

2018

User Guide

WALK ABOUT NAVIGATION
TEAM 174

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Introduction and Purpose

The walk about navigation app is a navigational tool available on mobile devices to help direct users to desired destinations. The app contains 3 pre-recorded routes already provided for destinations around Monash University, Clayton campus, along with the option to make your own route. Included functionality in the app are directions, distances and durations of chosen routes.

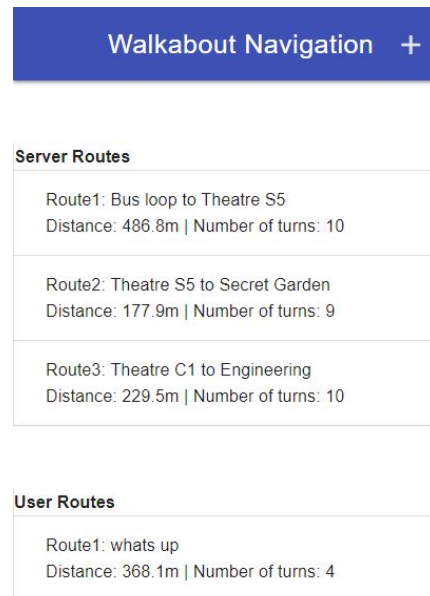
This document's purpose is an educational tool used to demonstrate to users how to effectively use the navigation app and all its functionalities to achieve an optimal experience when using the app. This document contains descriptions on the current features of the app and instructions on how to use these features efficiently to get the most functionality out of this app. Also included are limitations of the app that will need addressing in future updates of the app.

App Features

Feature	Description
Supported devices	<ul style="list-style-type: none"> ● apple mobile device ● android mobile device ● windows mobile device
Pre-recorded routes	The app has pre-recorded routes for Monash University Clayton for quick access for common locations.
Directions to desired location	The app gives directions for user created routes from beginning waypoint to destination
Next Action	The direction to walk in to reach the next waypoint is shown as a symbol with the direction to walk in which updates as user changes direction.
Distance to Destination	The distance to the destinations through waypoints is calculated and displayed in metres in navigation page.
Distance to next waypoint	The distance to the next waypoint is calculated and displayed in metres in the navigation page.
Estimated time of arrival	The estimated time of arrival is calculated from distance travelled (doesn't take into account traffic or other factors) and displays in minutes in the navi page.
Speed	The speed of the user walking is calculated and displayed in the navigation page.
Adding and using own routes	There is the option to add your own route through the use of placing waypoints as described in Add route page instructions

Instructions for use

Index Page



In figure 1 the initial page is displayed when the app is opened known as the index page. It shows the pre-recorded routes as buttons under 'Server Routes' which once tapped on will open the navigation page shown in figure 3.

Also, in figure 2 the routes shown are created by the user in the Add route page shown in figure 7. Again, once the button is tapped it will open the navigation page with designated route shown.

To add a new route tap on the add route button located in top right corner of the screen which will take you to the add route page.

Navigation Page

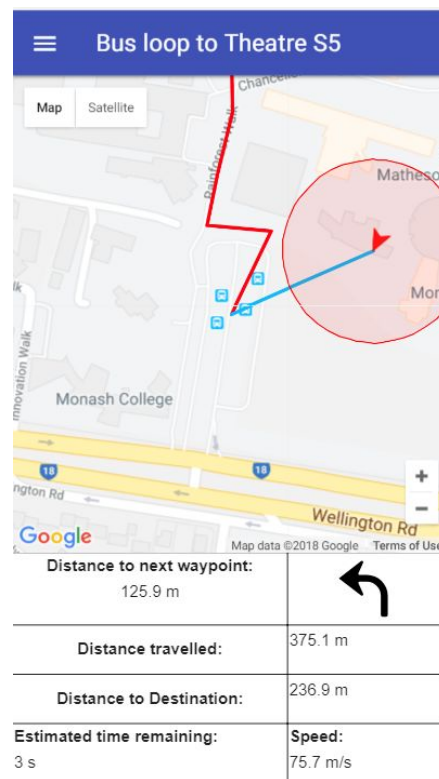


Figure 2: Navigational page shown once button is tapped on index page

Once one of the buttons with a corresponding route is tapped it will take you to the navigational page shown in figure 2. This page gives directions to user to desired location.

In the map section of this page it shows the current position of the user as a red marker with a circle around them known as the accuracy circle. The smaller the circle the greater the GPS accuracy which depends on type of device used in location. If the circle is red the radius of the accuracy of the location is greater than 50 metres otherwise it is green.

The blue path shown is the route to the starting waypoint which is a straight line. The red path shown is the route created with directions to waypoints.

The bottom table shows live and updating specific information for the route including distance to next waypoint, the direction to walk shown as image, distance travelled so far, distance to next destination, estimated time remaining and speed.

Add Route Page

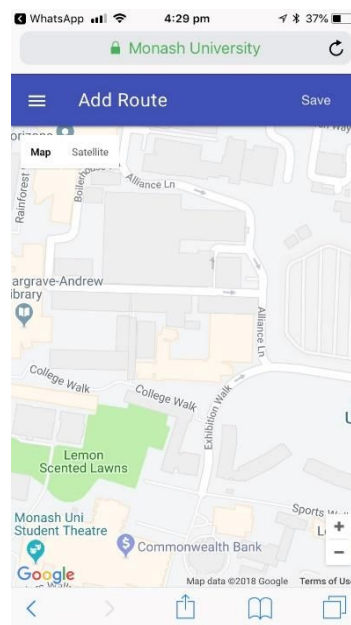


Figure 3: Add route page

In figure 3 it shows the add route page which is opened when the add new route button in figure 2 is tapped. This page is used to add your own designated route to be used in navigational page and stored for quick access.

Steps for adding own route

1. To add your own route first click the draw button positioned in the top left of the app which will take you to screen shown in figure 3.

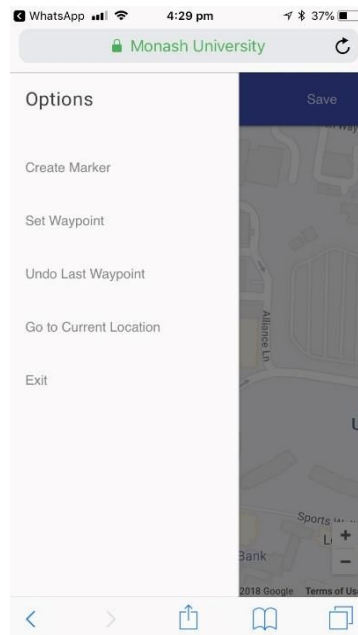


Figure 3: draw add route page

2. Move the map area to desired location by sliding gestures or once the draw is open tap on “Go to Current Location” which will take your map to your current location. Once the map area is at your preferred starting location tap on “create marker” which will set the marker in the middle of the screen as shown in figure 4. Move this marker around to the map by holding down on the marker than dragging until it’s in your preferred starting location.



Figure 4: location marker once “create marker” is tapped

3. Once you have your initial starting position, tap back on the draw button and then tap on “Set Waypoint” which sets the initial waypoint shown in figure 5.



Figure 5: set waypoint marker once “set waypoint” is tapped

4. Now move the location marker to the next waypoint and go back to the draw and tap “set waypoint” again. A path will now so on your screen as shown in figure 6.

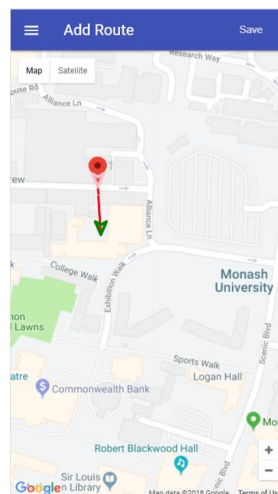


Figure 6: path to waypoint

5. Continue steps 3 and 4 to add more way points until your route is completed.

6. If you place the waypoint in the wrong position and set it you can undo the way point by going to the draw bar and tapping on undo last waypoint which will reset the last waypoint set.
7. To save the route once completed, tap on “save” in the top right corner and enter the name of the route in pop up box shown in figure 7 and tap “OK”. Now the created route is saved and can be accessed in the index page under “User Routes” via a button with corresponding route name as shown in figure 2.



Figure 7: saving and naming created route

Limitations

- The accuracy of the application (detecting the location of the user) in the device is quite poor because the device cannot obtain a perfect signal from the satellite. Therefore at times, there will be a red coloured accuracy circle present in the GPS. For more information consult the FAQs.
- Since there are pre-recorded routes, the app will always take you to the start of the route if you are not on the path. Therefore even if you are close to your desired destination, however you are coming from a different direction, the app will still take you to the start of the server route despite this being inefficient. There will be future updates which will take you to the nearest waypoint on the path as opposed to just the start of the path.
- This application cannot search for common places and addresses nearby users (e.g. 7-eleven, Mcdonald's or Huntingdale station). However, they are displayed on the map if they appear in your screen when you zoom into that region. With improved functionality, there can be additional features added in order to implement this.
- In the add route page, when you are creating your own route, you could potentially pass through a building or a house and the route will not be adjusted because there is no sense of roads in your own created path unless you manually do this.
- There are no audio instructions for telling the user where and when to go to the different checkpoints of their desired destination. Future updates will include audio instructions to help hearing impaired individuals and anyone using the app for their convenience in general.
- A summarised overview of the the directions you will take has not been provided in this application. With future updates and improvements, there will be an option to see the route overview with each step and turn required.

FAQs:

1. Why is the accuracy circle so large?

The accuracy circle is indicative of how accurate your position is being recorded with reference to your desired destination. The accuracy circle's radius is how this is shown. As long as the radius is less than 50 metres the circle will be green. However if it is larger than 50 metres then the circle will turn red and hence this will not calculate your position and information such as speed, time remaining, distance to destination and distance travelled because the inaccuracy is too large.

2. Why does my device have poor accuracy?

There are several reasons which can affect the accuracy. These include:

- Poor weather
- Operating the app indoors
- Phone GPS processor is not high quality

3. Is there a more efficient way to make a long route on the add route page?

At this stage of development, you have to manually create your own path, regardless of how long it is.

4. Why is the marker I created in add route not moving from its position when I want to set a new waypoint?

Try placing your finger on the top of the marker as your finger will cover a larger area of the marker and it will move.

5. I am experiencing bugs and problems when using the app. What should I do to fix this?

Reload the entire page and it will most likely repair on its own.