

Eye-gaze technology for students with complex physical and learning needs

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Action for Children Penhurst School ...

Residential School in Chipping Norton, Oxfordshire

Up to 24 students aged 5 – 25 years

Complex physical and learning needs

Multidisciplinary staff team (care, education,
therapy)

Our story begins 2010...

- Relationship with The ACE Centre, Oxford
- Eye-gaze taking off as an access method but mainly for those who were cognitively high-functioning
- Wanted to explore it's use with young people with more severe learning difficulties

Loan equipment

Tobii D10



ACE Centre laptop



Where to start?!

- Knew a fair amount about the vision of our students – most have some degree of visual difficulty (cortical, perceptual)
- Ruled out those who showed no registration of visual information
 - misinterpretation possible at this level of use
- Decided to give everyone else a go!

Initial challenges

- Positioning of equipment / students
- Own lack of knowledge and experience
- Time
- Identifying appropriate activities

So what happened?

More physically able students ...

- very used to switches and touch screens – needed to touch!
- question whether eye-gaze needed – already had access to activities appropriate to their developmental level
- some difficult to engage with the screen/software

So what happened?

Less physically able students ...

- more of a priority – no good access to technology established
- Less sure of their cognitive ability due to complexity of needs
- eye-gaze offered an exciting new possible access method for them

Introducing Georgie

17 years old

Cerebral palsy

Complex health issues

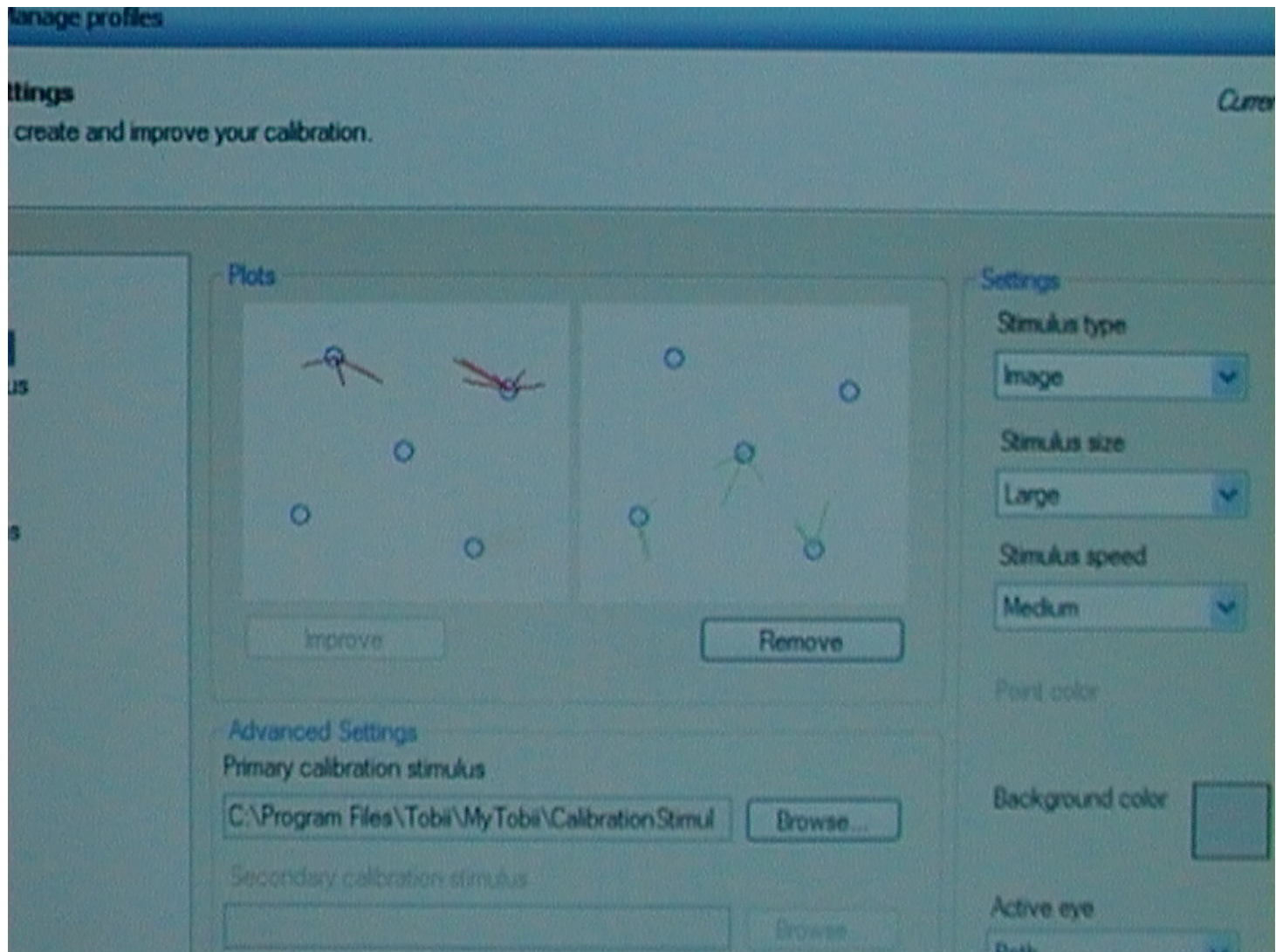
Function severely affected
by very high/fluctuating
muscle tone and primitive
reflexes

Learning difficulties – extent
unknown

Visual impairment

Communication limited to a
long blink for 'yes' (auditory
scanning)

Initial calibration





Outcomes

- Long loan period gave Georgie and us time to explore use of the equipment at her pace
- Georgie has been able to demonstrate her understanding
- Assessment with Smartbox for appropriate system (www.smartboxat.com)
- Fund-raised for Tobii C12 via The Sequal Trust (www.thesequaltrust.org.uk)

- C12, Tobii Communicator (Sono Primo) software and wheelchair mount provided
- Training provided for parents and staff
- Everyone learning to use the system – incorporating into daily routines
- *ALSO* ... Georgie is using her eyes more functionally

Discussion points

Visual impairment

Accurate interpretation of what we were seeing

Justification to others and ourselves of cost

Expectations (mum and dad, school staff)

Where to go from here (multi-disciplinary working)

Others?