



Curso Intermedio de

Programación de Videojuegos 2D

con Unity

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Pre requisitos

- ✦ Programación de Videojuegos 2D con Unity
- ✦ Creación de RPGs con Unity
- ✦ Manejo de Unity HUB
- ✦ Unity 2020 LTS



Antes de empezar

- ✦ Fija tu alcance
- ✦ Define tu plataforma y público objetivo
- ✦ Testea seguido sobre builds



Assets



SethInTheSpace





Timeline



Consejos

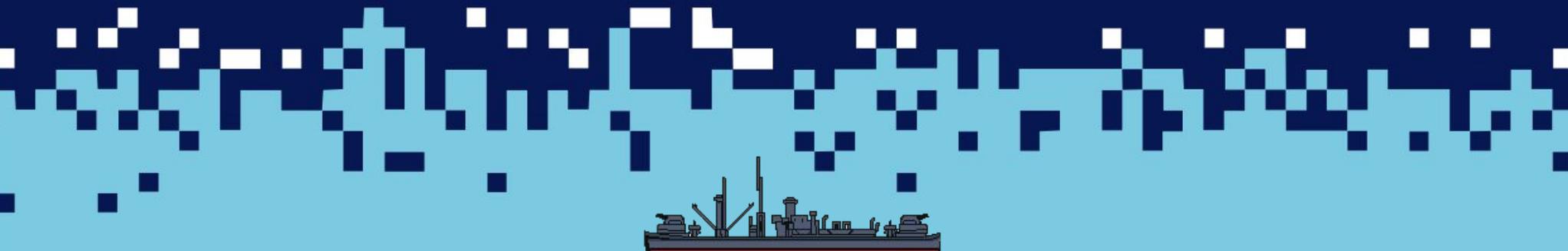




Tips



Visual Studio y Debugging





Debug



Debug.Log()

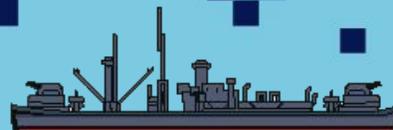
Debug contiene varios métodos, bastante customizables.



Breakpoint

Pausa la ejecución y permite investigar el estado del programa.

Atributos y editor





Atributos y editor



Atributos

Permiten anexar comportamientos adicionales a métodos y variables.



Debug Inspector

Permite ver propiedades y valores incluso privados.



Serializable

Visualiza en el editor tipos de C#.

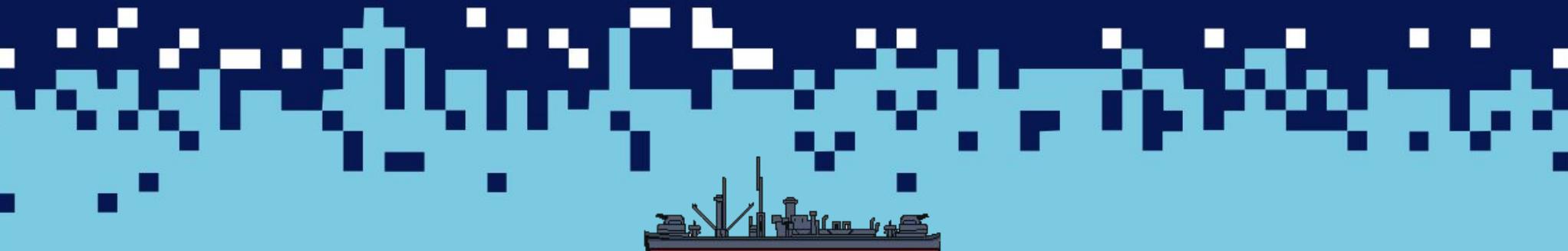
Código

```
using UnityEngine;
using System.Collections;

public class TernaryOperator : MonoBehaviour
{
    void Start ()
    {
        int health = 10;
        string message;

        //This is an example Ternary Operation that chooses a message based
        //on the variable "health".
        message = health > 0 ? "Player is Alive" : "Player is Dead";
    }
}
```

Operadores ternarios



Arrays y Listas





Arrays

Son estructuras de datos fijas, que pueden almacenar una colección de elementos del mismo tipo.



Listas

Son estructuras de datos dinámicas que pueden ir creciendo conforme se vaya requiriendo.

Diccionarios

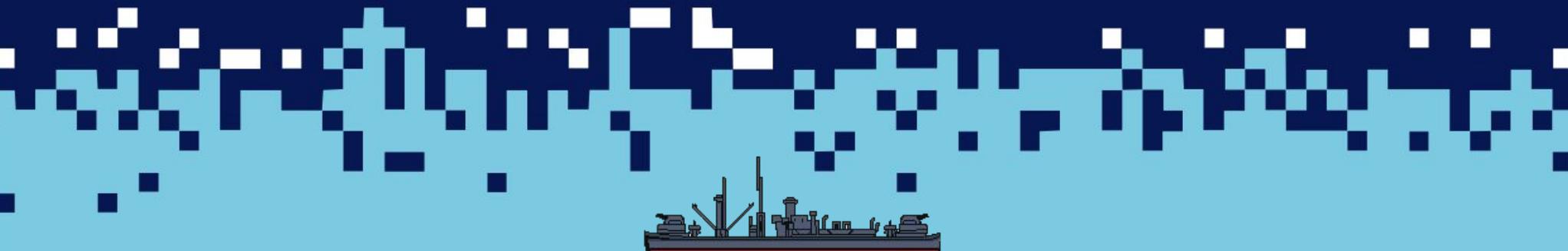




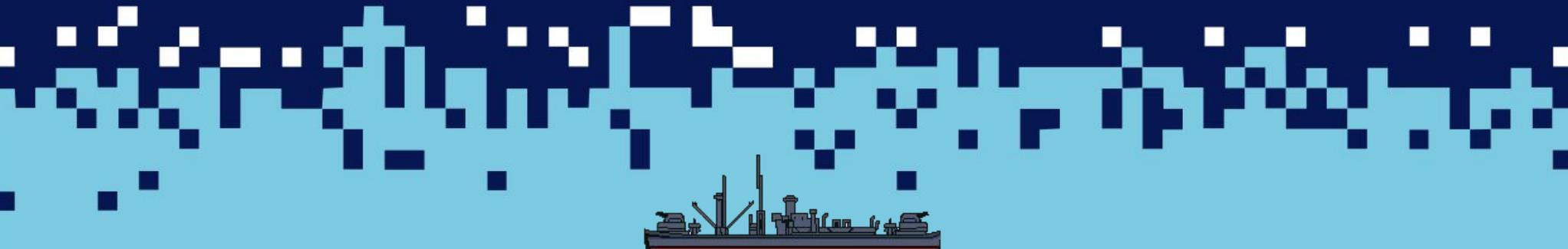
Diccionarios

Es un conjunto de pares: key/value no-ordenado, al que se accede a través de la key.

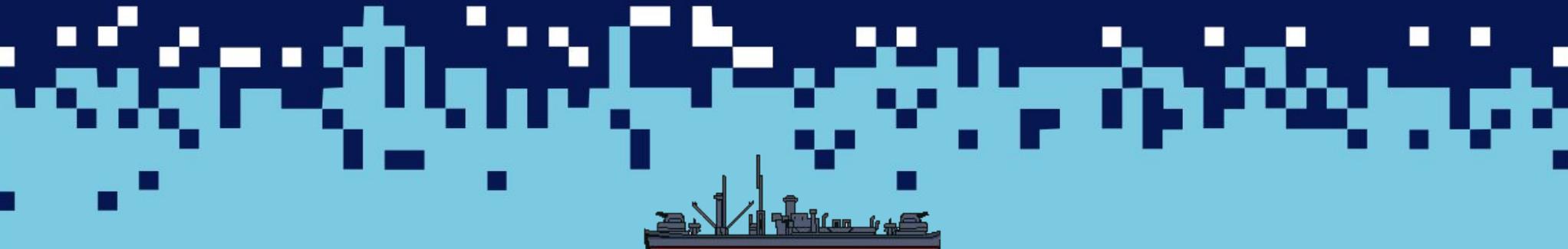
New Input System



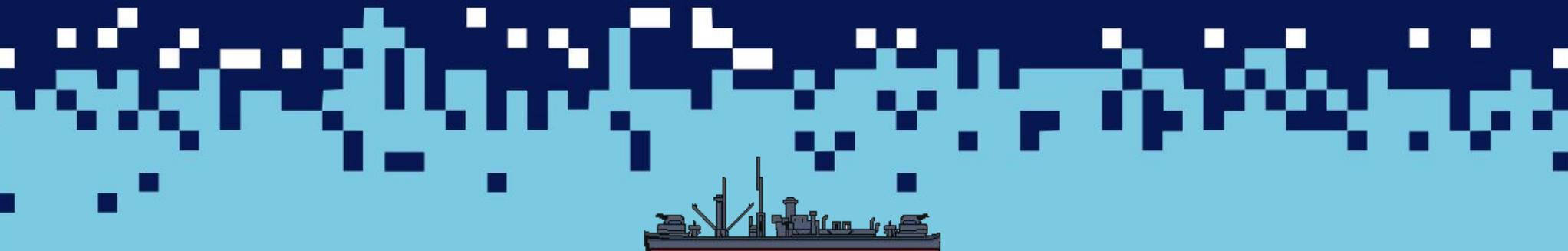
Matemáticas para juegos



Pathfinding



Animation Events



Tween





Módulos de Tween

"**Tweening**" proporciona una forma limitada de animación. Permite la interpolación lineal entre dos valores.

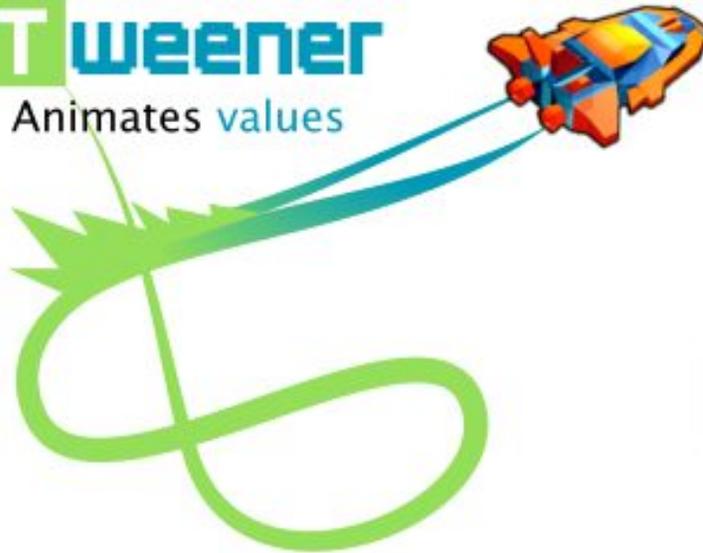


> DOTween

[HOTween V2]

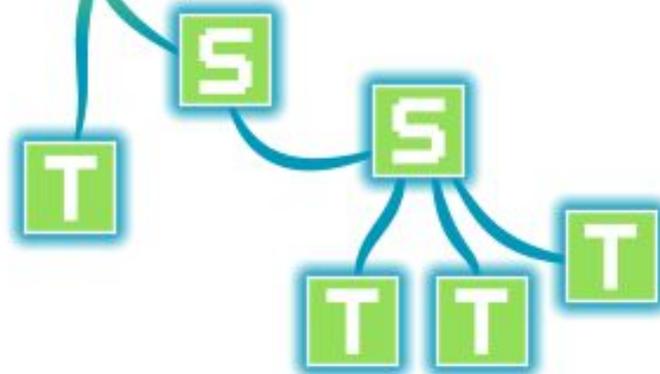
Tweener

Animates values

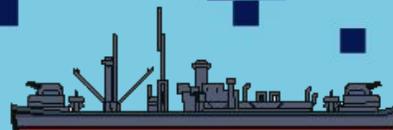


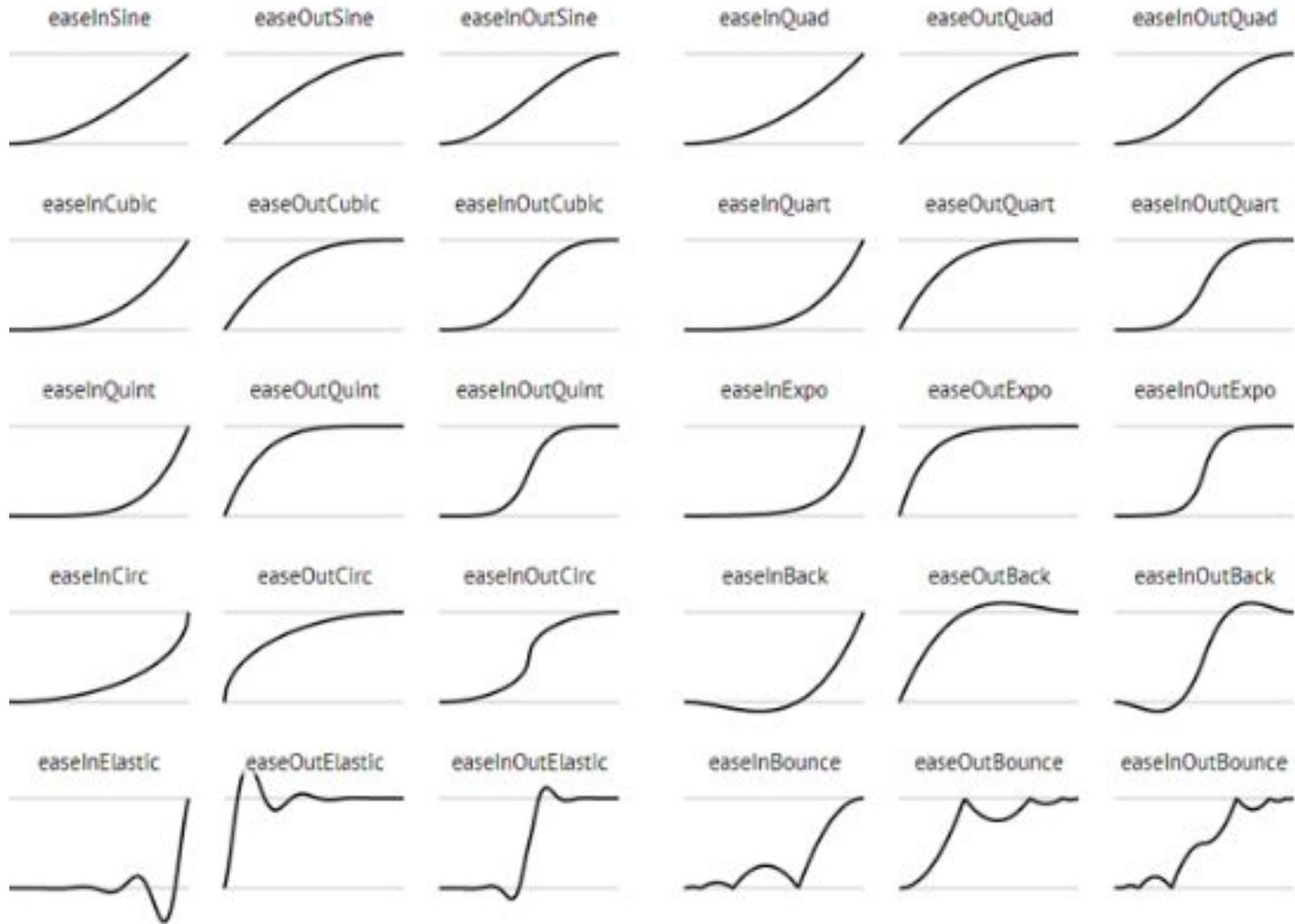
Sequence

Animates other Tweeners and Sequences

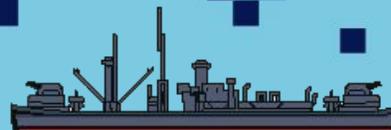


Ease





Callbacks



Web Request





API



OpenWeather





Call

Call current weather data for one location

By city name

You can call by city name or city name, state code and country code. Please note that searching by states available only for the USA locations.

API call

```
api.openweathermap.org/data/2.5/weather?q={city name}&appid={API key}
```



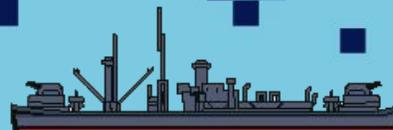
```
api.openweathermap.org/data/2.5/weather?q={city name},{state code}&appid={API key}
```



```
api.openweathermap.org/data/2.5/weather?q={city name},{state code},{country code}&appid={API key}
```



JSON



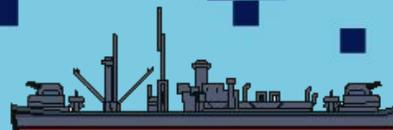


JSON

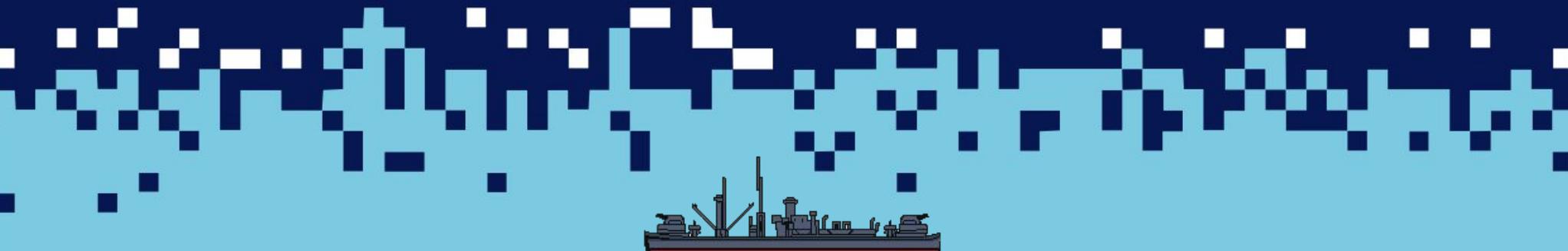
JSON es un formato de texto sencillo para el intercambio de datos.

```
{
  "coord": {
    "lon": -122.08,
    "lat": 37.39
  },
  "weather": [
    {
      "id": 800,
      "main": "Clear",
      "description": "clear sky",
      "icon": "01d"
    }
  ],
  "base": "stations",
  "main": {
    "temp": 282.55,
    "feels_like": 281.86,
    "temp_min": 280.37,
    "temp_max": 284.26,
    "pressure": 1023,
    "humidity": 100
  },
  "visibility": 16093,
  "wind": {
    "speed": 1.5,
    "deg": 350
  },
  ...
}
```

Delegates



Eventos



Introducción a patrones de diseño





¿Qué son?

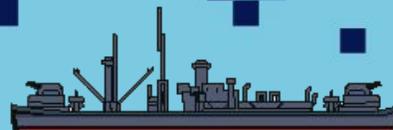
En software, un patrón de diseño es una solución general repetible a un problema común en el desarrollo.



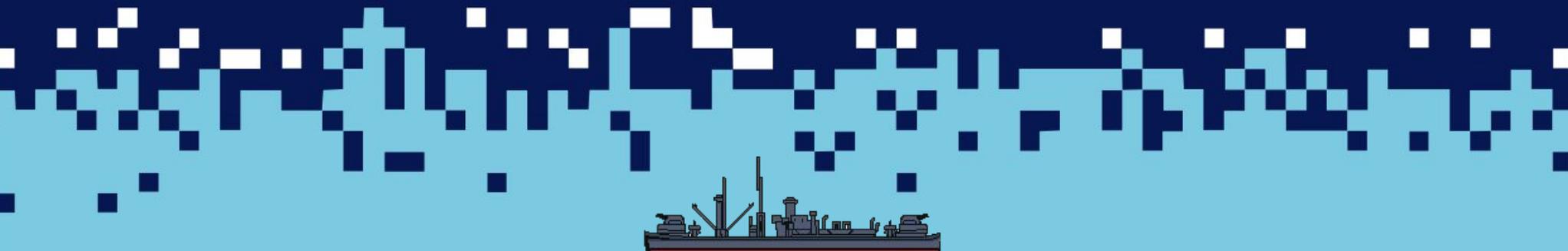
Singleton



Observer



Object pool



Físicas 2D



“

**C'mon, people, you can't show
the player a really big bomb
and not let them blow it up.**

Lord GabeN

”

