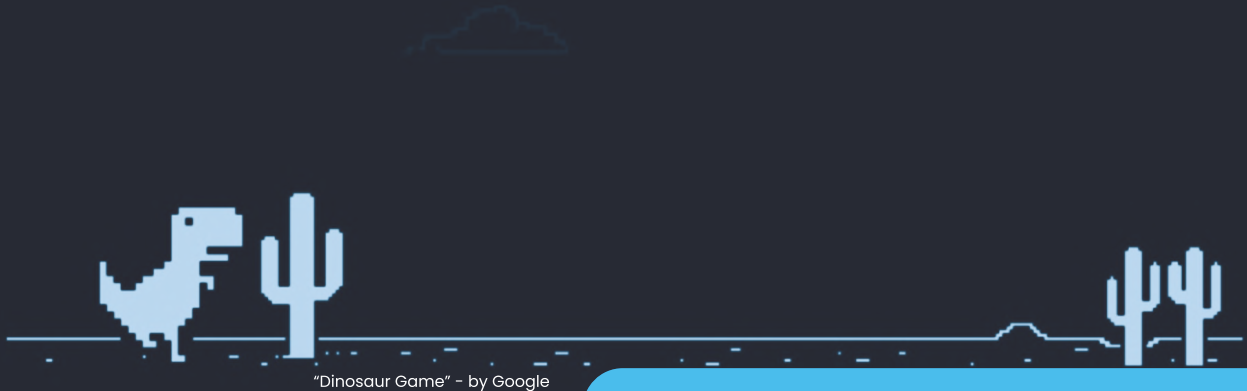


Project Overview

HI 00100 00036



"Dinosaur Game" - by Google

Background

In a jumping game, like Temple Run or Google Chrome's Dinosaur Game, a character is endlessly running at an infinite amount of obstacles. The player must decide when the character jumps to avoid running into an obstacle for as long as possible.

Synopsis

In this project, users will be aiming to automate our version of this game by creating an "AI" (Artificial intelligence) that can exceed human capabilities and achieve as high of a score as possible. This AI will be controlling a robot to deliver a package as fast as possible, automatically jumping over any obstacles that get in its way.



Themes of this Project include

automation and **algorithms**, including thinking about potential use-cases and moral dilemmas.

Sub-themes also include congestion and the delivery of goods using autonomous robots.

This project is divided into six lesson plans

01. Let learners **Imagine** the situation by playing and discussing a situation video. Learners will work in groups to explore the Project theme to accurately **Define** the situation.
02. Facilitate a class discussion around the topics and questions that your learners previously covered in **Define**. This lesson will end with an explicit definition of the problem and the tools available to solve it.
03. Learners will get a chance to **Research** the tools available on our platform that they will use to construct their solution. This lesson will end with a session where learners will **Plan** how they will build their solutions.
04. Learners will use our platform to **Create** and test their solutions to the problem inside our simulated environment.
05. Learners will use our platform to **Improve** upon their previous solutions, applying the skills they have learnt and the knowledge they have gained to solve more advanced problems.
06. Learners will continue using our platform to **Improve** upon their solutions, before taking the time to **Review** their entire work on the Project.

Project Overview

Subject Areas



Technology



Engineering



Computer Science



Automation



Artificial Intelligence (AI)



Ethics



Learning Outcomes

In this Project, learners will:

1. Learn how to convert their internal logic into code to allow them to automate a task they would normally do manually.
2. Learn how to use flow control/ branching (If, else, else if) to write code that can make decisions.
3. Learn how to use comparison blocks (<, >, <=, >, ==) to inform decisions making by comparing two different values.
4. Learn how to read and act on sensor data returned by a robotic system (distance to next obstacle, height of next obstacle, obstacle type, obstacle velocity etc).



Equipment List

Learners require:



Access to our online platform through a Chromebook, laptop or PC



Access to our learning journal through either Google docs or Microsoft Word

Educators require:



Situation video (link included in lesson plan)



Access to this lesson plan, either printed or digitally



Easy access to the answer document, printed or digitally (file included in lesson plan)