

mScan – Android Application

Powered by Metascan Online

OPSWAT™



Manav Singhal
PhD Student, Dept. of Computer Science
University of Missouri-Columbia, MO
singhal.manav@gmail.com

Introduction

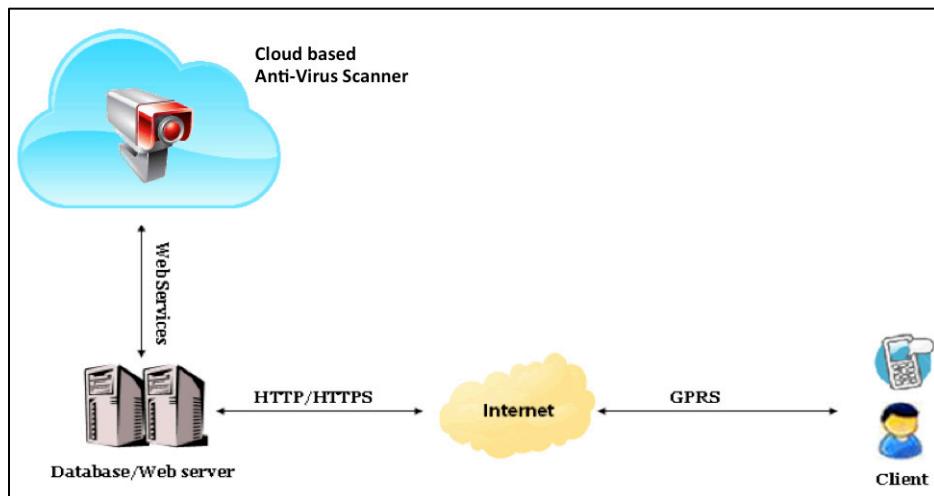
mScan application allows you to harness the power of cloud-based multi-scanning technology integrated directly into your mobile using Metascan APIs.



Metascan is a server application with a local and network-programming interface that allows the people to use multiple antivirus engine scanning technologies in their security architecture. Metascan packages can be delivered with a variety of fully incorporated and licensed AV engines to deliver fast, scalable, and reliable content scanning to protect against viruses, spyware, and other malware. The highly flexible APIs provide the customer with numerous programming options for integrating Metascan into existing or custom build security systems

No single anti-malware engine is perfect 100% of the time. Using multiple engines to scan for threats allows you to take advantage of the strengths of each individual engine and to guarantee the earliest possible detection. This app optimizes the included engines to enable fast, simultaneous scanning and eliminates the hassle of licensing multiple products.

Architecture



mScan - User Manual

When the user downloads and installs this app on his mobile phone, it gets installed in the name of **mScan** in the Applications.

1. Home Screen

When the user opens this application, it launches and opens with the home screen as shown in the figure below. Here the user has two options –

- **Scan File**

The user can upload any file (up to 40 MB) or folder to scan it online using up to 40 anti-virus engines.

- **Scan Results**

The user can view the results of the files/folders scanned online with detailed information.

- **Scan System**

The user can scan the whole system (mobile) also against various viruses and malwares. But this is a very network intensive process.

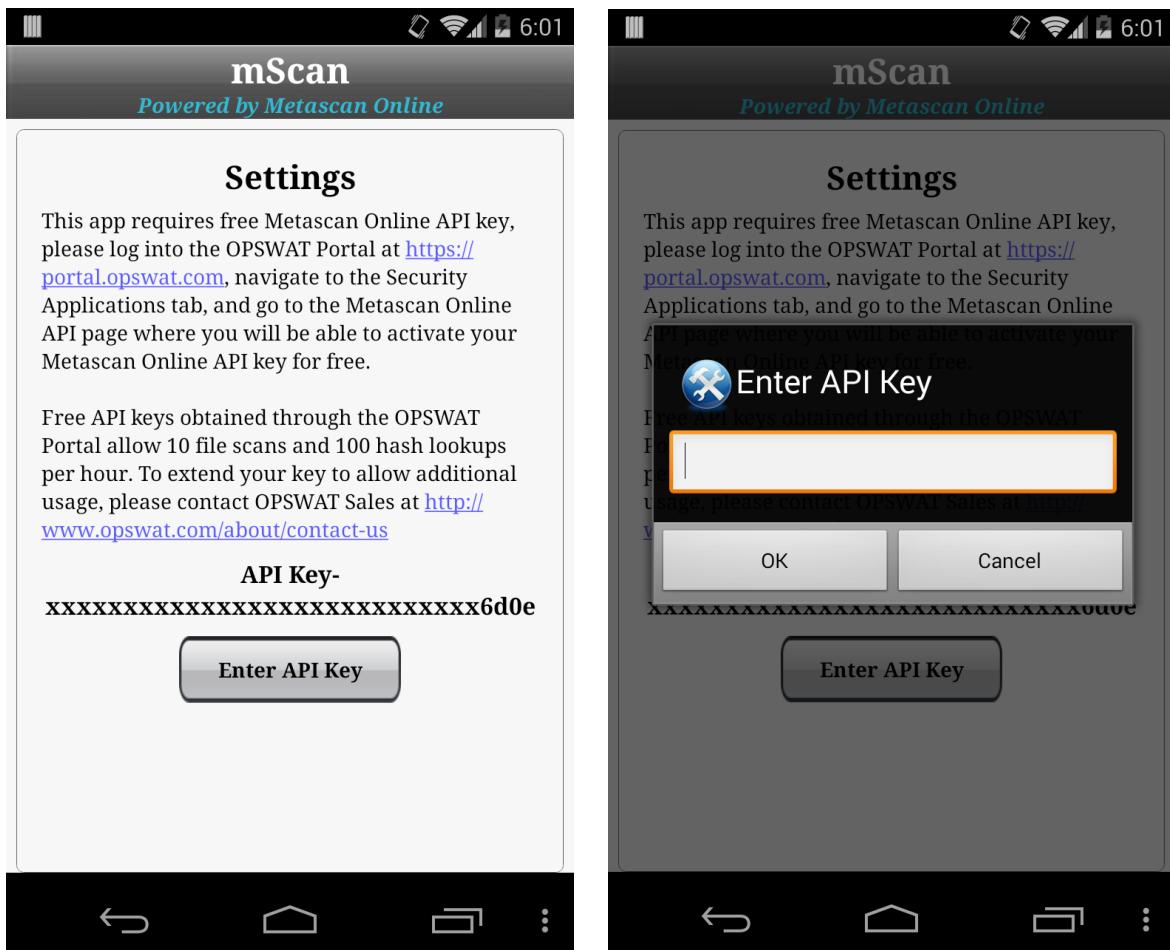


2. Settings Screen

For the first time, when the user installs this application, he has to set the API Key to use this application by clicking Settings icon at top left corner of the screen.

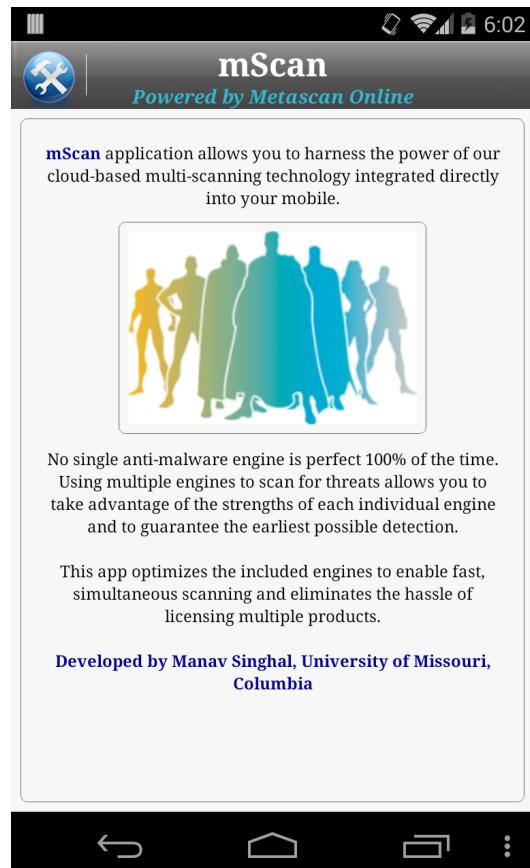
To obtain your free Metascan Online API key, please log into the OPSWAT Portal at <https://portal.opswat.com>, navigate to the Security Applications tab, and go to the Metascan Online API page where you will be able to activate your Metascan Online API key for free.

Free API keys obtained through the OPSWAT Portal allow 10 file scans and 100 hash lookups per hour. To extend your key to allow additional usage, please contact OPSWAT Sales at <http://www2.opswat.com/about/contact-us>.



3. About Screen

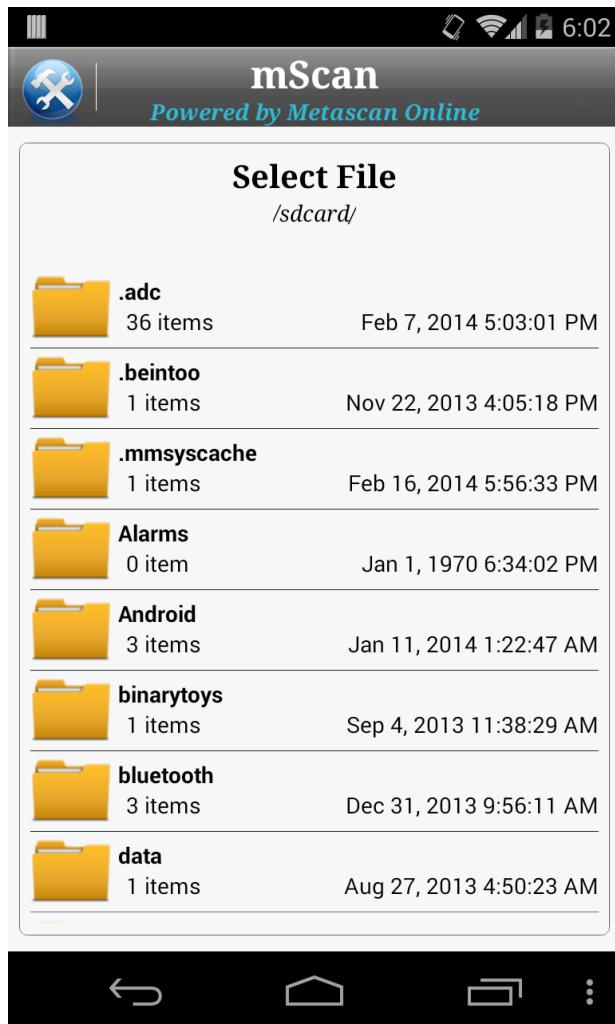
The user can view the information about this application and its purpose by clicking on *info* icon at the top-right corner of the screen. It will open with the following screen –



4. Scan File

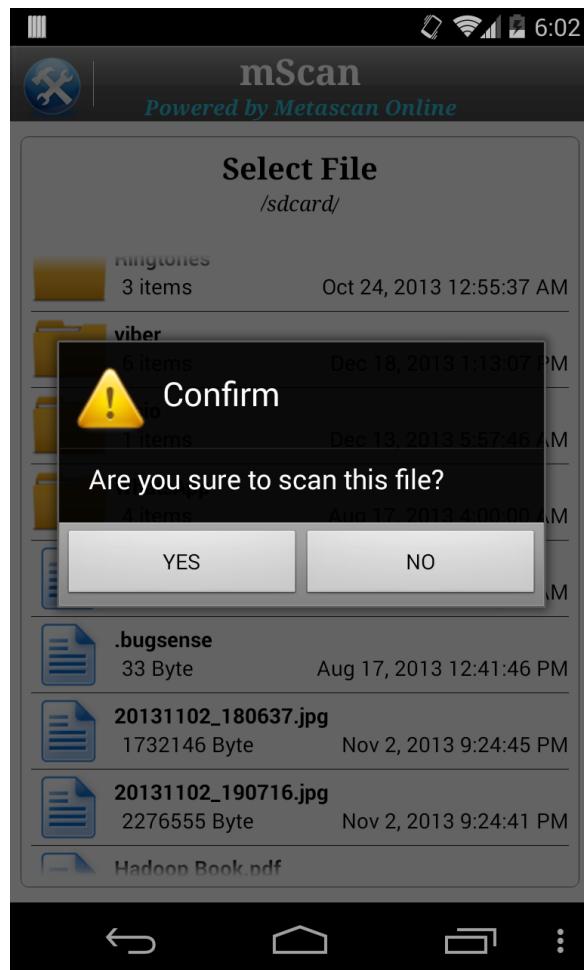
The user can upload any file or folder he wants to scan to the cloud for scanning it online using up to 40 Anti-Virus Engines.

When the user click on first menu ‘Scan File’, the app opens up with the following screen showing the file explorer to the user to select any file or folder.



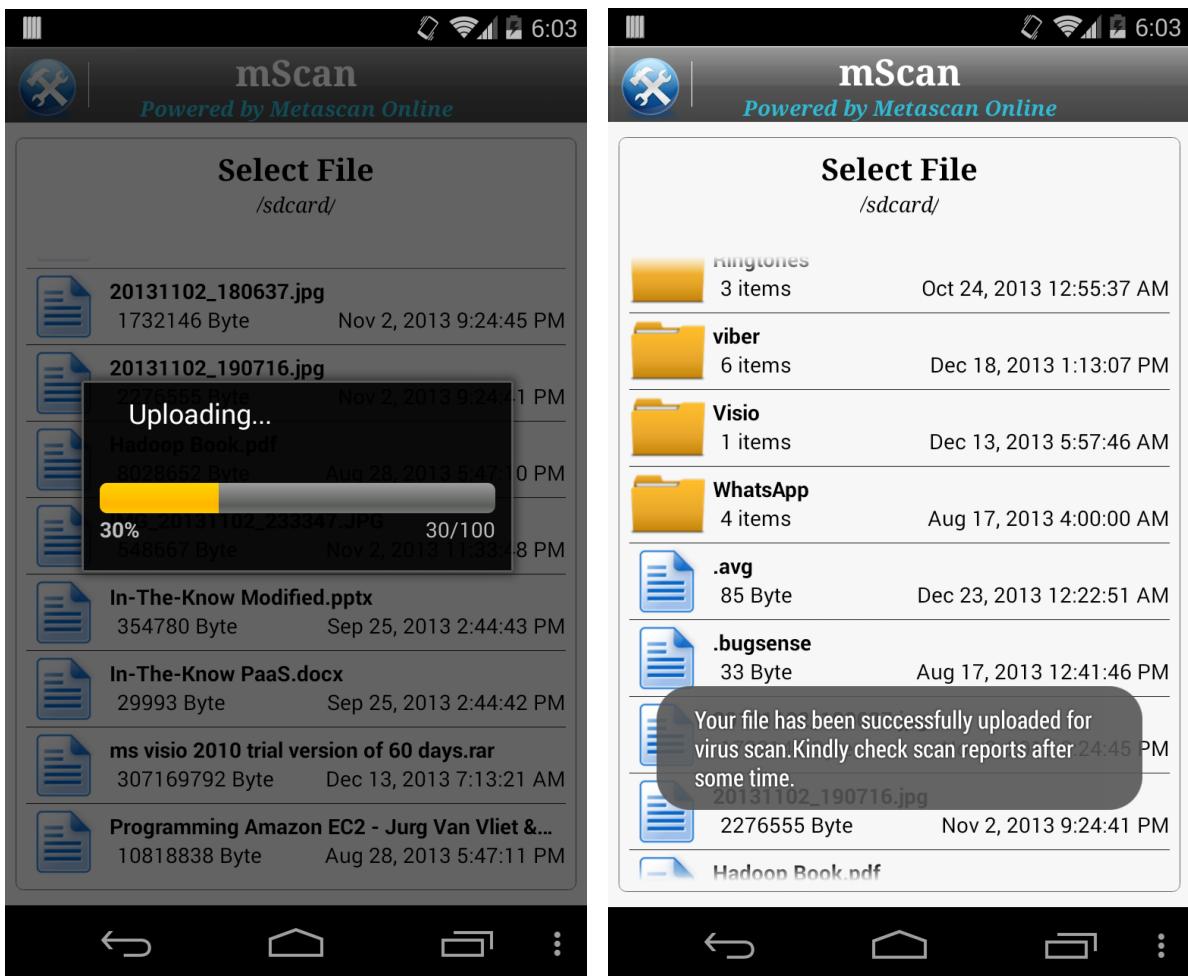
4.1 Select File

To select any file, the user just has to click on any file name he wants to upload. A dialog box as shown in the figure below will pop up asking the user whether he wants to scan this file or not.



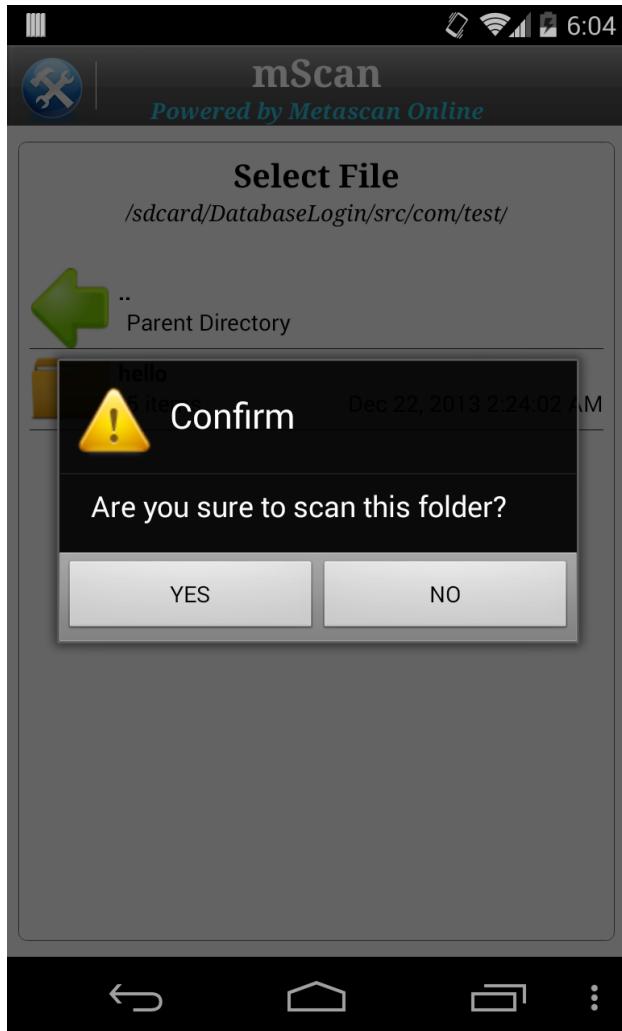
If the user clicks on 'YES' button, a progress dialog box is shown to the user as shown in the figure below. A confirmation message is shown to the user once the file is successfully uploaded to the cloud.

Both the screens are shown below –



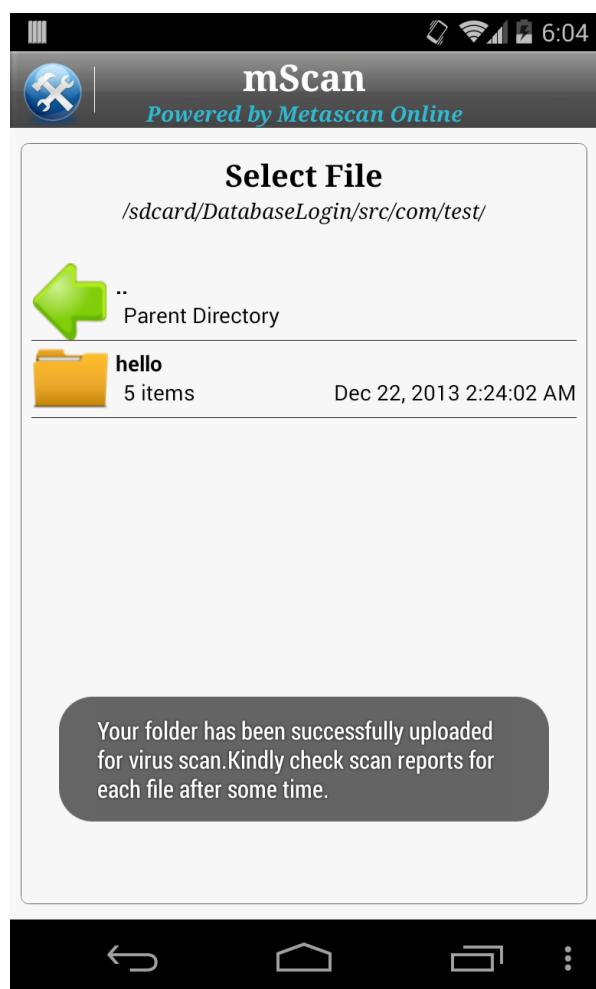
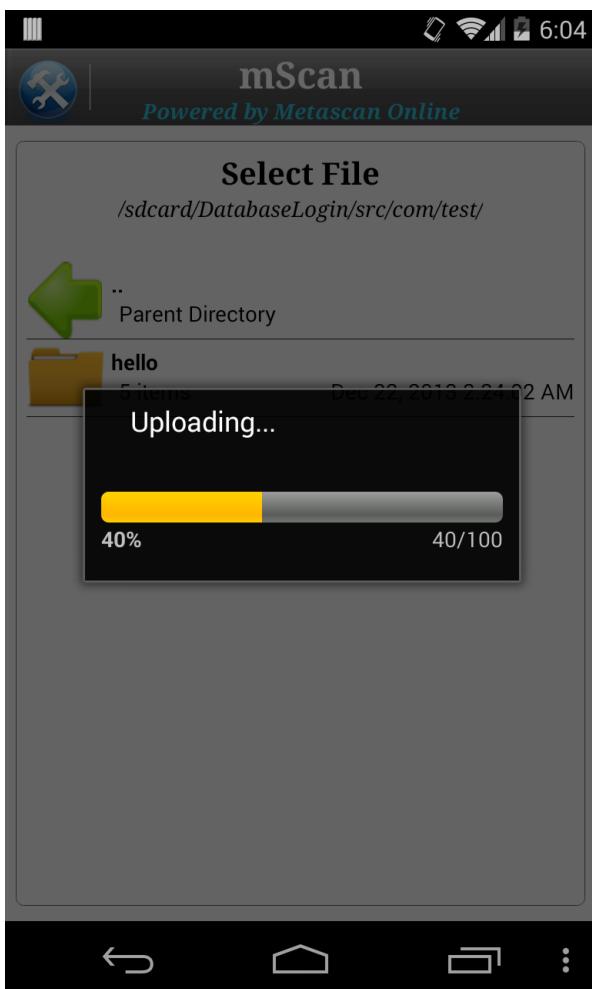
4.2 Select Folder

The user can also select any folder to scan online. For selecting the folder, he has to 'press and hold' any folder, then it will automatically ask the user to select that folder or not for uploading online.



If the user selects 'YES' button, it will show the progress bar for uploading each and every file contained in that folder. A confirmation message is shown to the user once the folder is uploaded successfully.

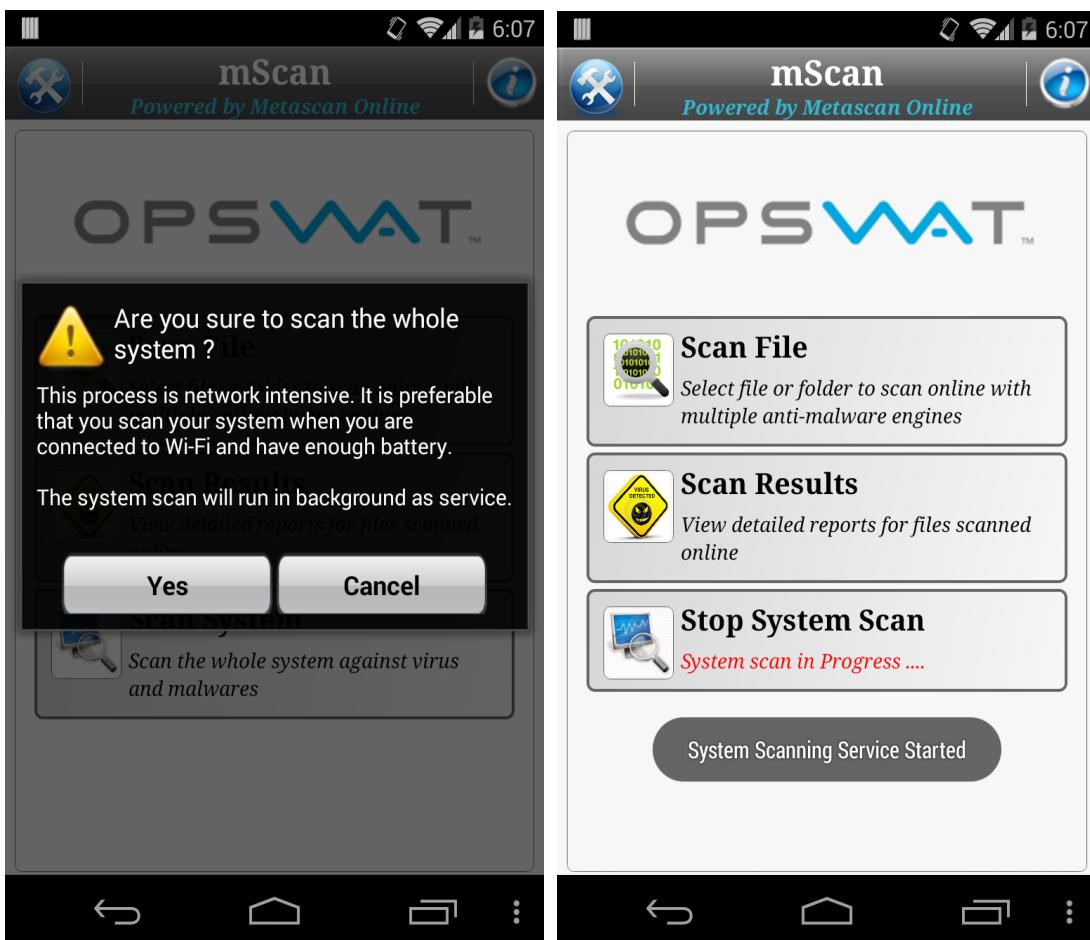
This may take time depending upon your Internet connection speed and number of files in the folder.



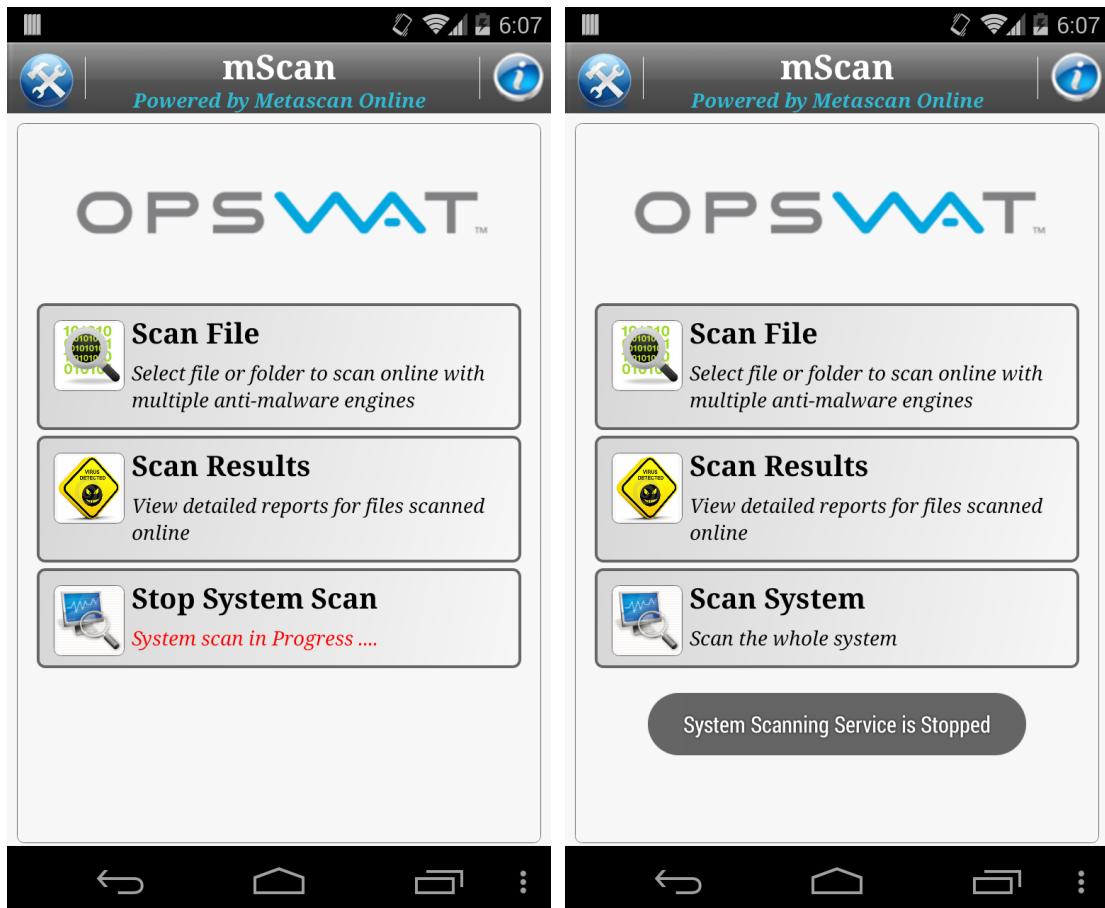
5. Scan System

The user can also scan the whole system (Mobile phone) against various viruses and malwares. This feature scans all the files (up to 12 MB) in size, upload them online and scan them. Hence their logs are available in the scan reports.

This runs as a background service since scanning the whole system takes a long time. Secondly, it is preferable that you scan the system while connected to Wi-Fi only since it is very network intensive process and may drain out the phone battery also.



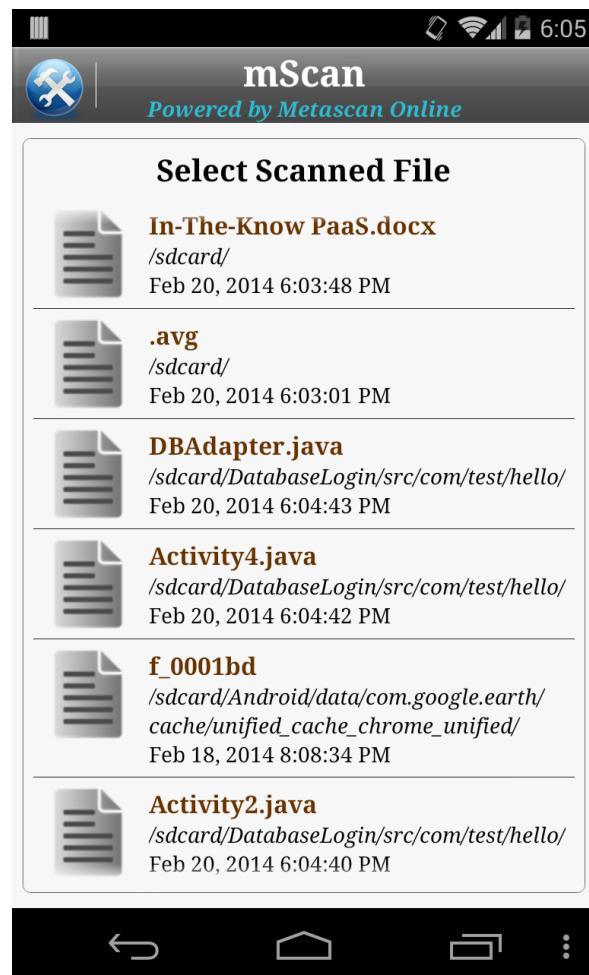
While system scan is in progress, if you want to stop the scan then click on the '**Stop System Scan**' button. It will stop the service running in background for scanning the files in your mobile.



6. Scan Reports

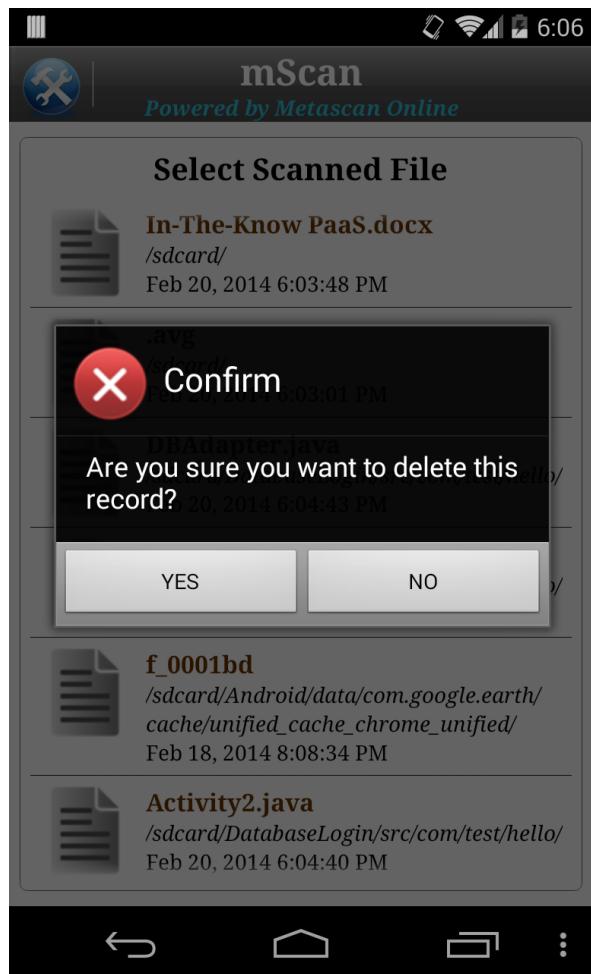
The user can view the scan reports for the files scanned online. For this, he has to select second option on the Home Screen for Scan Reports. He will be redirected to the screen shown below.

The app maintains the log of previous 200 scanning of files. The user can view the report at any point of time the scan reports of last 200 files.



6.1 Delete Scan Reports

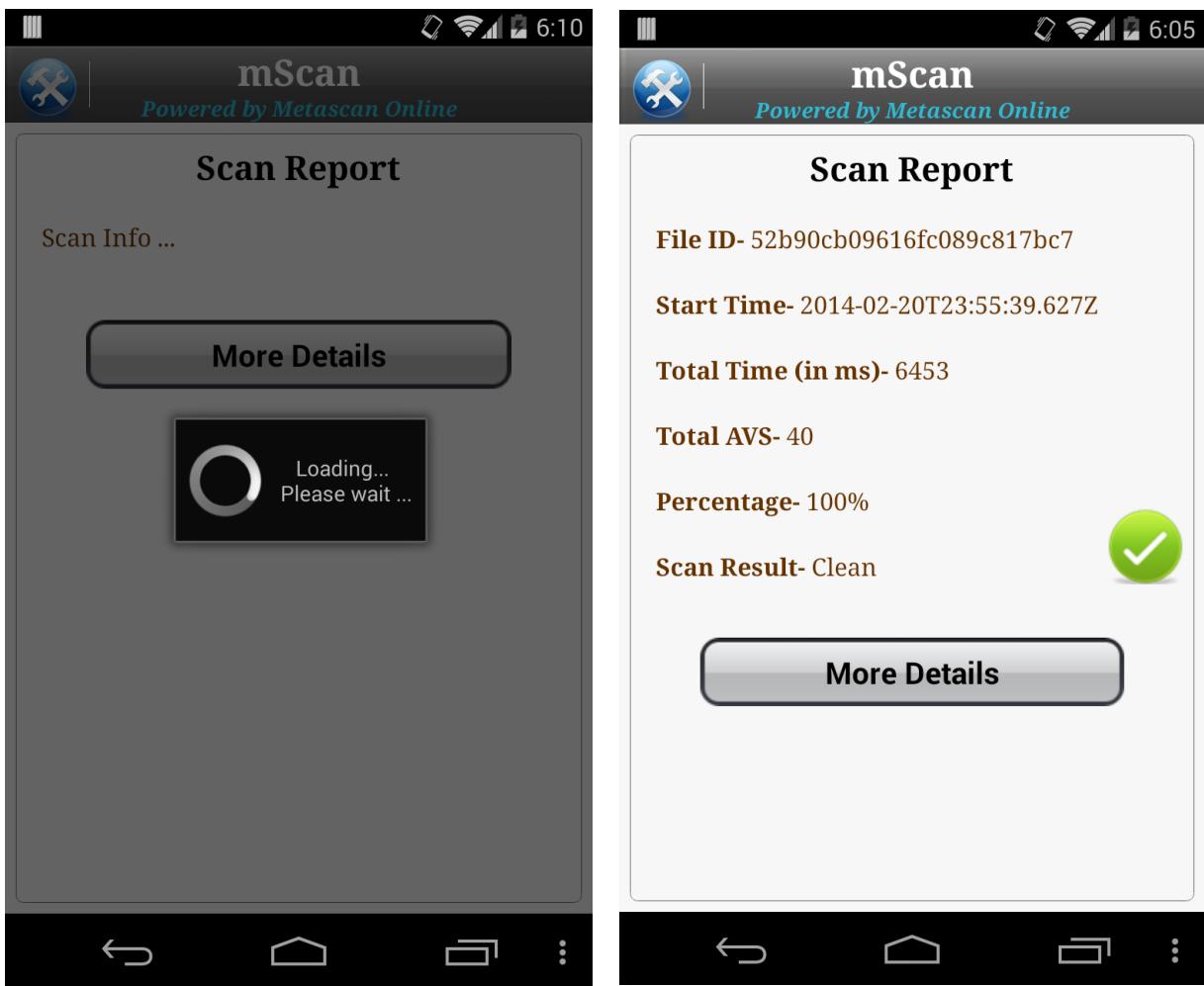
To delete any scan record, the user has to ‘press and hold’ that particular record and a dialog box will pop up asking the user whether he wants to delete that record or not. If the user clicks on ‘YES’, then it will delete that particular scan record report.



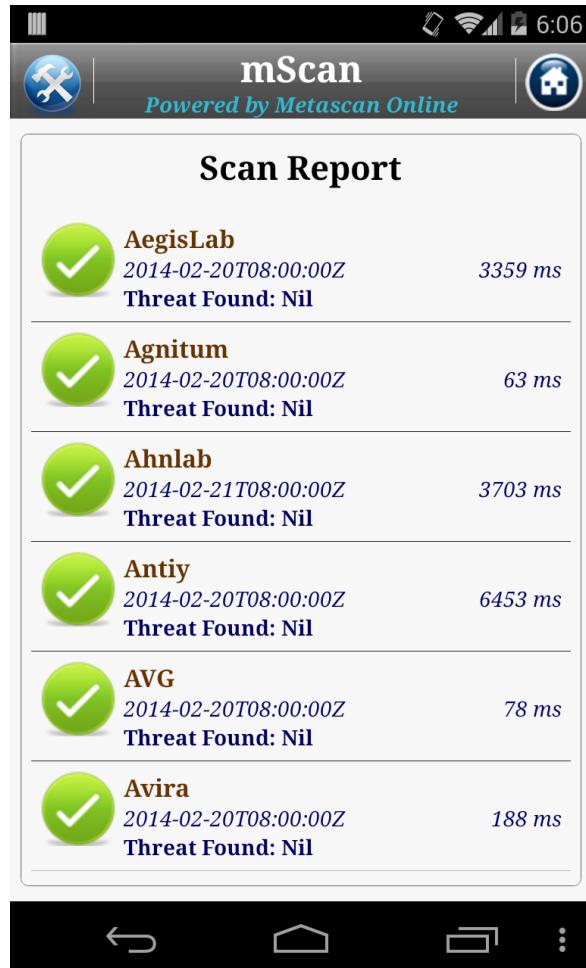
6.2 View Scan Report

To view any scan report, the user has to simply click that particular record for which he wants to view the scan details. He will be redirected to the screen shown below.

It will show the File ID, Start Time for scanning the file, Total time (in ms) for scanning file, Number of Anti-Virus Engines used for scanning file, Scanned Percentage (100% denotes scan is complete) and finally the overall scan result to show that file is clean or not.



If the user wants to get more details for the file scan for each individual Anti-Virus Engine, he can click on 'More Details' and he will be redirected to the screen as shown below.



This screen denotes the details of each Anti-virus Engine with its name, time of scanning, time spent in scanning and whether threat found or not.

The user can return to the 'Home Screen' by clicking the Home button at the top-right corner of the screen. It will redirect the user to the Home Screen.

*In case of any feedback/comments or issues with the app, kindly contact me at
msinghal@mail.missouri.edu*