/en/make-games/manuals/construct-3/project-primitives/events/sub-events>

**Sub-events** appear indented beneath other events. They **carry on picking instances** from where the "parent" event left off. They run after the parent event's **actions** have finished. An example is below.



This event runs like so:

- 1 Test if any *Monster* instances are overlapping *Player*. If so, the instances involved are remembered.
- 2 The top event's actions would run next, but it doesn't have any.
- 3 The second event (note it is indented) then tests if the *Player*'s **ShieldEnabled** instance variable is set. If so, it subtracts 1 from the *health* of the *Monster* overlapping the player.
- 4 The third event (also indented) tests if the *Player*'s **ShieldEnabled** instance variable is not set (see **inverting conditions**). If so, it subtracts 1 from the health of the *Player*.

In other words, monsters hurt the player when they touch, unless the player's **ShieldEnabled** instance variable is set, in which case the monsters are hurt instead.

This works because the objects picked by the top event are remembered and also used for sub-events. If the second and third events were not sub-events (not appearing indented) the second event would subtract 1 from the health of *all* Monsters, because it was not referenced in the event. (See *Unreferenced objects* in **How events work** for more on this.)

Sub-events can have other sub-events too, which makes sub-events very powerful and flexible for setting up advanced game logic.

Note sub-events run after the actions only if the actions run - in the above example, if no monsters are overlapping the player, neither the actions of that event nor its sub-events run at all.

## Triggers in sub-events

If a trigger is in a sub-event, **all** of its parent event's conditions must be true at the time the trigger fires, otherwise the event will not run.

There can also only be one trigger in a single branch of sub-events. In other words, one of the events above a trigger cannot also contain a trigger.

## Adding and removing sub-events

To add a sub-event, **right-click** the event margin and choose Add ► Add sub-event. Alternatively choose the Add sub-event option from the **Add...** link on the right, or press the **S** keyboard shortcut.

Adding and editing conditions to sub-events works identically to ordinary events. You can also create more deeply nested sub-events by adding a sub-event to a sub-event.