

I-CANE MOBILO



I-Cane Mobilo User Guide

v. 4.0 (including new functionality 2016)

1. Important

Thank you for purchasing an I-Cane Mobilo. If you treat the I-Cane Mobilo with care, you may use it for years. Take the time to read this user guide carefully before using the I-Cane Mobilo. Keep these instructions for future reference.

If this guide contains photos and images they support the text, not replace it.

What's in the box?

The shipping box of the I-Cane Mobilo contains the following products:

- A smaller box with the handle of the I-Cane Mobilo and the charger of this handle.
- Two cane parts; joined together they are in total adjustable in length.
- A rolling cane tip with a screw connection which should be to the lower part of the cane

Important: Keep the shipping box; it may be need for service and / or return.

What is the I-Cane Mobilo?

The I-Cane Mobilo is an intelligent white cane for detection and recognition, intended for persons who are blind or visually impaired. The I-Cane Mobilo combines obstacle detection with navigation and provides tactile warnings and directions using a unique Tactile Arrow that is integrated in the handle of the cane. The navigation is based on the I-Cane Go Application (App). This app should be installed on a smartphone. Cane (handle with stick parts) and app (software) together form the I-Cane Mobilo and communicate with each other via Bluetooth.

Training required

As a user of an I-Cane Mobilo we strongly advise you to follow training for the use of the Mobilo as a mobility aid. These courses are or will be provided by a certified mobility instructor.

To use the I-Cane Go App effectively, you must have adequate orientation skills and be sufficiently mobile as a pedestrian. The instructions of the mobility instructor should always be followed. Traffic regulations always have priority. The I-Cane Mobilo is developed as a walking aid and should therefore only be used for this purpose. The user is responsible for compliance with the foregoing.

Treatment of the product

Treat the I-Cane Mobilo with care and do not drop it.

Do not open the handle. This can damage the electronics and you lose your warranty.

Do not expose the I-Cane Mobilo to extremely high or low temperatures. Use and store the I-Cane Mobilo in places with a temperature between minus 5°C and plus 35°C. The battery life may be shorter during cold conditions.

Clean the I-Cane Mobilo only with a slightly damp and soft cloth. Do not use chemicals or abrasive cleaners, which may damage the product. The I-Cane Mobilo is splash proof but not waterproof. Do not put the Mobilo underwater.

Charging

This product should only be charged with the adapter that is included in the package. Never use an adapter other than the supplied or advised by I-Cane Social Technologies. Charging fully an empty battery takes about 8 hours. See also 2.2 and 2.3.

Use in traffic

Remember to follow the traffic rules, and check traffic conditions before you follow the instructions via the tactile arrow or spoken information.

Obstacle warning

The obstacle warning is intended to alert for obstacles above the white cane at chest and head height of the user. However, I-Cane Social Technologies cannot guarantee that all objects are actually signaled. The applied sensor with ultrasonic technique in the I-Cane Mobilo has limitations in the perception of smooth objects, soft materials and small objects at the sides of the scanned area.

The sensor cannot detect obstacles such as holes, stairs down and curbs. For these obstacles, the cane and your own perception remain necessary.

GPS shortcomings

The I-Cane Go App cannot give any guarantee about the reception of the GPS signal in case of a limited satellite reach or malfunctioning of the smartphone. GPS devices work best in an open outdoor area. GPS does not work well inside a building, under a roof or in a tunnel. I-Cane Social Technologies has no affect on the strength of the GPS signal. GPS positions often differ a few meters from the specified location. The program may indicate that the final destination is reached when in fact it is a few meters away.

Navigation Program Go

The provided direction commands give support in following a route to a destination, but should not be followed too literally. The program helps in choosing the right street and the user shall use his/her orientation and mobility skills to turn into it and follow it. This applies especially in case of crossings. Stay alert to the traffic when using the directions information of the I-Cane Mobilo.

Be always aware that the use of route navigation information and obstacle warning is no guarantee of safety, and that even when using the I-Cane Mobilo and I-Cane Go caution is advised.

Recycling and disposal

Do not put the product in household garbage. Follow local instructions concerning the collection of electronic products marked by this symbol.



Protection of privacy and copyright

The privacy policy of I-Cane Social Technologies explains how we handle your personal data and how we protect your privacy when you use our products and services. By using our services, you agree that I-Cane Social Technologies may use your data in accordance with our privacy policies. www.I-Cane.org.

2. User Instruction

Instruction on First Use

I-Cane strongly recommends users of the I-Cane Mobilo to follow at a regional instruction program at a facility for rehabilitation and education. During this training, the obstacle warning will be explained and the first route(s) will be recorded with you. The instructor helps to install the navigation program on your Smartphone. Outdoor, the mobility instructor focuses on the use of the I-Cane Mobilo as white cane and symbol cane in combination with the obstacle warning, recording and using routes and using the "Where-am-I?" Functions.

Content of the user guide

1. Introduction to the I-Cane Mobilo (handle, feel arrow, push buttons, sensors, stick parts and point)
2. Preparing for use
3. Obstacle Avoidance
4. Introduction to the App (Smartphone)
5. Where-am-I? Here-am-I! Send my location
6. Recording routes
7. Flexible navigation (Flex Route)
8. Pairing the I-Cane Mobilo with the I-Cane Go (App)
9. Switching on and off of the obstacle function in the I-Cane Go
10. Using routes from the route list
11. Deviation from the route
12. Instructions for using the I-Cane Mobilo in bad weather
13. Troubleshooting
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Appendix

Instructions for use

- 1. Introduction to the I-Cane Mobilo (handheld grip, Tactile Arrow®, push buttons, obstacle avoidance sensor, cane and tip)**
 - 1.1 The I-Cane Mobilo consists of a handheld grip with Tactile Arrow, push buttons, obstacle avoidance sensor, adjustable cane & point and a hanging option. The handle contains electronics as well as a rechargeable battery.
 - 1.2 The navigation program with the name 'I-Cane Go App' needs to be installed on an Apple Smartphone.
 - 1.3 The I-Cane Mobilo offers advanced functionality versus a regular white cane; e.g. obstacle avoidance and personal navigation. The user interface is centered on the unique Tactile Arrow. This small rotating 'coin' tilts to warn for obstacles (at the height of head and shoulders) and rotates to provide navigation instructions.
 - 1.4 The user is recommended to position the thumb or pointing finger on the Tactile Arrow to receive the tactile instructions smoothly.
 - 1.5 The vertical tilt movement is activated by the Obstacle Avoidance Sensor (sonar), which is positioned in the front of the hand held grip. This sensor scans the area above stick height and identifies obstacles that endanger the head of the user.
 - 1.6 When the Tactile Arrow tilts it means that an obstacle is noticed and that the user should stop walking immediately to avoid a collision.
 - 1.7 Horizontal rotation indicates a direction instruction. The Tactile Arrow has four basic directions: 'Go ahead,' 'Turn left,' 'Turn right' and 'Go back.' There are also special commands for 'Start' and 'Destination Reached'.
 - 1.8 Rotations are directed by the I-Cane Go navigation program (I-Cane App) on the Smartphone.
 - 1.9 Movements of the Tactile Arrow at height obstacles (tilt) and changes in direction (horizontal rotation) can occur simultaneously.
 - 1.10 All movements of the Tactile Arrow are supported by audio signals (voice and/or beep).
 - 1.11 On the handheld grip, positioned between the Tactile Arrow and the Obstacle Sensor, one can find two tactile pushbuttons. These

are designed to switch on and off the I-Cane (left) or to activate the 'where am I?' and Here-am-I! function.

- 1.12 The handle of the I-Cane Mobilo can be linked to the adjustable cane that comes with one or more red bands, so that the user is recognized by the general public (including Authorities) and identified as a person with low vision.
- 1.13 The lower part of the adjustable cane can optionally be equipped with a removable wheel (screw thread M8).
- 1.14 The handle of the I-Cane Mobilo contains a rechargeable battery. The charging plug is positioned at the bottom of the hand held grip.
- 1.15 Note: make sure that the battery is always fully charged, as the system does not inform the user about battery status. The battery cannot be replaced nor overcharged.
- 1.16 I-Cane Mobilo can be used left handed as well as right handed.

For instructions with respect to the Comfy Wheel, see appendix.

2. Getting Started

- 2.1 Unwrap the I-Cane Mobilo (I-Cane recommends to store the packaging for travel and/or service purposes).
- 2.2 The I-Cane Mobilo needs to be charged first. This is done by connecting the I-Cane Mobilo with the adapter to the mains voltage (110V – 220 V). Charge the I-Cane Mobilo for 8 hours before using it on the road.
- 2.3 A full battery can last for a few days, although this depends on the user intensity. After a full charging cycle there is always sufficient power for a full day (eight hours) of intensive use.
- 2.4 Mount the adjustable cane to the handheld grip using the rotary clamping mechanism. Insert the stick part as far as possible into the handle and turn the stick part to the right (clockwise) until it gets fixed. Do not over fix! Then place the second part of the cane into the fixed one the same way.
- 2.5 Screw the wheel into the lower cane (designated hole).
- 2.6 Adjust the stick length to the personal preference of the user while using the second pole. Push in or pull out and then rotate clockwise. Do not over fix!

- 2.7 The own body length and what the user is used to largely determine the ideal length of the cane. New users preferably consult their mobility instructor.
- 2.8 Large deviations - a longer or shorter cane – can have an effect on the performance of the obstacle avoidance sensor. Familiarize yourself with the operation and range of the sensor. See also Section Obstacle Avoidance (3).
- 2.9 Push the left button in front of the Tactile Arrow to switch on the I-Cane Mobilo. Switch the Mobilo on by pressing this button shortly but firmly. The start of the Mobilo is confirmed by acoustic signals (beep) and movements of the Tactile Arrow.
In order to switch off the Mobilo, push the button for approximately 5 seconds. Please note; when pushing the on/off button too long (> 5 seconds), the Mobilo will switch on again.
- 2.10 Always check the start of the Mobilo by turning the sensor towards the wall or the floor.
- 2.11 The I-Cane Mobilo is now ready to detect obstacles, but not operational yet for navigation purposes (see hereafter).

3. Obstacle Avoidance

- 3.1 The sensor on the I-Cane Mobilo scans the area above the cane to detect obstacles at breast and head level. It includes hanging objects such as branches, signs, tailgates of trucks, etc.
- 3.2 Obstacles positioned above the cane will naturally not be detected and are potentially dangerous. Stop walking immediately when the buzzer alarms and the tactile arrow tilts. When alarmed, use your free hand to find out what the possible cause is, but it is generally safer to look for the free passage around the object. Obstacle detection and navigation functions can be operated simultaneously.
- 3.3 The scan area starts at 50 cm above the sensor to prevent accidental activation by hand, head or jacket. The scan area width is limited to 60 cm (shoulder width). The upper measurements run in parallel with the tip of the cane touching the street.
- 3.4 Always carry the I-Cane Mobilo in a relaxed way in your left or right hand. Keep the sensor directed upward. The arm with the hand that holds the Mobilo relaxed beside or slightly held for the body.

- 3.5 Hand position, body length and stick movements affect the scanning area and thus the effectiveness of this function. Consult your mobility trainer.
- 3.6 The sensor follows the movements of the cane. This has the advantage that the position of the obstacle can be located (also left and right) and be communicated to the user.
- 3.7 Wide movements and / or rotations of the cane might also notice obstacles positioned in the direct surroundings outside the immediate walking path. This might be somewhat uncomfortable in the beginning, but may provide useful additional information in the course of time, for instance when following a natural guideline or specific landmarks.
- 3.8 On small footpaths along a natural guideline, it is advised to turn the handheld slightly in the direction of the free space (street). This averts the continuous activation of the sensor.
- 3.9 Practice this function in different situations to gain practical experience and to reduce the risk of a collision.

Note: The obstacle warning starts automatically when switching on/off the I-Cane Mobilo. When using the navigation program I-Cane Go, the Obstacle Avoidance feature in the app can be switched on and off separately. This is described later.

4. Introduction to the 'I-Cane Go App' on your smartphone

- 4.1 The I-Cane navigation program 'Go' is available as an App in the App Store and suitable for most types of Apple smartphones (4S, 5, 5C and 5S, 6).
- 4.2 This manual assumes that you own an Apple smartphone and are familiar with the Voice Over / Talkback / Zoom function. You must also be familiar with the startup and shutdown functionality.
- 4.3 Download and install the I-Cane Go App. Follow these steps:
 - 4.3.1 Go to the I-Tunes App Store and select the I-Cane Go App.
 - 4.3.2 Click on Install.
 - 4.3.3 Log in with your Apple ID (email address / password).
 - 4.3.4 After confirmation, the I-Cane App will be downloaded and placed on the screen.

- 4.4 After installing the I-Cane App, one can start the navigation program. You will hear the welcome message "Welcome to I-Cane Go'.
- 4.5 Please note that when you open the navigation program for the first time, you do not yet have the full functionality of the I-Cane Go App. The additional functions will only be visible after making a (wireless) connection with the I-Cane Mobilo. This procedure is described in Chapter 7; Linking the I-Cane Mobilo with the I-Cane Go (App).
- 4.6 The I-Cane Go navigation program offers four main functions: (1) Where-am-I?, (2) Record Route, (3) Flexible Navigation and (4) Start Route. These four main functions are presented at the homepage of the navigation program. The main functions are described separately below.

5. 'Where am I?' Here-am-I! and Send my Location

- 5.1 The most basic function of the navigation program is the "where am I? ' function. Using this function the user will be informed about street name, house number and place name. This will be spelled out (audio) by the smartphone. Please note: the function requires data traffic (internet).
- 5.2 This feature works best in an open street. We recommend taking some distance (meters) from side streets and/or intersection.
- 5.3 The indicated number is approximate and I-Cane cannot guarantee that your position meets that exact number. This number can also be on the other side of the street, especially in narrow streets.
- 5.4 In order to listen to the 'Where am I?' one might consider extra amplification using an external earpiece, headset with bone conduction, collar speaker or carrying case. Should the message be overruled by surrounding noise, then the 'Where am I?' function can simply be repeated.
- Note that the prolonged use of earplugs at full volume can cause hearing loss.*
- 5.5 The 'Where am I?' function can be activated by the right button on the I-Cane Mobilo (the smartphone can be kept away). Press this button briefly. A double tone indicates that the function is activated. Wait for the result. This may take a few seconds.

- 5.6 Tip: use familiar places to test the 'where am I?' function. This to verify the strength of your GPS signal.
- 5.7 The program offers the opportunity to call someone (ICE) and / or send a SMS. This message shows via a link the actual location. This is called Here-am-I!
- 5.8 To use this function, it is necessary to enter the mobile number of the person being called in the App. Go to My Configuration and Here am I Setup.
- 5.9 This function is executed – just like Where-am-I? – by the right button on the Mobilo. Push this button for 5 seconds until the activation is confirmed by three long beeps.
- 5.10 The own phone starts calling with the set mobile number and – at the same time – send the location link by SMS.
- 5.11 These functions could be activated separately in the App (Where-am-I?).

6. Recording Routes

- 6.1 I-Cane offers the opportunity to record own routes and reuse at any time. The advantage is the selection of the most logical and comfortable routes.
- 6.2 For recording the I-Cane Mobilo is not necessary.
- 6.3 Choose in the menu for the button Record Route
- 6.4 Start Record Route, a new menu is opened. Wait till GPS is available and confirmed. Keep your Smartphone in your hand. You can start recording.
- 6.5 The menu offers new buttons: (1) Finish Route recording, (2) Set DP (decision point) Left, (3) Set DP Right and (4) Set DP Straight.
- 6.6 On your way, you set relevant directional changes like Left, Right and Straight. Directional changes, which are not set, will not be added to the route.
- 6.7 I-Cane recommends only setting a Decision Point when there are more directions to choose.
- 6.8 On the location where a decision must be made, you set the command by pushing the corresponding button. Your choice will be confirmed.

- 6.9 Stand still while setting a DP, which will support locating your position.
- 6.10 The degree of the directional change is not set.
- 6.11 Choose your decision points carefully BUT do not stand too close to the building, because the GPS signal could be hampered. Choose for the free space heading the road.
- 6.12 A 'Go Left' is by preference set on the left sidewalk. If this is not possible, choose the right sidewalk. In that position, a 'Go Left' command automatically mean that you have to cross first.
- 6.13 If a street must be crossed before going Left, you record a 'Go Straight' first, followed by a 'Go Left' after crossing.
- 6.14 Setting a 'Go Straight' is not always necessary or desirable. This function is meant to warn for crossing. Use this function to your own preference. Directional commands close to one another has to be memorized and by that can cause confusion. Try to avoid them unless they are inevitable.
- 6.15 Consecutive commands like "Go straight' and 'Go Left' must be interpret as 'Cross the street en go Left immediately.
- 6.16 If a mistake is made in setting a DP, you can correct to set the right DP within 8 seconds. The last set DP will be overwritten and confirmed.
- 6.17 Crossing a round about walking on the right sidewalk had multiple opportunities:
 1. Go Right: follow the roundabout and mark the sideway.
 2. Go Straight: follow the roundabout, mark the first sideway bij using 'Go Straight'; mark the second sideway by setting 'Go Right')
 3. Go Left: cross the road on your left before entering the roundabout. A 'Go straight' is not needed.
 - The same rules apply for the left sidewalk
- 6.18 Recording a route along a public square is difficult if the person is dependent on natural guidelines. The chance of deviating is greater. In that case, mark the route via the natural guidelines of the square.
- 6.19 Recording a walking route in the forest is possible. Always look for relevant decision points and limit the use of 'Go Straight' commands. No command means Go Straight at any time.

- 6.20 If you reached the destination of the route, FINISH Route Recording. The program will ask you to enter a route name. Choose a name, which is clear for you. Use Save to save the route.
- 6.21 If no Route name is entered, the route name will be filled with the actual address. If internet is not available, the route name is filled with a time stamp.
- 6.22 The recorded route is straightaway available in the route list (Play Route).
- 6.23 Tip: start and finish recording as close as possible to the starting and destinations point. Be aware of a roof or trees, which can hinder the GPS signal. Check your position by using 'Where Am I'.
- 6.24 Tip: take care of a clear start and destination point, which contains tactile, still visible and/or audible features.
- 6.25 During the process of recording, the full route is set. The decision points you marked are automatically added to the route, including the directional (pre) commands.
- 6.26 The number of routes, which can be added to the route list, is endless. The last recorded route is place at the top of the route list (Play Route)
- 6.27 Recorded routes can be deleted from the route list.
- 6.28 A saved route name is adaptable by using the button Rename Route. Outdoor, a number or symbol is sufficient. Indoor you can adapt the route name and if necessary add useful information about the route and / or its destination.
- 6.29 A recorded route is not reversible.
- 6.30 Tip: do not record a route with the same start and finish point (A → A). Split a walking trail into two logical parts (A → B and B → A) and name them differently.

7. Flexible Navigation

- 5.3 This function offers the opportunity to navigate to any address without recording the route first. The program will choose the shortest pedestrian route. You have no influence on the route choice, this in contrast to the recording mode.

- 7.2 Go for Flex Route on the starting page. You will find 4 text fields for City, Postcode, Street Name and House Number. Some entry rules are:
 - a. Please enter City: always complete this field.
 - b. Please enter Postcode: not necessary if street name is set.
 - c. Please enter Street Name: not necessary if postcode is set.
 - d. Please enter House Number: if not set, the program will automatically choose the middle number of the set street name or postcode.
 - e. Little slips of the pen are tolerated. F.e. Londn will be corrected into London.
 - f. In case of inadequate address information, the program will ask to add more details.
- 7.3 Push Continue to generate an address. If sufficient data, the found address appears on a new page. If that address is correct, enter Start Route. If not, choose Change Address. To enter entirely new addresses choose Back.
- 7.4 Starting the route, a message appears, warning for inaccuracy using flexible routes.
- 7.5 Wait outside for the report “GPS is available, start walking”.
- 7.6 Wait a few seconds for the first instructions about the next turn. This helps to determine you starting direction.
- 7.7 If started in the wrong direction, a message will tell you to turn around.
- 7.8 Along your walk, you will only receive instructions at turning points (left, right). Instructions to go straight will not be given. This in contrast to the recorded routes in which crossings could be marked.
- 7.9 The instructions to turn (left or right) are accompanied by the name of the intended street. This – of course – could be checked after turning by using the Where-am-I? button on the phone or Mobilo.
- 7.10 During or after turning into the new street, information is given about the distance to the next turning point (left or right). Be aware that this distance includes crossings in between (no go straight in between).
- 7.11 To control the system on long straight trails, you can regularly activate the Where-am-I? function.

- 7.12 During all routes (Flex and Recorded) you can stop and restart that route. That could be handy during a break or in case of GPS errors.
- 7.13 Be aware: on roundabouts, wide streets, crossings and squares, the chosen route can diverge from your actual position as a pedestrian. This could end up in the instruction to return. If you doubt, restart the route navigation, a new route is calculated. Big space can force commands to come later. Use also the pre commands to prepare for the next turn.
- 7.14 Conversely, in small streets, instructions to turn (left, right) will be given earlier.
- 7.15 Favorite addresses could not (yet) be saved.
- 7.16 It is not (yet) possible to consult a route beforehand.
Reverse a route is simple. Just enter the starting address.

8. Connect the I-Cane Mobilo to the I-Cane Go (App)

Before the I-Cane Mobilo can execute commands, a single connection must be made. This works as follows:

- 8.1 Switch on the I-Cane Mobilo (see 1.11)
- 8.2 Open the App Go on your Smartphone.
- 8.3 Choose 'My configuration'.
- 8.4 Choose 'Handheld Setup'
- 8.5 The program searches for a Mobilo. If found that will be reported and showed.
- 8.6 Choose the found Mobilo ID.
- 8.7 If the connection is established successfully, it will be reported like: 'Mobilo is found and ready for use'.
- 8.8 The connection will be maintained as long as Mobilo and App are turned on AND within a certain range of each other. If Mobilo and App are departed from each other more than 10 meter, the connection is broken.
- 8.9 A new connection will be set automatically if Mobilo and Smartphone are switched on again or the distance is limited again. The program will tell in any case that the Mobilo is ready for use.

9. Switch on and Off the obstacle warning in de I-Cane App Go.

- 9.1 When the Mobilo switches on/off, the obstacle warning is switched on/off.
- 9.2 While using the navigation program Go, the obstacle warning can be switched on/off in the App.
- 9.3 Choose for 'My Configuration' on the home page of the App.
- 9.4 Select 'OA Setup'.
- 9.5 Choose Obstacle Avoidance On/Off. A beep confirms the switch.
- 9.6 Control the function by turning the Mobilo downwards.

10. Using routes from the Route List

- 10.1 Chose Play Route on the home page of the App.
- 10.2 Select the desired route and wait for the report that the GPS signal is good enough to start walking. If you are inside, please go outside for a better GPS signal.
- 10.3 If you are not nearby the starting point of the recorded route, you will hear so. Move towards the starting point and start the route again.
- 10.4 If the GPS signal is good, you will hear and feel the command to start walking. The tactile arrow is commanding to 'Go Straight'.
- 10.5 Start walking means always to follow the road, sidewalk of footpath. Walking in the wrong direction will cause the off route modus which will tell you to go back.
- 10.6 Along the route, the program will limit the instructions to the recorded decision points.
These decision Points always refer to point where different directions can be taken. Tactile Arrow and spoken commands will make you aware of that.
- 10.7 If the tactile arrow stays on 12.00 h, the direction is always straight. Do not take this too literal. The tactile arrow does not correct for little deviations without multiple directions. By this, please focus on following the chosen road, sidewalk or footpath. The program will become active at the next decision point.

- 10.8 The tactile arrow will announce the next decision point Left and Right early with a double movement Left of Right (pre warning). The tactile arrow will turn back to 12.00 h, the DP is not reached yet.
- 10.9 Pre warnings are given at about 30 meter before the actual decision point, dependent on the GPS signal. This is far enough to prepare yourself for the coming directional change, f.e. to cross the street.
- 10.10 Close to the decision point, the definitive command is given by which the tactile arrow turns and stays in the desired direction for 10 seconds. A 'Go Straight' command is given if the tactile arrow moves short left and right and back to 12.00 h.
- 10.11 Spoken commands will accompany the tactile arrow. (Go Left, Go Right, Go Straight)
- 10.12 Tactile and spoken commands will be given as close to the decision point as possible but preferably not too late. I-Cane built in a safety margin – needed for the inaccuracy of GPS – by which the instructions could be given before the actual DP.
- 10.13 Multiple directional commands must be carried out in the given order. You have to memorize them.
- 10.14 The tactile arrow is not helping you to make the correct turn of to cross safely. Use your mobility skills – cane use, orientation, echolocation, traffic sounds, pedestrian crossings and public help – to walk on to the next DP. In complex situations you may neglect the tactile arrow and rely on your own perception.
- 10.15 The final turn of the tactile arrow will be abandoned after 10 seconds, regardless if you turned into the new direction or street. A spoken message will tell you about the distance to the next decision point/ This is helpful to decide if you want to cross the street sooner or later.
- 10.16 This procedure is repeated at any following decision point. You will learn by doing and the initial uncertainty will be limited. Your safety on the sidewalks and during crossing asks for attention at all time. The Mobilo looks as a standard white cane by which public and traffic will respond to as usual. Stay alert and use your knowledge and experience with traffic situations. You remain responsible for you own safety, also by using the Mobilo.

- 10.17 Reaching the destination of your route, the tactile arrow will move like screen wipers. The spoken message is: “you reached your destination”. The program will not tell you the exact location.
- 10.18 After reaching destination, you have to switch off the navigation program manually. This is deliberately in order to be of any help if you miss this point. At regular time intervals, you hear the distance from the destination. This increase, decrease while removing, approaching the destination area.
- 10.19 Route navigation can be stopped and start at any point on the route. This could help when taking a break or when (GPS) problems occur.

11. Deviate from the route

- 11.1 If you deviate from the route, you will receive an audible and tactile command to return (“you are off route, go back”). The tactile arrow turns fast 3 times to the left. This command will not come immediately after leaving the route in order not to provoke incorrect report.
- 11.2 If you return to the last known decision point, the correct directional commands are given from that point. The program will report ‘continue’, meaning that you are back on track.
- 11.3 These off route support can be hindered by shortcomings of GPS or complex pedestrian situations.
- 11.4 Walking on the recorded route BUT in the wrong direction, will execute the report “you walk in the wrong direction, return”. Probably you turned unintentionally. Be aware of the difference between ‘Off route’ and Walking in the wrong direction”.

12. Instructions for using the I-Cane Mobilo during bad weather conditions

- 12.1 The I-Cane Mobilo can be used during rain.
- 12.2 The I-Cane Mobilo is not meant for use in water.
- 12.3 In heavy rain, some water can remain in the handheld. Turn the handheld upside down to flow off.

- 12.4 The grip can be wet as well, dry the handheld in a dry and ventilated room.
- 12.5 During bad weather conditions (rain, mist), all pedestrians are less visible, especially while crossing. Take extra time for crossing and are sure that you are seen, also by using your cane adequate.
- 12.6 During snow using a long cane is different. Curbs are not noticed that easy and using the cane is more difficult. Keep that in mind by planning your route.
- 12.7 In windy conditions the audio beam of the sensor can deviate by which the perception of high obstacles is less adequate.

13. Problem solving

- 13.1 Cane parts do not turn to a fix position
Place the first cane part somewhat out of the handheld and turn till the mechanism start to grip. Replace the part en turn tight.
- 13.2 Connection with the handheld malfunctioned.
Reconnect by 'Handheld Setup' (7).
- 13.3 Navigation program (App) does not start
Switch off the Smartphone completely and switch on again. Start the App.
- 13.4 GPS is available for recording of using a route.
Be sure that you are outside and that a clear view to the sky is not hindered by big trees of roofs.
- 13.5 Charging the Mobilo does not work.
Check the connection between handheld, the adapter and the power grid. In case of no result, contact the service organization.
- 13.6 Tactile arrow is not tilting of turning.
Restart the Mobilo and the App and try again. In case of no result, contact the service organization
- 13.7 Warning signal is absent.
Check the configuration OA setup, the function might be switched off. Also a water droplet can block the speaker exit. You can blow this clean. If no result, contact the service organization.

14. Contact

I-Cane Social Technologies

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Appendix

Instructions for using the I-Cane Comfy Wheel

Mounting

- A. Screw the Comfy wheel on the Cane. Turn the aluminum housing, not the plastic fork.
- B. Set the desired cane length (with adjustable cane).
- C. Ensure that the Comfy wheel is placed in the walking direction, in line with the handheld. The middle of the Comfy wheel is marked with a little pen on the aluminum housing. Also check this position occasionally during use of the wheel.

Using

1. Move the cane during walking with the wrist without twisting. Unlike the classic roller tips, the Comfy wheel rolls best if moved forward. The Comfy wheel supports both a narrow and a broad swing. Most efficient and comfortable is a broad shoulder pendulum. First experience this on a quiet pathway.
2. The Comfy wheel makes hardly any noise and thus provides less information on the walking surface. The second advantage is that the Comfy wheel rolls smoothly over bumps and requires less power.
3. Be aware that the Comfy wheel roles easily on stairs or different step-downs. Experience this in a familiar area.
4. In normal use, the Comfy wheel lasts much longer than the plastic roller tips. Check regularly by hand if the Comfy wheel still turns smoothly. Major collisions can disjoin the wheel from the harp making it no longer runs. The Comfy wheel axle must then be correctly placed on the tabs of the harp.
5. The Comfy wheel after use can - if desired - be rinsed under the tap and dried.
6. Cleaning maintenance of the Comfy Wheel with axis
The newest Comfy Wheel is equipped with an aluminium axis to prevent the loss of the wheel. The wheel included the axis needs

an every week cleaning. Please note: avoid that the aluminium sleeve is under water! Place the wheel with the black fork in a lukewarm bowl with some detergent for about 15 minutes, then rotate the wheel until it is running smoothly and if so let it dry. If still dirty, please repeat the procedure.