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Stripe Painting: A Method of Expressing the Experience of Cycling Through 'Quantified Self' Data Visualisation

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Abstract

This paper describes a collection of data-driven aesthetic explorations that investigate the concept of 'cycling as art practice' through the lens of 'quantified self' data-visualization. The explorations draw upon the philosophy of the 'Walking artists' and the concept of 'Deep mapping' and the focus of the work is on trying to visualize the experience of cycling. In doing so it draws attention to what aspects of experience can and cannot be quantified through the kinds of data we capture about ourselves.

Author Keywords

Art; Cycling; Data; Quantified Self

ACM Classification Keywords

J.5 Arts and Humanities (Fine Arts)

Introduction

In the 1970s, Hamish Fulton famously stated "An object cannot compete with an experience". [3] One of the key questions the author confronts through his work is whether or not this is still the case. The advent of mobile devices that can capture data about being in a landscape can, arguably, say more about that experience than one of Fulton's Photographs.

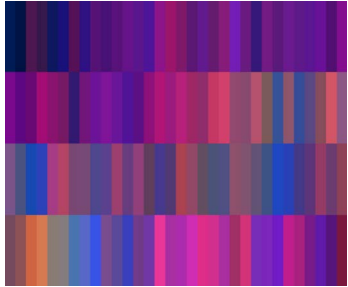


Figure 1: Carrot Hill 1: A 61KM ROAD RIDE, 23/11/2014; **Figure 2:** Carrot Hill 2: A 61KM ROAD RIDE 27/12/2015; **Figure 3:** A 60KM SNOW RIDE 29/11/2015

Artistically speaking the Quantified Self offers opportunities for art making that explores the boundaries between experience and representation that question the very notion of how we represent our experiences and say something about who we are individually or collectively [1,2,4,5].

Stripe Paintings

The stripe works (Figures 1-3) are simple representations of bike rides built in Processing, based directly on data captured during a ride. The duration, speed, intensity and elevation of the ride all play a part in determining the size of the image and the colors of the stripes. Each stripe, in itself, represents approximately one minute of time. Averaging the data scores for intensity, elevation and speed over this time and then transposing them to RGB color values determine the color of each stripe. As a result, each colored stripe provides a snap shot of the effort of the rider during one minute of exercise over a particular kind of terrain. Overall, the totality of the stripes provides the whole picture of the ride: where the rider had to work hard to climb a hill, where the rider eased off on the down hill and where the rider was able to pick up the pace on the flatter sections of the ride.

The data is actually captured using the Cyclemeter app and is exported as a CSV file. It is then cleansed and trimmed to remove unnecessary data, (e.g. GPS co-ordinates) and converted into an XML file ready to be loaded into the Processing Sketch created by the artist. A certain amount of artistic license is employed to manipulate the data to fit the rectangular shape of the image. This is done while working in Processing and usually takes the form of trimming or duplicating data at the beginning or end of the rides in order to populate

arrays that will draw the rectangle. This manifests itself in the form of darker stripes in the image, where little activity has actually taken place.

This systematic approach is sensitive enough to ensure that the unique properties of every individual ride is maintained, even rides over the same terrain in similar conditions will register subtle differences in duration and colour (see figures 1 & 2). Interestingly, weather conditions can play a significant role in altering the outcomes of the image as wind, rain, sleet and snow all affect riding conditions. For example in figure 3, the significant increase in green and general darkening of colors towards the end of the image, are the result of encountering blizzard conditions. The rider had to get off his bike and walk for the remainder of the journey as the conditions became too treacherous to continue riding.

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