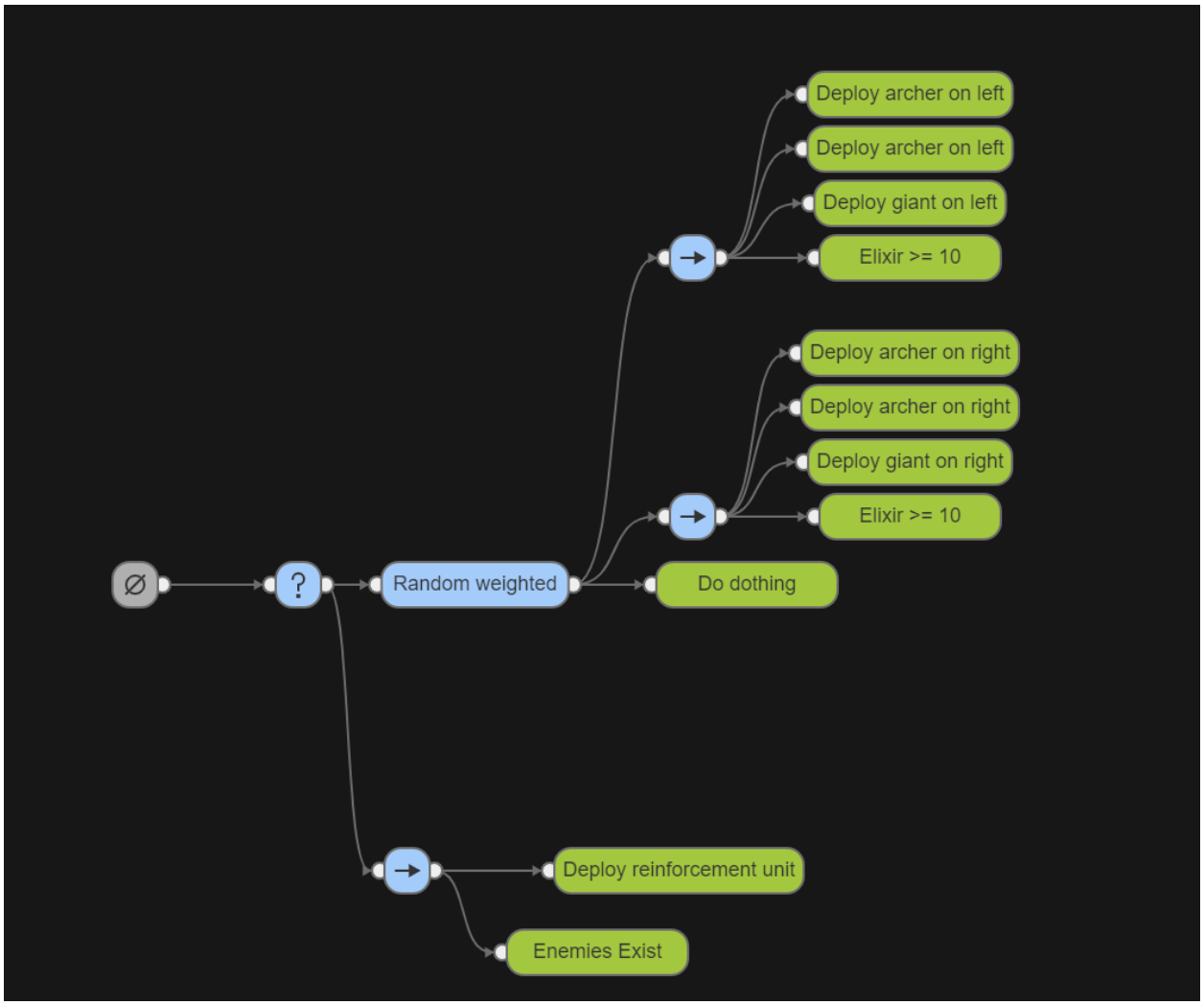
Project 3 Documentation

Design Goals: Create an AI that mainly focuses on playing defensively. It will mainly wait for the opponent to make the first offensive move, and it will respond accordingly. If the opponent doesn't attack for a while, the AI will launch a full attack.

AI Structure: A Behavior Tree that allows the AI to decide when to defend and when to attack. The structure is as depicted in the image below.



Stretch Goal: Design the AI in such a way that it should be able to respond to any threat, regardless of the unit type. Specifically, if more units are added into the game, the AI should still make good decisions that prioritize

defense.This should hopefully ensure the AI is modular and scalable. To achieve this, I dynamically iterate through every unit in the game and assign a utility score to it when constructing a `DeployReinforcementMobNode`. Then, you pick the one(s) with the highest score when deploying reinforcements. Since this is not hardcoded, the AI should be able to pick the most useful unit to defend, even new ones, without having to modify the code.

A tangential stretch goal I also achieved was the “building multiple personas” one, since my AI simply does whatever the Behavior Tree tells it to do. If you want to create multiple “personas”, you would simply create more behavior trees that behave differently, and tell the controller which Behavior Tree to use.

Behavior Tree Implementation Reference:
https://medium.com/geekculture/how-to-create-a-simple-behaviour-tree-in-unity-c-3964c84c060e