



Bahria University
Discovering Knowledge

FINAL YEAR PROJECT REPORT

GAZE TRACKING AND LEARNING FOR PRE-SCHOOL STUDENTS

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ABSTRACT

Scientifically there are 'n' number of thoughts in our brain that are stored in a specific brain part; like the train of thoughts comes in our mind when we see, smell, taste, touch or hear. And focusing on one thought from 'n' thoughts is what we call "*concentration*".

Concentration is important for Learning because without Concentration you can't learn anything. Our purpose is Concentration based Learning. As Children of young ages have very high concentration level but at the same time these Childs have disperse nature of concentration too. So, to solve this problem we are introducing Concentration based Learning system.

In order to bring a specific part of the visible field of view into high resolution, we move our eyes like if we consider an example of an image; for the first time we will see the whole image at low resolution and once our eye completes the movement, fovea comes back to the region of our interest and we concentrate and think of that region of our interest at high resolution. Thus, we may conclude that the attention path of an observer can be followed by tracking someone's eye movement.

Gaze tracking means the estimation of the user's gaze movement. In most of the cases, the estimation of the gaze-direction refers to the labelling of the object upon which the gaze falls. In the case of a standard computer device, the object of gaze is identified by finding the screen coordinates.

Human-computer interaction has become a progressively significant part of our daily lives and study of eye-movement is being engaged in Human Computer Interaction (HCI). We are using gaze tracking approach to convert a child's unguided concentration into learning. Concluding the direction in which a person is looking at a specific moment is an extremely important issue in a broad range of HCI applications.

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