



# Sensory and spatial development

## Look, follow and catch it

The UK has approximately 600,000 people with autism. It is suggested that the early identification and intervention can bring significantly higher benefits than the delayed interventions. Which further means that we need to have tools that are cost-effective, easy to use and are available at the primary health care centres for early evaluation of children at risk.

With this aim we developed a series of tasks in the form of a tablet app “game” which is suitable for children 2 years and up. The app includes games like following a bee on screen, popping the bubbles, looking at videos of children, objects and animals, choosing between two movie options etc. Although the app looks very simple and fun, it measures some very important developmental aspects such as social, cognitive and motor abilities as well as visual preference. The most novel feature of this app was to use of tablet’s front camera to track children’s eye-movement which otherwise can only be done by using an expensive setup, in labs and by experts. During the Summer Scientists Week we tested more than 200 children between ages 2-9 years on this highly sophisticated yet fun app.

As we expected, the children really enjoyed it, and we generated an enormous data set from various age groups. We have looked at some of these results now and we can clearly see that the motor skills of the children grow quickly in the early years (till age 5), after which most of the kids reach a plateau of performance on simple bee chasing task. In another test we found that these children consistently show a preference for watching social videos (other children playing) compared to object videos (running wheel).

These findings have given us insight into early developmental changes in children from 2 to 9 years. We are further exploring this data and expect that these results will provide us a strong base to help screening children with developmental difficulties like autism.

**Researchers:**  
**Indu Dubey and Bhisudev Chakrabarti**

