

ECS

```
- double _time
- std::size_t _livingEntities
- std::queue< Entity > _freeEntities
- std::unordered_map< Entity, Signature > _signatures
- std::vector< void * > _componentStorages
- std::vector< void * > _componentStorage

+ ECS()
+ ~ECS()=default
+ Entity createEntity()
+ void killEntity(Entity e)
+ Signature getSignature(Entity e) const
+ void setSignature(Entity e, Signature sig)
+ Entity addComponent(Entity e, const ComponentType &component)
+ bool hasComponent(Entity e) const
+ const ComponentType * getConstComponent(Entity e) const
+ ComponentType * getComponent(Entity e)
and 17 more...
- void verifyComponentStorage(ComponentTypeIDTypeID)
- void verifyComponentStorage(ComponentTypeIDTypeID)
```

#_ecs

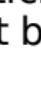


ISystem

```
+ ISystem(ECS &ecs)
+ virtual ~ISystem() =default
```

```
+ virtual void update(double dt)=0
+ ISystem(ECS &ecs)
```

```
+ virtual ~ISystem() =default
+ virtual void update(double dt)=0
```



InputSystem

```
- std::map< sf::Keyboard::Key, GameAction > m_keyMappings
- std::map< unsigned int, GameAction > m_joystickButtonMappings
- std::map< GameAction, bool > m_currentActionStates
- std::map< GameAction, bool > m_previousActionStates
- unsigned int m_joystickId
- float m_deadzone
- float m_playerSpeed
```

```
+ InputSystem(ECS &ecs)
+ ~InputSystem()=default
```

```
+ void update(double dt) override
```

```
+ bool isActiveAction(GameAction action) const
```

```
+ bool wasActionPressed(GameAction action) const
```

```
+ bool wasActionReleased(GameAction action) const
```

```
+ void setKeyMapping(sf::Keyboard::Key key, GameAction action)
```

```
+ void setJoystickButtonMapping(unsigned int button, GameAction action)
```

```
+ void setDeadzone(float deadzone)
```

```
- void setDefaultMappings()
```

```
- void updateJoystickInput()
```

```
- void applyInputToPlayers()
```

-inputSystem

GameEngine

```
- sf::RenderWindow window
```

```
- bool isRunning
```

```
+ GameEngine()
```

```
+ ~GameEngine()
```

```
+ void run()
```

```
- void processInputs()
```

```
- void update()
```

```
- void render()
```