



Unity 2D Basics

Part 3:

Sprites and Components

Sprites, Components, and Behavior Scripts

- ◆ Unity has many built-in types of GameObjects for common tasks. One of these is a **Sprite**.
- ◆ A *sprite* is a 2D GameObject with Transform and Sprite Renderer components. In other words, where-to-draw and what-to-draw components.

Sprite



Sprites, Components, and Behavior Scripts (cont.)

- ◆ Think of 2D games. The thing you control on the screen is a **sprite**. It has a position and draws something. But it also reacts to input.
- ◆ In Unity terms: An input system sent events to some game logic that manipulated the rendering of the `GameObject`.

Sprites, Components, and Behavior Scripts (cont.)

Components	
✓	Rendering
✗	Input
✗	Game Logic (Behavior Script)

Goal: An input system sends events to game logic to manipulate the position of the GameObject.

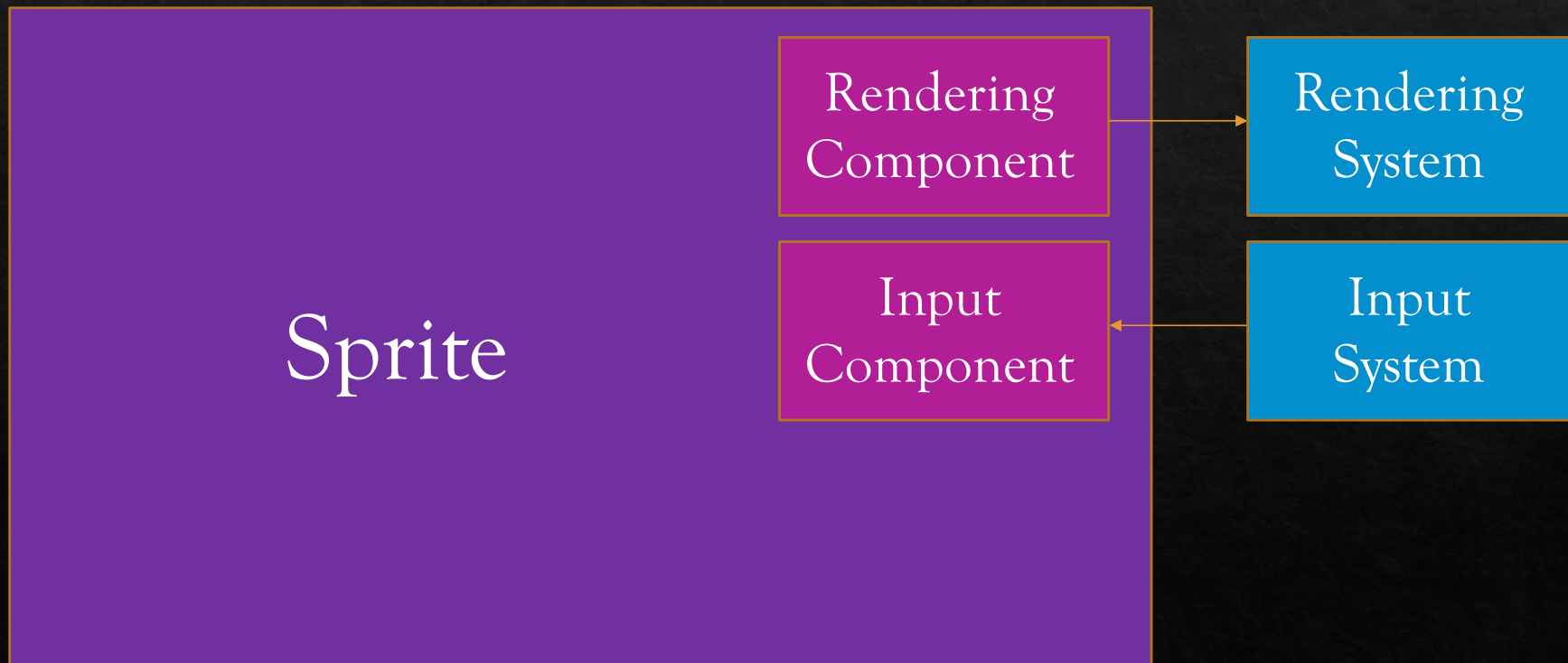
So far, we have a rendering component (Sprite Renderer), but do not have an input or behavior script components.

We need to add those.

Sprites, Components, and Behavior Scripts (cont.)

- ◆ Introduced as part of Unity 2019, the Input System allows users to create their own events based on named, possible input.
- ◆ To enable, go to Window → Package Manager. Find Input System and click “Install” to begin the process.

Sprite



Sprites, Components, and Behavior Scripts (cont.)

Components	
✓	Rendering
✓	Input
✗	Game Logic (Behavior Script)

Goal: An input system sends events to game logic to manipulate the position of the GameObject.

Now, we have rendering and input components.

The next component to add is a scripting one.

Sprites, Components, and Behavior Scripts (cont.)

- ◆ By default, a **sprite** does not know how to act. In Unity, it is given a “script” (set of instructions) that tell it what to do when certain things happen.
- ◆ Through adding a behavior script **component**, a GameObject can be told what to do.

Reviewing: Entity-Component-System

- ◆ Remember, Unity is based on the Entity-Component-System model. GameObjects are sent *events* to let them know things are happening.
- ◆ Entities can use *game logic* (behavior scripts) to react to events and manipulate *component* properties.

Sprite

