

Project Plan:
A VR Interface for Interactive Selection
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1 Background

In 2007, an ANU master's student Jian Yin Shin, supervised by Tom Gedeon, created a program designed to generate pictures similar to the art created by Piet Mondrian that could be refined to the users taste by an evolutionary algorithm^[1]. Tom and Jian managed to partially calibrate the program to a small selection of peers, but it proved too time consuming and onerous for any other than Tom to completely calibrate it. In total more than 5000 Mondrian's were examined, making it impossible to test with a sizable number of people. A faster more intuitive interface could make this a more plausible task, allowing for much more solid results.

When designing an interface it is usual to make the interface as intuitive as possible for the task it is interfacing with. This normally takes the form of designing an interface so it suites the task. This project is looking at turning this on its head and designing an interface so that the task is modified to fit an interface method that people are all familiar with.

2 Task Description

The task is to design an interface to select Mondrian pictures generated by Jian Yin Shin's program, as well as a program by Kerryn Boorman. The goal is to design an interface using a Logitech G25 Steering Wheel and to modify the task so it using driving to make the selections. As driving is intuitive to the majority of 1st world countries this should prove intuitive and efficient for most people. The task can be divided into two sections, the interface design and implementation and the evaluation and testing by peers.

2.1 Interface Design and Implementation

The first task is to design an interface that allows the user to select Mondrian's they like in a manner that resembles driving. Ideally it should do this in a way that closely resembles driving a car so that it is intuitive. It should also try to make the selections as quickly as possible to speed up the process, without hindering the users choices. Finally as a secondary objective, it should attempt to keep the users interest so that they can make choices for longer without wishing to stop.

The implementation of the design will be done in Directx, which contains libraries that allow for the Logitech Steering Wheel to be interfaced with the computer as well as the ability to draw an appropriate interface on the screen. The implementation will also have to store the selections made by the user and place new Mondrian's on the screen for user to select.

2.2 Evaluation and Testing

Once the interface is completed it must be tested by users for how intuitive it is, as well as how quickly they make selections. Jian Yin Shin's selection program can be used as a

base for tests as it sports a fairly standard mouse interface. The evaluation will be kept fairly small scale due to the time constraints, and will be done on peers.

3 Schedule

Week	Task Being Undertaken	Milestone
6	Interface Design	
7	Interface Design	
8	Interface Design Non design related implementation	Complete Interface Design
9	Implement Design	
10	Implement Design Begin Evaluation	Complete Implementation
Break 1	Evaluation Write up on Design Process	
Break 2	Evaluation Write up on Design Process	Completion of Evaluation
11	Write up on Evaluation	
12	Finish Report Presentation Creation	Final Report complete
13	Presentation Creation	Presentation

4 Bibliography

[1] Cyber-Genetic Neo-Plasticism – An AI program Creating Mondrian-like Paintings by using Interactive Bacterial Evolution Algorithm: Jian Yin Shen, Tom Gedeon
http://escience.anu.edu.au/project/06S2/report/JianShen_report.pdf