

AUXie

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Tuesday, 18 November 2008
Last Updated Friday, 09 January 2009

GENERAL INFORMATION

AUXie, by Aram Dulyan

Exhibition Dates: 9 December 08 - 7 January 2009

Location: Beta_space - L1 - Cyberworlds Gallery, Powerhouse Museum

Cost: Free with entry to the Powerhouse Museum

Exhibited in relation to:

Living in a sensory world: stories from people with blindness and low vision (opens 5 December 2008 in the Australian Communities Gallery)

BACKGROUND

AUXie is the prototype of an audio-based virtual tour accessible to visually impaired users. It presents an interactive 3D space entirely using sound, by assigning musical melodies and other sounds to obstacles and objects of interest within the space. Synthesized speech is used as a navigational aid, providing an overview of the space and detailed descriptions of objects upon request. This allows truly independent navigation of an immersive environment accessible to users with any level of visual impairment.

Since AUXie has been designed to be remotely accessible, it also allows members of the visually impaired community to access real-life locations without facing the difficulties posed by travel to unfamiliar places. AUXie specifically focuses on representing cultural sites, such as museums and galleries, allowing visually impaired users to experience the world's cultural heritage through independent exploration, rather than guided tours.

From a technical perspective, AUXie aims to allow an audio-only modality to be enabled for an existing model of a 3D environment with minimal effort. A model created in or converted into the X3D language requires only slight modifications before it can be presented in AUXie. These modifications consist of specifying simple ontologies and semantics, which mainly entails identifying objects of interest and region boundaries. This drastically simplifies the process of creating an

audio-based tour, providing much-needed encouragement for cultural sites to offer such tours of their premises.

THE RESEARCH

The techniques used in AUXie are largely inspired by those used in successful computer games, primarily audio games designed for the blind. The specific techniques used are those that were deemed to be best suited for representing the unique environments and objects found in cultural sites. The exhibition of AUXie at Beta_space allows the effectiveness of the techniques to be evaluated by the general public. Specific areas of interest include the accuracy of the user's perception of the space, the ease of navigation and orientation within the space, as well as the level of engagement and aesthetic appeal offered by AUXie.

THE RESEARCHER

AUXie was created by Aram Dulyan in the course of research towards a Master's degree in Computing Science at the University of Technology, Sydney. Aram has previously conducted research in the field of inclusive access as part of a Bachelor's degree in Computer Science at Worcester Polytechnic Institute in Worcester, Massachusetts. Much of this earlier research was completed in collaboration with the Centre for Accessible Environments, a charitable organisation based in London, UK.

At the University of Technology, Sydney, Aram is a member of the Creativity and Cognition Studios and the Games Studio. His interests outside accessibility lie primarily in the fields of computer graphics and Internet technologies.