# Artemis

A mobile application towards preventing sexual exploitation attacks against minors

Developed & Published by Efstathios Papadopoulos Department of Applied Informatics University of Macedonia 156 Egnatia Street 54006 Thessaloniki Greece

Support phone: -

Support email: <a href="mailto:eystace@hotmail.com">eystace@hotmail.com</a>

Web: <a href="http://infosec.uom.gr/en/">http://infosec.uom.gr/en/</a>

Copyright (c) 2011, Papadopoulos Efstathios All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list
  of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this
  list of conditions and the following disclaimer in the documentation and/or
  other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Documentation produced September 2011.

### WARNINGS & PRECAUTIONS

This Section describes the prerequisites of the application and states some important facts. **PLEASE READ CAREFULLY!** You have been warned!

Artemis is a beta application developed for academic purposes. It is by no means a commercial application and far from considered final. Therefore, the user could and will experience crashes, especially if some prerequisites are not met.

#### **Prerequisites**

- Make sure you have provided a valid phone number in the Options Screen. If you don't, the application could potentially crash!
- Make sure you have an active Internet connection, whether it is a wi-fi connection or a data plan (HSDPA-UMTS-GPRS). The application needs network connection which may charge you depending on charges of your provider.

#### Things to remember

- Artemis works with full respect to communication privacy. It analyzes your
  incoming SMS messages, but **DOES NOT** store or divulges them or any
  personal information in no way. Nevertheless, you should **NEVER** divulge
  personal or important information like bank accounts, PIN numbers etc. over
  SMS messages.
- The application may send alerts in the form of SMS messages, so CHARGES may apply.
- The application uses network connection. If no wi-fi is present, DATA RATES
  may apply. If you want to avoid such rates, either have a wi-fi connection
  active while testing the application or disable your data traffic connections.
- Artemis is not responsible incase of data interception of malevolent third party network sniffers. It is users' responsibility to run Artemis under safe networks.
- In any case feel free to provide us any feedback for for further improvements.

IN NO EVENT SHALL THE DEVELOPER BE HELD RESPONSIBLE FOR ANY CHARGES THAT MAY APPLY DUE TO MISUSE OF THE APPLICATION OR FAILURE TO FOLLOW THE ABOVE GUIDELINES.

## Introduction to Artemis

Artemis is a free mobile application designed for the Android operating system. Its main purpose is to analyze the user's communications, in particular SMS messages. Through the analysis, Artemis tries to identify patterns that could lead to grooming attacks and, if a positive match is found, alert the designated parent.

The following sections describe the installation procedure, configuration and use of the application.

## **Installing Artemis**

Artemis is not yet available through Android Market. To install Artemis on your Android phone:

- 1. On your phone, go to Settings > Applications and tick the checkbox "Unknown Sources", to allow the installation of non-market applications.
- 2. Download the installation package "Artemis public.apk" from the site.
- 3. Copy the downloaded package to your phone's memory card.
- 4. Go to Android Market and install one of the **Apps Installer**, **App Installer** or **Fast Installer** applications.
- 5. After one of the above applications is installed, just open it. It will show you all the APK files stored directly in the root directory of your memory card.
- 6. Just click on "Artemis\_public.apk" and it will be installed.

Note: Alternatively, you can also just install a file manager app like **Astro File Manager** and then browse to the APK and install it.

# **Executing Artemis**

Once installed, the application can be found on the list of your phone's applications. To run Artemis, touch on "Artemis Beta v0.1 (see Image 1).



Image 1

You are presented with the Options Screen. Choose your security level (a higher security level increases the sensitivity of the algorithm, thus alerts will be sent more frequently) and enter a valid phone number. The phone number provided will be used to send alerts to, so in most cases it should be the parent's phone number. Finally, click Apply. Your options are saved and the application informs you that it has created and started a service (Image 2).

<b>a</b>	# iii @	3:40 PM
Artemis Beta v0.1		
Choose security level		
High		~
Alerts will be sent to		
697629:		
A	oply	
•	-	
Service	Created	

Image 2

You can now return to your home screen and keep using your phone as you normally would. Every time a SMS is received, the application tries to communicate with our server to perform the analysis. If suspicious behavior is detected, an alert will be sent in the form of SMS message to the phone number specified above.

Note: If you haven't done so already, read carefully the Warnings & Precautions section!

The application remains active in the background indefinitely and analyzes your messages. Moreover, every time the device reboots, the application starts the service automatically. Therefore, the user need not run the application each time the phone is powered on.

# **Uninstalling Artemis**

If you wish to uninstall the application, go to Settings > Applications > Manage Applications, select "Artemis Beta v0.1 and touch Uninstall, then touch "Ok" in the following dialog. The application is now uninstalled and the service is stopped.