ASPREX Fact Sheet

Portable travel aid

Electronic device for guidance that provides information to determine the user's relative position in a certain area. These assistive technology devices typically use GPS to inform the user about their location. Many utilize a smart phone or tablet as the hardware to run a proprietary app.

In addition to using GPS data, some devices enable the user and caregivers to create and upload customized content such as routes and landmarks. Points of Interest (POI) data can be uploaded from various sources such as, Apple, Foursquare and Open Street Map (OSM). Output can consist of a visual display as well as synthetic voice. Indoor maps can be created from building drawings to be used for navigation without the use of GPS. Possible accessories or optional components include algorithms to inform the user of information most useful to them; possibility to save positions and routes to be retrieved later: and voiceover is used to enable hands-free operation. Some devices use indoor positioning systems enabling wayfaring indoors.

- Product Classification
  - APL (WHO Assistive Product Priority List): 41 (Travel aids, portable)
  - ISO 9999:2022: 224503 (Assistive products for electronic orientation)
- Possible configuration variants

  None specified.
- Possible accessories or optional components

  None specified.
- Product goals

  Activities or functions the product is mainly intended to support, according to WHO ICF Classification:
  - Moving around in different locations [d460].
- Indicated impairments

  Difficulties the product is mainly intended to address, according to the WHO ICF Classification:
  - Using transportation [d470].
  - Seeing [b210].
  - Intellectual functions [b117].
- Contraindicated impairments

  Difficulties for which the product may be inappropriate:
  - Difficulty in understanding basic concepts of dates, times, and task accomplishment.
  - Difficulty in fine hand use.
- Indicated environments

  Specific environments in which the product should be used:
  None specified.
- Contraindicated environments

  Environments in which the product may be inappropriate:
  - Situations obstructing the GPS signals (such as places surrounded by tall building, bad weather, or indoors spaces of buildings that are not equipped with GPS repeaters or indoor positioning systems).
- Other indicated factors

  Other factors or situations the product is intended to address:
  - Assisting navigation.

- Other contraindicated factors

  Other factors or situations in which the product may be inappropriate:
  None specified.
- Points to be considered in product selection
  - The need for and access to an appropriate smart phone or tablet.
  - The need for outdoor and/or indoor navigation.
  - The ability of the user to manipulate the device.
  - The ability to program and/or upload appropriate information.
- Points to be considered in product fitting
  - Use of appropriate smart phone or tablet.
  - Uploading of appropriate data for navigation.
  - Appropriate output to accommodate user abilities and impairments.
  - Appropriate input method to accommodate user abilities and impairments.
- Points to be considered in product use
  - Batteries must be maintained and charged.
  - Operating system of smart phone or tablet must be up to date.
  - Point of interest data must be up to date.
  - For indoor navigation, appropriate tags or data must be up to date.
  - For outdoor navigation, access to GPS signal is necessary.
- Points to be considered in product maintenance / follow-up
  - Batteries must be maintained.
  - Operating system of smart phone or tablet must be up to date.
  - Point of interest data must be up to date.
  - For indoor navigation, appropriate tags or data must be up to date.
- Examples of products available on the market
  - Live product search in the EASTIN website https://www.eastin.eu/en/searches/products/list?iso=224503

Source

This Fact Sheet was compiled in 2021 by an international team of experts, to provide the initial knowledge base for a project ("An online system to assist the selection of assistive product") supported by the World Health Organization in 2020-2021 within the GATE Initiative (Global collaboration on Assistive Product). Fact Sheets were compiled for each of the 50 types of products included in the WHO APL (Assistive Product Priority List).

The team was composed of Renzo Andrich (Italy, group leader), Natasha Layton (Australia), Stefan von Prondzinski (Italy), Jerry Weisman (USA), Silvana Contepomi (Argentina) and Hasan Minto (Pakistan).

The project led to a prototype online tool called ASPREX (ASsistive PRoduct EXplorer). At the end of the project, it was transferred to a WHO collaborating center (the Global Disability Hub in the UK), in view of possible future developments.