

LET YOUR HEAD DO THE TALKING

ABSTRACT

Head nods and head shakes are two of the most common, widely used non-verbal gestures. They are often used to communicate intent, emotion and act as conversational functions. The head nod (vertical up-and-down movement of the head) is an affirmative cue, used to show understanding, approval, and agreement. The head shake (rotation of the head horizontally from side-to-side) on the other hand, is a sign of disapproval, disbelief, and negation [1] [2] [3].

Our project “Let Your Head Do the Talking” investigates how user interfaces can make use of these subtle gestures to make the additional input via touch or speech obsolete. We build upon work like [4] who investigated the detection of these gestures using complex prediction models. With the sensors of the JiNS Meme Smart Glasses these detections can be made very robust and with minimal processing. We envision a future in which regular head accessories like glasses/baseball caps/headbands or even jewelry comes with built in gyro sensors. These could then be used to allow for constant head tracking and react to subtle gestures like nodding or shaking your head. But also gestures that indicate cluelessness or helplessness could potentially be captured and used as additional or stand alone inputs for all kinds of user interfaces.

TEAM

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DEMO



Answer questions



Answer/Dismiss calls

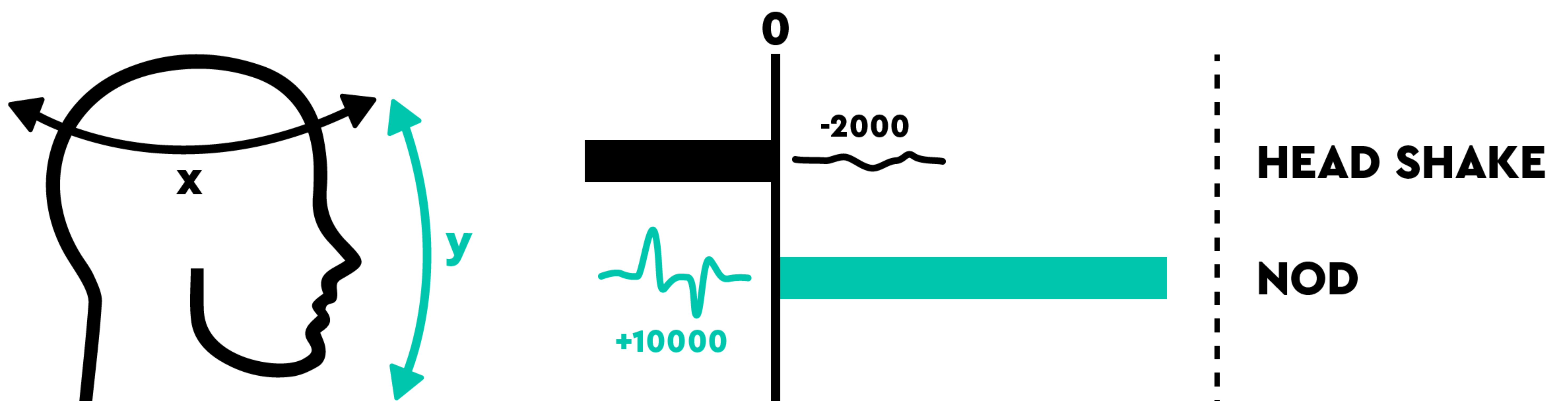


Show affection



Indicate understanding

IMPLEMENTATION



[1] Darwin, Charles (1872). The Expression of the Emotions in Man and Animals, third edition. New York, Oxford University Press, 1998.

[2] Givens D. B. Dictionary of gestures, signs & body language cues. Washington 2002

[3] Morris, D. Bodytalk: The Meaning of Human Gestures. Crown Publishers, New York 1994.

[4] Ashish Kapoor and Rosalind W. Picard. 2001. A real-time head nod and shake detector. In Proceedings of the 2001 workshop on Perceptive user interfaces (PUI '01). ACM, New York, NY, USA, 1-5.