Artificial Intelligent Music Teacher
Provides Pitch and Rhythm Training

[Orientation Daily - Hong Kong, 2 Nov 2012] In order to boost their children's resume for school applications, many parents will have their children learn to play musical instruments and take various music exams. Besides paying a fee, parents must also put in a lot of effort. It is especially difficult for parents who do not have formal musical training. With the intention of serving the huge market of students taking music examinations, a technology company in Hong Kong, Playnote, has developed electronic book software, for mobile phones and tablet computers, to train for aural tests. Students just need to sing the melody and clap the rhythm in front of a mobile phone or tablet computer and the software will point out the error and explain the correction in a real human voice, as if a music teacher was at their service 24 hours a day.

The developer of this aural test software has the knowledge of both engineering and music. Mr. Eric Yung, who has been a private piano teacher, finds that many students just concentrate on the examination pieces and ignore the skills necessary for the aural test. As a result, students cannot get a good score on the aural test. So, Eric started to develop the aural test software--AURALBOOK to help students to improve their aural skills and allow them to self-learn.

The app includes a syllabus of examinations for the UK, Australia, Canada, etc. The software is designed in electronic book format. Its content includes an examination syllabus for the aural test of ABRSM (the UK) from Grade 1 to Grade 9, AMEB (Australia) and RCM (Canada). Students just need to install it on their iPad or iPhone and can practice their aural skills through interactive methods at home.

Training includes melody singing, rhythm clapping and features recognition, etc. Based on technology, such as digital signal processing, artificial intelligence and cloud computing, the software can "listen" and "understand" what students have sung and clapped. By comparing the students' performance with the correct answer, the software will point out problems, including scale, pitch, rhythm, power, etc. with a real human voice. Once students know their strengths and weaknesses, they just need to practice with the software in mobile phones and tablet computers continuously, improving the students' capability. Eric believes that with this software, those parents without music knowledge can also assist in their children's learning and understand the progress.
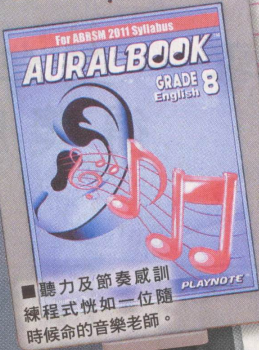
智能音樂老師

訓練音準節奏

為了讓小朋友能夠有一份好的履歷，不少家長都會逼子女學習樂器，然後報考各式音樂試，除了花錢外，還要付出心力，對部分沒有學過音樂的家長而言，更感吃力。本港一間科研公司針對這龐大的音樂考試市場，開發了一套可安裝在手機或平板電腦上使用，專攻音樂聽力測試試題的電子書程式，學生只須跟隨音樂唱出旋律、拍出節奏，程式便會抽出用家的錯處，以人聲方式道出改善建議，儼如多了一位廿四小時候命的私人音樂老師在身旁。

這套聽力及節奏感訓練程式的開發者本身兼具工程及音樂知識。當過私人鋼琴老師的容志偉，有感不少學習音樂的學生，都只顧「死練爛練」考試要求的曲目，卻忽略了聽力測試所需的知識及技巧，結果無法在聽力測試取得佳績，遂與起開發名叫AURALBOOK的聽力及節奏感訓練程式，幫助學生們自學及改進聽力技巧。

涵蓋英澳加考試範圍

程式以電子書模式運作，內容涵蓋了英國皇家音樂學院一至八級試、澳洲音樂考試及加拿大皇家音樂學院考試的聽力考試範圍。把它安裝在iPad或iPhone內，就可以在家中以互動方式反覆練習考試範圍。

訓練程式包含了旋律唱頌、按節奏拍掌及辨別音樂特性等內容。通過數位處理、人工智能及雲端等技術，程式能夠「聆聽」及「理解」學生唱出及拍出的音樂，透過比對學生的作答與正確答案的分別後，會以人聲提點問題所在，指出學生在音調、音準、節奏、輕重音上的問題。學生知道自己的錯處及弱點後，只須對着手機或平板電腦反覆訓練，便可以提升水準。容志偉相信，有了這個程式，對音樂一竅不通的家長亦可在家中協助子女訓練，了解子女的學習進度。

■ 聽力及節奏感訓練程式恍如一位隨時候命的音樂老師。 （互聯網）

■ 容志偉說，用家只要按節奏拍掌，應用程序便會細心聆聽。 （蘇文傑攝）

■ 聽力及節奏訓練是音樂考試一部分。 （資料圖片）

扣增值變成耳機線夾。

把耳機線固定的槽位，為鈕扣進行增值。一個簡單的小改動，便可令用家使

鈕扣有何不同。

（左欄局部，未能完整辨讀）
…説手…進」，…時今…話的…記簿，…密便會…機都設…外洩風…了一款…，安裝…提升至

…身份

不少個人…有密碼功…簡單的劃…這個「掌紋…解像度手機…。只須將手…程式會自動…份，可説是…用掌紋解鎖，…數字長，不過…一點時間也是

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