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**Persistence of Vision Fan Using an FPGA**

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Abstract

This report will be going through the research, design and development of a persistence of vision fan powered by an FPGA. A rotor with hundreds of LEDs will be spun by a stationary motor which will give the illusion of an image being displayed. This consists of many different skills learned throughout my degree including but not exclusive to PCB design and VHDL programming. The report will begin with a literature review which shows the current state of art methods of completing this project as well as breaking up the project into more easily researchable components and then followed up by the project development and finally testing.

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# Introduction

Persistence of vision is a phenomenon where the eyes retain a visual image, or light, for small amount of time even after the image that first stimulated the response is no longer visible. An image is thought to still be seen by the human eye for roughly one twenty-fifth of a second after the image first appears. This phenomenon can be exploited in many different ways. One way is by presenting a sequence of images fast enough the observer views this as one continuous moving image. <https://www.futurelearn.com/courses/explore-animation/0/steps/12222>. Another exploitation of this is a Persistence of Vision display LEDs

## First Sub Chapter

# Second Chapter

## Second Sub Chapter

Robot learning has been employed for various applications, such as visuomotor transformation [1] and action recognition [2]

Another paper [3]

# Bibliography

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| [3] | E. Chinellato, B. Grzyb and A. Del Pobil, “Pose estimation through cue integration: a neuroscience-inspired approach,” *IEEE Transactions on Systems, Man, and Cybernetics, Part B: Cybernetics,* Vols. 530-538, no. 2, p. 42, 2012. |