Virtual emotional gestures to assist in the examination of the mental health of the deaf-mutes

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Abstract

The particular characteristics of deaf-mutes make them more likely to have mental health problems. Due to their particular way of communication, it is more difficult for them to deal with mental health problems than ordinary people. Nowadays, those psychologists who are good at sign language are in short supply, and remote assistance cannot achieve satisfactory results. Therefore, a library of virtual emotional gestures based on electroencephalogram(EEG) was established and a prototype system for mental health examination of deaf-mutes was proposed, which help deaf-mutes identify their psychological problems in time and assist medical staff to examine the psychological problems encountered by deaf-mutes. In addition, the virtual library of emotional gestures is established with the assistance of the chief physician from a 3A hospital in Henan Province. More importantly, the later experiments demonstrate the applicability of this virtual system.

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Virtual emotional gestures to assist in the examination of the mental health of the deaf-mutes.docx available at https://authorea.com/users/612895/articles/640559-virtual-emotional-gestures-to-assist-in-the-examination-of-the-mental-health-of-the-deaf-mutes

Happiness	(1)	(2)	(3)	(4)
Anger	(5)	(6)	(7)	(8)
Sorrow	(9)	(10)	(11)	(12)
Anxiety	(13)	(14)	(15)	(16)
Hostility	(17)	(18)	(19)	(20)
Tired	(21)	(22)	(23)	(24)

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Experimenter

NeuSen W

Create

Gesture library

Guide

Input

Doctor

Client

Input

Depth sensor

Feedback

Cloud

Feedback

Patient

Gesture

Virtual Layer

Gesture library

Virtual scene

User gesture

Evaluation result

HCI Layer

Input
- EEG
- Gesture

Gesture Recognition
- Data processing
- Hand gesture matching

Output
- Evaluation result
- Animation

User Layer

VR device

NeuSen W

System Integration
- Game Engine
- Pipeline
- Dev Framework

Core
Interface/device SDK/API

Protocol

Cloud

(a)

(b)