

GPS BASICS



WHAT

IS

GPS?

SATELITES



+ YOU



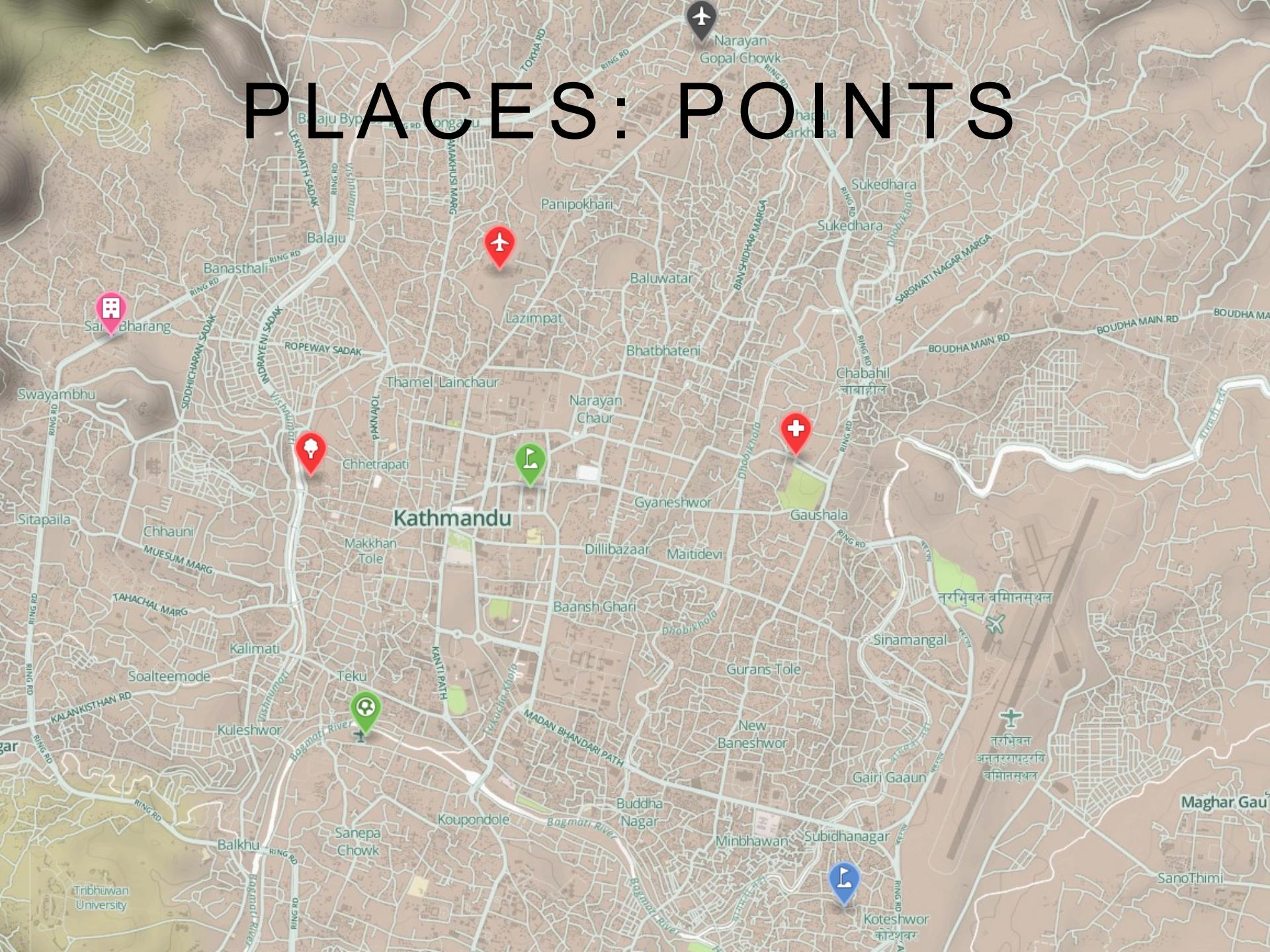
TO

WANG

YOUR
COMPUTER



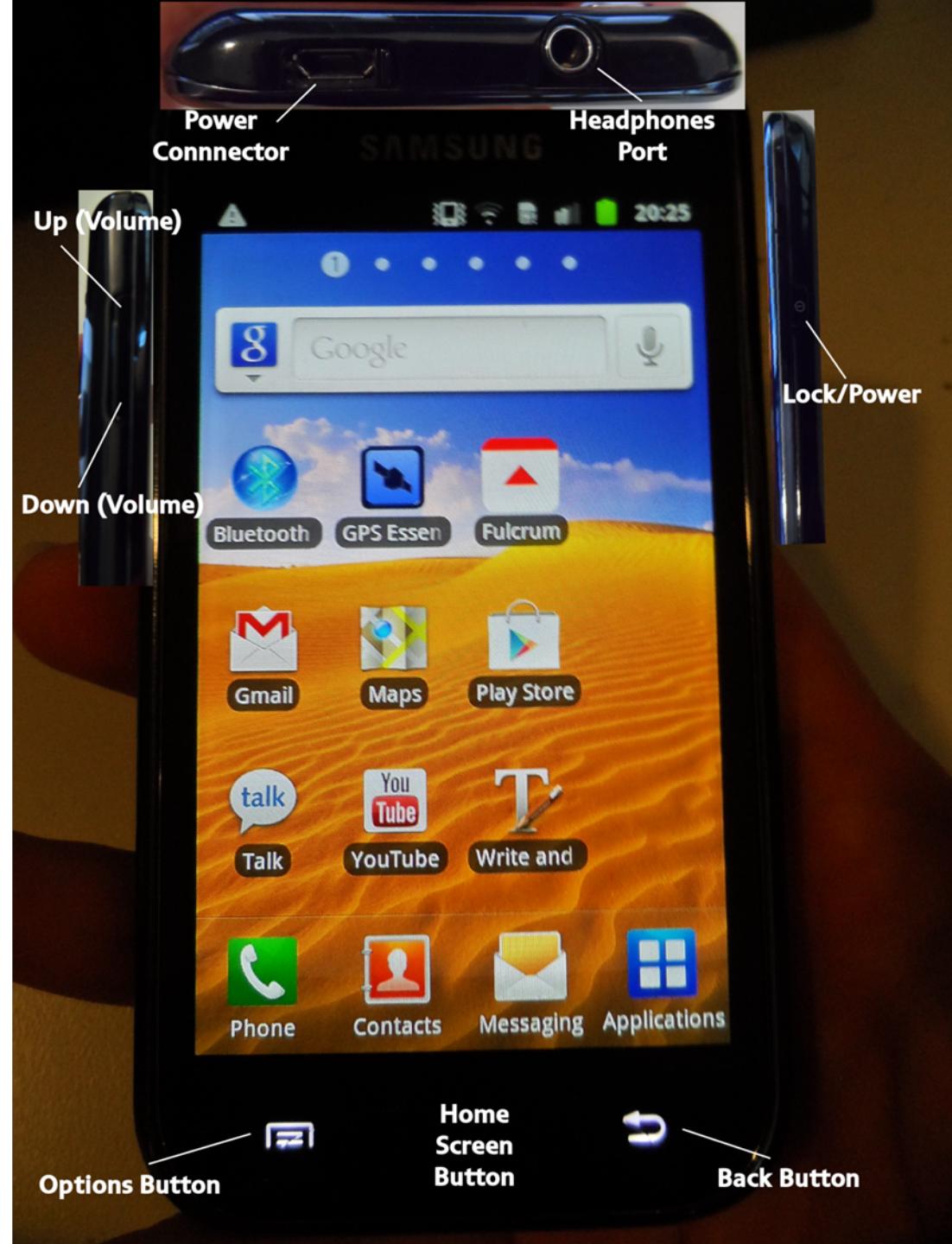
PLACES: POINTS



PLACES: LINES



Android Main Buttons





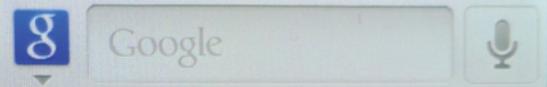
**HOW TO
PAIR
MOBILE
DEVICE WITH
GPS LOGGER**

SAMSUNG



20:36

1 • • • •



Bluetooth



GPS Essen



Fulcrum



Gmail



Maps



Play Store



Talk



YouTube



Write and



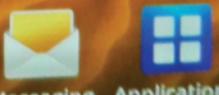
Phone



Contacts



Messaging

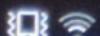


Applications

Press



SAMSUNG

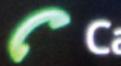


20:37

Settings

Press

Wireless and network



Call settings



Sound



Display



Location and security



Applications



Accounts and sync



Press

SAMSUNG

20:37

Wireless and network

Flight mode

Disable all wireless connections



Wi-Fi settings

Set up and manage WAPs

Bluetooth settings

Manage connections, set device name and visibility

USB settings

Set USB connection

Tethering

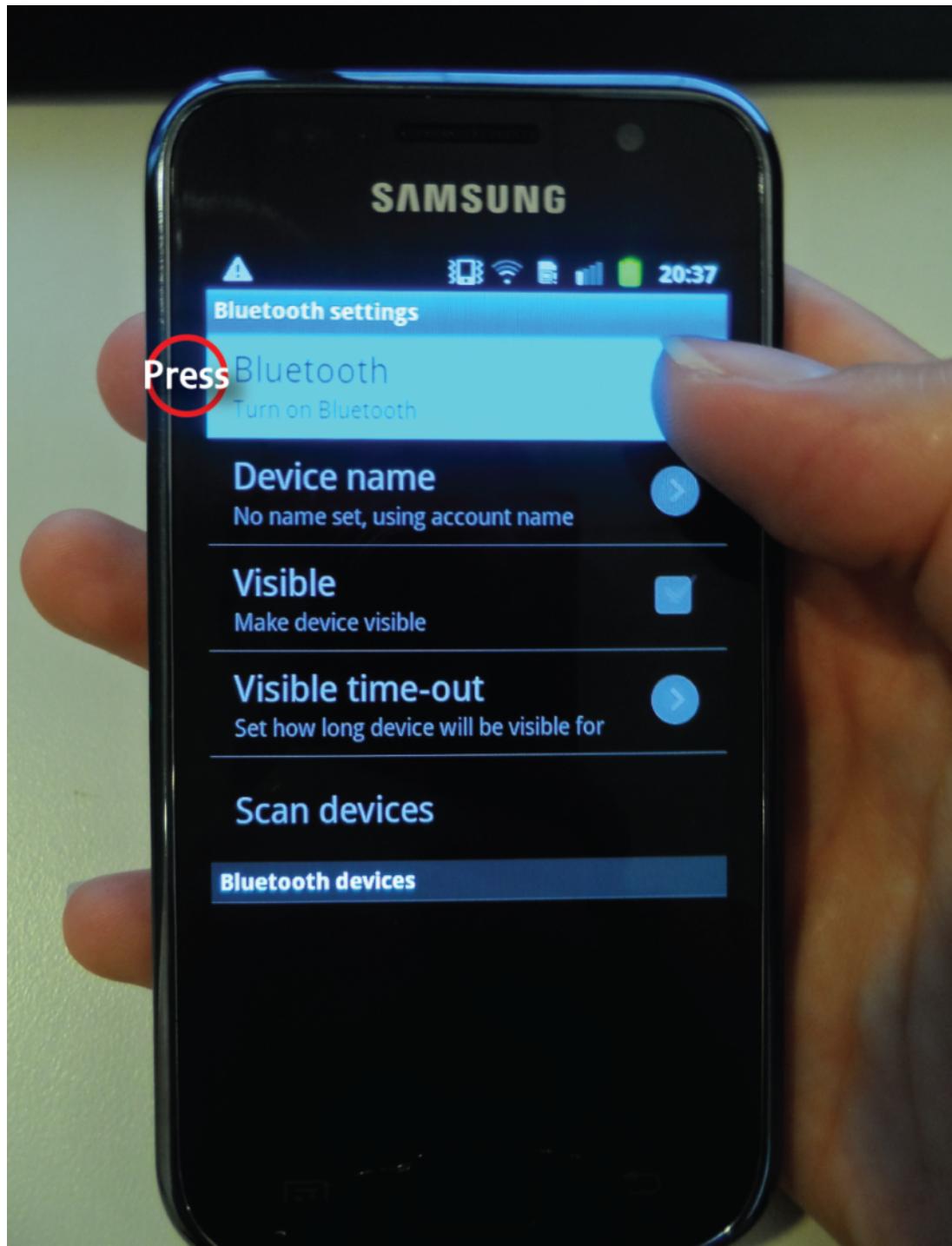
Share your phone's mobile data connection via USB

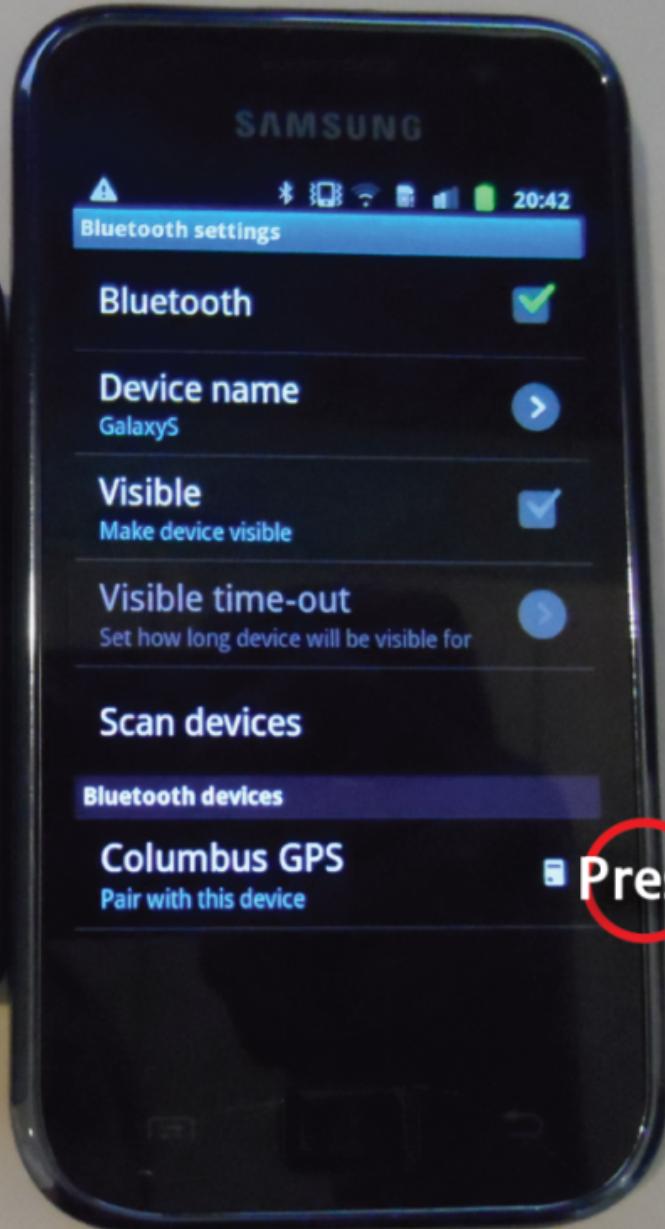
VPN settings

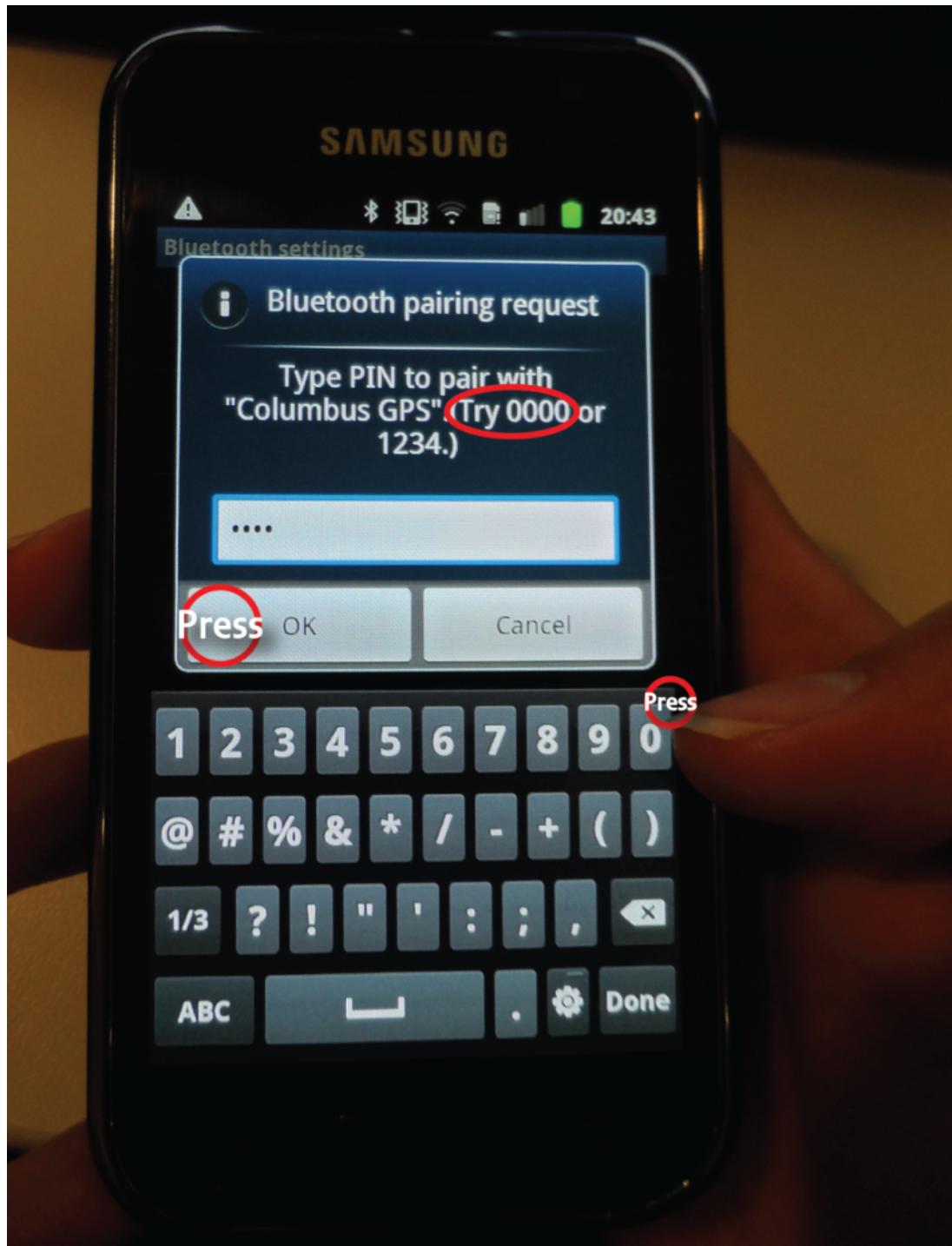
Set up and manage Virtual Private Networks (VPNs)

Mobile networks

Set options for roaming, networks, APNs







SAMSUNG

Bluetooth settings

Bluetooth



Device name

GalaxyS



Visible

Make device visible



Visible time-out

Set how long device will be visible for



Scan devices

Bluetooth devices

Columbus GPS

Paired



**HOW TO
CONNECT THE
GPS LOGGER
TO THE MOBILE
DEVICE**

SAMSUNG

20:45

Press



Gmail



Map



Talk



YouTube



Write and



Phone



Contacts



Messaging



Applications

SAMSUNG

Bluetooth GPS

Main

Status

Select paired GPS device and connect

Columbus GPS

Press



Connect



Enable Mock GPS Provider

Date/time

00-00-00
00:00:00

Altitude

0
m

Lat/Lon

UTM

Speed

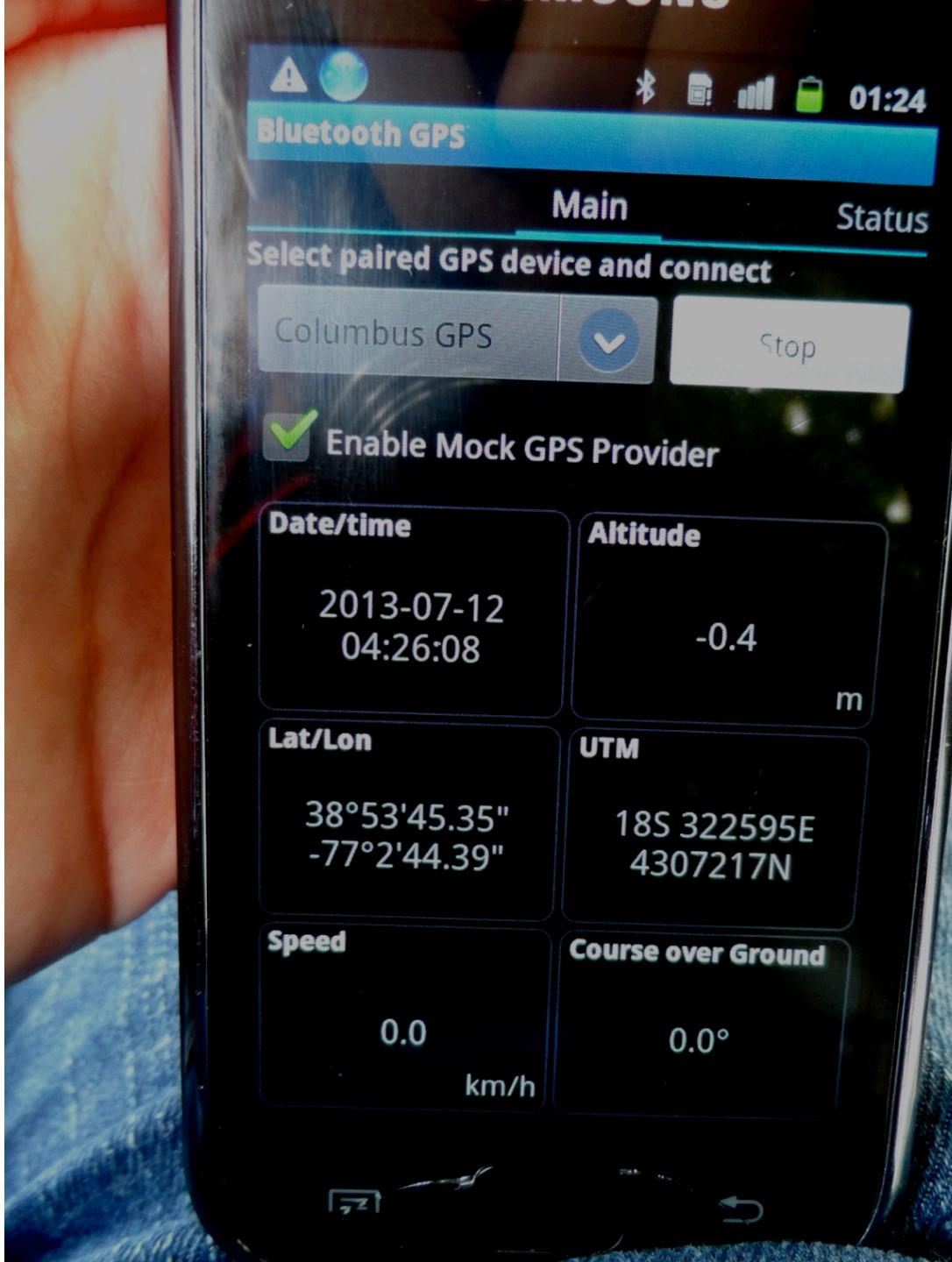
0

km/h

Course over Ground

0







HOW

TO

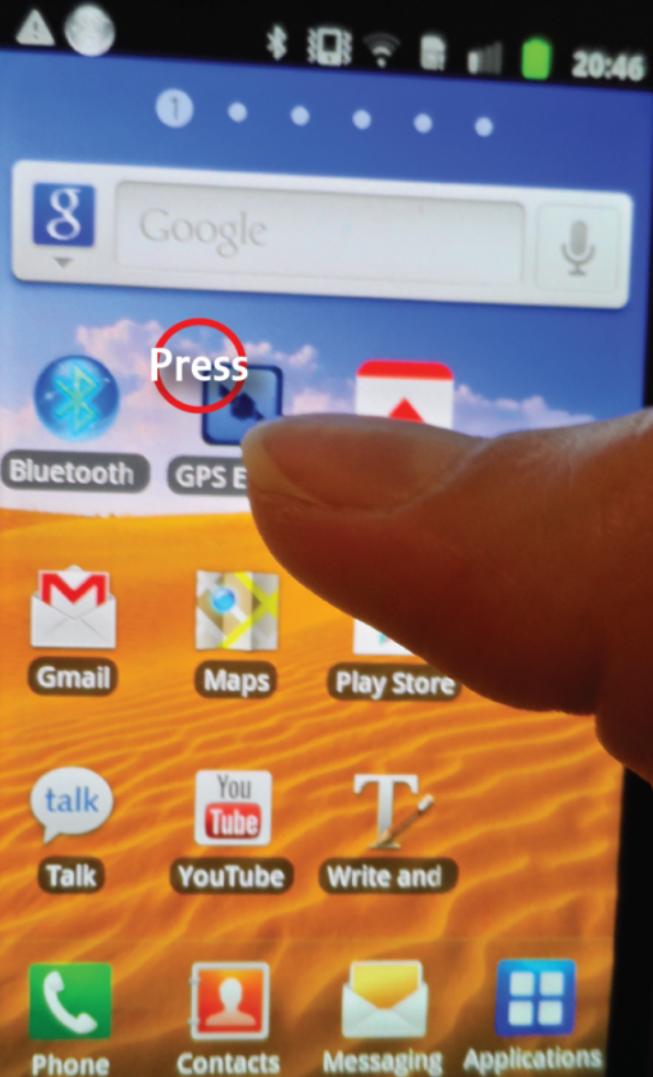
TAKE

A

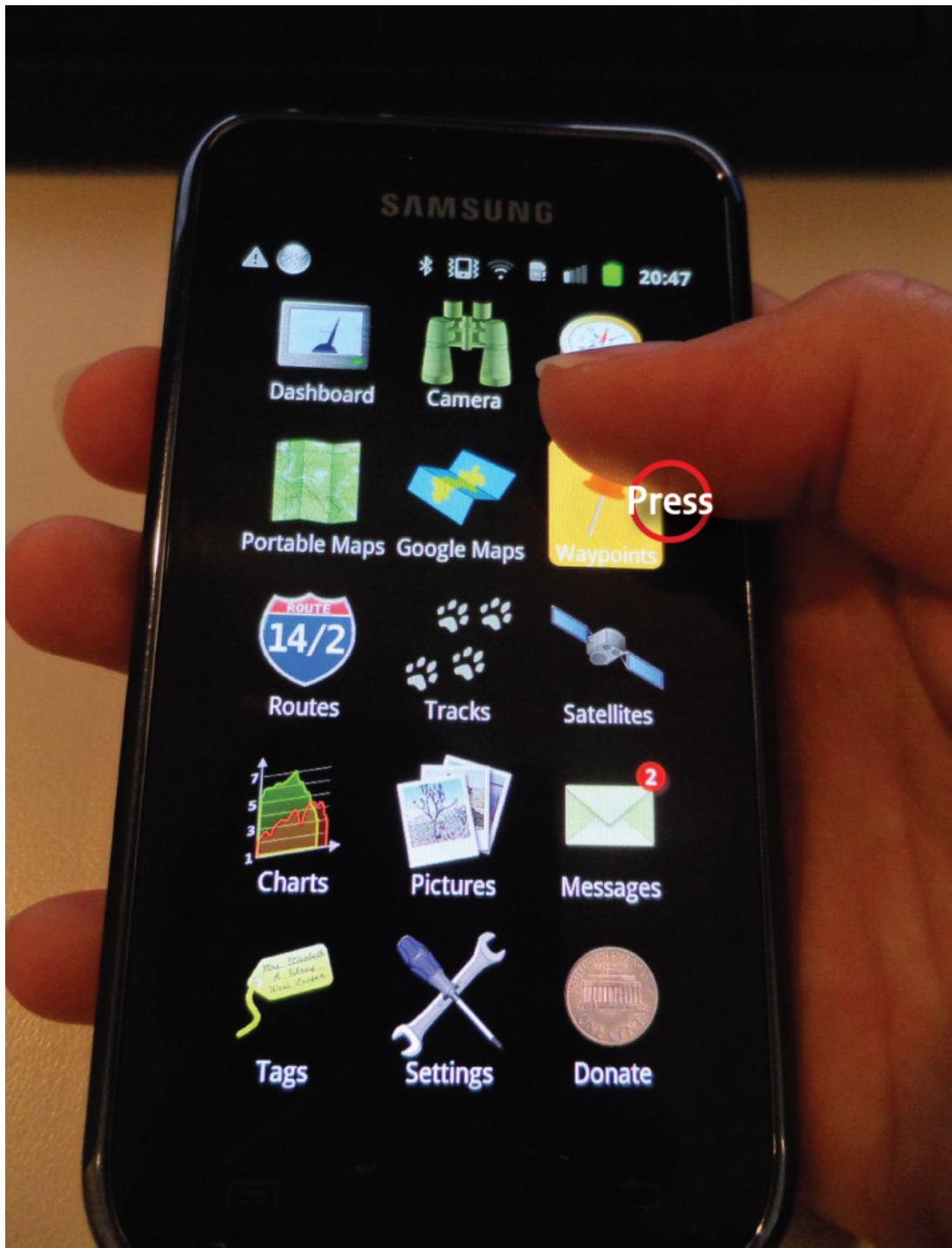
POINT

GO TO
GPS
ESSENTIALS

SAMSUNG



GO TO
WAYPOINTS



TAKE THE
POINT

SAMSUNG



00:19

Waypoints

9 Home



N38°53.616' W077°02.529'



3 Museum



N38°53.900' W077°02.488'



6 Pedestrian Crossing



N38°53.802' W077°02.702'



13 Red Cross Sign



N38°53.787' W077°02.704'



2 Red Cross Society



N38°53.842' W077°02.357'



Press



NAME THE
POINT

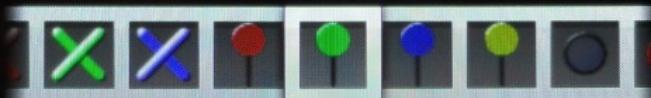
SAMSUNG



DETAILS

MAP

★ N38°53.616'
W077°02.529'
52.5ft



Press | Name

Press

Sunrise

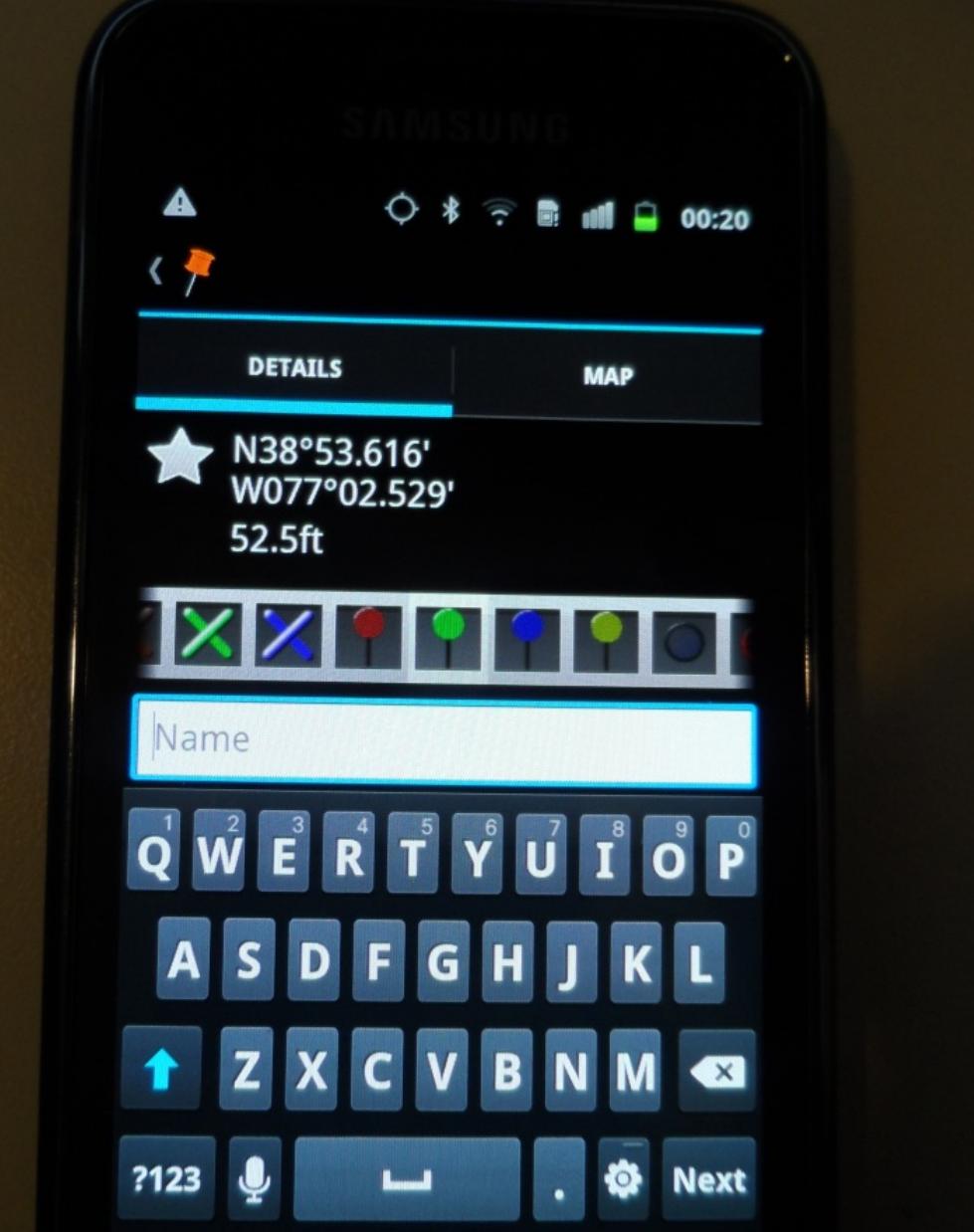
19:54:00AEST/PM

Sunset

10:34:00AEST/AM

Moonrise





SAMSUNG



00:21



DETAILS

MAP



N38°53.616'
W077°02.529'
52.5ft



Shelter



Press

RENAME A
POINT

SAMSUNG



00:23



Waypoints

3 Museum



N38°53.900' W077°02.488'

Press

6 Pedestrian Crossing



N38°53.802' W077°02.702'

13 Red Cross Sign



N38°53.787' W077°02.704'

2 Red Cross Society



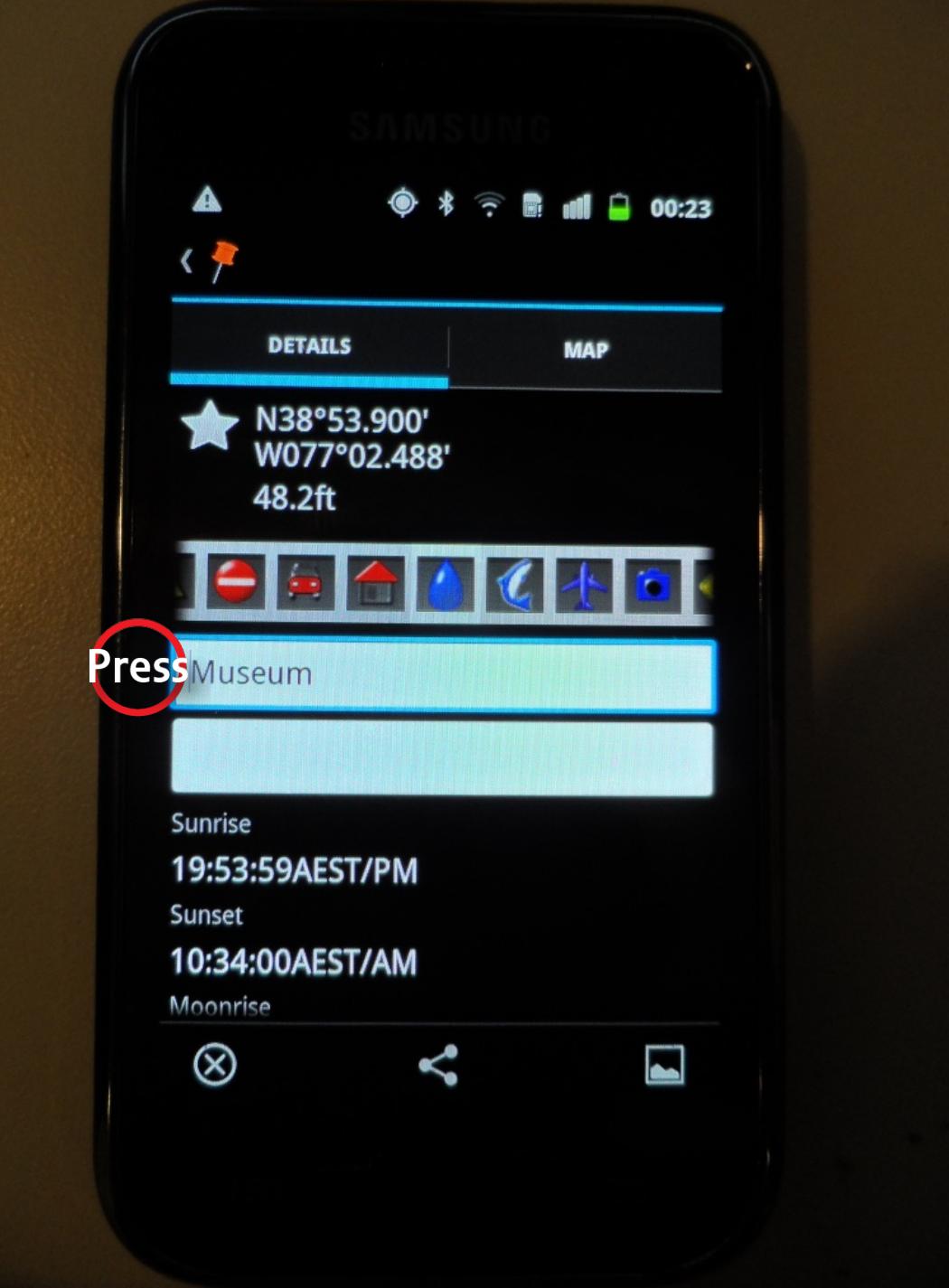
N38°53.842' W077°02.357'

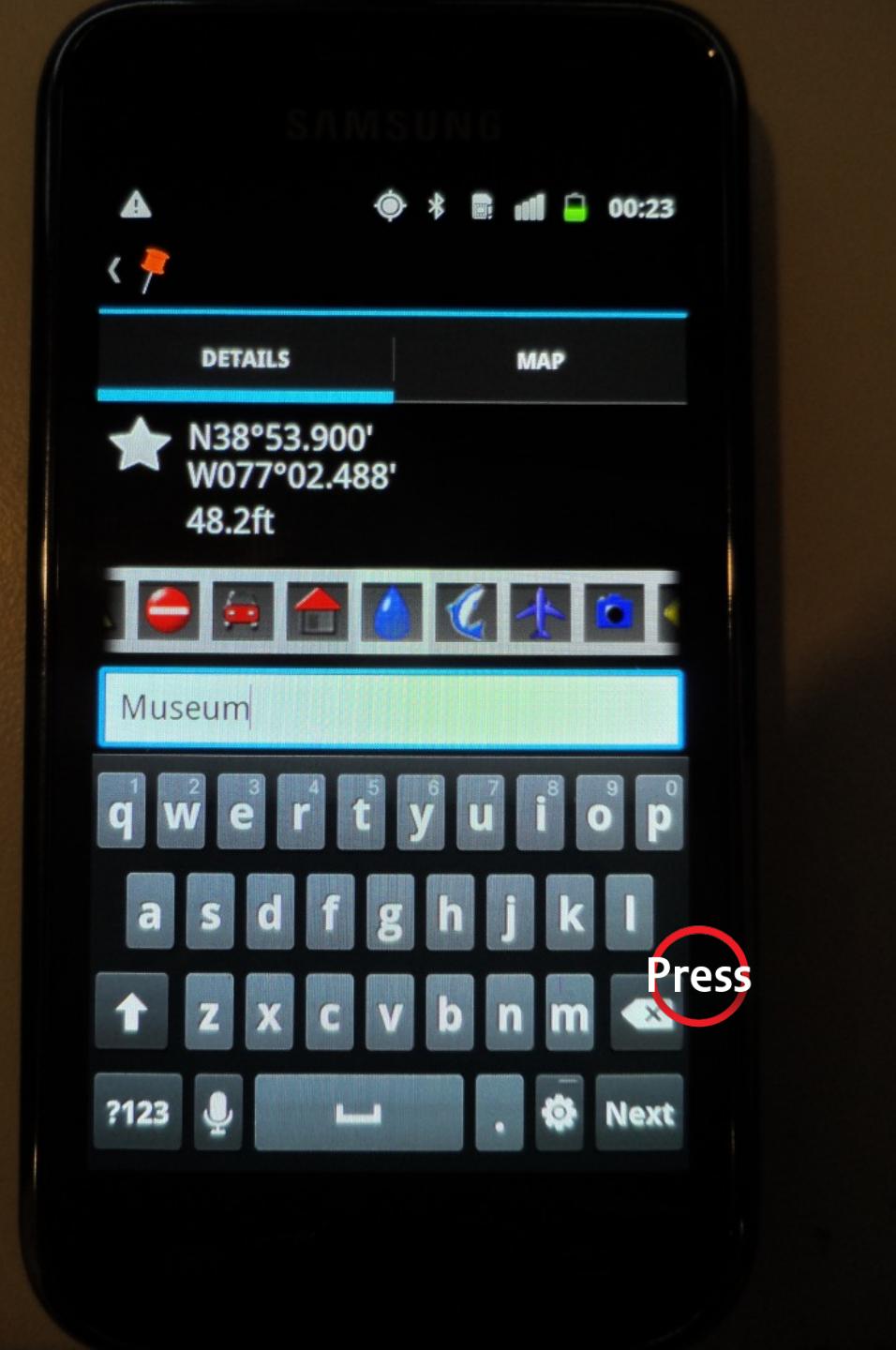
4 Reiters

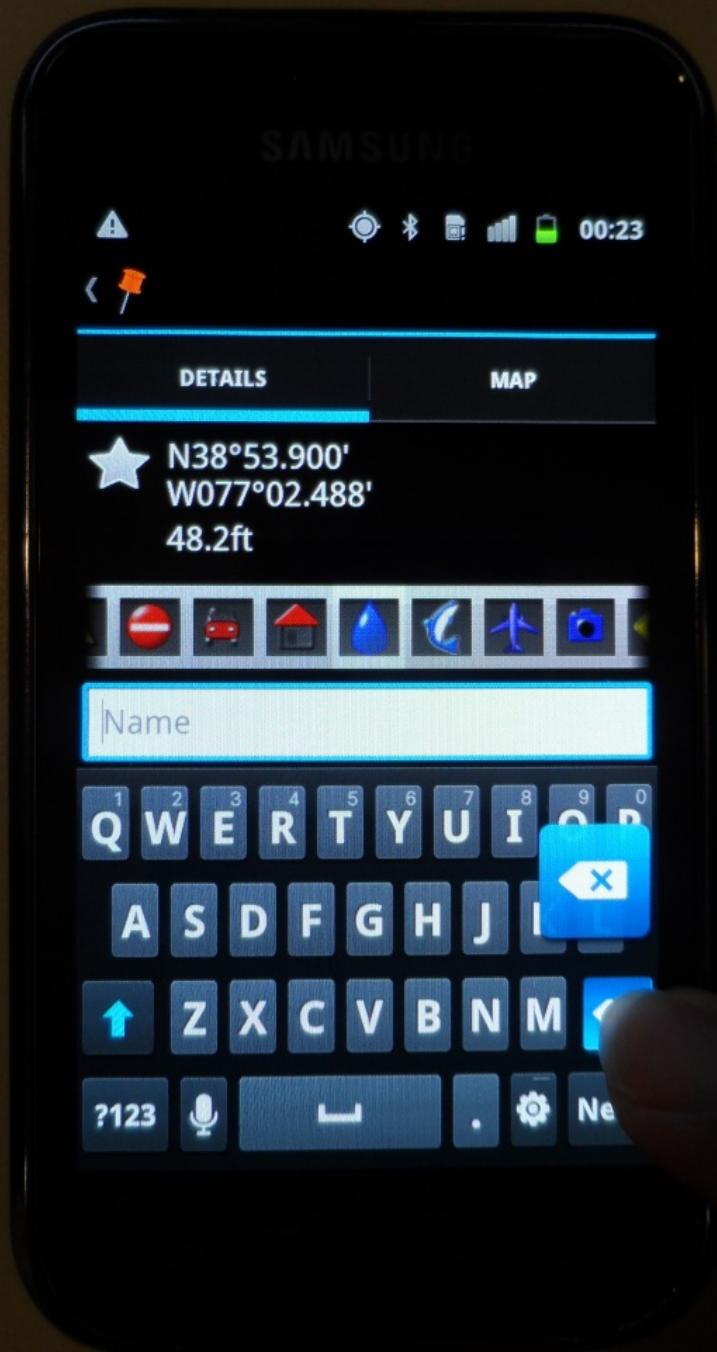


N38°53.900' W077°02.594'











00:23



DETAILS

MAP



N38°53.900'
W077°02.488'
48.2ft



School



Press

**DELETE A
POINT**

SAMSUNG



00:24

Waypoints

6 Pedestrian Crossing



N38°53.802' W077°02.702'

Press

13 Red Cross Sign



N38°53.787' W077°02.704'

2 Red Cross Society



N38°53.842' W077°02.357'

4 Reiters



N38°53.900' W077°02.594'

3 School



N38°53.900' W077°02.488'



SAMSUNG



00:24



DETAILS

MAP



N38°53.802'

W077°02.702'

53.1ft



Pedestrian Crossing

Sunrise

19:54:01AEST/PM

Sunset

10:34:01AEST/AM

Moonrise



Press



00:24



DETAILS

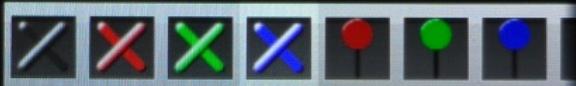
MAP



N38°53.802'

W077°02.702'

53.1ft



Pedestrian Crossing

Sunrise

10-54-01 AEST/DM

Press



Delete



Show on Map



Export



Set as Target



Geocode



More

HOW
TO
TAKE
A
TRACK

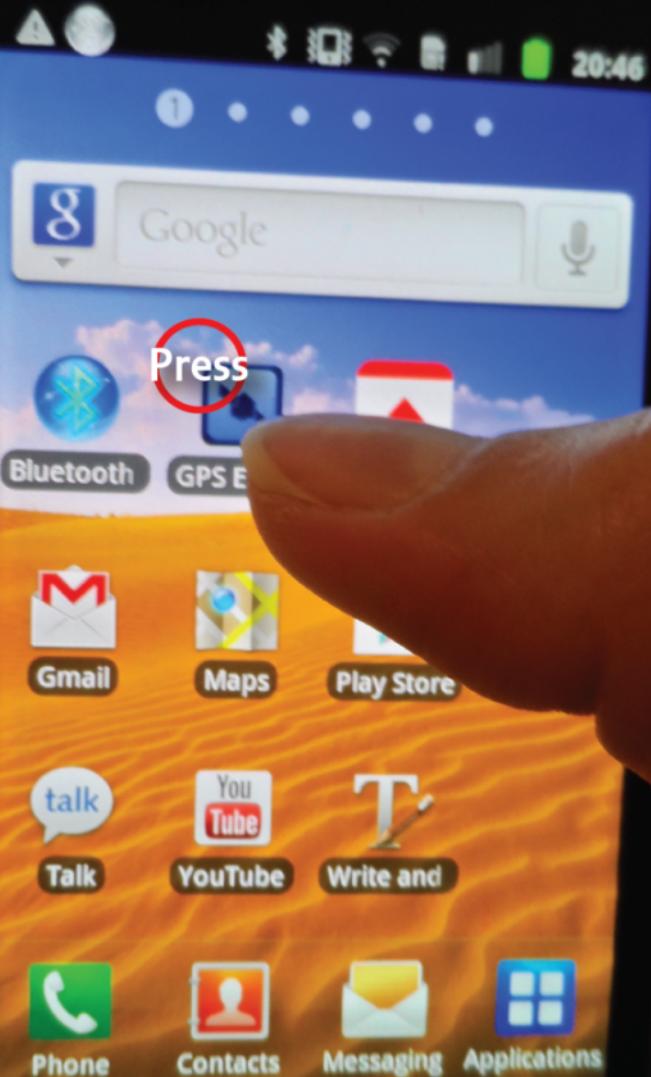
(TRACKS

=

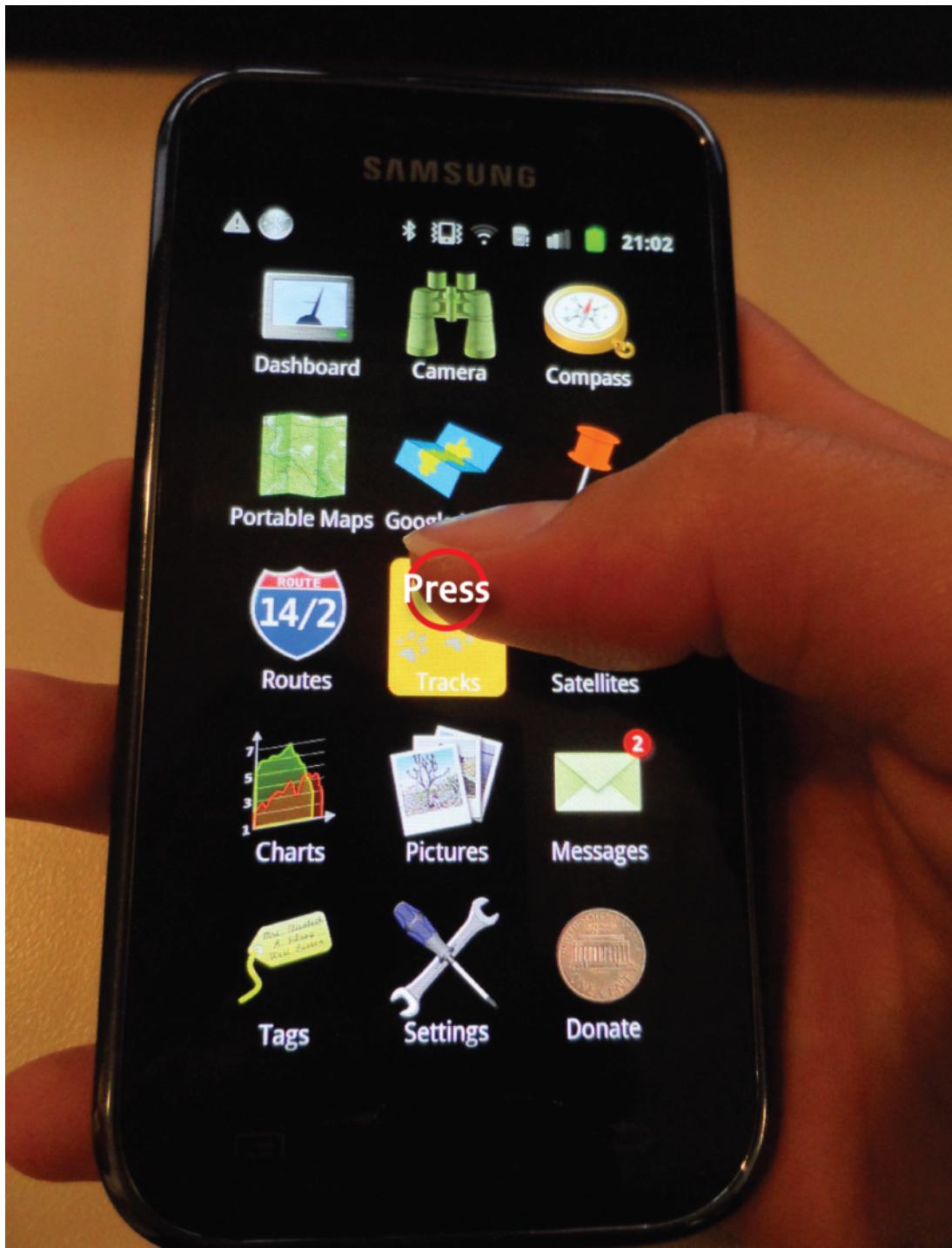
LINES)

GO TO
GPS
ESSENTIALS

SAMSUNG



GO TO
TRACKS



GO TO
LIST OF
TRACKS

SAMSUNG

▲ 00:26

Press

INFO

MAP

CHART

11

24th Street

0yd

★ This track refers to 24th street,
between G and O street.

Locations: 53

Start Time: Jul 11, 2013 12:06:22

End Time: Jul 11, 2013 12:07:19

Duration: 57"

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph



ADD

NEW

TRACK

SAMSUNG



00:26

Tracks

Press +

11 24th Street 0yd
0ft

★ This track refers to 24th street,
between G and O street.

07-11...07-11

10 F Street 7.23yd
0ft

07-10...07-10

8 G Street 70.0yd
0ft

07-10...07-10

7 H Street 5.01yd
0ft

07-10...07-10

3 21st Street 1.17mi
45.3ft

11-07...11-07

NAME

NEW

TRACK

Edit Track



Track-130713-002624

1 2 3 4 5 6 7 8 9 0
q w e r t y u i o p

a s d f g h j k l

z x c v b n m

?123



Next

Press



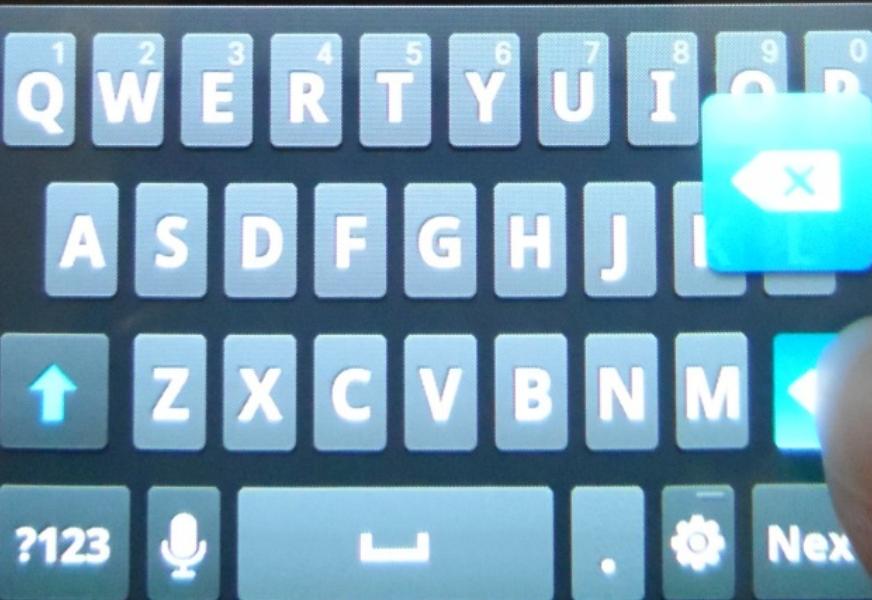
00:28



Edit Track



Name:





00:28

✿✿✿ Edit Track



Sidewaik



Press

**GO BACK
TO THE
MAIN MENU**

SAMSUNG



00:36

Tracks



11 24th Street

0yd
0ft

★ This track refers to 24th street,
between G and O street.

07-11...07-11

10 F Street

7.23yd
0ft



07-10...07-10

8 G Street

70.0yd
0ft



07-10...07-10

7 H Street

5.01yd
0ft



07-10...07-10

3 21st Street

1.17mi
45.3ft

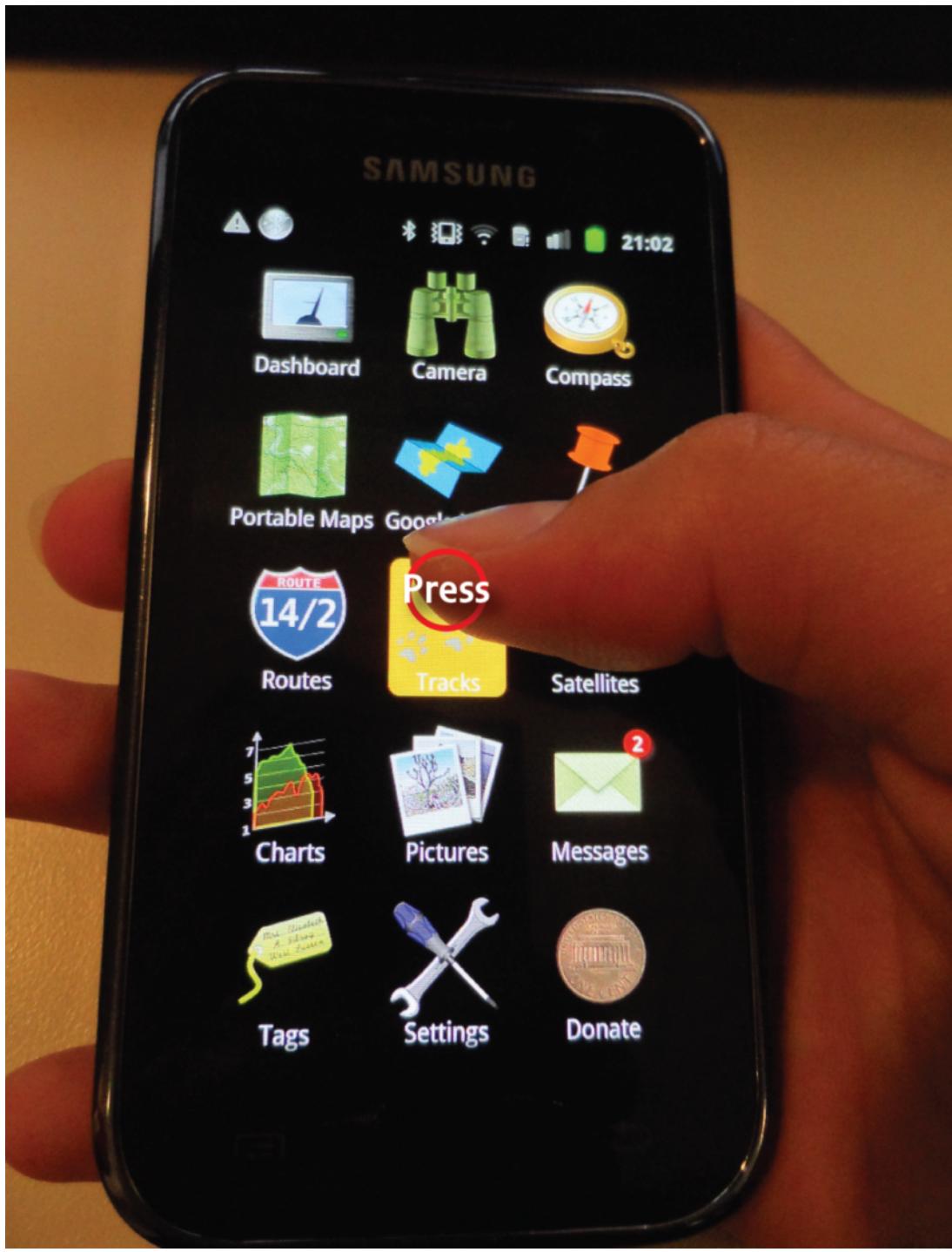


11-07...11-07



Press

GO TO
TRACKS



GO TO
LIST OF
TRACKS

SAMSUNG

▲ 00:26

Press

INFO

MAP

CHART

11

24th Street

0yd

★ This track refers to 24th street,
between G and O street.

Locations: 53

Start Time: Jul 11, 2013 12:06:22

End Time: Jul 11, 2013 12:07:19

Duration: 57"

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph



SELECT

THE TRACK



00:38

Tracks



12 Sidewalk



Press

11 24th Street

★ This track refers to 24th street,
between G and O street.

0yd
0ft

07-11...07-11

10 F Street

7.23yd
0ft

07-10...07-10

8 G Street

70.0yd
0ft

07-10...07-10

7 H Street

5.01yd
0ft

07-10...07-10

**CLICK
RECORD
BUTTON**

SAMSUNG



00:38



INFO

MAP

CHART

12

Sidewalk

0yd



Description

Locations: 0

Start Time: n/a

End Time: n/a

Duration: n/a

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph

Average Speed: n/a



Press





Tracking started



INFO

MAP

CHART

12

Sidewalk

0yd



Description

Locations: 0

Start Time: n/a

End Time: n/a

Duration: n/a

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph

Resumed recording of track Sidewalk



**WHAT
DO I DO
WHEN I'M
DONE?**

GO TO
GPS
ESSENTIALS

SAMSUNG

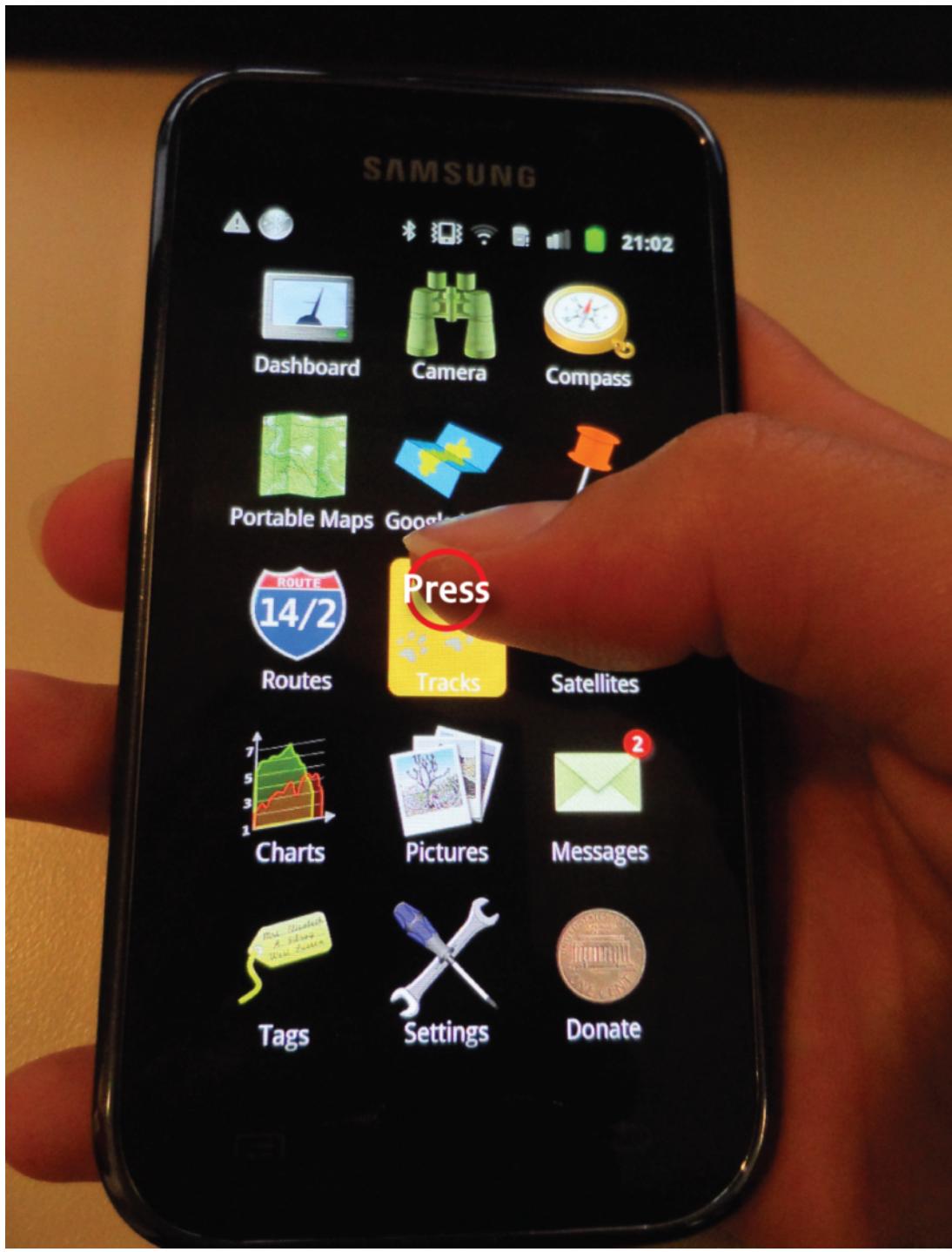
1

20:46



Press

GO TO
TRACKS



CLICK

STOP

BUTTON

SAMSUNG



00:53

INFO MAP CHART

12 Sidewalk 0yd

★ Description

Locations: 0

Start Time: n/a

End Time: n/a

Duration: n/a

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph

Average Speed: n/a



Press





INFO

MAP

CHART

12

Sidewalk

0yd



Description

Locations: 0

Start Time: n/a

End Time: n/a

Duration: n/a

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph

Stopped recording of track Sidewalk



**RENAME
TRACK**

SAMSUNG

4G Wi-Fi GPS 60:54



INFO

MAP

CHART

12

Sidewalk

0yd



Description

Locations: 0

Start Time: n/a

End Time: n/a

Duration: n/a

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph

Average Speed: n/a



Press

SAMSUNG



INFO

MAP

CHART

12

Sidewalk

0yd



Description

Locations: 0

Start Time: n/a

End Time: n/a

Duration: n/a

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Press



Edit Details



Delete



Show on Map



Export



Help



Settings

SAMSUNG



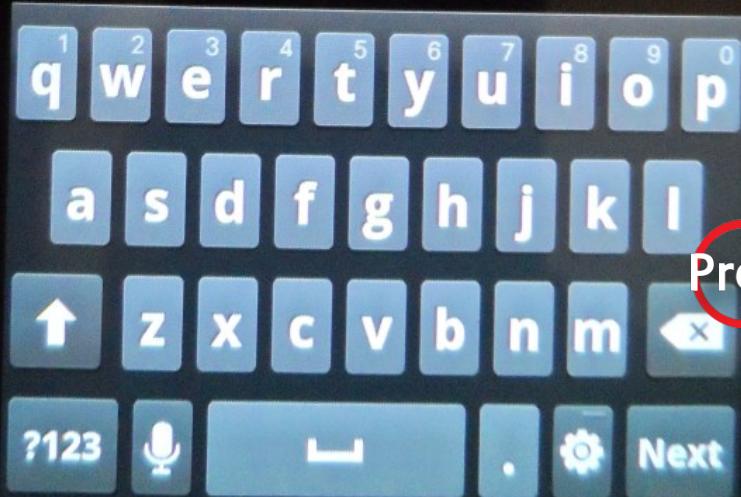
00:54



Edit Track



Sidewalk



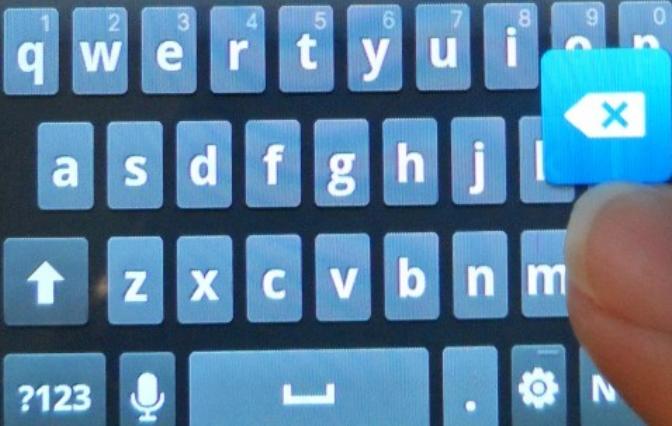
Press



Edit Track



Sidewa





00:55



Edit Track



State Street

1	2	3	4	5	6	7	8	9	0
q	w	e	r	t	y	u	i	o	p
a	s	d	f	g	h	j	k	l	
↑	z	x	c	v	b	n	m	←	
?123	Microphone	↶	.	⚙	Next				



Press

**HOW DO I GET
THE DATA OUT?**

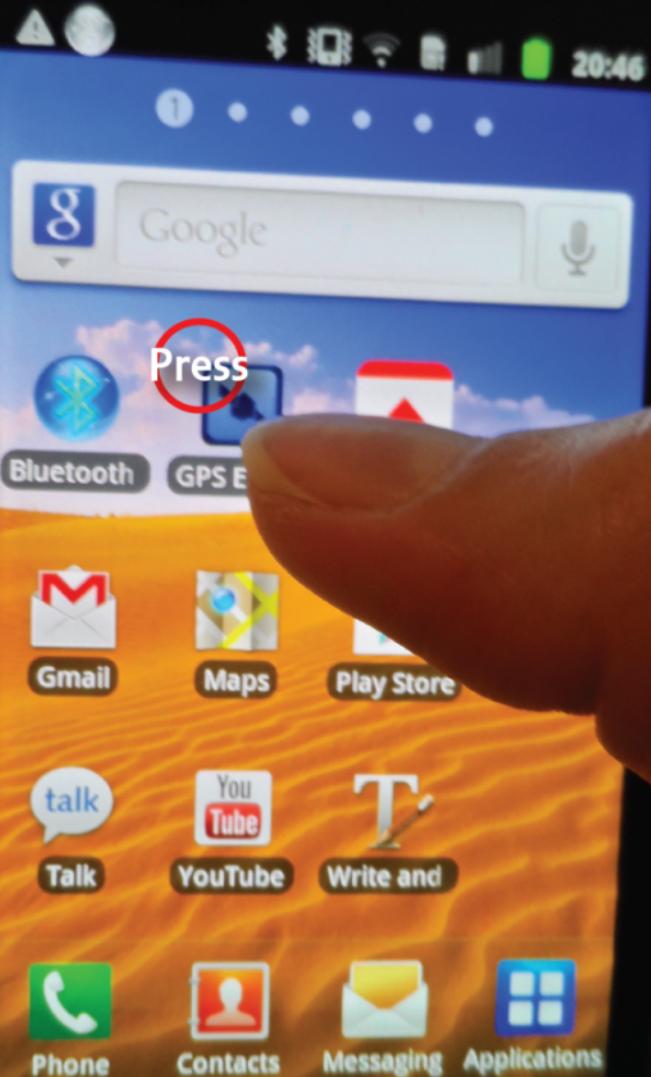
EXPORT

FILES

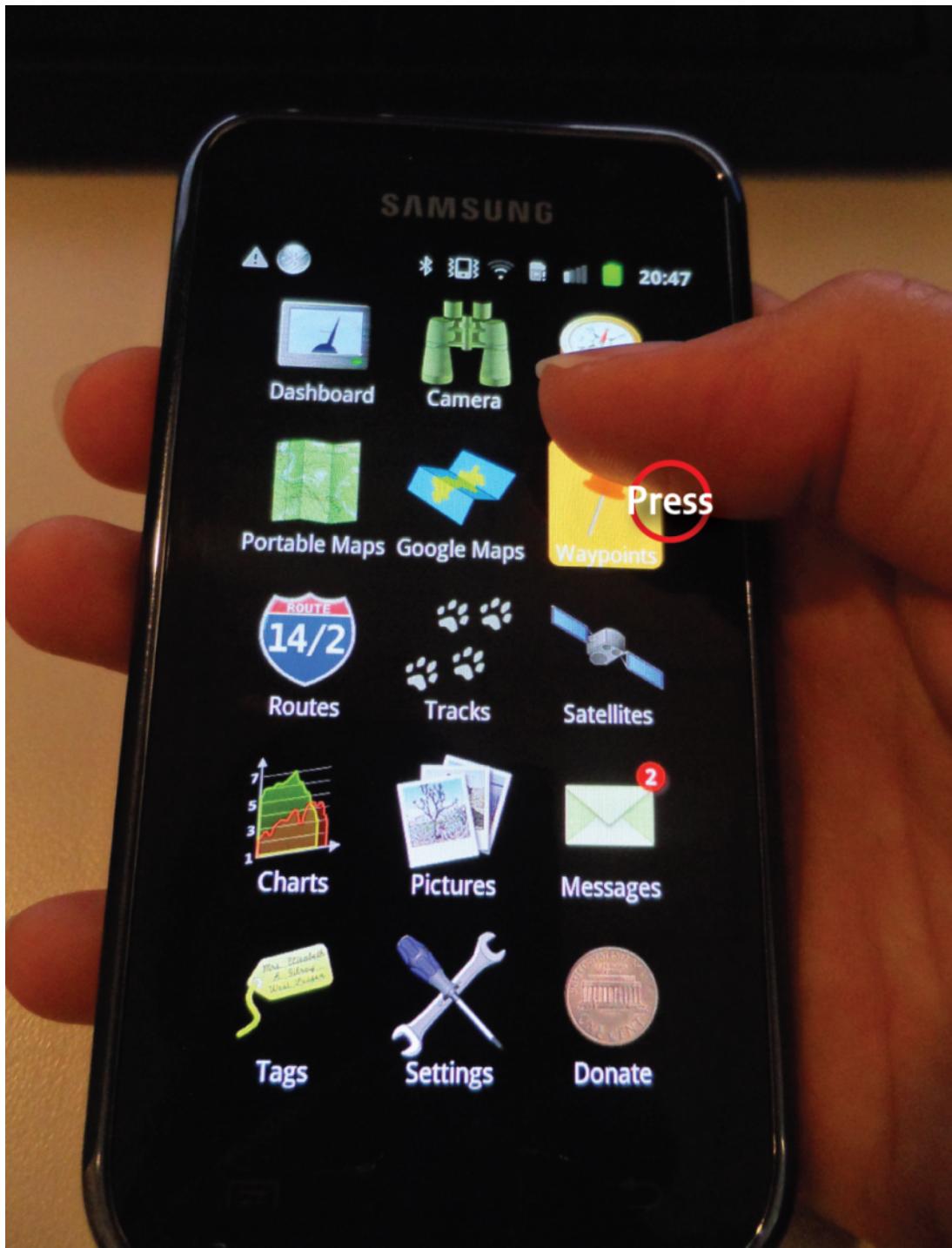
WAYPOINTS

GO TO
GPS
ESSENTIALS

SAMSUNG



GO TO
WAYPOINTS



GO TO
EXPORT

SAMSUNG



00:59

📍 Waypoints

13 Red Cross Sign



N38°53.787' W077°02.704'



2 Red Cross Society



N38°53.842' W077°02.357'



4 Reiters



N38°53.900' W077°02.594'



3 School



N38°53.900' W077°02.488'



5 School



N38°53.830' W077°02.618'



Press



SAMSUNG



Waypoints

13 Red Cross Sign



N38°53.787' W077°02.704'

2 Red Cross Society



N38°53.842' W077°02.357'

4 Reiters



N38°53.900' W077°02.594'

3 School



N38°53.900' W077°02.488'

Press



Export



Import



Clear

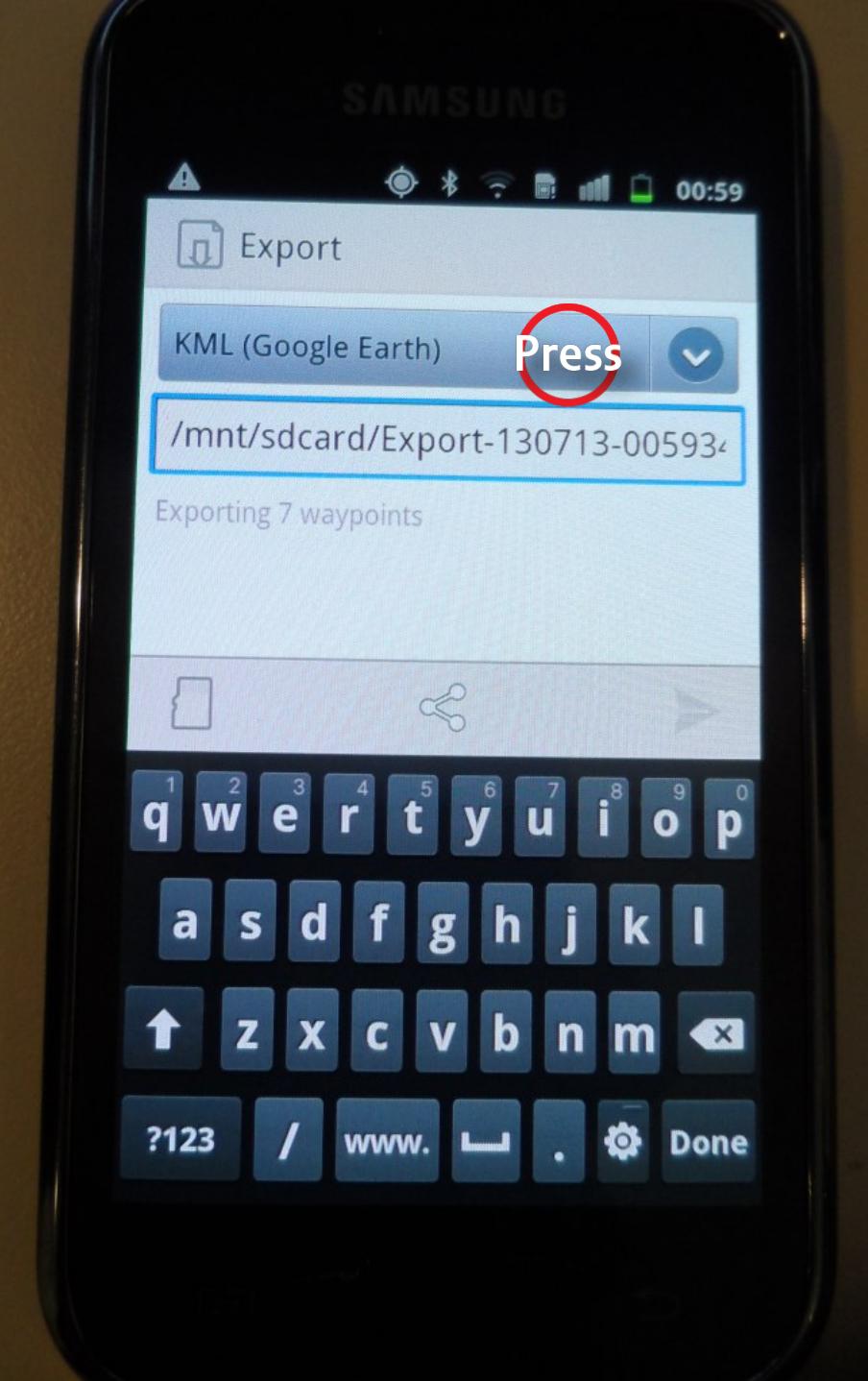


Help



Settings

CHOOSE
A FORMAT



SAMSUNG

01:04

Export

KML (Google Earth)

KML (Google Earth)

Exports KML optimized for Google
Earth (uses gx:track elements)

Press

KML (Google Maps)

Exports KML optimized for Google
Maps

GPX 1.0

Exports GPX version 1.0

GPX 1.1

Exports GPX version 1.1

↑ z x c v b n m ←

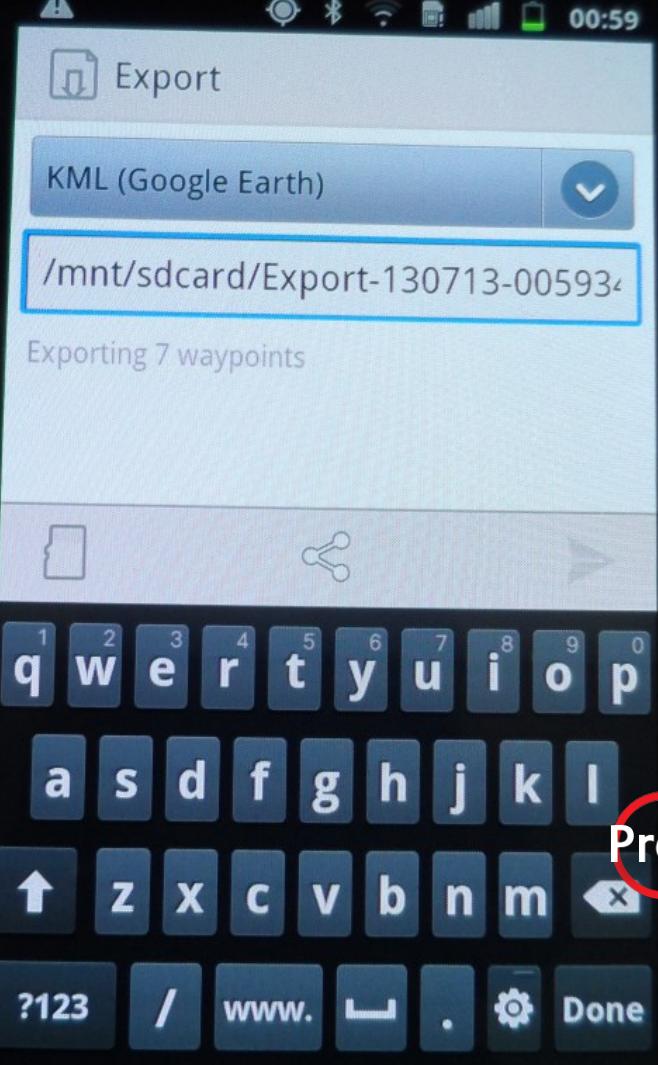
?123 / .com . Done

RENAME

EXPORT

FILE

SAMSUNG



Press

SAMSUNG



01:33

Export

KML (Google Earth)



/sdcard/

Exporting 7 waypoints



1 2 3 4 5 6 7 8 9 0
q w e r t y u i o p

a s d f g h j k l

↑ z x c v b n m ←

?123

/

.com

≡

.



Done



01:34



Export

KML (Google Earth)



/sdcard/Points of Interest Washingt

Exporting 7 waypoints



1

2

3

4

5

6

7

8

9

0

q w e r t y u i o p

a s d f g h j k l

↑ z x c v b n m ←

?123

/

.com

L

.

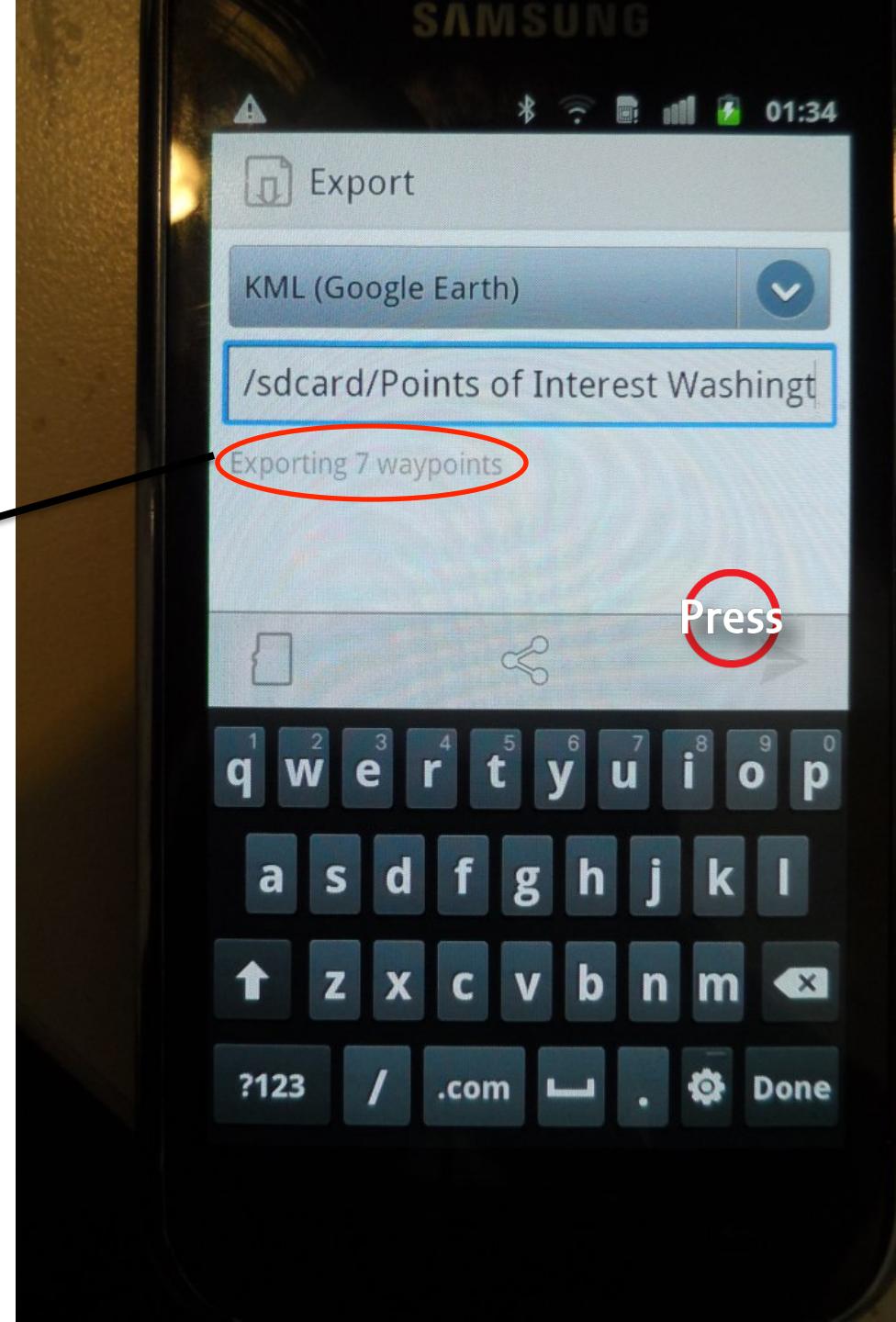


Done

EXPORT

FILE

When
exporting
waypoints, all
the points
can be
exported at
once.



01:36



Export

Written 7.23KB to '/sdcard/Points of Interest Washington DC.kml'

KML (Google Earth)



/sdcard/Points of Interest Washington DC.kml

Exporting 7 waypoints



1 2 3 4 5 6 7 8 9 0
q w e r t y u i o p

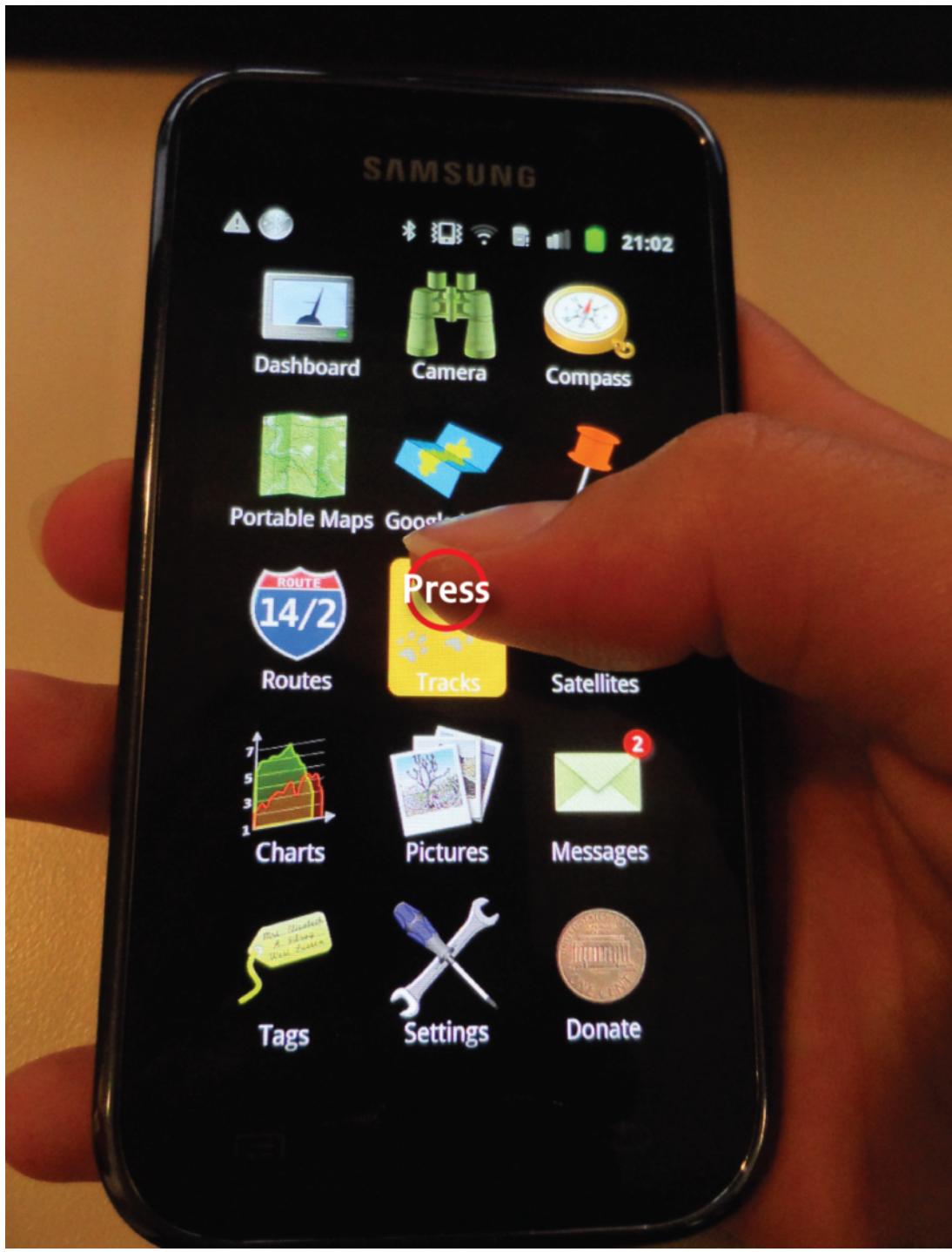
a s d f g h j k l

z x c v b n m ↲

?123 / .com ← . Done

TRACKS

GO TO
TRACKS



GO TO
LIST OF
TRACKS

SAMSUNG

▲ 00:26

Press

INFO

MAP

CHART

11

24th Street

0yd

★ This track refers to 24th street,
between G and O street.

Locations: 53

Start Time: Jul 11, 2013 12:06:22

End Time: Jul 11, 2013 12:07:19

Duration: 57"

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph



**SELECT
THE TRACK**



00:38

Tracks



12 Sidewalk



Press

11 24th Street

★ This track refers to 24th street,
between G and O street.

0yd
0ft

07-11...07-11

10 F Street

7.23yd
0ft

07-10...07-10

8 G Street

70.0yd
0ft

07-10...07-10

7 H Street

5.01yd
0ft

07-10...07-10

GO
TO EXPORT

SAMSUNG



01:44



INFO

MAP

CHART

12

State Street

0yd



Description

Locations: 0

Start Time: n/a

End Time: n/a

Duration: n/a

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft

Top Speed: 0mph

Average Speed: n/a



Press



SAMSUNG



01:45



INFO

MAP

CHART

12

State Street

0yd



Description

Locations: 0

Start Time: n/a

End Time: n/a

Duration: n/a

Lowest Altitude: 0ft

Highest Altitude: 0ft

Gain: 0ft



Edit Details



Delete



Show on Map



Export



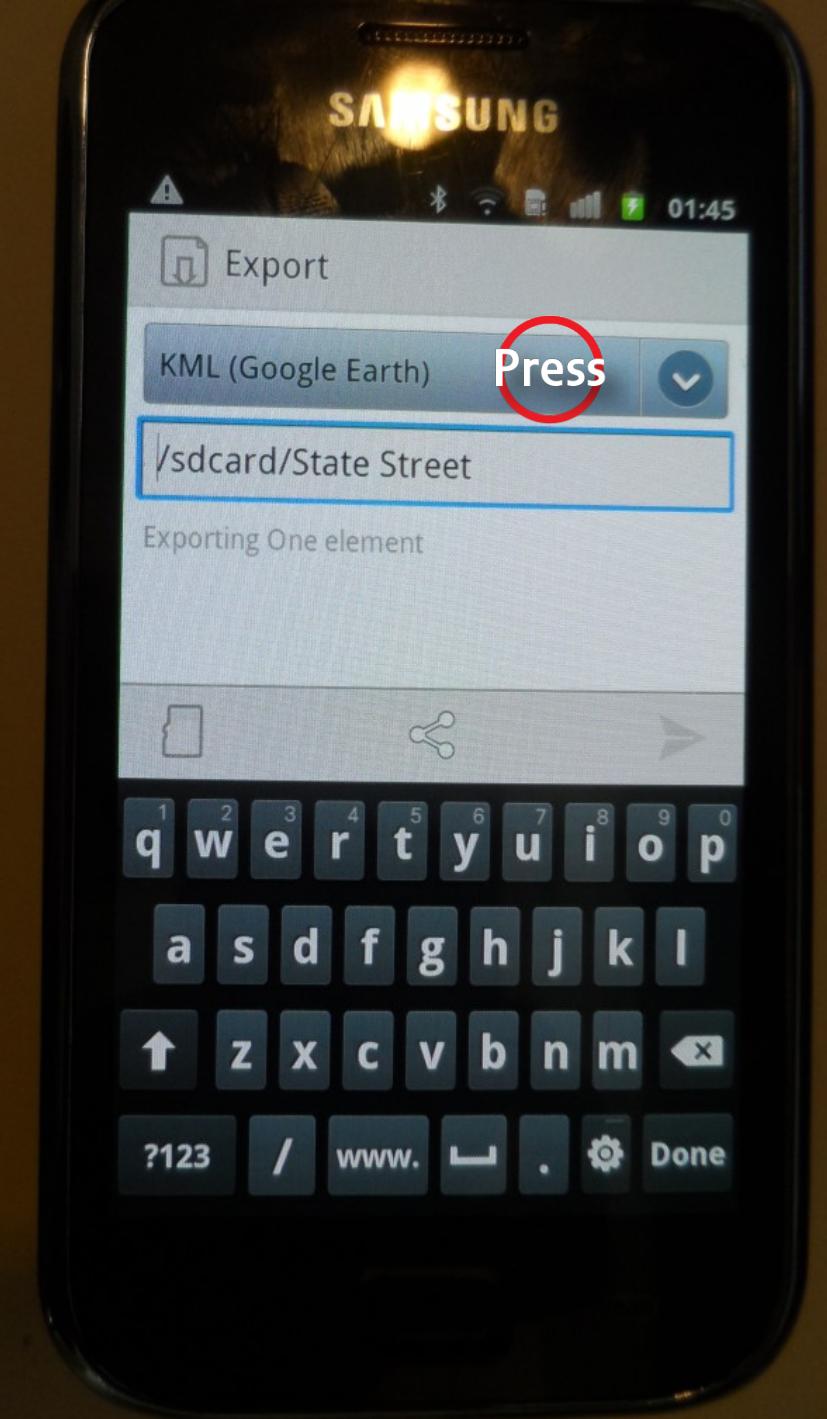
Help



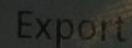
Settings

Press

CHOOSE A
FORMAT



SAMSUNG



Export

KML (Google Earth)

KML (Google Earth)

Exports KML optimized for Google
Earth (uses gx:track elements)

Press

KML (Google Maps)

Exports KML optimized for Google
Maps

GPX 1.0

Exports GPX version 1.0

GPX 1.1

Exports GPX version 1.1

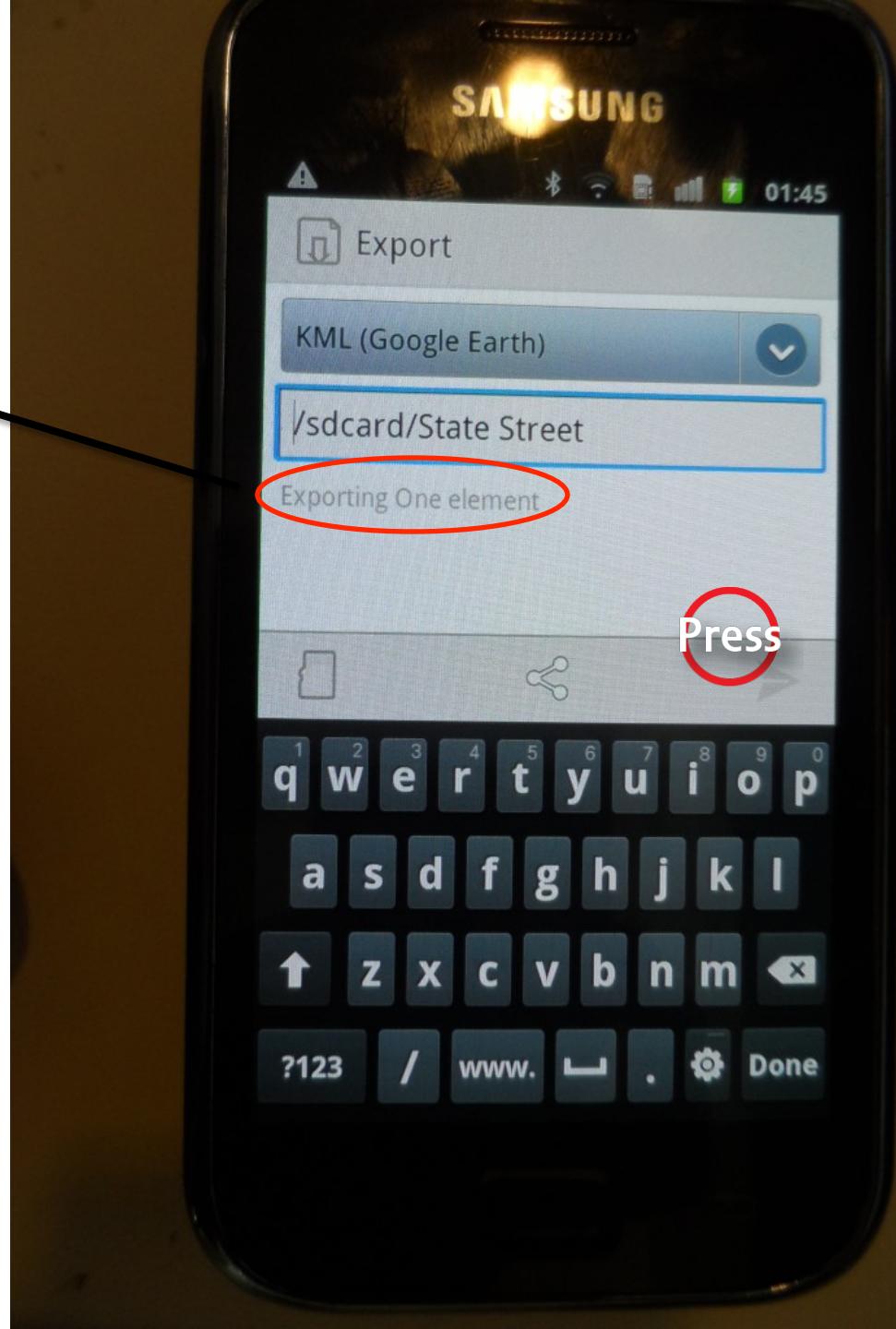
↑ z x c v b n m ←

?123 / www. . Done

EXPORT

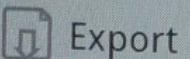
FILE

When
exporting
tracks, they
can only be
exported one
at a time.



SAMSUNG

! 01:45



Export

Written 6.43KB to '/sdcard/State Street.kml'

KML (Google Earth)



/sdcard/State Street

Exporting One element



1 2 3 4 5 6 7 8 9 0
q w e r t y u i o p

a s d f g h j k l

z x c v b n m ←

?123 / .com ← . Done

CONNECT THE
MOBILE DEVICE
TO YOUR
COMPUTER

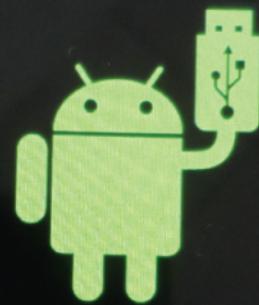


SELECT
“CONNECT
STORAGE
TO PC”

SAMSUNG

USB Mass Storage

01:12



USB connected

You have connected your phone to your
computer via USB. Select the button below if
you want to copy files between your
computer and your Android's USB storage.

Press

Connect storage to PC

SAMSUNG

USB Mass Storage
01:13

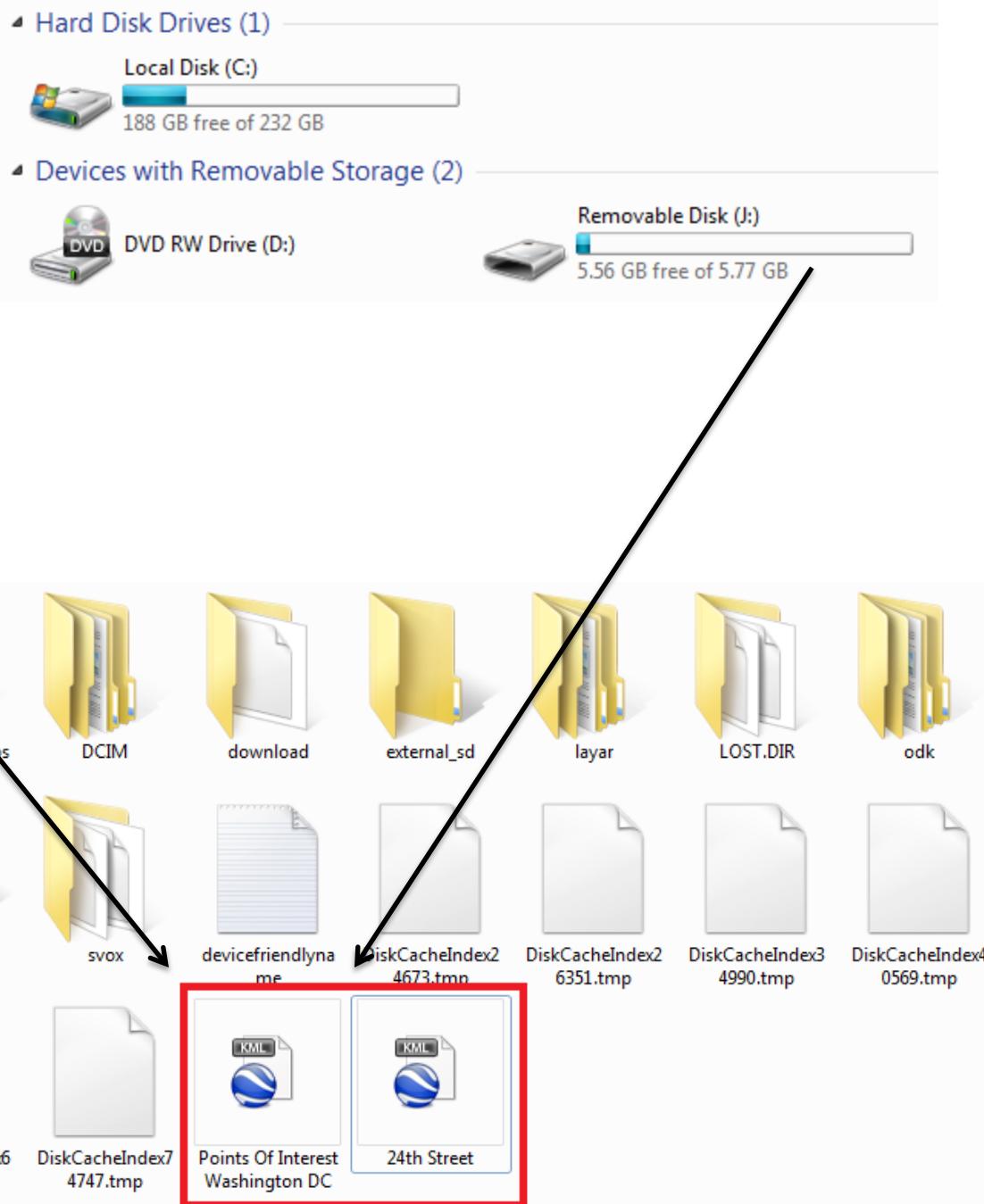
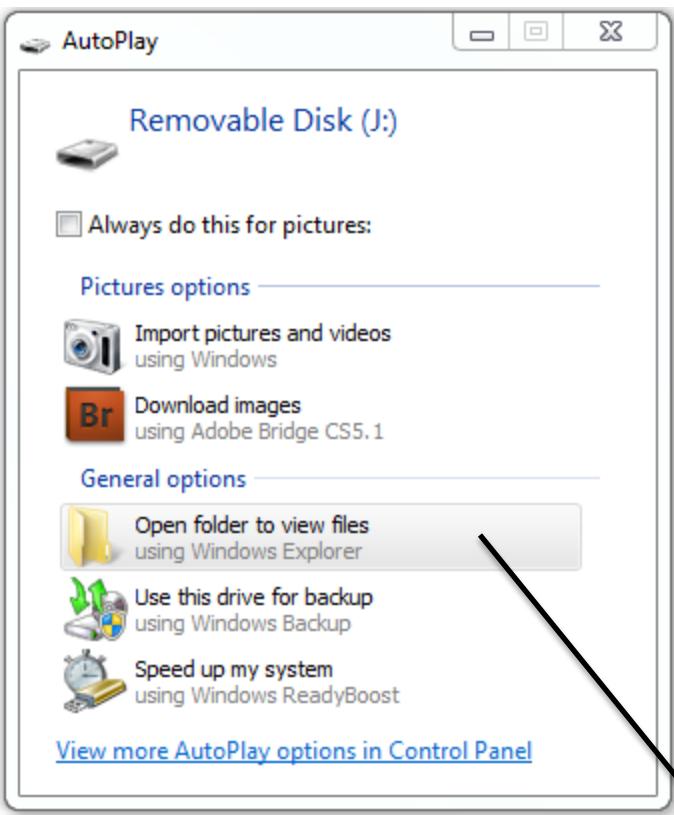


USB storage in use

Before turning off USB storage, make sure
you have unmounted ("ejected") your
Android's USB storage from your computer.

[Disconnect storage from PC](#)

OPEN
THE
REMOVABLE
DISK FOLDER

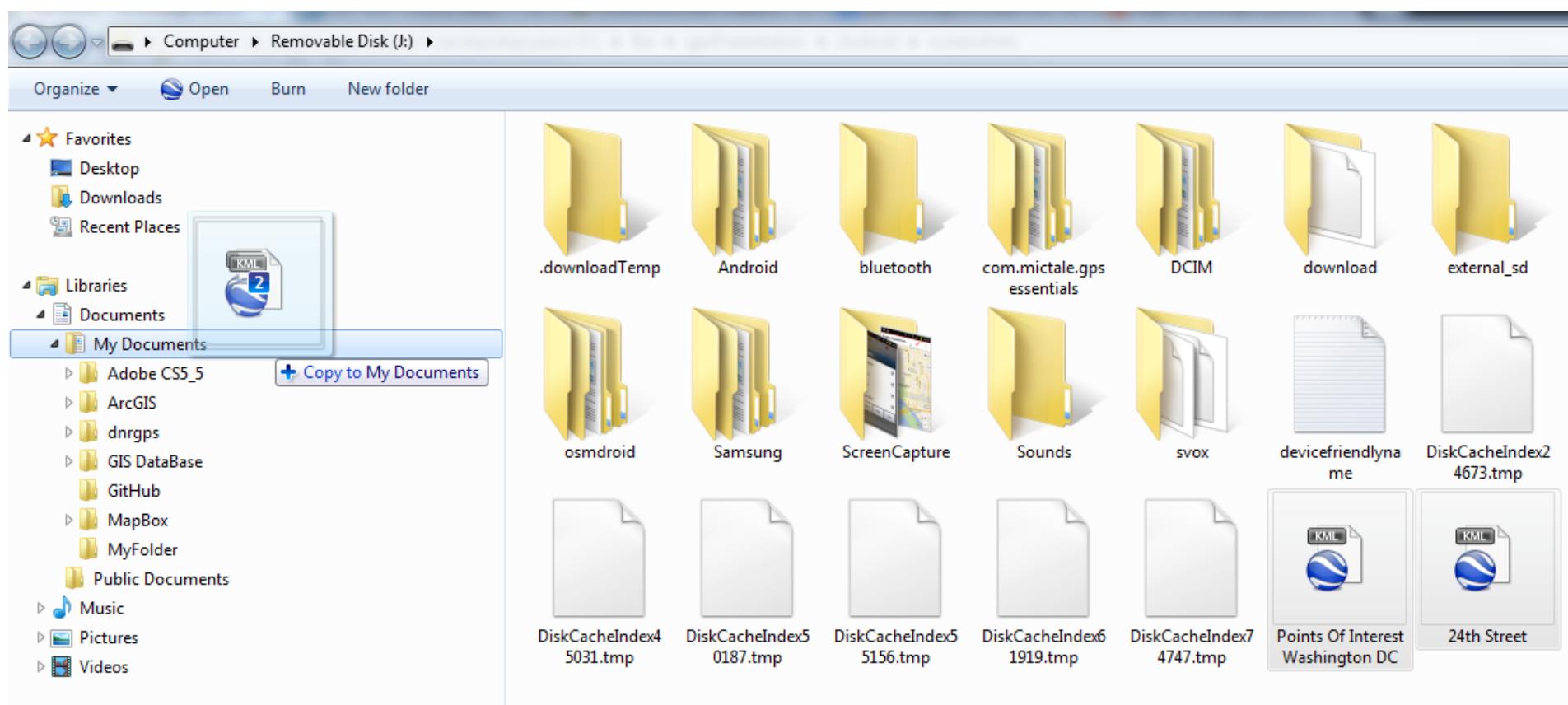


COPY-PASTE

TO

YOUR

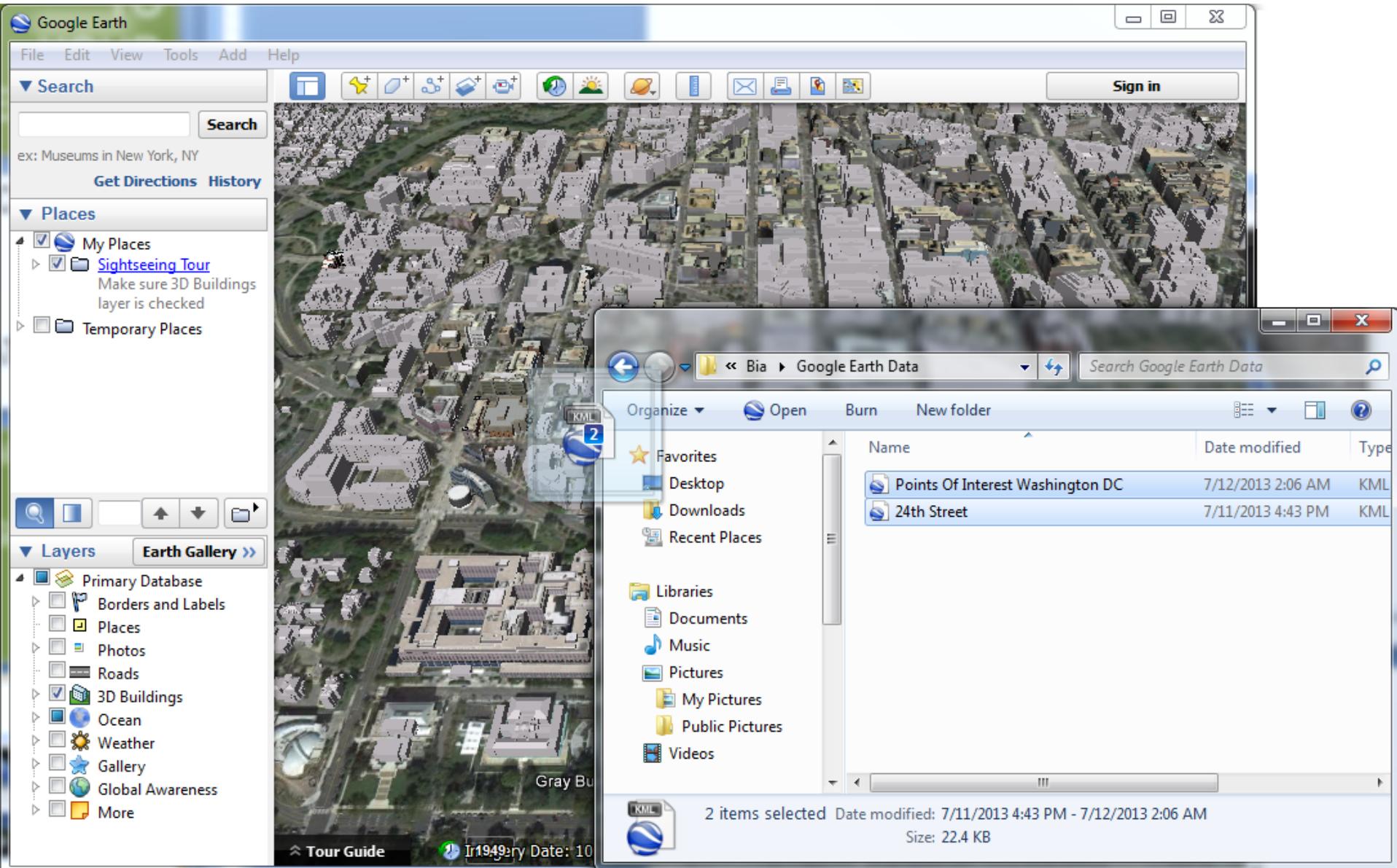
COMPUTER



SEND
TO
YOUR
SUPERVISOR

HOW DO
I SEE
MY
GPS DATA?

DRAG + DROP
INTO
GOOGLE EARTH



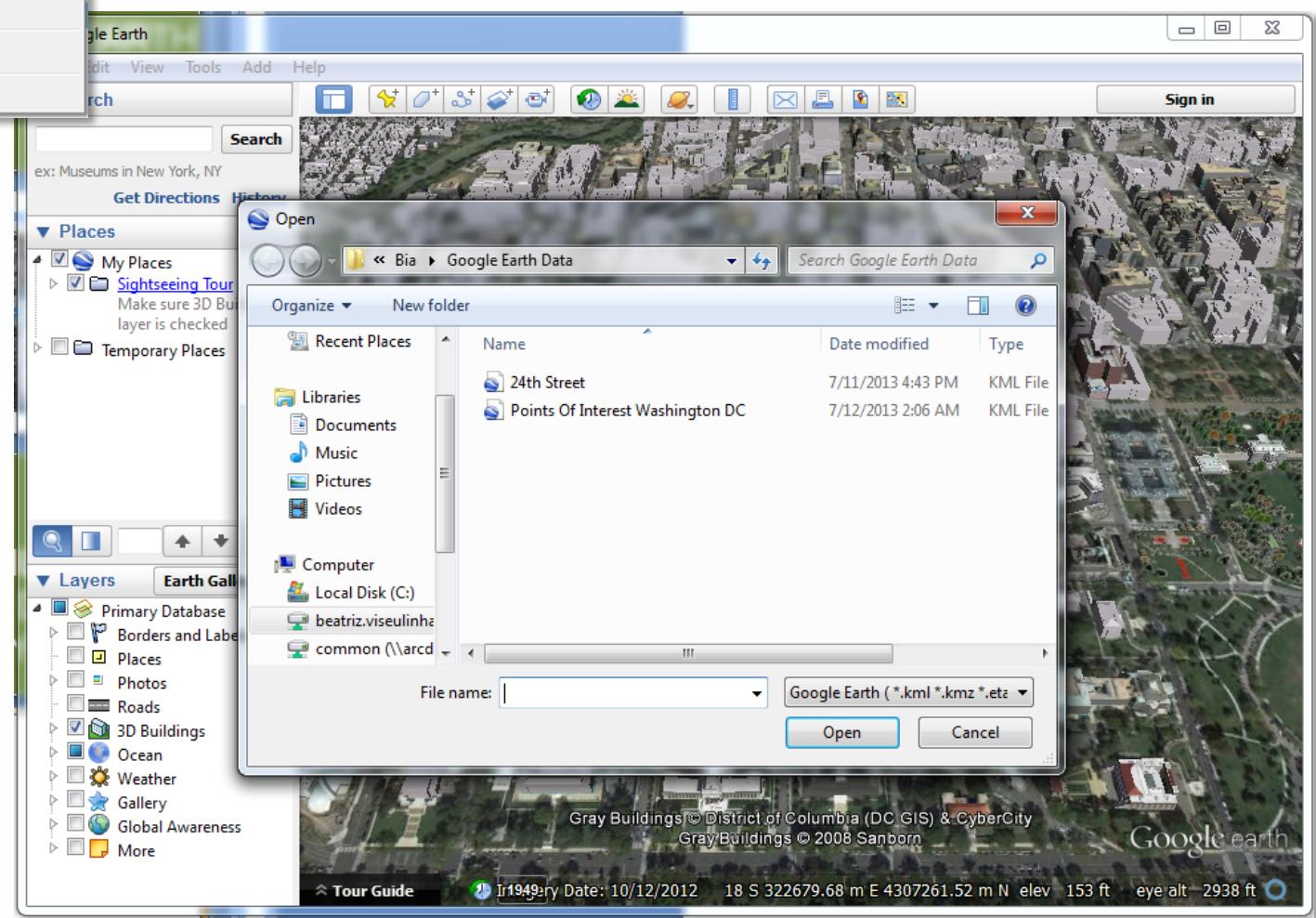
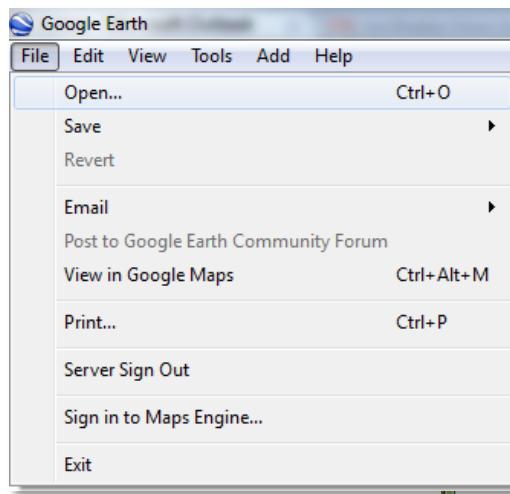
OR

GO TO

FILE > OPEN

AND SELECT

YOUR FILE



Google Earth

File Edit View Tools Add Help

▼ Search

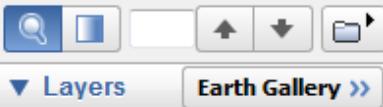
ex: Museums in New York, NY

[Get Directions](#) [History](#)

[Sign in](#)

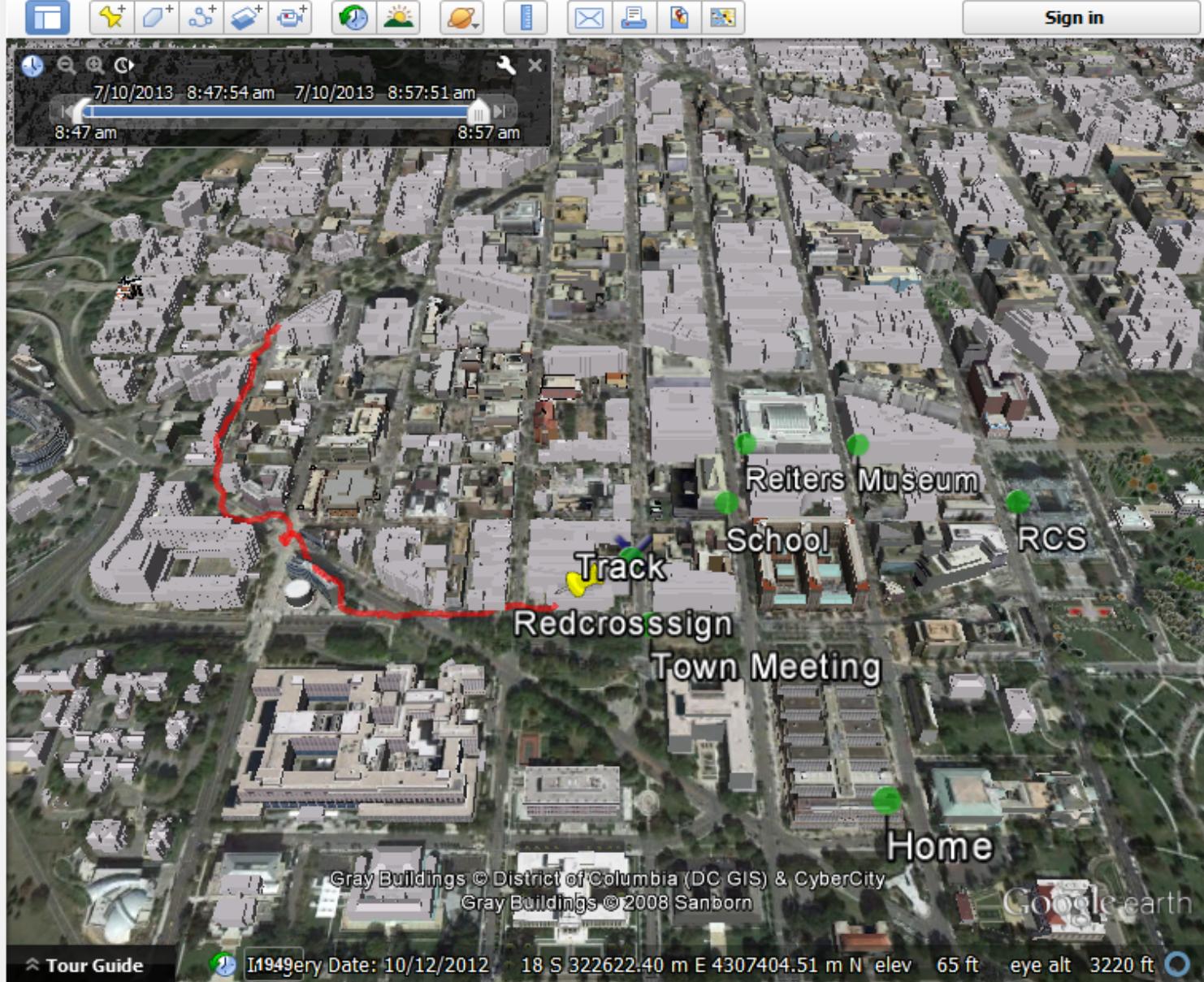
▼ Places

- My Places
- [Sightseeing Tour](#)
Make sure 3D Buildings layer is checked
- [Temporary Places](#)



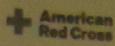
▼ Layers

- Primary Database
 - Borders and Labels
 - Places
 - Photos
 - Roads
 - 3D Buildings
 - Ocean
 - Weather
 - Gallery
 - Global Awareness
 - More



FIELD METHODS

**PREPARE
A
GUIDANCE
SHEET**



Android GPS Exercise Directions

SET UP



Enable Bluetooth on Android Phone

1. You must enable Bluetooth on your phone to use the external GPS unit.
2. Under "Applications", select "Settings".
3. Select "Wireless and Networks".
4. Select "Bluetooth".
5. Tap "Bluetooth Enabled" to turn on Bluetooth connections.



Pairing with your Columbus GPS

1. Once Bluetooth is enabled you still need to tell your phone to connect with it. On the same menu, scroll down and tap "Scan for Devices".
2. Wait 1 minute for devices to appear.
3. Tap the "Columbus GPS" that appears.
4. If it asks for a PIN, enter 0000.



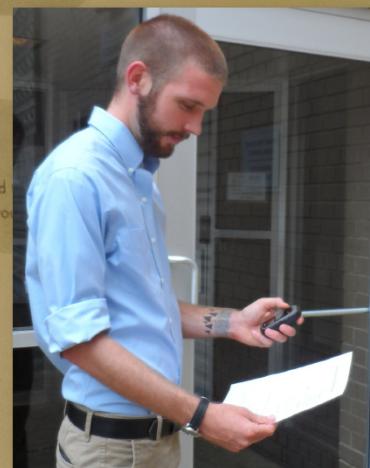
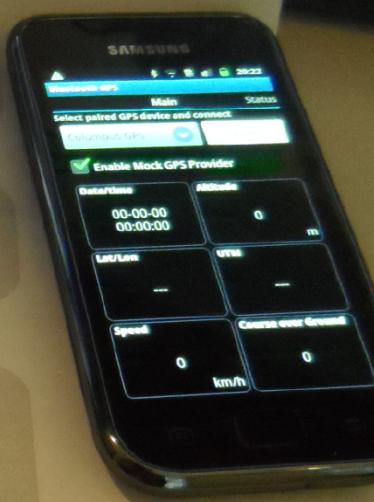
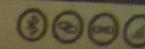
Connecting to your Columbus GPS

1. You are now paired, but not connected; your phone knows the GPS is there, but doesn't yet know it's supposed to use it.
2. Press the home button to return to your home screen.
3. Select the Bluetooth GPS app on your home screen.
4. Make sure Columbus GPS is selected on the dropdown.
5. Tap the check box on "Enable Mock Provider".
6. Select "Connect" to make your Columbus external GPS the standard GPS used by your smartphone.
7. Your GPS should make a noise (beep!).



Monitoring Your Signal

1. Select the "Status" tab along the top of your app.
2. This screen shows the number of satellites you are connected to and of your connection but most importantly, it shows the accuracy of yo



**NAME
EVERY
POINT**

SAMSUNG



Waypoints

13 Red Cross Sign



N38°53.787' W077°02.704'

2 Red Cross Society



N38°53.842' W077°02.357'

4 Reiters



N38°53.900' W077°02.594'

3 School



N38°53.900' W077°02.488'

5 School



N38°53.830' W077°02.618'



**NAME
EVERY
TRACK**

SAMSUNG



01:48

Tracks



12 State Street



11 24th Street

0yd

★ This track refers to 24th street,
between G and O street.

0ft

07-11...07-11

10 F Street

7.23yd
0ft



07-10...07-10

8 G Street

70.0yd
0ft



07-10...07-10

7 H Street

5.01yd
0ft



07-10...07-10

TAKE
BUILDING
POINTS
IN
DOORWAYS

THIS ENTRY UNDER
SURVEILLANCE
AUTHORIZED
ACCESS ONLY

IF YOU PARK
IN THE LOADING
AREA PLEASE SIGN
IN AT FRONT DESK
OR YOU WILL BE
TICKETED AT OWNER'S
EXPENSE
NO EXCEPTIONS
MANAGEMENT

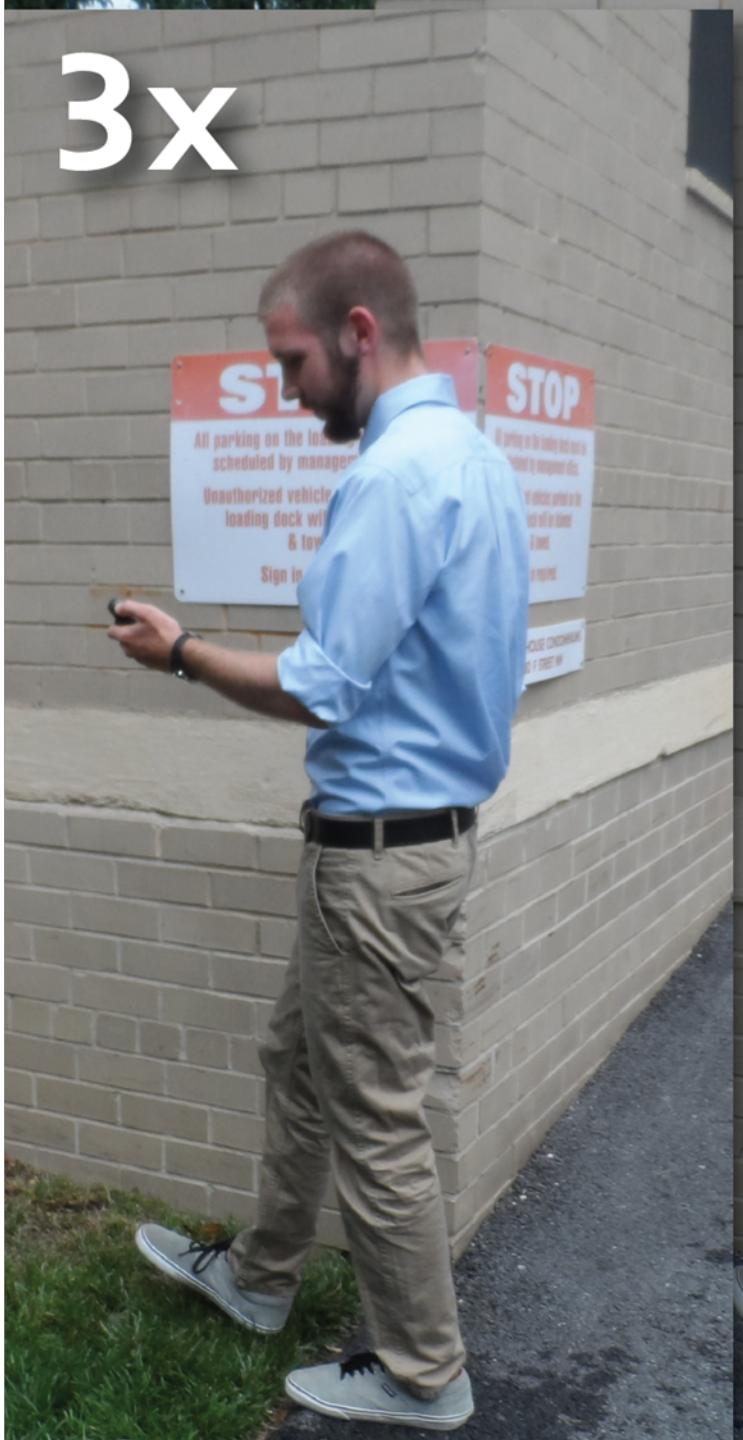
**WALK DOWN
THE CENTER
OF
STREETS
(IF POSSIBLE)**



**USE TRACKS
TO COLLECT
BUILDINGS /
AREAS**

**WALK
THREE TIMES
AROUND
BUILDINGS /
AREAS**

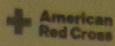
3x



ONE

MORE

TIME



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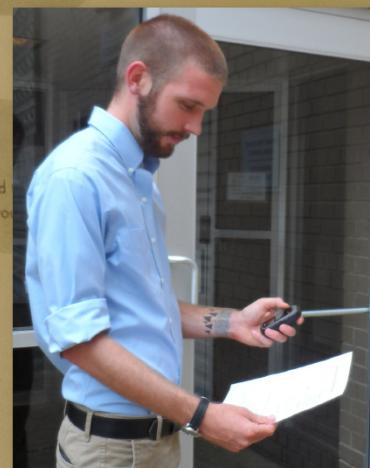
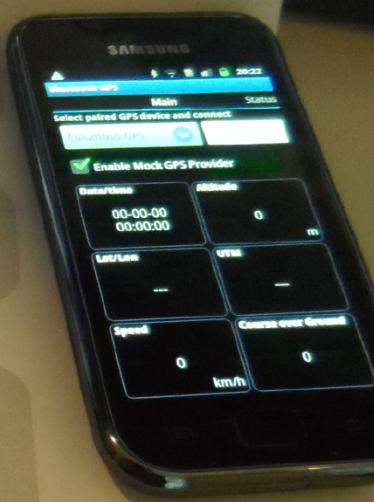
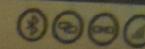
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3x

