



INVESTIGATING NEW TECHNOLOGIES TO IMPROVE ACCESSIBILITY AND VISITOR EXPERIENCE

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The Chosen Venue



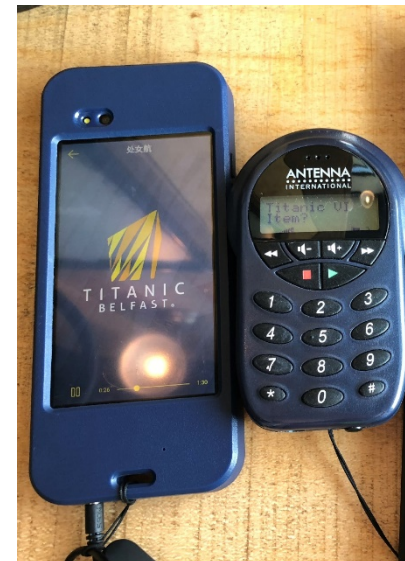
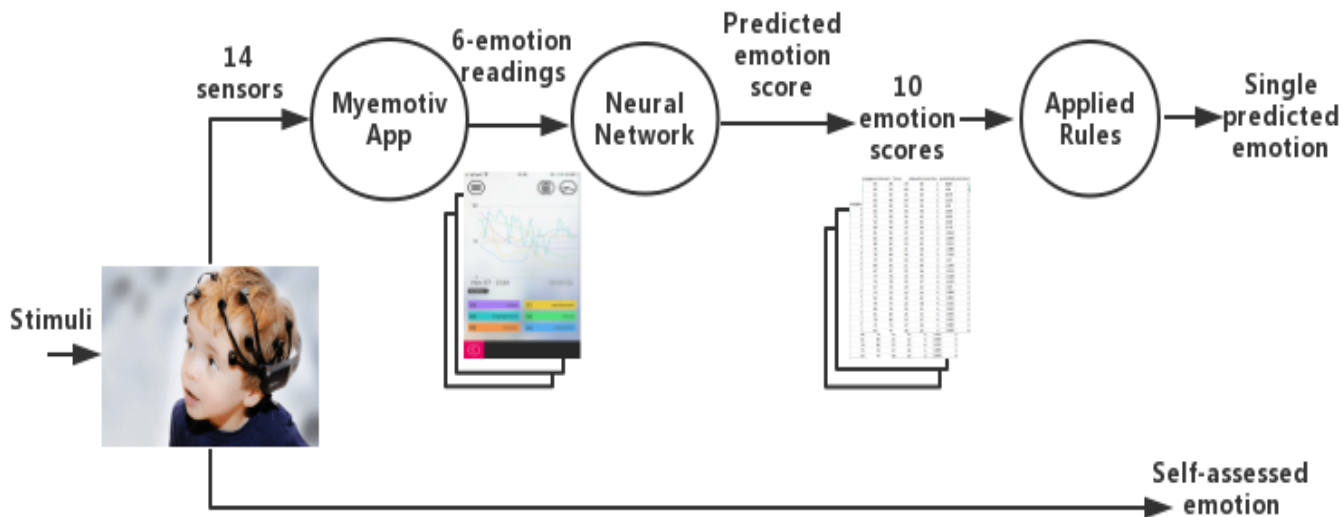
R N I B

See differently



(i) Stage One – EEG-based emotion detection

➤ To enhance the reception study process for evaluating audio description using EEG-based emotion detection.



Early Results:

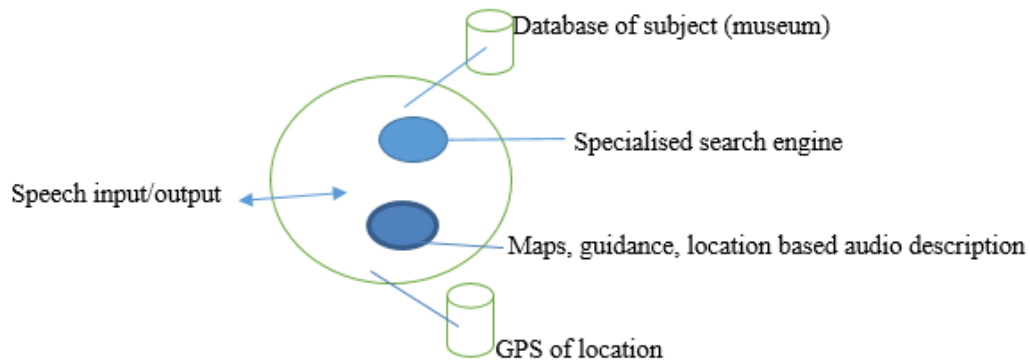
- For recognition of the four emotions, the cross validation average accuracy was:

happy – 57.8%,	sad – 53.4%,	(positive)
confused – 59.8%	bored – 60.7%	(negative)
- Secondly, we achieved an average accuracy of **positive experience – 92.3%** and **negative experience – 87%**.
- By adopting EEG-based emotion recognition, the goal is to apply it to evaluate visitors' experience at each stage of a tour of Titanic Belfast.
- A journal paper on this topic is currently under review (Universal Access in the Information Society).

(ii) Stage Two – **An Interactive Mobile App**

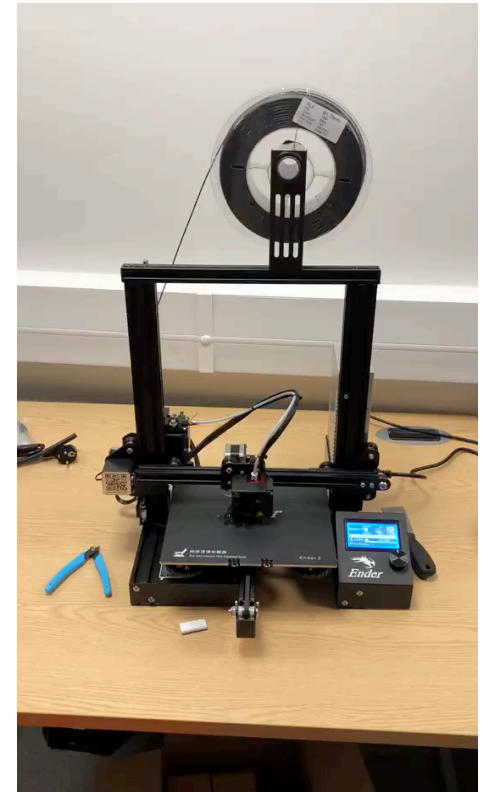
- Make use of Artificial Intelligence-based Voice-Controlled Personal Assistants (VCPA) such as Alexa or Siri
- Create an interactive mobile app which is able to answer questions automatically from the end-user
- This gives an interactive, user-led experience for BPS visitors

App prototype design:



(iii) Stage Three - **Touch tour design**

Exploiting various sensory capabilities, such as 3D-printed objects combined with touch sensitive technology to compensate for the loss of sight and enhance the quality of the museum visiting experience.





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THANK YOU!

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