Abstract

With the online learning become more popular, many learning materials provider would follow the design thinking or double diamond model to improve their value for customers. To do so, companies must well understand the learner state and provide materials that are best fitted their mental state. In this work, we want to create a new service for such situation. We will combine single dry sensor EEG (Electroencephalography) devise, mental state recognition system and English listening test for knowing if the English sentence is difficult for the learner. According to previous researches, from delta bands to beta bands are highly correlated with mental loading, so we get these data from Neurosky headset and feed these in to Neuro Network which is very popular algorithm in Neuroscience. Learner will listen to the English sentence we played then tag it with difficulty. In the process, our system will record EEG data for 7 seconds once the audio played.

中文摘要

隨著線上學習越來越方便，並且普遍被眾人所接受，學習教材供應商為爭取這市場，需要不斷地進行服務設計，以提供當下最適合學習者的內容。此研究為打這樣的目的，基於已發展數十年的腦電圖技術，並且使用Neurosky公司所開發的創新裝置和神經學術界熱門的類神經網路分類器，幫助學習者在行動中聽英文時，不用花力氣做筆記，系統就可以直接記錄對學習者較難的句子。我們設計一套實驗，讓受試者針對當下聽到的句子判別難易程度，並記錄從聽力一開始播放後的七秒鐘資料。接著，將原始資料和平均強度送入分類器學習。過程中不蒐集可以辨識受試者的個人資料。