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Abstract

Sonification is defined as the use of non-speech audio to convey information. More specifically, sonification is the transformation of data relations into perceived relations in an acoustic signal for the purposes of facilitating communication or interpretation. This paper describes the methods for stereo image processing, sonification and the results to support the vision substitution system for human blinds. The experimental Stereo Vision based Electronic Travel Aid (SVETA) system consists of a kit built-in with computing device, stereo cameras and a stereo headphone. The images captured from the stereo cameras are processed to extract object information such as distance from camera, object location and its size to support navigation. This visual information is conveyed to the blind through a specially designed structured sound. Two methods are proposed for image sonification and each method is tested for its ability in conveying information.

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