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To revolutionize museum visits, people should not only be able to look at museum objects, it should be possible to enjoy specified audio information about the art objects the visitor is in front of. To meet this a device called Dojo was designed. The dojo can recognize Bluetooth beacons near an art object and provides specific audio information via bone conductor about that object. Further the Dojo can also open doors to additional exhibitions. To fulfil those expectations a highly integrated PCB with the required software and hardware was developed. The Device uses a microcontroller with a built in Bluetooth module to scan for Bluetooth beacons. It can detect beacons up to 10m distance. During the visit the device will tell the customer if there is a beacon nearby with a short vibration. The audio information itself is stored on a built in micro SD card which provides memory for up to 500 different audio files. An audio chip with an integrated amplifier can read those files and play them through the bone conductor. With a like-button mounted on the case the visitor can "like" art objects to receive a personalised summary at end of his/her visit. By liking an object, a connection will be opened to notify the beacon about the Like, so it can give a visual feedback to the customer. To select visitor specific preferences such as language or access right, a user-friendly computer application was developed. The Dojo simply needs to be within the range of the computer's transmitter station to transfer the configurations. The same applies to the access control points. The Dojo will automatically exchange its access rights with the transmitter station. To ensure fast availability the Dojo is supplied by a 335mAh battery which can be recharged in less than 3 hours, allowing the battery to operate for at least 3.5 hours. The Dojo combines the functionality of a universal museum guide and accessibility in one device. It improves the experience of the visitor and simplifies the handling of an exhibition for the museum staff.

Keywords: museum guide, bone conductor, digital access control