



# Android™ App Performance Report

by AVG Technologies

Apr-Jun Q2 2015



The online security company™  
Protecting more than **200 million** active users.



Whatever your device, we've got you covered.

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here



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## A Executive Summary

### Introduction

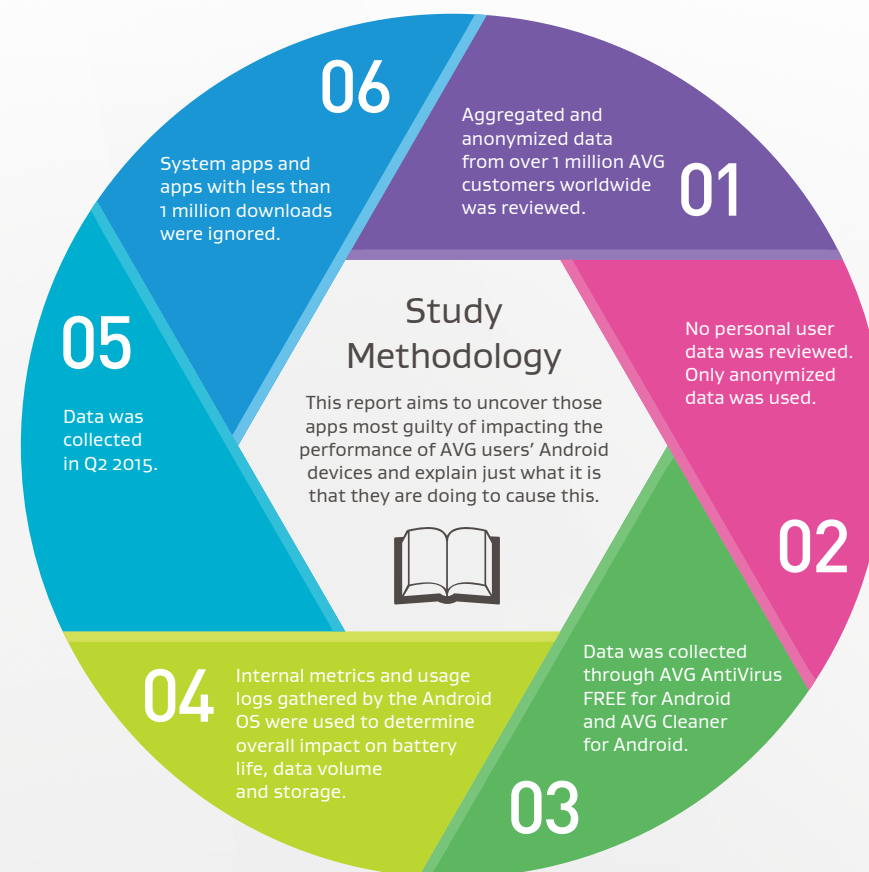
This AVG study identifies the top battery, data and storage consuming apps on Android™ smartphones and tablets and includes the latest results from Q2 2015.

The huge choice of cool, interesting and engaging apps available today for Android handsets is what makes a phone more than just a phone. These apps bring social networks, entertainment, educational information, and productivity tools to our fingertips, at home, in the office or on the move.

Brilliant though they are, certain apps have a tendency to eat up the battery life, mobile data and storage

of our phones and tablets without us realizing – by constantly checking for content and feed updates, pushing through notifications, streaming audio in the background, delivering high-res graphics, or simply downloading data.

If you are tired of soaring data bills, sluggish devices, and that universally hated red battery symbol, then read on.



## A Executive Summary

### Introduction cont...

The measured vectors - battery, storage and data plan - were normalized by calculating the percentile based on the median values of the apps, measured from when the app was installed, whether used or not.

Based on our experience with consumer preferences, AVG weighted each of the three vectors slightly differently when calculating the overall performance score for an app. The calculation was therefore:

**Storage\*3 + Battery\*2 + Traffic**

Data collected in the US, UK and Australia was statistically significant enough to be able to produce specific tables and insights for those markets. These can be viewed in the appendix.

Measurement was carried out as follows:



#### Battery Drain

We ranked the apps' battery consumption average based on real usage data. We ignored applications that have less than 1 million downloads according to Google Play. We also did not include core system apps but left in pre-installed but optional apps.



#### Storage Consumption

We ranked the apps' storage consumption average based on real usage data by measuring the size of not just the app itself but also the additional data (e.g. downloads, temp files or cache data) stored over time.



#### Data Plan

We ranked the apps' network traffic consumption average based on real usage data. We only took into account cellular transmitted data, ignoring the cost-free Wi-Fi traffic.



Note that our own **AVG AntiVirus & AVG Cleaner for Android** apps have been excluded because the data for this report is collected anonymously from these two apps, which would automatically have put them in first place as most installed.



## A Executive Summary

### Top Findings in Q2 2015

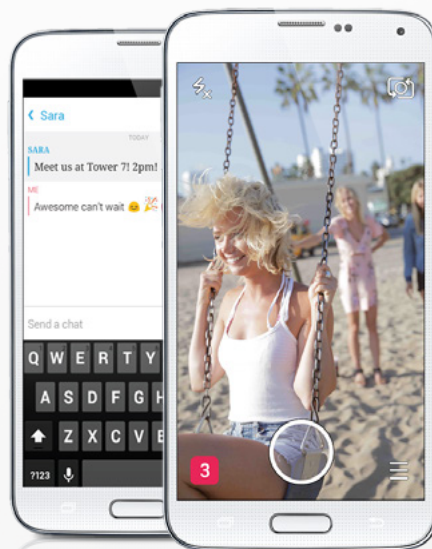
#### 1 Snapchat Now the No. 1 Performance Killer



Forget Facebook, Spotify, or any of the preinstalled apps: In Q2 2015, **Snapchat** dethroned them all as the app which had the highest, overall performance drain. Did you know that while it runs, it makes use of the camera, Wi-Fi/mobile data and GPS functionality simultaneously? This explains the high battery life and traffic consumption.



**Our advice:** Only use it for short periods of time, if your phone's resources are precious to you!



#### 2 The Search for Updates



The top, hidden battery drainer in this quarter was a service memorably called "com.sec.android.fwupgrade," which is responsible for delivering Samsung updates over Wi-Fi. Specifically related to the Q2 time period, the app tried to pull in the latest updates for "ScreenMirroring" (which **used to be called AllShareCast**). But it wasn't the only update-heavy entrant: Samsung's Security Policy Update (KNOX) and the Google Play updating mechanism also had a massive impact on battery life, this quarter.



**Our advice:** Make sure to apply all updates as soon as possible to avoid these apps having to constantly check and remind you.



## A Executive Summary

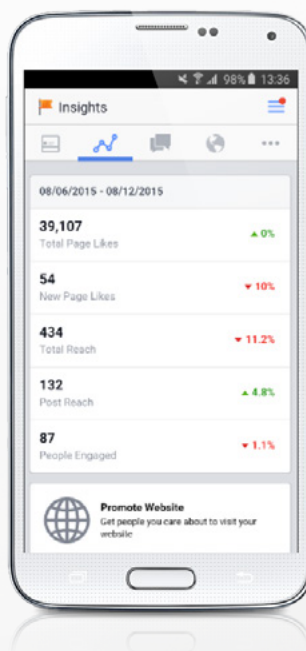
### Top Findings in Q2 2015

#### 3 Facebook Pages Manager Eats Your Storage



Are you running a Facebook page for a musician, actor, or business? Then you're probably using **Facebook Pages Manager (FPM)**

to keep track of statistics, followers and/or comments whilst on the move. Unfortunately for you our statistics are showing that this app tends to eat a lot of your local storage; so you may want to consider conducting a regular clean-up, or limiting what FPM is storing locally.



#### 4 Tumblr Tumbles to the Top...



Social and blogging platform, **Tumblr**, is our top traffic-hogging app this quarter. Here's a mind-blowing fact: among the 1 million users' data

we evaluated, Tumblr consumed more than multimedia streaming services, **Netflix** and **Spotify**, combined. And the only things that Tumblr runs are news, blogs, short video clips and some photos.



## A Executive Summary

### Top Findings in Q2 2015

#### 5 ChatON leads to screen OFF



Despite being shut down in all regions (except the US) earlier this year, Samsung's built-in chat app, "ChatON" is still killing battery life

on phones — both old and new — across the globe. Looking at the recent 1 star reviews of the app, it seems as if users are still purchasing phones with the app pre-installed, and then wondering how to get rid of it.



**Our advice:** Our **AVG Cleaner™** for Android could help out here!



#### 6 Clean Up Your Browser!



In the list of top 10 storage-consuming apps, you'll find obvious entrants, such as **Spotify**, thanks to its ability to store songs offline; and Amazon Kindle. But

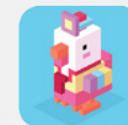
less obvious, is how Google Chrome is now the second highest, storage-consuming app on Android. Fix it: Clean up the leftover data stored on your browser, once in a while, to keep this storage hog at bay!



**Our advice:** Clean up the leftover data stored on your browser, once in a while, to keep this storage hog at bay



#### 7 The Never-Changing Gaming Landscape



Last quarter, we reported how new games, such as **Crossy Roads**, **Boom Beach** and **Solitaire**, had entered our top 10 games lists, for the first time.

Fast forward three months, and the shine seems to have worn off, as people return to playing the all-time classics, **Candy Crush Saga**, **HayDay** and **Clash of the Titans**. Some of these games have been holding the top rankings since we started our annual App Report; and their popularity doesn't appear to be waning one bit.



## A Executive Summary











### Top Findings in Q2 2015

#### 8 9 out of 10 Top Devices of 2015: Made by Samsung

Looking across our entire AVG customer base, we have a pretty good idea of which devices you are all using. Namely – those from Samsung. 9 of the top 10 most-used devices that we analyzed – those which had **AVG Cleaner™ for Android** or **AVG AntiVirus™ for Android** installed – were made by Samsung. And we're not just talking about the latest and greatest models. Most of the Samsung devices are more than 3 years old, such as the Samsung Galaxy S2 Crystal Edition or the Note 2. Others are low-budget Galaxy phone, like the S3 Neo or the S4 Mini.

In fact, the only non-Samsung phone in this list, comes from Sony: The Xperia Z2.

#### Top 10 Smartphones Q2 2015

- |   |  |   |    |  |   |
|---|--|---|----|--|---|
| 1 | <b>Samsung GT-i9300I Galaxy S III Neo+ Duos / Galaxy S3 Neo</b><br>3 million users |    | 6  | <b>Sony Xperia Z2 LTE-A D6503</b><br>0.9 million users                           |    |
| 2 | <b>Samsung GT-i9505 Galaxy S4 Black Edition 32GB</b><br>2 million users            |    | 7  | <b>Samsung GT-i9100 Galaxy S2 Crystal Edition</b><br>0.9 million users           |    |
| 3 | <b>Samsung SM-G900MD Galaxy S5 Duos 4G LTE-A</b><br>1.3 million users              |    | 8  | <b>Samsung GT-i8190 Galaxy S III Mini Crystal Edition</b><br>0.9 million users   |    |
| 4 | <b>Samsung GT-N7100 Galaxy Note II 32GB</b><br>1 million users                     |  | 9  | <b>Samsung GT-i9195F3 Galaxy S4 Mini LTE</b><br>0.5 million users                |  |
| 5 | <b>Samsung GT-i9500 Galaxy S4 La Fleur Edition</b><br>1 million users              |  | 10 | <b>Samsung SM-N9005 Galaxy Note 3 Olympic Games Edition</b><br>0.3 million users |  |




## A Executive Summary

### Scoreboard - Top Apps Run At Startup

The following tables show the top five apps in each category which, according to AVG's study, have the most impact on your device. These tables do not include games.



#### OVERALL PERFORMANCE IMPACT

1	Facebook	
2	Google Play Services	
3	Facebook Pages Manager	
4	BBM	
5	Words With Friends	








#### HIGHEST DATA TRAFFIC

1	Facebook	
2	Yahoo! Japan	
3	The Weather Channel	
4	Antivirus & Security	
5	Instagram	





#### HIGHEST BATTERY DRAIN

1	Android Firmware Updater	
2	ChatON Voice & Video Chat	
3	Beaming Service for Samsung	
4	Samsung Security Policy Updater	
5	Google Play Services	



#### HIGHEST STORAGE CONSUMPTION

1	Facebook	
2	Sp-Mode Mail	
3	Instagram	
4	Facebook Page Manager	
5	Google Play Services	

## A Executive Summary

### Scoreboard - Top Apps Run By User

The following tables show the top five apps in each category which, according to AVG's study, have the most impact on your device. These tables do not include games.








#### OVERALL PERFORMANCE IMPACT

1	Snapchat Snapchat Inc.	
2	Amazon Shopping UK Amazon Mobile LLC	
3	Spotify Music Spotify Ltd.	
4	LINE: Free Calls & Messages Samsung Media Solution Center	
5	Samsung WatchON (Video) Samsung Media Solution Center	



#### HIGHEST DATA TRAFFIC

1	Tumblr Tumblr Inc.	
2	Netflix Netflix Inc.	
3	Snapchat Snapchat Inc.	
4	BBC News Media Applications Technologies for the BBC	
5	Samsung WatchON (Video) Samsung Media Solution Center	



#### HIGHEST BATTERY DRAIN

1	Samsung WatchON (Video) Samsung Media Solution Center	
2	Snapchat Snapchat Inc.	
3	Amazon Shopping UK Amazon Mobile LLC	
4	BBC News Media Applications Technologies for the BBC	
5	Walmart Walmart	



#### HIGHEST STORAGE CONSUMPTION

1	Spotify Music Spotify Ltd.	
2	Chrome Browser Google Inc.	
3	Amazon Kindle Amazon Mobile LLC	
4	Aillis LINE Corporation	
5	Amazon Shopping UK Amazon Mobile LLC	



## A Executive Summary

### Scoreboard - Top Games

The tables below look at the top five games apps in each category which, according to AVG's study, have the most impact on your device.




#### OVERALL PERFORMANCE IMPACT

1	Hay Day Supercell	
2	Candy Crush Saga King	
3	Candy Crush Soda Saga King	
4	Farm Heroes Saga King	
5	Clash of Clans Supercell	



#### HIGHEST DATA TRAFFIC

1	Words With Friends Zynga	
2	Hay Day Supercell	
3	Clash of Clans Supercell	
4	Candy Crush Saga King	
5	8 Ball Pool Miniclip.com	








#### HIGHEST BATTERY DRAIN

1	Hay Day Supercell	
2	Candy Crush Soda Saga King	
3	Candy Crush Saga King	
4	Clash of Clans Supercell	
5	Don't Tap The White Tiles Clean MASTER Games	



#### HIGHEST STORAGE CONSUMPTION

1	Despicable Me Gameloft	
2	Hay Day Supercell	
3	My Talking Angela Outfit7	
4	8 Ball Pool Miniclip.com	
5	My Talking Tom Outfit7	

## B Key Findings – Q2 2015

### Introduction

New versions of the Android™ operating system introduce additional features that are specifically optimized for the latest devices. But at what cost?

While new Android versions can dramatically improve the experience for those who own the latest smartphone or tablet, the same is not true for older devices, whose users may see the battery life and speed suffer.

It's also the case that the more apps you install, the slower your phone or tablet will get. This is not just about the space those apps take up being on your device, but also the fact that a lot of apps, such as **Spotify**, **Skype** or **WhatsApp**, tend to be active even when not used and run quietly in the background.

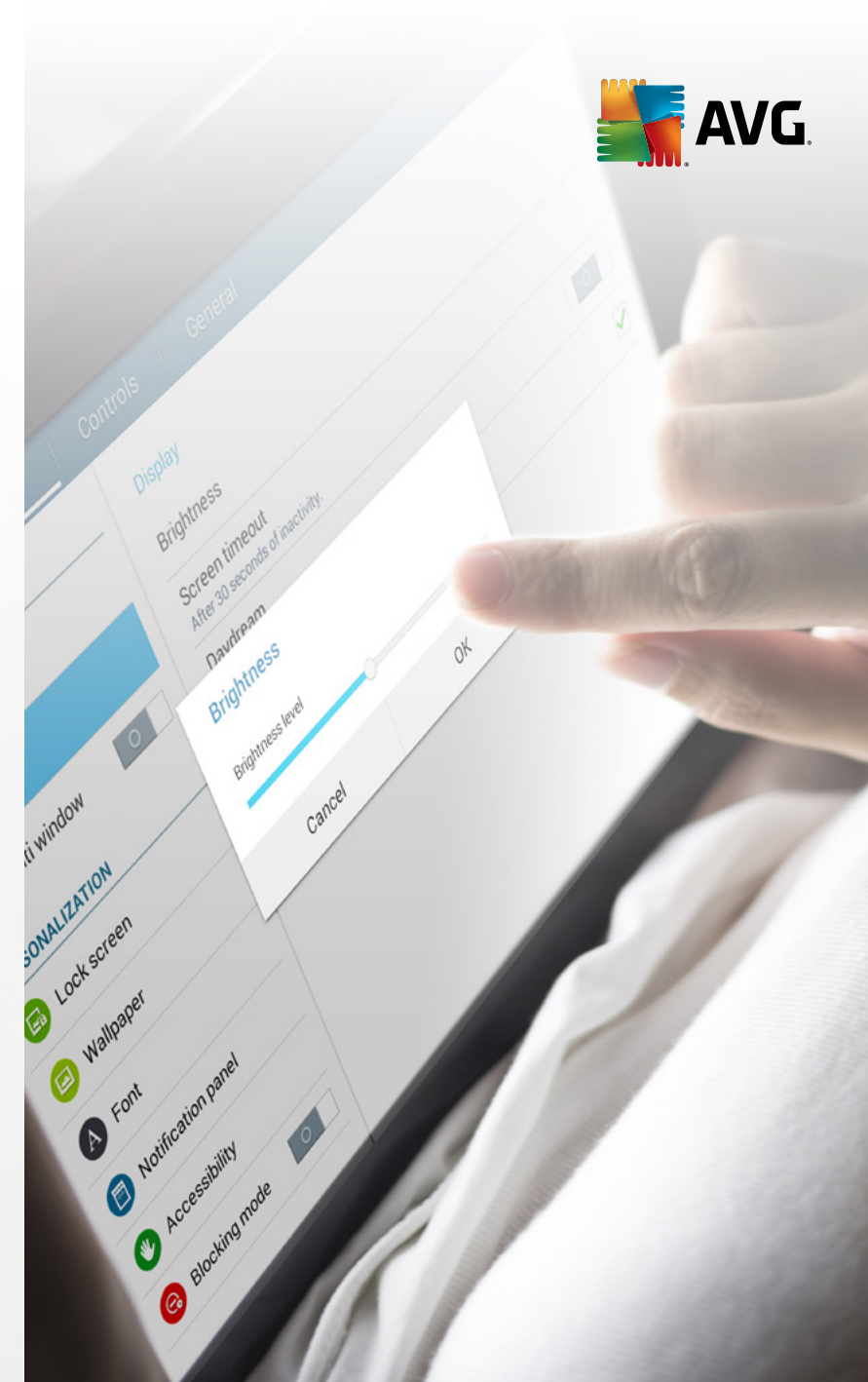
In this section, we will take a closer look at the full list of apps which ranked in the top ten for impact on battery life,

device storage and data plan – as well as those with the overall highest ranking for performance when combining all three of these measurements.

The key findings are separated into two parts:

- All apps excluding games
- Games only, which we felt were significant enough to merit a separate category of their own

On page 28, we will look at possible ways to improve the battery drain, performance draw and data usage through various steps both inside the Android OS as well as in specific apps.



## B Key Findings – Q2 2015

### World's Greediest Mobile Apps

In this section, we discovered which apps had the most overall impact on mobile devices.

#### TOP 10 PERFORMANCE DRAINING APPS – RUN AT START UP



CATEGORY:  Social  Communication  Business  Tools  Word  Weather

#### Analysis

Most of the time, users are aware of the real performance drainers, like video streaming apps or games – those which we consciously run. What they're usually not aware of, are the apps that silently run in the background, once your phone has been turned on: Much to our surprise, some of these apps are ones which should, under no circumstance, be running invisibly. While we understand the need for **Messenger** and **Facebook** to be active and checking for notifications, there is no reason why **The Weather Channel** or **Words With Friends** should be so high on this list.

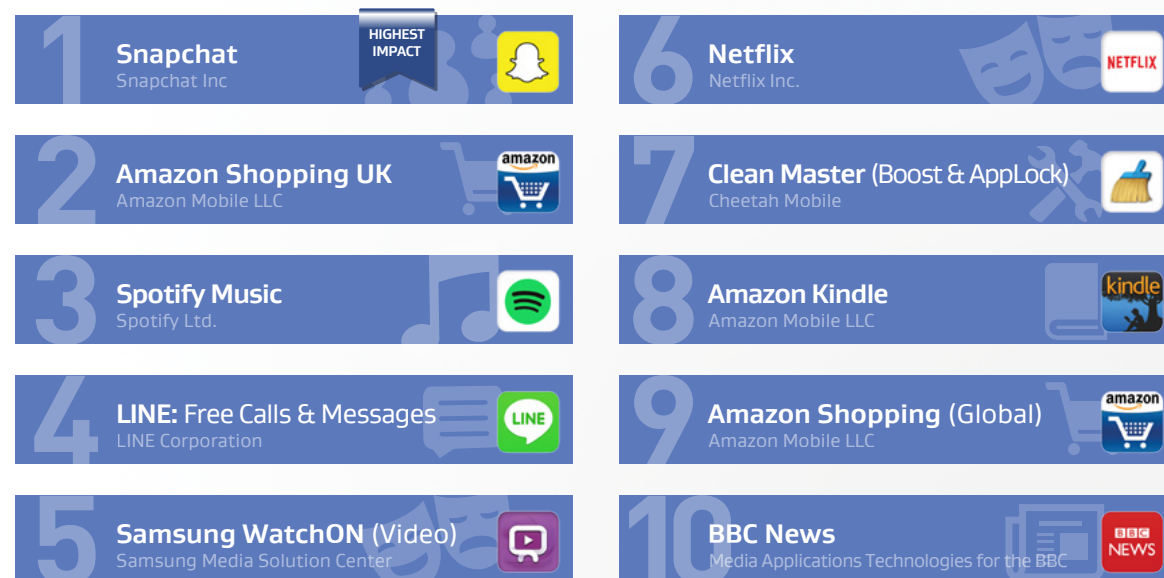




## B Key Findings – Q2 2015

### World's Greediest Mobile Apps cont..

#### TOP 10 PERFORMANCE DRAINING APPS – RUN BY USER



CATEGORY:  Social  Music & Audio  Comm.  Tools  Books & Reference  Entertainment  Shopping  Newspaper & Magazines

#### Analysis

Turning our attention to the apps which users actively launch: Much to our surprise, **Snapchat came out in pole position** as having the most, overall impact when looking at traffic used, battery life drawn, and storage consumed. Also new on the list were **Amazon's** shopping apps, showing that, if you're on the go and you want to save data or battery life, you shouldn't be tempted into an online shopping spree!



## B Key Findings – Q2 2015

### Top Ten Battery Drainers

In this category, we split out those apps which run automatically when you turn on your smartphone or tablet and keep on running in the background all the time as part of their core functionality. This could, for example, include antivirus apps, messaging apps or social apps.

#### TOP 10 BATTERY DRAINERS – RUN AT START UP



CATEGORY:  Social  Communication  Productivity  Tools  Weather  Photography

#### Analysis

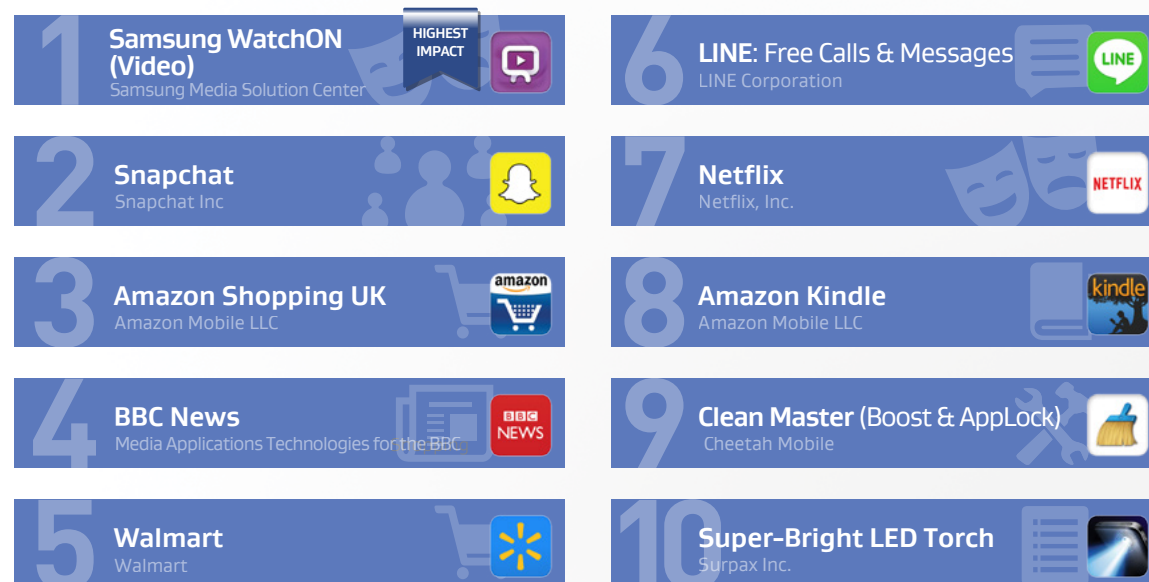
Whether due to Google pushing Android 5.0 or 5.1 onto users' machines, or some other update, the number 1 battery drainer, in the second quarter of 2015, was **Android's built-in Firmware Updater**. As previously mentioned, the fix for this is to make sure to install updates as soon as you get notified of them; or, if you know what you're doing, turn off the automatic check and update your apps manually.



## B Key Findings – Q2 2015

### Top Ten Battery Drainers cont..

#### TOP 10 BATTERY DRAINERS – RUN BY USER



CATEGORY:  Social  Entertainment  Newspaper & Magazines  Communication  Productivity  Tools

#### Analysis

Once again, **Samsung WatchON** emerged as the app that hogged your smartphone's battery the most, this quarter – beating even **Snapchat** and **Netflix**. Luckily this seems to only affect users in the US and Korea, as Samsung has shut down that service in all other markets.

Ironically, an app that's supposed to clean up and help boost the performance of your Android phone, is also in the top 10 of the highest battery drainers. Last quarter's top contenders **OLX Free Classifieds** and the **Telstra** app were not found in the top 10, however, likely due to recent updates and improvements.





## B Key Findings – Q2 2015

### Top Ten Storage Hogs

Your favorite everyday apps could be using up more of the precious limited storage on your device than you might realize.

#### TOP 10 STORAGE EATERS – RUN AT START UP



CATEGORY:  Social  Communication  Word  Business  Tools

#### Analysis

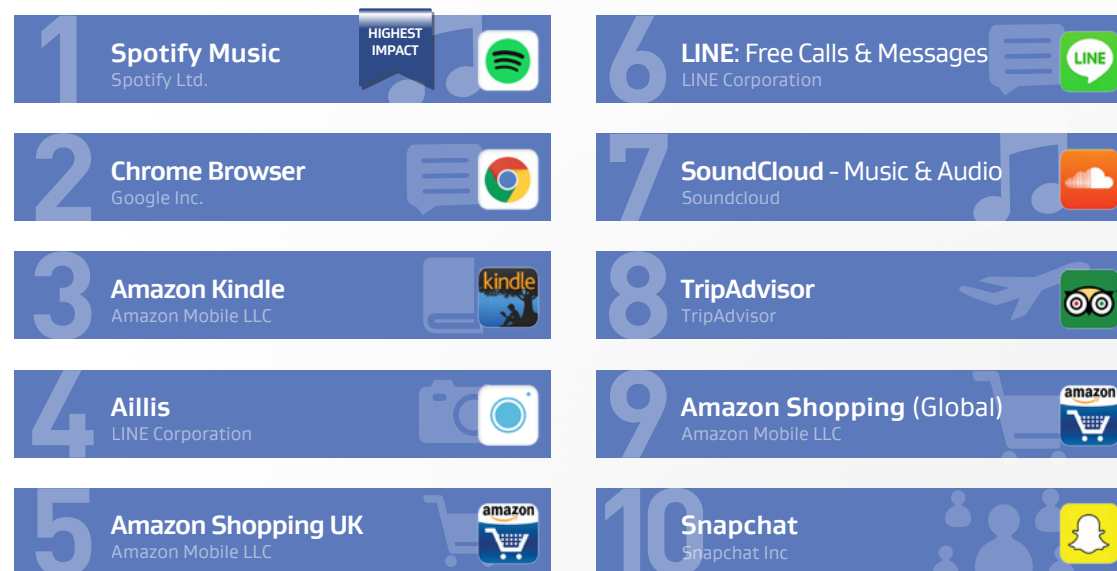
This top 10 list shows exactly which, invisible background apps tend to store way too much temporary data, over time. The clear winner, again, was **Facebook**: It's likely that the app keeps cache and other temporary data on your phone for far too long. To delete such data, simply go into the app's settings and hit the **"Clean Your Phone's Browsing Data"** button.



## B Key Findings – Q2 2015

### Top Ten Storage Hogs cont..

#### TOP 10 STORAGE EATERS – RUN BY USER



CATEGORY: 🎵 Music & Audio 🛒 Shopping 💬 Communication ✈️ Travel & Local 📷 Photography 👥 Social

#### Analysis

The first two apps on the list of the storage-eating apps actively run by the user, are still **Spotify Music** and **Google Chrome**. This is mostly due to Spotify's offline music feature and Chrome's browser cache.

Again, both of the Amazon Shopping apps, as well as TripAdvisor, seem to create and store too great a local cache, which needs to be deleted, either manually or using a cleaning app.



## B Key Findings – Q2 2015

### Top Ten Data Traffic Hogs

Many of the apps you love the most can impact heavily on your data plan, which is why if you are watching your monthly bills, you might want to use these apps with care.

#### TOP 10 DATA TRAFFIC HOGS – RUN AT START UP



CATEGORY:  Social  Shopping  Tools  Weather  Newspaper & Magazines  Personalization

#### Analysis

Japanese users watch out: next to Facebook, your **Yahoo! JAPAN** news app seems to be the main culprit for background syncing over 3G/4G so you might want to turn off push content.

While we understand that you may see the value in content-heavy apps, such as **Facebook**, **Yahoo!** or **Instagram**, automatically downloading content, apps like **WeatherBug**, **The Weather Channel**, **Groupon** or **APUS Launcher** have no reason to be sucking up all your mobile data. Our advice: either uninstall them, or turn off their background features!

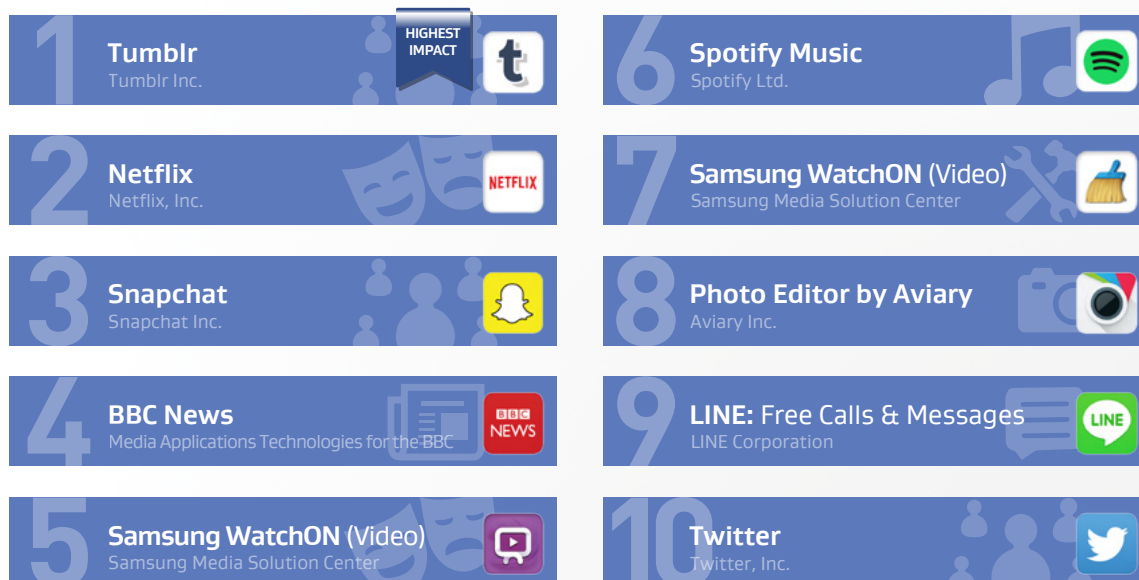




## B Key Findings – Q2 2015

### Top Ten Data Traffic Hogs cont..

#### TOP 10 DATA TRAFFIC HOGS – RUN BY USER



CATEGORY:  Social  Music & Audio  Newspaper & Magazines  Photography  Tools  Entertainment  Communication

#### Analysis

Careful when you're on the move: even those apps that you wouldn't expect to have a high-traffic volume, like **Tumblr** or **Snapchat**, could deplete your monthly data allowance in a snap (if you pardon the pun) – particularly when compared to obvious traffic hogs, like **Spotify** or **Netflix**. Equally baffling, are apps, such as **BBC News** or **Photo Editor**, which shouldn't show up in this top 10 at all, given how little traffic is required to run them.



## B Key Findings – Q2 2015

### Mobile Gaming – What Gamers Should Know

Many of the games you love the most can impact heavily on your device performance, so if you are watching your battery or storage levels, you might want to choose when to use these apps.

#### TOP 10 PERFORMANCE DRAINING APPS – GAMES



CATEGORY:  Strategy  Casual  Action  Arcade  Racing

#### Analysis

Games tend to consume more phone resources and have greater impact on performance than any other app category, as they require lots of graphic and processor power. Constant holders of the top spots in our rankings, are games like **Hay Day**, the various **Saga** games and **Clash of Clans**. New in this category for Q2 2015, however, are **Temple Run 2** and **Hill Climb Racing**.

## B Key Findings – Q2 2015

### Mobile Gaming – What Gamers Should Know cont...

#### TOP 10 BATTERY DRAINERS – GAMES

1	<b>Hay Day</b> Supercell	HIGHEST IMPACT	
2	<b>Candy Crush Soda Saga</b> King		
3	<b>Candy Crush Saga</b> King		
4	<b>Clash of Clans</b> Supercell		
5	<b>Don't Tap The White Tiles</b> Clean Master Games		

CATEGORY:  Strategy  Casual  Arcade  Sports

#### TOP 10 STORAGE HOGS – GAMES

1	<b>Despicable Me</b> Gameloft	HIGHEST IMPACT	
2	<b>Hay Day</b> Supercell		
3	<b>My Talking Angela</b> Outfit7		
4	<b>8 Ball Pool</b> Miniclip.com		
5	<b>My Talking Tom</b> Outfit7		

CATEGORY:  Casual  Action  Arcade  Sports  Word

6	<b>Crossy Road</b> Yodo1 Games		
7	<b>Subway Surf</b> Kiloo		
8	<b>Words With Friends</b> Zynga		
9	<b>Temple Run 2</b> Imangi Studios		
10	<b>Farm Heroes Saga</b> King		



## B Key Findings – Q2 2015

### Mobile Gaming – What Gamers Should Know cont...

#### TOP 10 DATA TRAFFIC HOGS – GAMES



CATEGORY:  Strategy  Casual  Action  Word  Sports

#### Analysis

Yet again, it's the more simple games, like **Hay Day**, that consumed the most battery life, while **Despicable Me** had the highest storage usage.

Meanwhile, **Words With Friends** continues to hold the number 1 spot for the greatest traffic hog, despite the fact that it should only sync simple, game-related information. Our advice: it's not just battery life you should watch when playing these games! Keep an eye out on your remaining storage and mobile data volume – particularly if you don't have an unlimited plan.

## C App Usage Trends

### Introduction

Based on AVG's global statistics, the following list shows the top 20 most used apps on AVG users' Android devices.



## C App Usage Trends

### Installed Tools

#### TOP INSTALLED TOOLS



CATEGORY:  Tools

#### Analysis

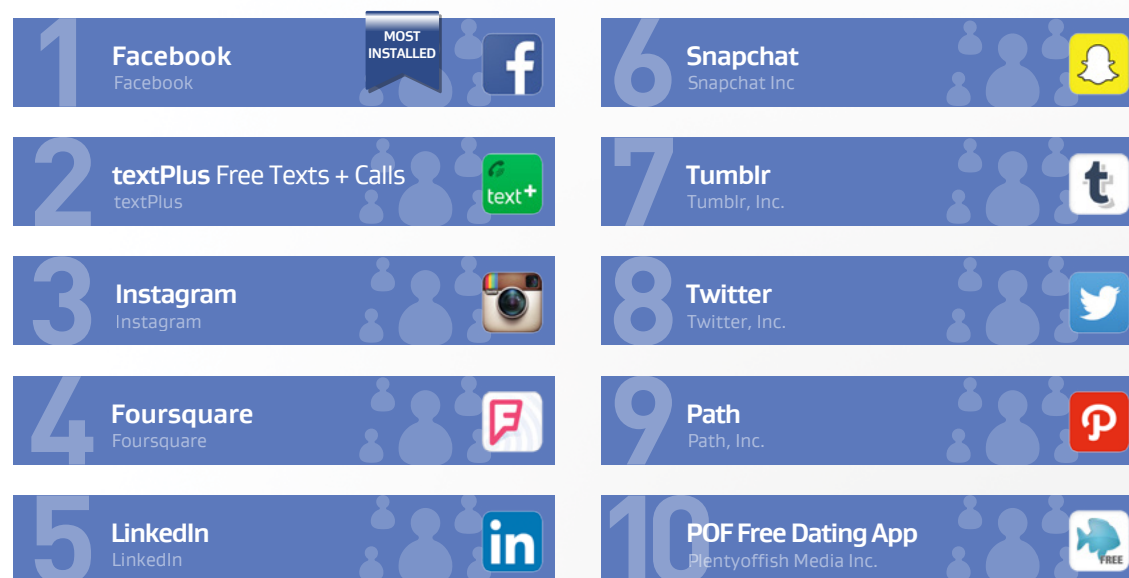
**Clean Master** took the crown as the most installed tool of Q2 2015, joining others like Battery Doctor, SpeedTest and AVAST Antivirus & Security on our list. Note: because we're measuring this data using our own **AVG Cleaner for Android** and **AVG AntiVirus for Android** tools, these would automatically have taken the No.1 & 2 spots on these lists, which is why we've excluded them. New on the list of Top 10 tools is **Speedtest**.



## C App Usage Trends

### Installed Social Apps

#### TOP INSTALLED SOCIAL APPS



CATEGORY:  Social

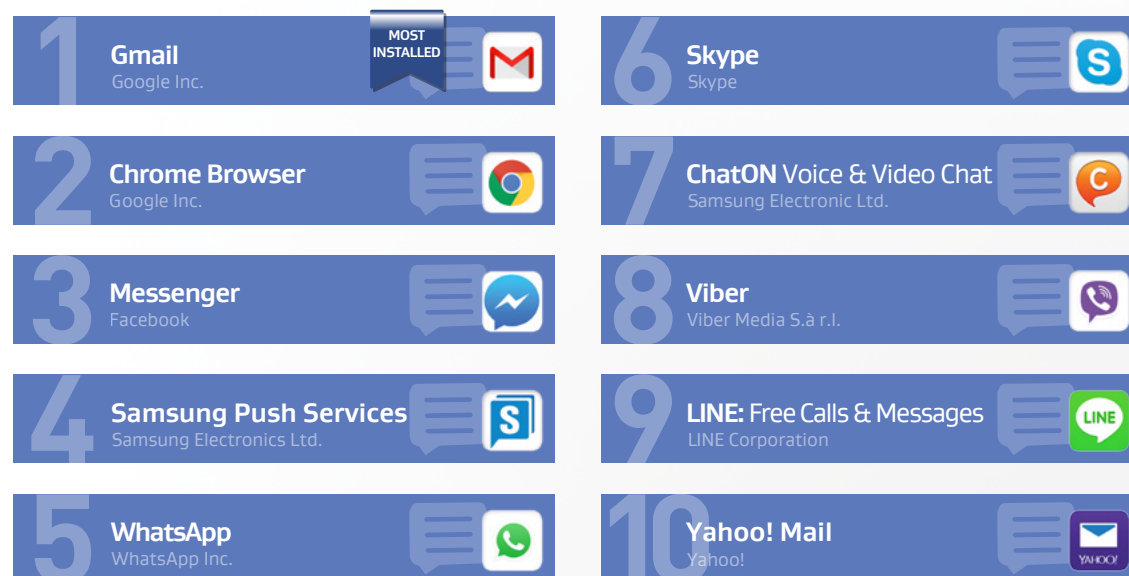
#### Analysis

For the first time in a long while, there's been some movement in the list of top installed social apps: While Facebook is still No.1, newcomer, **textPlus**, literally came out of nowhere to claim the No.2 spot. Tango Messenger, on the other hand, seems to have fallen in popularity and moved out of the top 10.

## C App Usage Trends

### Installed Communication Apps

#### TOP INSTALLED COMMUNICATION APPS



CATEGORY:  Communication

#### Analysis

In another surprising move, the **GMail app** has dethroned **Facebook Messenger** as the most installed communication app for Android in Q2 2015. Losing out is **WhatsApp**, which has lost ground and dropped from No.3 to 5, when compared to the previous quarter.

## D Addressing the Issues

### Insights into Android Device and App Optimization

Android devices have to walk a fine line trying to restrict the resource consumption of apps but not limit their functionality too much.

We all love our apps, and we don't want to stop using them.





## D Addressing the Issues

### 7 Ways to Boost Battery Life, Free Up Storage and Reduce Mobile Data Traffic

Here are 7 easy steps to help you boost battery life, stop storage eaters and save mobile traffic.

#### ✓ Limit notifications to save battery life, performance and mobile data:

Phone notifications are one of the most useful mobile inventions, giving users information they need to know about new appointments or messages at a glance. But not all of them are useful, and they can consume resources.

#### ✓ Limit apps battery & performance drain:

Reduce background features, refresh intervals, location usage or in-app notifications.

#### ✓ Free up space:

Apps collect clutter over time. Use [AVG Cleaner for Android](#) to get rid of temporary files.

#### ✓ Reduce data traffic:

Turn off background data transfers or any offline reading features within your app if you don't want it to consume mobile traffic.

#### ✓ Turn off Wi-Fi, Bluetooth and GPS:

To save more battery life, turn off all the hardware features you don't need at any given moment.

#### ✓ Turn down brightness:

If you're not in bright sunlight, we recommend turning the brightness levels down to 50-70%. Why? On many of today's big phones and tablets, the display is responsible for up to 80% of the entire power consumption.

#### ✓ Get rid of performance-sapping apps:

Our [AVG Cleaner for Android](#) analyzes the top battery, storage, and traffic-hogging apps on your device. If you don't need one of these apps, you can easily uninstall it and look for more resource-friendly alternatives.

We've put together a comprehensive guide for all consumers and businesses looking to address the issues outlined in this report.

Click [here](#) to download the full PDF guide.



## D Contact Information

For further information, please visit:.

Our blogs, press information and resources on how to get the most out of your connected devices at AVG Now: <http://now.avg.com>

Our website for details about our performance products: <http://www.avg.com/performance>

Contact:

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[tony.anscombe@avg.com](mailto:tony.anscombe@avg.com)

**Sandro Villinger** - Performance PR  
[sandro.villinger.contractor@avg.com](mailto:sandro.villinger.contractor@avg.com)

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## E Appendix

### App Resource Consumption Analysis

In this section, you can find the app resource consumption analysis for the United States, the United Kingdom and Australia. We used the same methods to calculate the rankings as before, but this time only took into account performance data of users from these specific countries.





## E Appendix

### USA

#### TOP 10 PERFORMANCE DRAINING APPS – EXCLUDING GAMES

1 <b>Facebook</b> Facebook	MOST INSTALLED	6 <b>Samsung WatchON (Video)</b> Samsung Media Solution Center
2 <b>Snapchat</b> Snapchat Inc.		7 <b>Netflix</b> Netflix Inc.
3 <b>Google Play Services</b> Google Inc.		8 <b>ooVoo Video Call Text &amp; Voice</b> ooVoo LLC
4 <b>Spotify Music</b> Spotify Ltd.		9 <b>Messenger</b> Facebook
5 <b>Instagram</b> Instagram		10 <b>Clean Master (Boost &amp; AppLock)</b> Cheetah Mobile

CATEGORY:  Social  Music & Audio  Communication  Entertainment  Tools

#### TOP 10 PERFORMANCE DRAINING APPS – GAMES ONLY

1 <b>Words With Friends</b> Zynga	MOST INSTALLED	6 <b>Crossy Road</b> Yodo1 games
2 <b>Candy Crush Saga</b> King		7 <b>Despicable Me</b> Gameloft
3 <b>Candy Crush Soda Saga</b> King		8 <b>Subway Surf</b> Kiloo
4 <b>Clash of Clans</b> Supercell		9 <b>Hill Climb Racing</b> Fingersoft
5 <b>Farm Heroes Saga</b> King		10 <b>Hay Day</b> Supercell

CATEGORY:  Arcade  Strategy  Casual  Action  Word  Racing

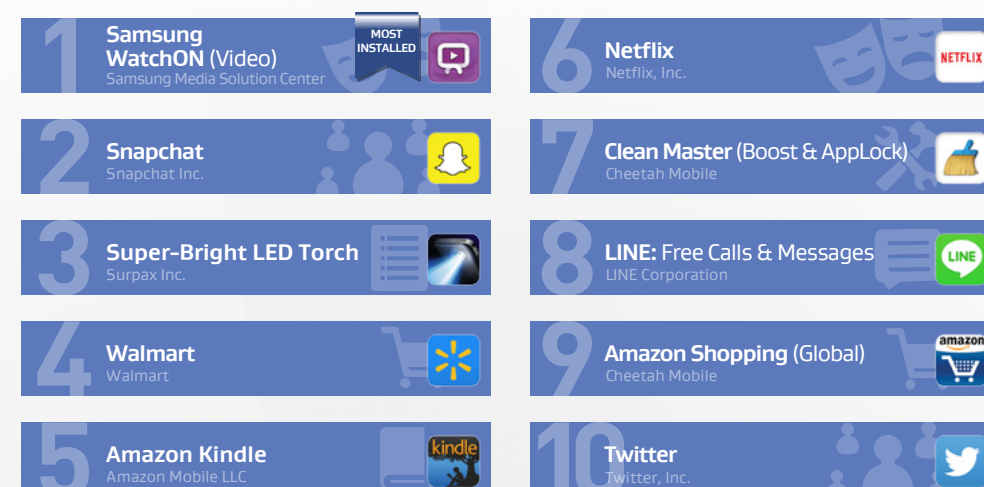
## E Appendix USA







### TOP 10 BATTERY DRAINERS – RUN AT START UP



CATEGORY:  Communication  Productivity  Tools  Shopping  Social




### TOP 10 BATTERY DRAINERS – RUN BY USER



CATEGORY:  Communication  Productivity  Shopping  Social  Entertainment  Books & Reference  Tools

## E Appendix USA


### TOP 10 BATTERY DRAINERS – GAMES ONLY

1	<b>Candy Crush Soda Saga</b> King	
2	<b>Clash of Clans</b> Supercell	
3	<b>Candy Crush Saga</b> King	
4	<b>Words With Friends</b> Zynga	
5	<b>NFL Mobile</b> NFL Enterprises LLC	
6	<b>Farm Heroes Saga</b> King	
7	<b>Hayday</b> Supercell	
8	<b>Crossy Road</b> Yodo1 Games	
9	<b>Hill Climb Racing</b> Fingersoft	
10	<b>Despicable Me</b> Gameloft	

CATEGORY:  Strategy  Casual  Action  Racing  Card  Word  Arcade

### TOP 10 STORAGE EATERS – EXCLUDING GAMES

1	<b>Facebook</b> Facebook	
2	<b>Chrome Browser</b> Google Inc.	
3	<b>Spotify Music</b> Spotify Ltd.	
4	<b>Instagram</b> Instagram	
5	<b>Vine</b> Vine Labs	
6	<b>Amazon Kindle</b> Amazon Mobile LLC	
7	<b>Google Search</b> Google Inc.	
8	<b>Skype</b> Skype	
9	<b>Google Play Services</b> Google Inc.	
10	<b>Snapchat</b> Snapchat Inc.	

CATEGORY:  Communication  Social  Entertainment  Books & Reference  Tools  Music & Audio

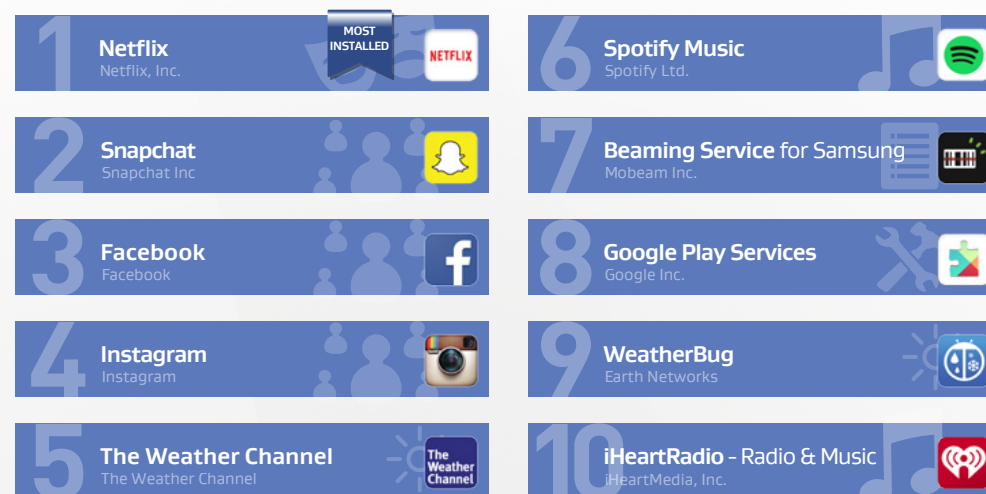
## E Appendix USA

### TOP 10 STORAGE EATERS – GAMES ONLY



CATEGORY:  Strategy  Casual  Action  Arcade  Word  Racing

### TOP 10 DATA TRAFFIC HOGS – EXCLUDING GAMES



CATEGORY:  Productivity  Music & Audio  Social  Entertainment  Weather  Tools



## E Appendix

### USA

#### TOP 10 DATA TRAFFIC HOGS - GAMES ONLY

1	<b>Words With Friends</b> Zynga	
2	<b>Candy Crush Saga</b> King	
3	<b>Clash of Clans</b> Supercell	
4	<b>Candy Crush Soda Saga</b> King	
5	<b>NFL Mobile</b> NFL Enterprises LLC	
6	<b>Farm Heroes Saga</b> King	
7	<b>Hay Day</b> Supercell	
8	<b>Despicable Me</b> Gameloft	
9	<b>Crossy Road</b> Yodo1 Games	
10	<b>Subway Surf</b> Kiloo	

CATEGORY:  Word  Casual  Strategy  Arcade  Action  Sports

## E Appendix

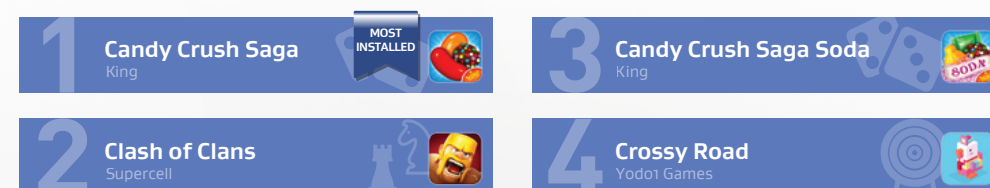
### UNITED KINGDOM

#### TOP 10 PERFORMANCE DRAINING APPS - EXCLUDING GAMES



CATEGORY:  Social  Music & Audio  Communication  Tools  Entertainment  Shopping

#### TOP PERFORMANCE DRAINING APPS - GAMES ONLY \*



CATEGORY:  Casual  Strategy  Action

\* Not enough games met the threshold of 1 million downloads and thus did not meet our criteria

## E Appendix

### UNITED KINGDOM

#### TOP 10 BATTERY DRAINERS - RUN AT START UP



CATEGORY:  Social  Communication  Tools  Productivity  Shopping

#### TOP 10 BATTERY DRAINERS - RUN BY USER

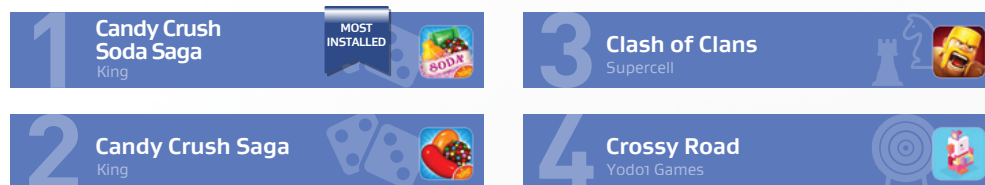


CATEGORY:  Social  Tools  Entertainment  Newspaper & Magazines  Books & Reference  Music & Audio

## E Appendix

### UNITED KINGDOM

#### TOP BATTERY DRAINERS - GAMES ONLY \*










CATEGORY:  Casual  Strategy  Action

\* Not enough games met the threshold of 1 million downloads and thus did not meet our criteria

#### TOP 10 STORAGE EATERS - EXCLUDING GAMES



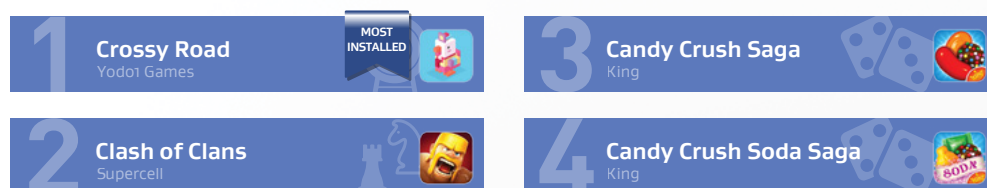
CATEGORY:  Social  Music & Audio  Communication  Travel & Local  Books & Reference  Shopping  Tools



## E Appendix

### UNITED KINGDOM

#### TOP STORAGE EATERS - GAMES ONLY \*










CATEGORY:  Casual  Strategy  Action

\* Not enough games met the threshold of 1 million downloads and thus did not meet our criteria

#### TOP 10 DATA TRAFFIC HOGS - EXCLUDING GAMES

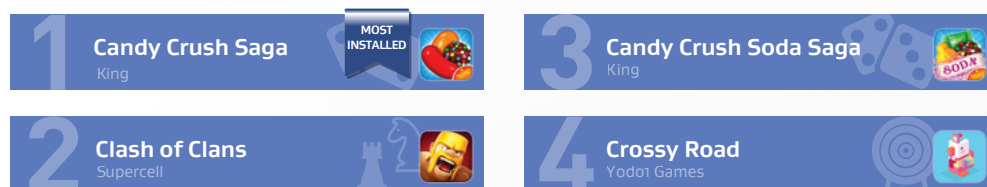


CATEGORY:  Social  Music & Audio  Newspaper & Magazines  Communication  Entertainment  Shopping  Tools

## E Appendix

### UNITED KINGDOM

#### TOP DATA TRAFFIC HOGS - GAMES ONLY \*



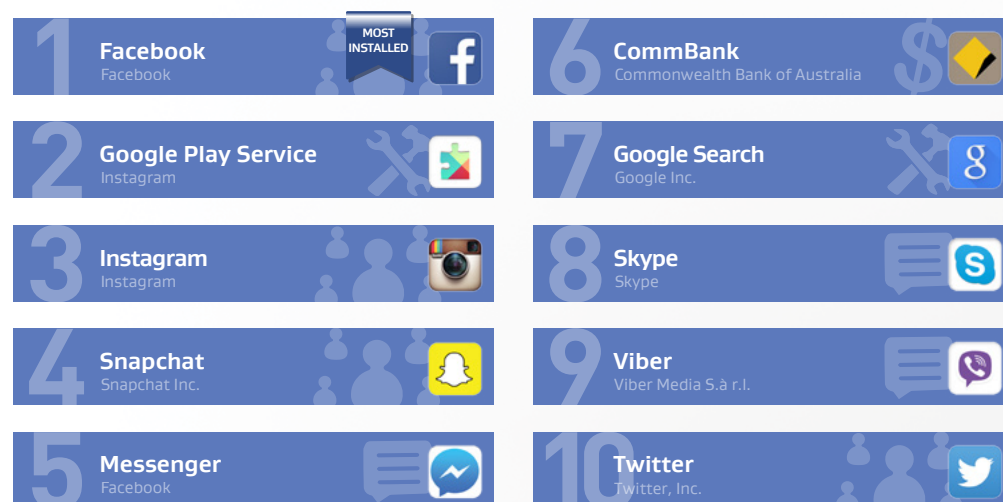
CATEGORY:  Casual  Strategy  Action

\* Not enough games met the threshold of 1 million downloads and thus did not meet our criteria

## E Appendix

### AUSTRALIA






#### TOP 10 PERFORMANCE DRAINING APPS - EXCLUDING GAMES



CATEGORY:  Social  Communication  Productivity  Tools  Travel & Local

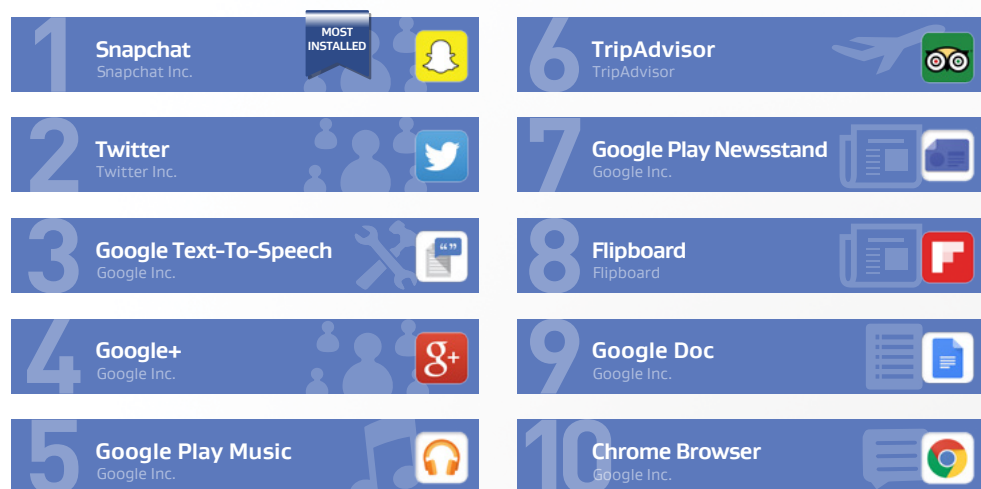
#### TOP 10 BATTERY DRAINERS - RUN AT START UP



CATEGORY:  Social  Communication  Productivity  Tools  Finance

## E Appendix AUSTRALIA


### TOP 10 BATTERY DRAINERS - RUN BY USER



CATEGORY:  Social  Communication  Travel & Local  Music & Audio  Newspaper & Magazines  Tools  Productivity

### TOP 10 STORAGE EATERS



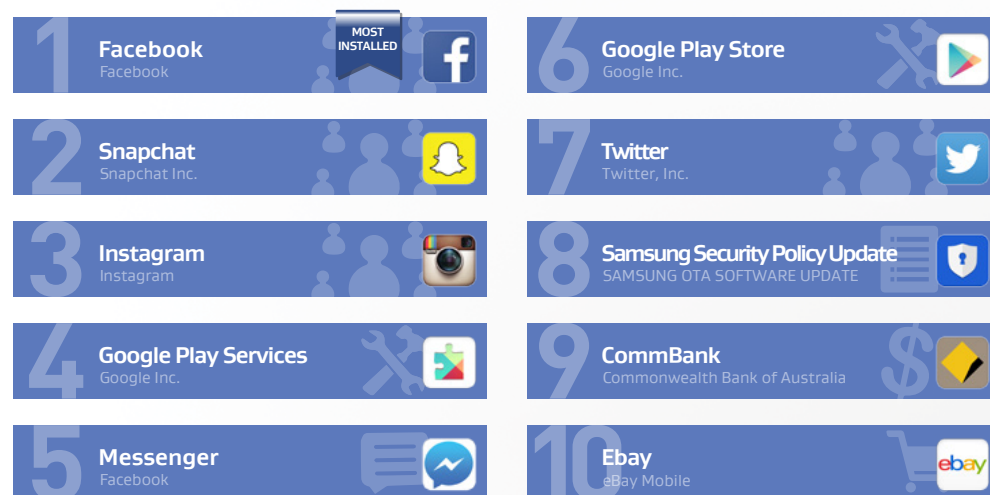
CATEGORY:  Social  Communication  Travel & Local  Tools  Productivity  Media & Video  Finance



## E Appendix

### AUSTRALIA

#### TOP 10 DATA TRAFFIC HOGS



CATEGORY:  Social  Communication  Tools  Productivity  Finance  Shopping