Indoor Navigation and Interactive Tour in a Museum

AT A GLANCE
- 2D/3D building maps
- indoor navigation within the museum building
- geo-based triggering of media content
PROBLEM DEFINITION

If museums hand out traditional audio guides, this consumes valuable resources. The devices must be repaired, charged and kept clean. It must also be made sure that the audio guides get picked up at the end of the tour.

Since visitors pass through the exhibition without being engaged, museums are leaving major potential unused. Also, what the visitors get to listen to is not always what they are interested in, sometimes resulting in visitors cutting their tour short. Furthermore, in large exhibitions, finding one's way around the building or to certain destinations can be quite challenging.

SOLUTION

A museum app shows a map of available attractions and presents visitors with a journey around the museum. Thanks to the beacon-enabled app, related content shows up on the visitors’ smartphones once they approach an exhibit. Moreover, visitors can use the app to navigate to any chosen destination on the map.

The museums don’t have to worry about investing in and maintaining costly audio guide infrastructures. For the visitors, there is no need to carry any extra equipment – they listen to the audio files and watch the video files on their smartphones.

TECHNICAL IMPLEMENTATION

Bluetooth Low Energy (BLE) beacons are deployed throughout the building and in proximity to the exhibits. Beacons are cost-effective and can be installed with minimal effort, since they are operated with batteries. A beacon management system facilitates maintenance.

For positioning, the visitors’ smartphones receive Bluetooth signals from the beacons, which are interpreted by an app installed on the device. The position can be used for turn-by-turn navigation to a certain exhibit or destinations like the museum shop or sanitary facilities.

When a visitor approaches an exhibit, the museum app triggers related content such as text, images, audio or video recordings. The information can be either automatically triggered or retrieved after tapping on it.

The collected position data can also be transferred to the infsoft LocAware platform® and made available for Indoor Analytics, enabling easy evaluation of visitor behavior.