COMP120 Contract

You have been hired by an App developer: Perfect Pixel who is interested in new intellecutal property around next generation photo anaysis and manipulation tools for various applications across many clients. They are requesting protoypes for the following contracts:

Contract #1 - Mixed Pixellation Filter for “Anonymisation”

Devise a method to pixellate an image of a face and then blend the output with the original.

Contract #2 - Race Track Generation

A tile-based system for generating a racing track. Devise, generate, and place racing track parts in a procedural manner to create a new track every time!

Contract #3 - Celestial Body Detection for Images from Telescope

Locate stars in the image and classify them according to their colour and brightness. Output the positions and properties to a text file.

Contract #4 - Mangafying Rotoscope

Manga is becoming increasingly popular so try turning anything into a manga! Rotoscoping is the method of painting over a frame of live action imagery to create the impression that it is drawn. Combine edge detection with pixel painting and colour replacement, to create a comic book version of a scene that could be used for a manga.

Contract #5 - Movement Detection for Feline Territory RoboGuard

Cats jealously defend their territory. To aid friendly cats, a smart garden (or “guarden”) with computer vision has been situated to detect the movement of foreign cats to trigger a sprinkler system when an unknown cat is moving through the garden. Combine two images of the garden taken moments apart from each other to calculate where movement has occurred and whether it is the right colour. Recommend whether to activate the sprinklers or not.

Contract #6 - Roof-Mounted Nightclub Projections

Time to get back into partying with some crazy ‘trippy’ visual effects. This could make use of kaleidoscope effects with existing images or emergent graphics that are created generated from pixel drawing. Each time the projection is viewed the graphic should be different.