

Google Analytics 4 vs. Universal Analytics

Comparing metrics

May 2023



One thing that I encounter while migrating over to GA4 is the discrepancy between the metrics in UA and GA4. I believe most people are having the same challenge as well. Why are they different and how do I explain this to the stakeholders?

I've created this guide to explain the key differences between the metrics and how they're measured. It's designed for users who already have some knowledge in UA. If you're new to GA4, this guide [here](#) will help you understand it a little bit more!

hi



Hello!! My name is April, I will be your tour guide for today. Without further ado, let's get started! Leshgooo!

Key metrics that will be discussed in this guide:

- Users
- Sessions
- Event counts
- Conversion
- Bounce rate

Let's put on the online clothing shop owner hat on! You are an online shop owner who's just started using GA4 after using UA for a year.



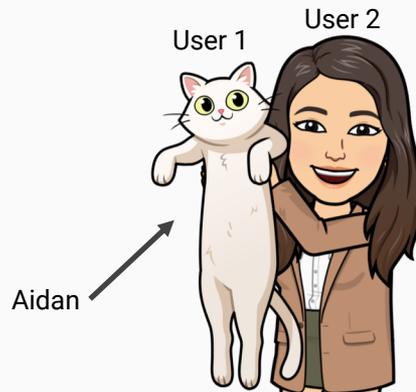
Users - Universal Analytics

Total users

Total number of users

Primary user metric for UA

April & Aidan land on your promotion page. April and Aidan are both counted toward the total users metric.



Total user = 2

New users

Total number of users who visited your site for the first time

Becky lands on your homepage for the first time. Becky is a new user to your site.



Calculated by Client ID

Users - Google Analytics 4

Total users

Total number of unique users who logged an event

Trent lands on your promotion page. An event, "session_start" is logged, therefore, Trent is being counted toward the total user metric.

New users

Total number of users who interacted with your app or site for the first time

Isaac opens your app for the first time. An event, "first_open" is fired, Isaac is now a new user to your app.

Active users

Total number of unique users who has an engaged session

Primary user metric for GA4

Kat lands on the T-shirt page and scrolls through the page to look at the different T-shirts online. Kat is an active user.

Now let's have a look at the User metrics in GA4!



Calculated by User ID

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User - Universal Analytics vs. Google Analytics 4

Other differences:

- **Different user-identity method User ID vs. Client ID**  [Read more on Client ID vs. User ID](#)
User-ID is based on a single user/account across one/more devices and browser (GA4)
Client-ID is based on a device or browser (UA)
- **GA4 by default includes all data streams (web & apps) whereas in UA specific streams need to be added via filters in the report settings**
- **Currently, filters are not supported in GA4 while UA data may be excluded via view filters**
For example, some businesses filter out internal traffic based on IP addresses. Then they will more likely see more traffic in GA4 than UA
- **The user calculation methods have a different margin of error for GA4 vs. UA**
- **Primary user metric for GA4 is Active user whereas for UA is total user**

If you are a nerd like me, you can find more details on the differences [here](#)



Session is a period of time a user is actively engaged with your website or app

Universal Analytics

- Session timeout after 30 mins (depending on session timeout setting)
- Sessions are restarted at midnight
- New sessions are generated when campaign UTMs are encountered



Google Analytics 4

- Session timeout after 30 mins (depending on session timeout setting)
- Sessions are **NOT** restarted at midnight
- New sessions are **NOT** generated when campaign UTMs are encountered

What does this mean? For example, you have a campaign banner on your homepage that takes users to the promotion page. I.e `myshop.com/cloth?campaign=april_promo`. In UA, a new session will be generated but not in GA4.

GA4 DOESN'T SLEEP!! Sleep is for the weak. jks



Event Count

Let's look at the differences!

Universal Analytics

Total Event

- An event in Universal Analytics has a Category, Action and Label
- Event Category, Action and Label are used to provide more details of the events
- An event is counted/recorded when an event gets triggered



Event Category: Homepage

Event Action: Buy

Event Label: Orange



Google Analytics 4

Event Count

- There is **NO** event Category, Action and Label for GA4 events
- Parameters are used to provide more details of the events
- All actions are events, such as a click or a page view
- An event is counted/recorded when an event gets triggered



Event Name: buy

Parameter(page_location): homepage

Parameter(item_color): orange

Conversions



I want to buy more!

Universal Analytics

- Goal

For example, purchase. A destination goal when the URL contains "purchase-confirm"

- Only count 1 conversion per session for each goal

For example, if a user purchases twice on your online store, only **ONE** conversion will be counted for the "purchase" goal



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1 Purchase Goal counted

Buys a pink T-shirt

Decides to buy a yellow T-shirt too

Google Analytics 4

- Conversion event

For example, if you specify "purchase" event as a conversion. A conversion will be counted each time a user purchases at your online store

- Conversion is counted every time even if the same conversion event is recorded multiple times during the same session

For example, if a user purchases twice on your online store, **TWO** "purchase" conversions are counted



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2 Purchase conversion events counted

Buys a pink T-shirt

Conversion event #1

Decides to buy a yellow T-shirt too

Conversion event #2

Bounce Rate



Universal Analytics

What does a "bounce" mean in Universal Analytics?



A user lands on your online shop

Looks through the page but doesn't click on anything or triggers any events

Leaves the page

Google Analytics 4

What does a "bounce" mean in GA4?



A user lands on your online shop

Looks through the page for less than 10 secs and doesn't click on anything or triggers any events

Leaves the page

An engaged session is a session that:

- Lasts longer than 10 seconds
- Has one or more conversion events
- Or has two or more page views/screen views

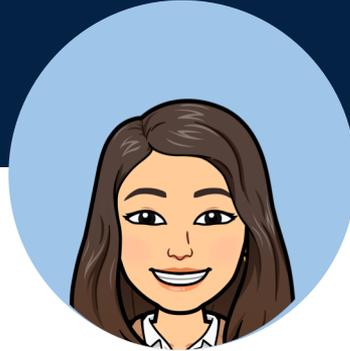
Summary



Just some of my
personal thoughts...

- The way Universal Analytics and GA4 collects and processes data are different. It's important to rethink about how you want to track your web & app data and how that's going to impact your reporting moving forward
- It's not really about replicating the same set up but think about what's the best way to adapt and implement your tracking
- Here's a [Looker Studio dashboard](#) created by KS Digital that helps to monitor the key metrics between UA and GA4
- See [here](#) for more information on UA vs. GA4 metrics differences

Who dat?



April Hung_{ry}

Just a foodie who's passionate about digital experience & trying to make the digital world seem less scary and more fun!



[Connect with me!](#)



Any feedback or question? aprilhung4@gmail.com