User Guide Documentation

User Manual:
MyGuideDogsDane

Version:
1.0

Author:
Kok Heng Chan

Student ID:
57129096

Project Supervisor:
Mark Roantree

Date:
22nd May 2017

Table of Contents

Copyright information

1.0   Welcome

Welcome to the MyGuideDogsDane, an innovative orientation aid mobile application from Kok Heng Chan.   This manual describes the features and characteristics of the MyGuideDogsDane.

Before you begin, I strongly recommend that you take the time to examine the contents of this application MyGuideDogsDane package and review the enclosed documentation. These steps will ensure that the setup and operation of your MyGuideDogsDane will be installed successfully into your smartphone and enjoyable.

Note: The MyGuideDogsDane mobile application will be referred to as the MyGuideDogsDane throughout this User Guide.

2.0   Contents of Application Package

When you have the application (MyGuideDogsDane.apk) downloaded, save the source file on your favorite location memory (where appropriate), this will ensure you can use it in the future.

The MyGuideDogsDane comprises of the following items:

- The executable file .apk (in electronic format)
- The user guide manual documentation (in electronic format: Separately)

2.1   Additional Installation Guide
Before MyGuideDogsDane can be used, ensure you have text-to-speech system installed and turn on your phone.

Turn on text-to-speech if you have it installed:
Go to -> Setting -> Accessibility -> Talkback -> Tab it to turn on.

Install text-to-speech system if your phone doesn't have it:
Download from this URL link:

https://play.google.com/store/apps/details?id=com.google.android.marvin.talkback

NOTE: Setting may vary from phone model, please refer to your phone reference how to go to setting.

2.2   Compatible Phone Device and Operating System
The MyGuideDogsDane is designed and implemented in Android operating system platform. The MyGuideDogsDane is compatible to all devices running Android OS with version 4.0 or above version.
The supported text-to-speech system is compatible with Talkback system which has the implementation in Android OS devices model Speech APIs engines.

3.0   General Description

The MyGuideDogsDane was designed and implemented as an orientation aid to assist you find your way. MyGuideDogsDane locates your position through the *Global Positioning System* (GPS) and relates it to embedded maps (Android OS default maps) of your area and provide a text-to-speech in textual representation. You can record your routes while walking them. Any recorded routes the system then provides step by step instructions on how to navigate to it. With MyGuideDogsDane, you can explore your surroundings and let the application announce street information as they are encountered.

The application also alerts you to use your landmarks and reference points along a route that you have previously visited. The application will be announced automatically when detected previous used route point as you pass by.

The application will have backtracked function returning to your point of origin with navigation instruction step-by-step

Caution:

The MyGuideDogsDane application is designed as an <u>orientation aid</u> only and must not, at any time, be used as the only aid while traveling.

When using MyGuideDogsDane, users should always be vigilant, stay alert and pay attention to the immediate surrounding area.

A conventional mobility aid like a cane or a guide dog should also be used (recommended).
MyGuideDogsDane *<u>is not a mobility device</u>. It is the user's responsibility to use this application with caution.*

3.1 What is GPS?

GPS, or Global Positioning System, is a navigation system that is made up of satellites orbiting the Earth. Satellites send signals to the GPS receiver on your device. These signals are used to measure your position.

The accuracy of GPS location information for MyGuideDogsDane is currently more or less 10 meters (30 feet). However, this can vary depending on a number of factors including:

- How clear a view of the sky does the receiver have?

- Are there obstructions blocking signals such as tall buildings or overhangs?

- The position of the satellites being tracked: overhead, on the horizon or somewhere in between.

- How many satellites are being tracked?

- Is there a presence of cloud cover or overhead power lines?

- How fast is the user moving when carrying a network provider services?

GPS travel is based on a line of travel, rather than knowing if you are on one side of the road or the other. It is useful to think of yourself as traveling in the middle of the road, even though you are not.

3.2 Related Use of Google Map Location Services

The MyGuideDogsDane application uses Google Map Location Service, Google Places to provide detailed and handy information about all street names and ranges of addresses for urban areas, as well as points of interest such as banks, restaurants, coffee shop.
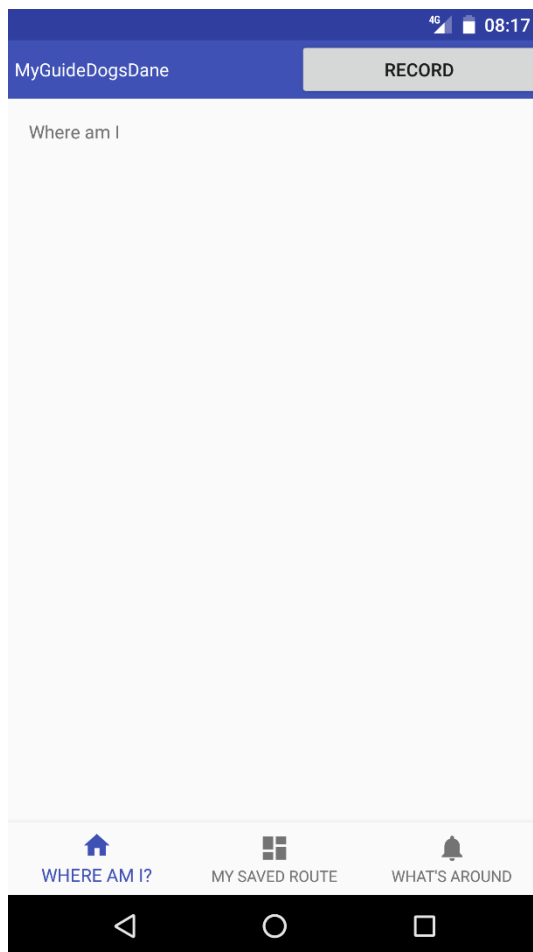
3.3 Routes or Landmarks

Places that you consider as possible destinations in your usual travel, such as your home, a friend's place, your coffee shop or preferred restaurant, can be recorded as routes or landmarks. Upon doing so, MyGuideDogsDane will provide guidance instructions from your current position to the selected route or landmark.

3.4 What's Around (Points of Interest)

Points of Interest are commercially available information such as restaurants, hospitals, banks, train stations included with the Google Maps Location Service.

Note that Points of interest are not automatically announced during motorized travels. Only landmarks are reported.

4.0   Main Screen Layout Description

MyGuideDogsDane activities button and its location on the screen

Bottom left edge   :   **WHERE AM I?**

 To get your current location

Bottom Middle   :   **MY SAVED ROUTE**

Recorded route or landmark

Bottom right edge   :   **WHAT'S AROUND** (Points of Interest)

To get surrounding points of interest

Top right edge   :   **RECORD** (Route)

To record a route

4.1 Basic Button Functions

Pressing buttons

Main activity functions such as "Where Am I" are activated by pressing the designated button.

Single touch and Long touch

A single touch will simulate "Yes" as confirmation

A long touch will simulate can "Cancel" as cancellation

Scroll down on the screen

By swiping down on the screen will simulate scrolling to a list

All buttons are interruptible

The current action is always that of the last button pressed. Pressing a button will launch its assigned function, no matter what was the previous button pressed.

Return to basic navigation

No matter what actions have been undertaken, you can always return to basic exploration of your surroundings by pressing the ***What's Around*** button.

Exiting list

Whenever you are asked to make a selection, you must confirm your selection.

If no confirmation is made, no action will be taken.

To confirm the selection, single tab on screen

To cancel the selection, long tab on screen

5.0   Where Am I?

To obtain your current position, press the **Where am I**.

The information will be tracked by announcing "Accessing information…". Once information been retrieved, it will announce the street, as in address format.

i.e. Accessing information 71, main street, white hall, co. Dublin.

The Where Am I: will keep tracking your current location every 30 seconds.

Current location: current estimated street address number and street name or name of area.

When a place been enquired, the application will store the previously visited place as a future reference use, i.e., if detected a previous visited destination, it will prompt you whether you want to use this route as a navigation purposes.

To active this function:

When prompted, just single tab to active.

6.0   Record A Route

The application provides the user with an opportunity to record a route while walking it a first time. This way it is possible to select the most secure or preferred path. The created route can be named and retraced to be used at a later moment.

Please note that recorded routes are not available when traveling by vehicle.

6.1   To record a route

<u>To create a route:</u>

1. Press the ***Record*** button
2. The record will start

To stop the record:

Press the Record button to simulate stop at the top right edge

You will be prompt to save or cancel the record route

To save the route: (presumably when you have reached your destination)

Tab on the screen once

You will be asked to save the route name

Speak the route name when you heard beep by text-to-speech

1. After the beep, you will have to speak to describe the route. You may find helpful to name the route by its origin and destination. For example, Home to pharmacy.

To cancel the recording route: (presumably you wish to cancel record your destination)

Tab and long touch on the screen once.

No route will be recorded.

7.0   My Saved Route

To activate a recorded route

You can use MyGuideDogsDane to guide you along a previously recorded route.

7.1   To select a route:

1. Press the My Save Route to browse the recorded route
2. Scroll down on the screen to select among available routes
3. When the route you are looking for is announced, single touch on the screen to select the recorded route
4. You will be given instructions on the direction to take to begin your route.

Along the way, you will be instructed on which direction to take when you come across intersections. Instructions on street network are given according to hand-side (left/right/go straight).

For example, MyGuideDogsDane could tell you to "turn left on Power Street.", 6 steps and 41 meters away

Important: You cannot record routes when in a vehicle. If you enter a vehicle during the route creation, please note that that your route may not be valid. Please preview before using this route. If you create a route while in a vehicle, the MyGuideDogsDane will warning an error announcement.

When you enter an undeveloped area, a message will inform you. In this case, compass orientation is used to instruct the user on directions to take. For example, MyGuideDogsDane could announce the following message: "Turn at north west. Next instructions in 25 meters."

Upon reaching your destination, a message will be heard and the route will be automatically deactivated.

8.0   What's Around

Press the ***What's Around*** to activate the **exploring** function. When traveling in streets, points of interest and landmarks found on your current street segment will be announced. MyGuideDogsDane will also inform you whether points of interest are located to the surrounding of your current position. When traveling in open spaces, landmarks found within the default range of (100 meters) will be announced. Use the ***scroll down to*** browse the list to get an idea of the landmarks found in the vicinity. Single tab ***to confirm*** on any landmark to receive instructions on how to get there.

The explore list will be announced as:

Simons Hall, Dublin

Fitz Café, Dublin 2

Grafton House, Dublin 2

McDonald's, Grafton Street, Dublin 2

Tara Street's Station, Dublin 2

Upon the selection, once navigation is started, the system will check whether you have previously visited the place of interest, you will be asked whether do you wish to navigate to the previously route, if you wish to do so, single tab on the screen to confirm the selection and to cancel, just long tab on the screen.

Note that if you do not single tab to ***confirm*** on a given landmark or point of interest or Category, the application will do nothing the **What's around** feature and will stay to **Explore mode**.

8.1   Deviating from Route

If you were supposed to take a turn but continued the same street for a distance greater than 50 meters, the application will announce your direction to turn back so that you can return to the intersection.

However, if you find yourself on a street that is not connected to a street on your route, the application will inform you that you are **Off route.**

9.0   Backtracked

Backtracked is a feature that allows you to retrace your steps and return to your point of origin.

The option is Backtrack Current Session:

This option allows you to backtrack your current session, meaning that you can be guided from your current location back to your starting point. This option is useful when you wish to return immediately upon reaching your destination.

For example, when you leave home, you start your MyGuideDogsDane. You reach your destination. Because you don't intend to stay very long, you leave the MyGuideDogsDane on. In this case, if you wish to be guided back home, you will use the Backtrack Current Session option.

9.1   To activate this option

Double tab on the screen to activate the backtrack function.

To cancel, long tab on screen to cancel the option.

Note that the Backtrack feature is not available when traveling by vehicle. Only the last pedestrian portion of the distance traveled after an in-vehicle session will be kept retracing your steps.

The backtracked will be activated once navigation instruction is started.

10.0 End User License Agreement

1. <u>License Grant</u>. MyGuideDogsDane grants to End User a non-exclusive, non-transferable right and license to use the Software on this product.
2. <u>Ownership of Software</u>. End User acknowledges that MyGuideDogsDame retain all right, title and interest in and to the original, and any copies, of software which is incorporated into this product. End User agrees not to: modify, port, translate, decompile, disassemble, reverse engineer, or make public in any way the software of this Product.

<u>Caution</u>: *The* MyGuideDogsDane *application is designed as an <u>orientation aid</u> only and must not, at any time, be used as the only aid while traveling. When using MyGuideDogsDane, users should always be vigilant, stay alert and pay attention to the immediate surrounding area. A conventional mobility aid like a cane or a guide dog should also be used.* MyGuideDogsDane *<u>is not a mobility device</u>. It is the user's responsibility to use this application with caution. Do not use headphones while walking on the street, an external speaker is recommended to use to hear the text-to-speech announcement.*

NOTICE: *MyGuideDogsDane uses GPS (Global Positioning System) signals to compute position, velocity and time. Please take note that the GPS is maintained and managed by the United States of America Government, who is entirely responsible for its precision and maintenance. The system may, at any time, be modified and therefore, affect the performances of MyGuideDogsDane. GPS signals are not precise or may not be accessible all the time, especially within narrow streets and tall buildings surrounded area. Therefore, MyGuideDogsDane does not warrant that its operation will always be uninterrupted or error-free at all time. Any implied responsibilities are expressly disclaimed. MyGuideDogsDane shall not, in any case, be liable for special, incidental, consequential, indirect, or other similar damages arising from any breach of operation.*

11.0 Contact

Contact to this MyGuideDogsDane can be made through email at kok.chan2@mail.dcu.ie

For any reference and development activities, please contact or send mail at
kok.chan2@mail.dcu.ie