

# Haptic technology to improve mobile app accessibility

## CHINA AND OTHER COUNTRIES / TENCENT - MTGPA HAPTICS

Tencent Holdings Ltd. is a multinational technology and entertainment company headquartered in Shenzhen, China. Originating from Tencent's game development, MTGPA (Magic Tencent Game Performance Amelioration) Haptics is transmitting vibro-tactile signals to the user, which support orientation and notification. Typical customers are persons with visual impairments and the elderly. Connected to the Tencent Map app, MTGPA Haptics guides customers indoors and outdoors through long and short vibrations in case of deviations from the planned route.

### Problem targeted

More and more persons with visual impairments rely on technical support for navigation and notification. Thus, precise commands and indoor and outdoor availability are essential.

### Solution, innovation, and impact

Initially working with a pilot group of 30 visually impaired users, the company evaluated and verified the vibro-tactile information features. One result was that visually impaired persons outperformed persons without impairment in terms of recognizing vibro-tactile information.

**“MTGPA Haptics will assist the visually impaired users in providing more improved digital service experience.”**

Qitong Liu, General Manager of TOD at Tencent Games CROS

MTGPA Haptics, therefore decided to develop a toolbox that gives vibro-tactile feedback to the user. It works like the vibration function on a smart phone and can be installed on more than 200 models of devices, such as mobile phones and tablets, and is compatible with both iOS and Android. Originally developed as a feature to make games more exciting, its use has been extended to support persons who are blind or visually impaired and the elderly. Moreover, the patterns work in public settings without interfering with the environment, transmitting information only to the user. As a navigation feature, users get different haptic signals, like long and short vibrations, when deviating from their chosen route. No signal means



“MTGPA Haptics” transmits vibro-tactile signals as orientation aids to its users.

that they are right on track. Tencent does not publish actual user numbers, but in 2022 MTGPA Haptics has been installed some 240 million times worldwide.

### Outlook, transferability, and funding

In the coming years the company will work on such issues as online learning, information services, employment, living assistance, work assistance, and financial services, and will provide haptic feedback solutions for all users. In cooperation with the Tencent map and Sogou input method team, the company plans to further improve the vibro-tactile features with a redesigned orientation map, making the navigation feature even more accessible and easier to use.

### FACTS & FIGURES

Start: 2021

- MTGPA Haptics have been installed in over 240 million smart phones.
- 4,200 visually impaired users of MTGPA Haptics from May to August 2022.
- *A project related to ICT.*



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