Help Manual for MorseTrainer

The vibration series of mobile apps make it possible for a person who is both deaf and blind to use a smartphone to access information and produce information and communicate. These mobile apps enable the user to use a smartphone, independently (without presence of a caregiver) by using vibrations to communicate text. However, to use these mobile apps the user would need to learn morse code. MorseTrainer makes it easy for the user to learn morse codes.

MorseTrainer is an application (app) for android phones, which could be used by people who are deaf and blind to learn morse codes of corresponding English Alphabets, and their vibrations in form of short and long vibrations. This application picks the English Alphabet typed in by the user using Graffiti /standard QWERY keypad or any other keypad, converts it into the dots and dashes in morse code and communicates the corresponding vibrations. The vibrations could be felt at the palm and in this way vibrations for each alphabet could be learned.

There are many ways to learn Morse code. A user could take help of Braille text to learn. Help from a caregiver could also be availed, who could teach the user, using haptic feedback (is a tactile feedback technology that takes advantage of a user's sense of touch by applying forces, vibrations, and/or motions to the user), or whichever method they use for communication.

However, we recommend the user to learn learn via MorseTrainer, as this way the user also gets accustomed to the smartphone.

What is Morse Code

Morse code was first used by Samuel Morse in 1844 for telegraphy. The International Morse Code encodes the Roman alphabet, the Arabic numerals and a small set of punctuation and procedural signals as standardized sequences of short and long signals called "dots" and "dashes" respectively. The duration of a dash is three times the duration of a dot. Each dot or dash is followed by a short silence, equal to the dot duration. The dot duration is the basic unit of time measurement in code transmission.

English Character	Morse Code	Graffiti Strokes		English Character	Morse Code	Graffiti Strokes
A	• —		I	• •	
B	— • • •		J	• — — —	
C	— • — •		K	— • —	
D	— • •		L	• — • •	
E	•		M	— —	
F	• • — •		N	— •	
G	— — •		O	— — —	
H	• • • •		P	• — — •	
				Q	— — • —	
R	• — •		0	— — — — —	
S	• • •		1	• — — — —	
T	—		2	• • — — —	
U	• • —		3	• • • — —	
V	• • • —		4	• • • • —	
W	• — —		5	• • • • •	
X	— • • —		6	— • • • •	
Y	— • — —		7	— — • • •	
Z	— — • •				

8	− − − • •	
9	− − − − •	

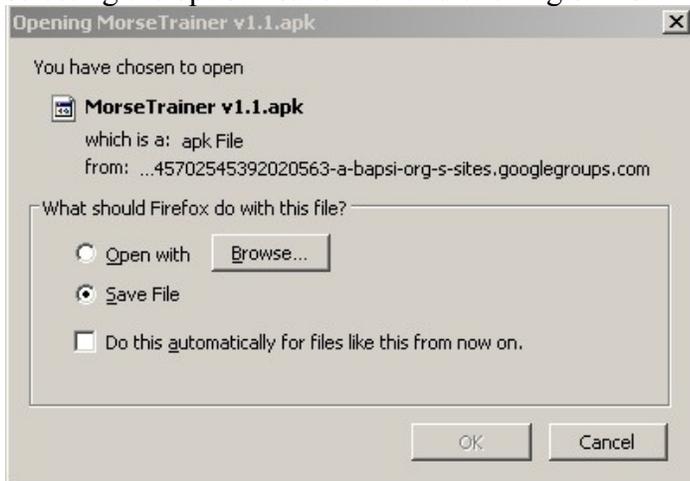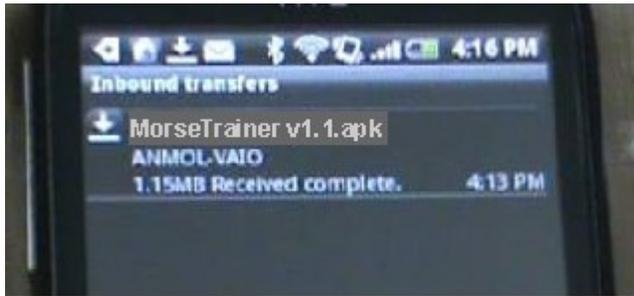|		
.	• − • − • −	
,	− − • • − −	
?	• • − − • •	
/	− • • − •	
@	• − − • − •	

Downloading and Installing MorseTrainer

Go to the Web page http://www.bapsi.org/Home/vibrations-series-of-products-for-deafblind/morsetrainer and click on the download button displayed here.
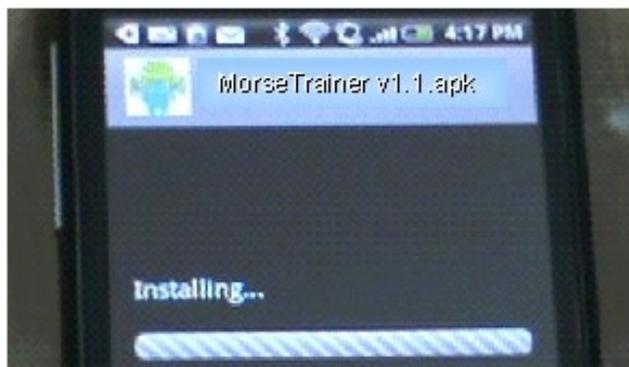
MorseTrainer
v1.1.apk
Download

This would download **MorseTrainer v1.1.apk** file. Save the file in your computer by selecting the option "save file" and clicking on "OK" button in the dialog box that appears.

Opening MorseTrainer v1.1.apk

You have chosen to open

MorseTrainer v1.1.apk
which is a: apk File
from: ...45702545392020563-a-bapsi-org-s-sites.googlegroups.com

What should Firefox do with this file?

○ Open with [Browse...]
◉ Save File

☐ Do this automatically for files like this from now on.
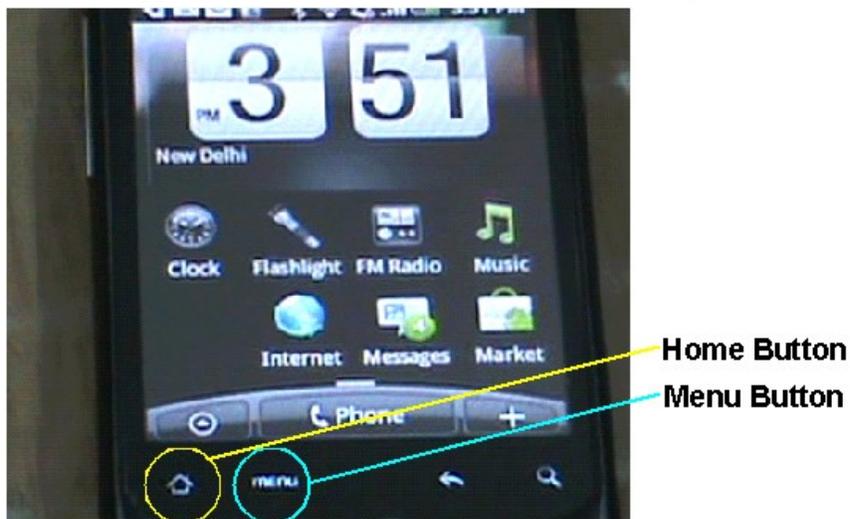
[OK] [Cancel]

After this, use a Bluetooth, data-cable or any other means to transfer the software to your phone. After your phone receives the file it will show the file.
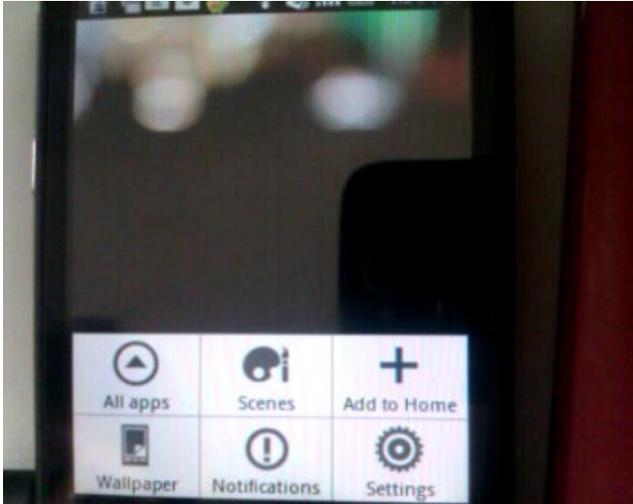

Select the file to install it. Installation takes a while.

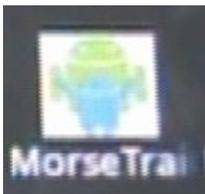Once the application has been successfully installed, go to home by pressing the "home" button.

Tap on the Menu button on your phone to open its menu. Select All Apps from the options provided.

This takes you to a place where all apps in your phone are installed.

From here navigate for the "MorseTrainer" app. The "MorseTrainer" application icon, which looks like this.

Tap on the app to launch or begin the app.

Getting ready to use MorseTrainer

We suggest you to
1. Turn off the automatic screen locking of the phone off, and
2. Install Graffiti as your default keyboard
before you start using MorseTrainer.

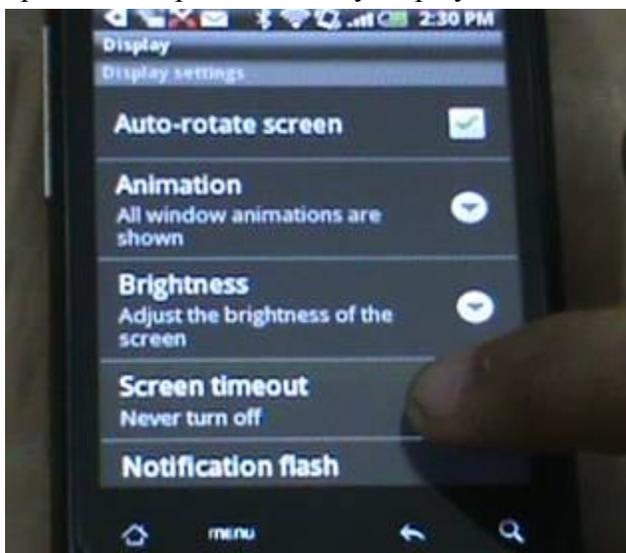# Turning OFF the automatic screen lock of the phone

To turn off the automatic screen lock, go to home by tapping the home button provided in the phone. This button is provided in all the android the phones, but, the position of the button may vary from model to model. If you are on the home screen, you don't need to press home button. Click the Menu button. Select the Settings option.
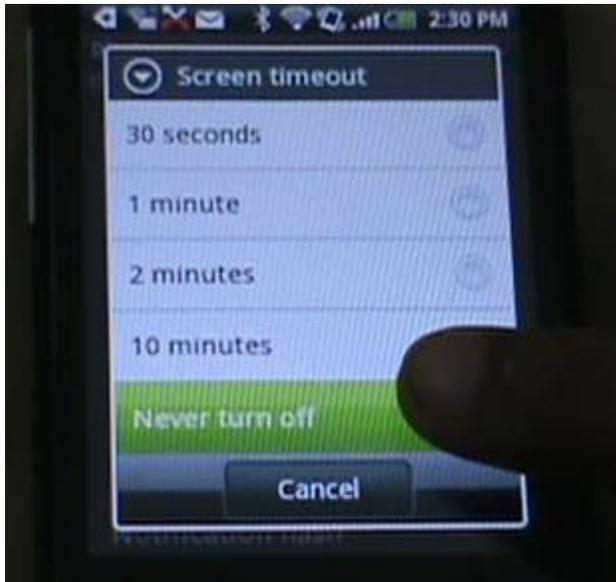

From the options that appear on the screen select the "Display" option to go into the display settings of the phone by pressing "display".

Slide down through the various options of screen settings to come to the "Screen timeout" option. The option is usually displayed. However, tap at this option to set screen timeout time.

From the various options for screen timeout, like "30 seconds", "1 minutes" provided, select the "Never turn off" option".

And come back to the home screen of your phone.

Downloading Graffiti Application for Android phone, and setting it as the default keyboard

It is recommended to use Graffiti keyboard for MorseTrainer, which is a single-stroke shorthand handwriting recognition system used in PDAs (Personal Digital Assistant) based on the Palm OS. Graffiti was developed by Jeff Hawkins in 1994. This is been used as standard for writing on touchscreen platforms since more than a decade. This is a handwriting recognition software, and has been used in popular PDAs. The software is based primarily on a neography of upper-case characters that can be drawn blindly with a stylus or finger. Instead of writing letters normally, users could write one letter on top of another, lifting the pen between them. Graffiti even recognizes symbols that aren't necessarily letters. It gives users greater speed in recording information. Since the user typically cannot see the character as it is being drawn, complexities have been removed from letters like "A'" "F", "K" and "T".

The corresponding Graffiti alphabets for English alphabets are displayed above in the table. The software is freely available from the online android market. For downloading the software search for the "Graffiti for android". This app will be used for writing the reply SMS.
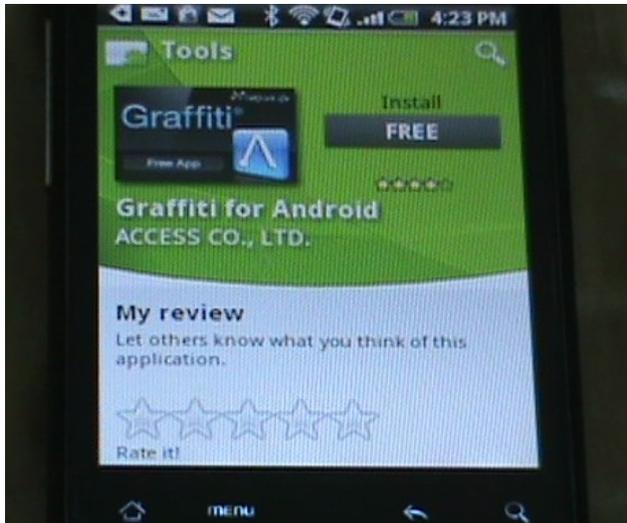
Go to the market place in your android phone. The icon for "Market" is usually on the desktop of the phone. Tap on the icon.
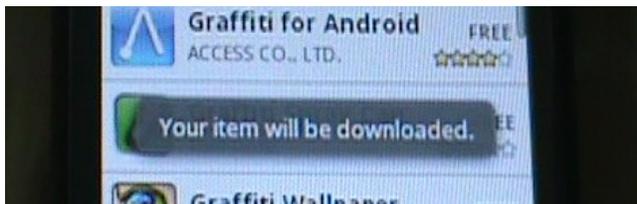
It will take you to the online market for android applications. Search for "Graffiti for Android" in the Market.
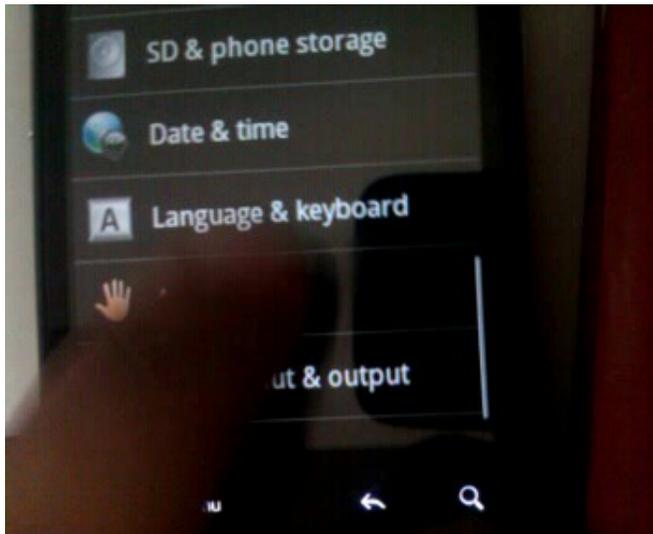

Download the free Graffiti software available in the market, by tapping at the correct option.
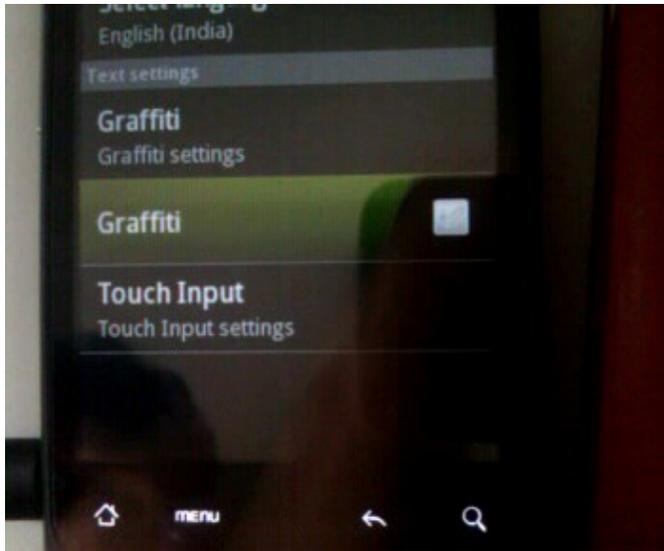
Installation of this application usually takes just 3 to 5 minutes. Graffiti will be automatically installed on your phone, and a message will be displayed.
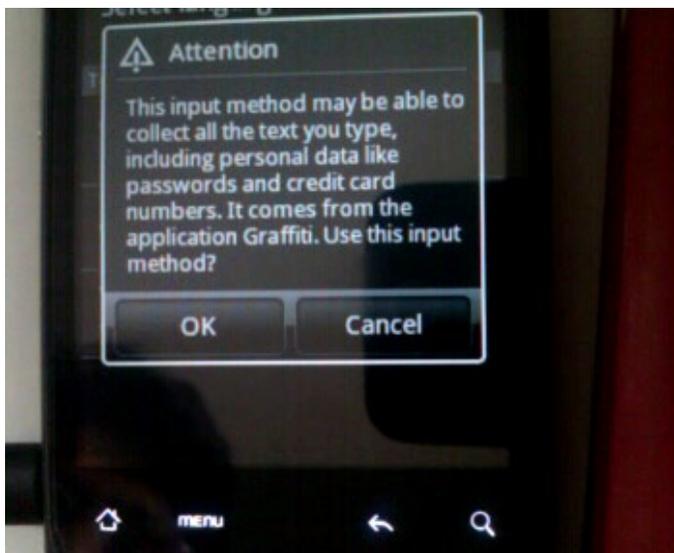

After installing Graffiti App successfully, go to the "Settings" of your phone. In the "Settings" look for "Language and Keyboard". Select the "Language and Keyboard" option.

Enable the option "Graffiti" option here by tapping on it.

When you check the "Graffiti" box, a message box like this would pop-up saying "Attention: This input method may be able to collect all the text you type, including personal data like passwords and credit card numbers. It comes for the application Graffiti. Use this input method?"
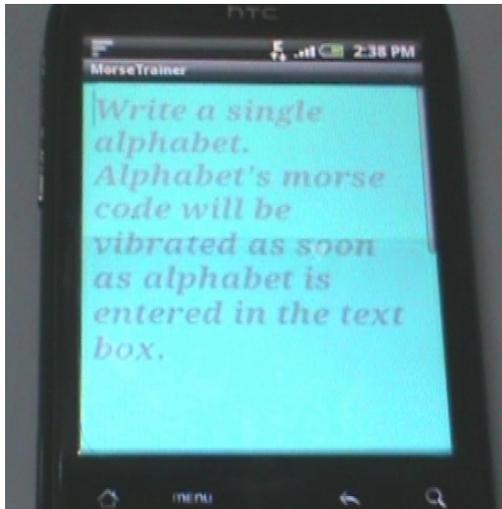

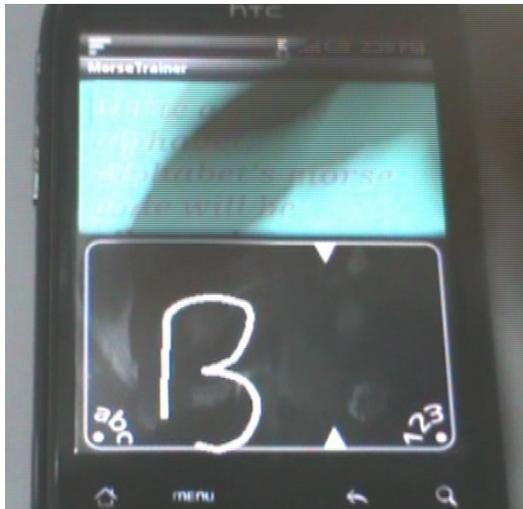Select the option "OK". Graffiti is installed.

Using MorseTrainer

When the MorseTrainer opens it displays the following screen appears displaying "Write a single alphabet. Alphabet's morse code will be vibrated as soon as alphabet is entered in the text box".

MorseTrainer selects the keyboard which has been defined as your default keyboard. Here use of Graffiti keyboard has been demonstrated. The screen changes to provide space for the keyboard.

The screen of Graffiti is divided broadly in two parts – upper half and lower half. Please ask your caregiver to help you understand these areas on your phone screen. The upper part is the portion where the written alphabets appear. The box below is again separated into two spaces. The left hand side space is for writing alphabets and symbols. The right hand side space is for writing numeric.
You could write alphabets in the space provided. For instance here alphabet "B" is written.

As soon as an alphabet is scribbled, MorseTrainer vibrates the morse code of the alphabet.

After the vibrations are done, the screen turns blank again, offering the user space to write another alphabet. This way the user could continue learning vibrations for each alphabet.
The user could also select the QWERTY keyboard to use MorseTrainer. For this give a long press at the blue box.

Learning apps writing using App Inventor

The best place to learn how to write applications for Android phones is App Inventor itself. Here are a list of references to help you learn how to write applications for Android mobile phone.

Introduction to App Inventor, before starting
- http://appinventor.googlelabs.com/about/

- http://www.appinventor.org/home-page

Books and Videos

- App Inventor
- http://oreilly.com/catalog/0636920016120/

Tutorials

- http://www.appinventor.org/course-in-a-box
- http://appinventor.googlelabs.com/learn/tutorials/index.html
- http://appinventor.googlelabs.com/learn/

Reference Documentation

- http://appinventor.googlelabs.com/learn/reference/index.html

Mailing Lists / Forums / Groups

- http://appinventor.googlelabs.com/forum/ (This page has various forums, specifying the various problems that these forums cater)