Aura

an intimate remote awareness system based on sleep patterns

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Aura is a prototype background communication device that aims to create a sense of emotional presence between two people who are separated by space or time. An augmented sleeping mask records sleeping rhythms and infers an emotional state of the wearer. This information is transmitted to a remote location and mapped to musical selections in a personal keepsake "music box" that represents the remote partner.

One of the most delicate forms of connection between close partners is rooted in a sense of awareness of each other's emotional state. For example, one partner can often tell if the other is feeling down by interpreting, sometimes unconsciously, a variety of subtle signals to which they have been attuned over a period of time, like body movement, facial expression, voice quality, and so on. Physical or temporal separation, consequently, can impede partners from maintaining this kind of intuitive awareness.

Aura investigates the possibility of reinstating this subtle awareness regardless of separation. Rather than just a cognitive awareness of someone else's state, Aura aims to convey emotional information in a visceral way, similar to what is sensed when one has a "gut feeling" about something.

Aura consists of a sleeping mask with an embedded electro-oculargram that can detect eye movements typical of REM sleep. Data from the mask is used to grossly estimate whether or not the wearer has had a good night's sleep, which is in turn used to infer if he/she is in a good or bad mood the following day. This information is transmitted to the remote location and mapped to music compositions or selections that play inside a precious box recalling a jewelry or music box. By opening the box the remote partner can listen to music that was composed from their loved one's previous night of sleep.

Music was chosen as a medium because we felt it was something that could evoke the visceral quality of the emotions inferred from the captured data. Conceptually, Aura aims to enable the user to not only listen to but also feel their distant loved one's emotional state. The project has highlighted a number of difficulties in designing remote awareness systems, especially those that use physiological measurements as a basis for capturing emotion. Ultimately we feel that a greater understanding of the mechanisms of human emotion is required to produce communication devices capable of abstracting and reconstructing emotional information effectively.

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