

ECS in Game Development

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Critical Techworks

Entity-component-system (ECS)

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- Entity-Component-System is a software architecture pattern frequently used in game development, often together with a data oriented design.
- It addresses some of the problems with object orientation while promoting code reusability, extendability, maintainability and parallelizability (is this a word?).
- One of it's greatest features is easily modifying behaviour at runtime.

Composition over inheritance

Entity-component-system (ECS)

- **Entities** are unique "things" that are assigned groups of **Components**, which are then processed using **Systems**.

What does this mean?

- Imagine that you have an `Entity` (a Villain for example), that has a `Position` and a `Velocity` Component, and a `NPC` which has a `Position` and `UI` component.
- Then you can have a `Movement` system that will run on all entities that have a `Position` and `Velocity` component, for example.