

Introduction to Algorithmic Problem Solving

Game Development





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Introducing... Me!



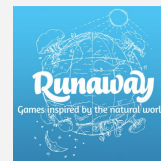
Professional
Indie game
developer



Founder -
Hyporeal Ltd.



Blackheart



Runaway

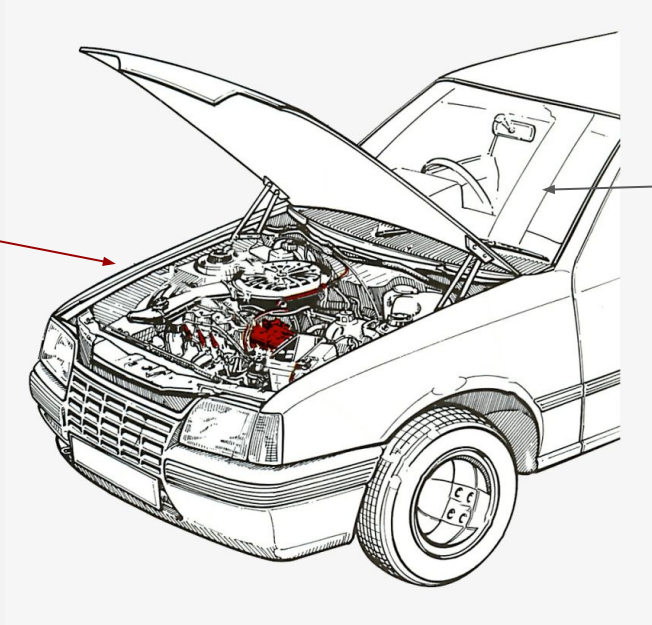
BLACK HEART



Game Engines

If a **video game** is a **car**, a **game engine** is everything **under the hood**.

Game Engine



Game

Industry Standard



Why Unity?

- Unity is free, popular, and powerful!
- It's also pretty good (most of the time)

People make real games with Unity

You can make some **really cool shit**, such as:



Algorithms

Developers write sets of **instructions** to the computer, called **algorithms**, to bring **interactivity** into a game.

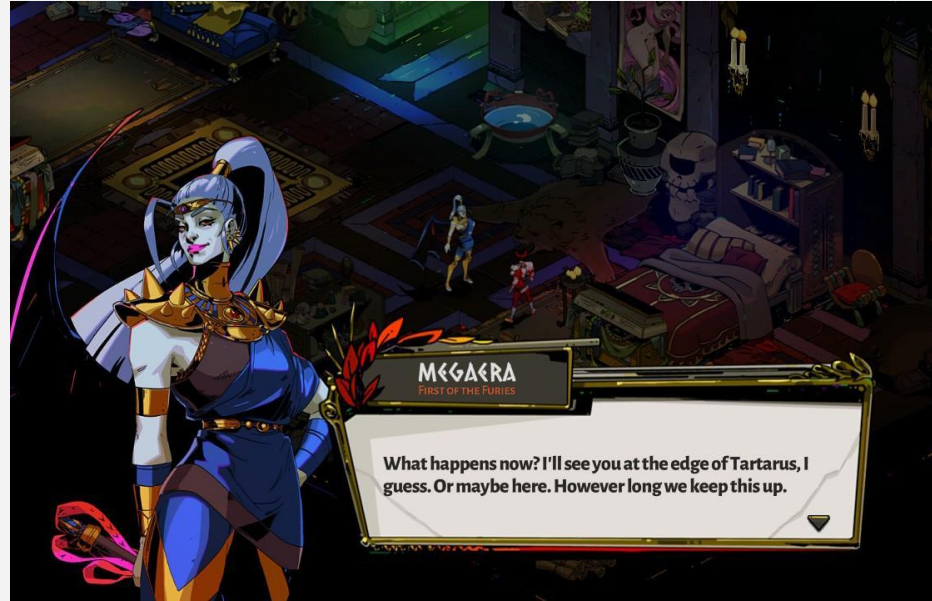
These instructions are written in **code**, most commonly a **programming language**.



Game Objects

Everything in Unity that the player sees and interacts with is a **Game Object**.

- *Mario?* - **Game Object**
- *Dark Souls boss?* - **Also Game Object**
- *Hades dialogue screen?* - **Lots of Game Objects.**



Scripts

A **script** is a **short piece of code** that can be attached to a **Game Object** in **Unity**.

Your script may contain multiple algorithms.

Scripts can:

- Hold variables to be changed later
- Detect player input and react to it
- Use physics
- Change values over time
- Play sound effects
- Solve world hunger? (maybe one day)



They can also be used to cheat in League of Legends

Learning the Ropes

By the end of this course, you will be able to code your own games in Unity.



Today's Plan:

30 min - Demonstration

15 min - Collaborative problem solving

45 min - Writing code