YARF

Yet Another Reckless Frog

Abdil Kaya

Advanced Programming Techniques
2015-2016

Entity Structure
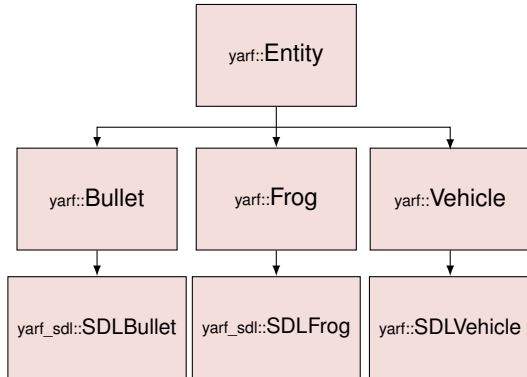A combination of inheritances

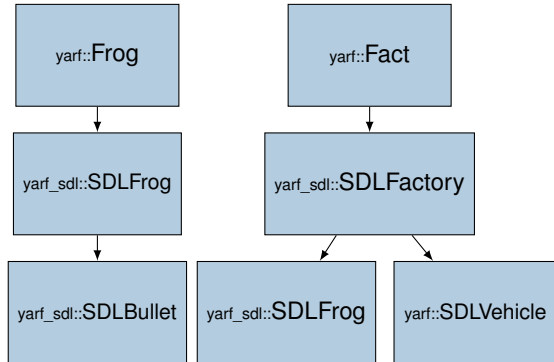- **Implementation Inheritance**
  - `implemented functions`

- **Interface Inheritance**
  - `(pure) virtual functions`

```
                    ┌─────────────────┐
                    │                 │
                    │  yarf::Entity   │
                    │                 │
                    └─────────────────┘
         ┌───────────────┼───────────────┐
┌────────────────┐ ┌────────────────┐ ┌────────────────┐
│                │ │                │ │                │
│  yarf::Bullet  │ │  yarf::Frog    │ │ yarf::Vehicle  │
│                │ │                │ │                │
└────────────────┘ └────────────────┘ └────────────────┘
         │                 │                 │
┌────────────────┐ ┌────────────────┐ ┌────────────────┐
│                │ │                │ │                │
│yarf_sdl::SDLBullet│ │yarf_sdl::SDLFrog│ │yarf::SDLVehicle│
│                │ │                │ │                │
└────────────────┘ └────────────────┘ └────────────────┘
```

Entity Creation

- **Fact as Abstract Factory**
  - Frog(s)
  - Vehicles

- **Frog as Abstract Factory**
  - Bullets

Additional Features
Mainly The Merits of Game/View Separation

Game Axis
- $[0, 4]$x$[0, 3]$ axis
- allows for high accuracy
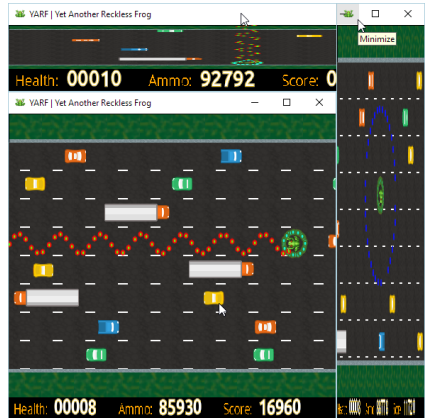
↓ *results in*

Visualisation Axis
- ?? x ?? axis
- very scalable

TPS
- constant/adjustable
- game speeds unaffected

Multifunctional Bullets
- offence
- defence

Additional Features

A Single Texture Atlas

- Passed onto entities by its address
- Allows for low memory usage ✓

Unfinished Features

1. Bonus Entities: ✗
2. Enemy Projectiles: ✗

Advanced Programming Techniques   YARF | Yet Another Reckless Frog