Part 1 – Kart Spinning Animation

Kart Design Process

The design began with a publicly available go-kat topside view image from Google Images. It was then updated in Photopea (a free online photo editor) and repainted some parts of the image. The main goal was to have a clear distinction between the front and back of the kart.

Then two colours were assigned, one red and one green to have two different karts to signify two players (to be used later in the project). Both images were then rotated at its centre for 360 degrees, 16 images were created each 22.5 degrees clockwise rotated that the last one.

Kart Spinning Logic

The java application for the kart spinning animation was created in two files for clarity on the logic used. KartAnimationPanel.java is the core of the animation logic and it uses JPanel and Swing to animated the kart spinning. Then this logic is called onto and implemented in KartSpinning.java which is a JFrame on which this is painted onto.

Simply put the animation works by cycling through the 16 kart images that we created and showing the next image every 100ms (this time was chosen as it was gave the smoothest animation without speeding up too much)

Challenges & Learning

Made the mistake of rotating an already rotated kart image in the editing software and the images being only 50x50 pixels the outcome was very distorted. This was already mentioned in the assignment brief (should've paid more attention...) but was quickly fixed by just rotating the original image to the desired angle every time.

The implementation was overall smooth other than this small trouble at the beginning, this small section gave me the intro and understanding of GUI components such as JFrame, JPanels,

Timer animations and the importance of graphics components which are often overlooked in programming. Having a good base (quality images) is especially important for quality results.

Everything laid out correctly gave a good foundation for starting the next part of the project, which was designing the track for the karts to race on.