Camgaze.js : Mobile Eye Tracking and Gaze Prediction in JavaScript

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Abstract

1 Introduction

2 Motivation

3 Related Works

4 Implementation

`Camgaze.js` goes through two steps in order to predict the gaze direction. Firstly, `Camgaze.js` detects each pupil. It then uses the pupils deviation from a unique point on the face to determine the gaze metric, $\mathcal{G}$. This metric needs to be calibrated in order for there to be a mapping from $\mathcal{G}$ to a point on the screen. Once this gaze metric has been calibrated, `Camgaze.js` should be able to interpolate area of the screen the user is looking at. A high level description of the algortihm is shown below.

4.1 Pupil Detection

4.2 Determining the Gaze Metric

4.3 Calibration

5 Testing

6 Applications

7 Discussion

References