

When it comes to tracking

webmarketing _ Class 3

Web analytics principles : analyzing what's happening on an advertiser website or app.

- Tracking
- Tag Management System
- Campaigns and urls parameters

Basic Kpis

Potential biases

1. web principles

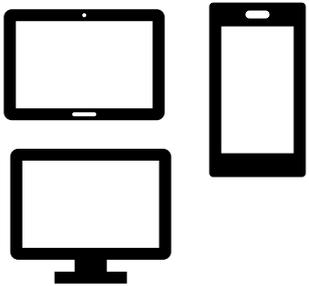


Who does what ? Overview

1



The user types in the url of the page that (s)he wants to visit



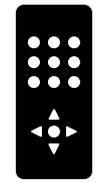
url
(eg : www.website.com)

2



The url is decrypted by the browser, and translated into the IP address name.

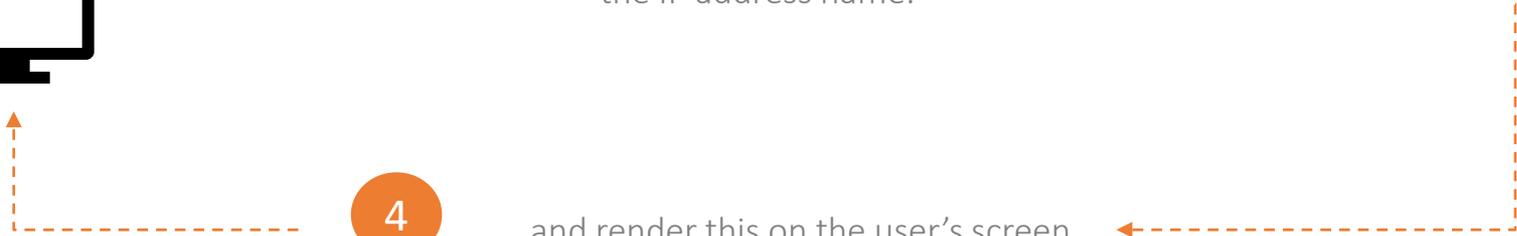
3



The browser is "grabbing" the pieces of resource that are stored on the server of the owner of www.website.com

4

... and render this on the user's screen

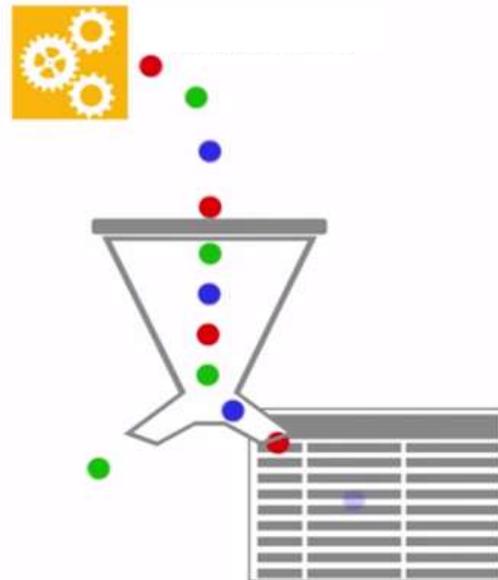


Your browser is the agent that handles your requests (when you query a website) and brings their answers to you (by displaying the content on your screen).

There are several types of tasks your browser can perform.

- Grab the raw content for you -> html code
- Display it in a nice way (look and feel of the page) -> CSS code
- Execute an action **as a result of an interaction** -> Js code

In the first place, you need to collect data to be able to analyze anything.



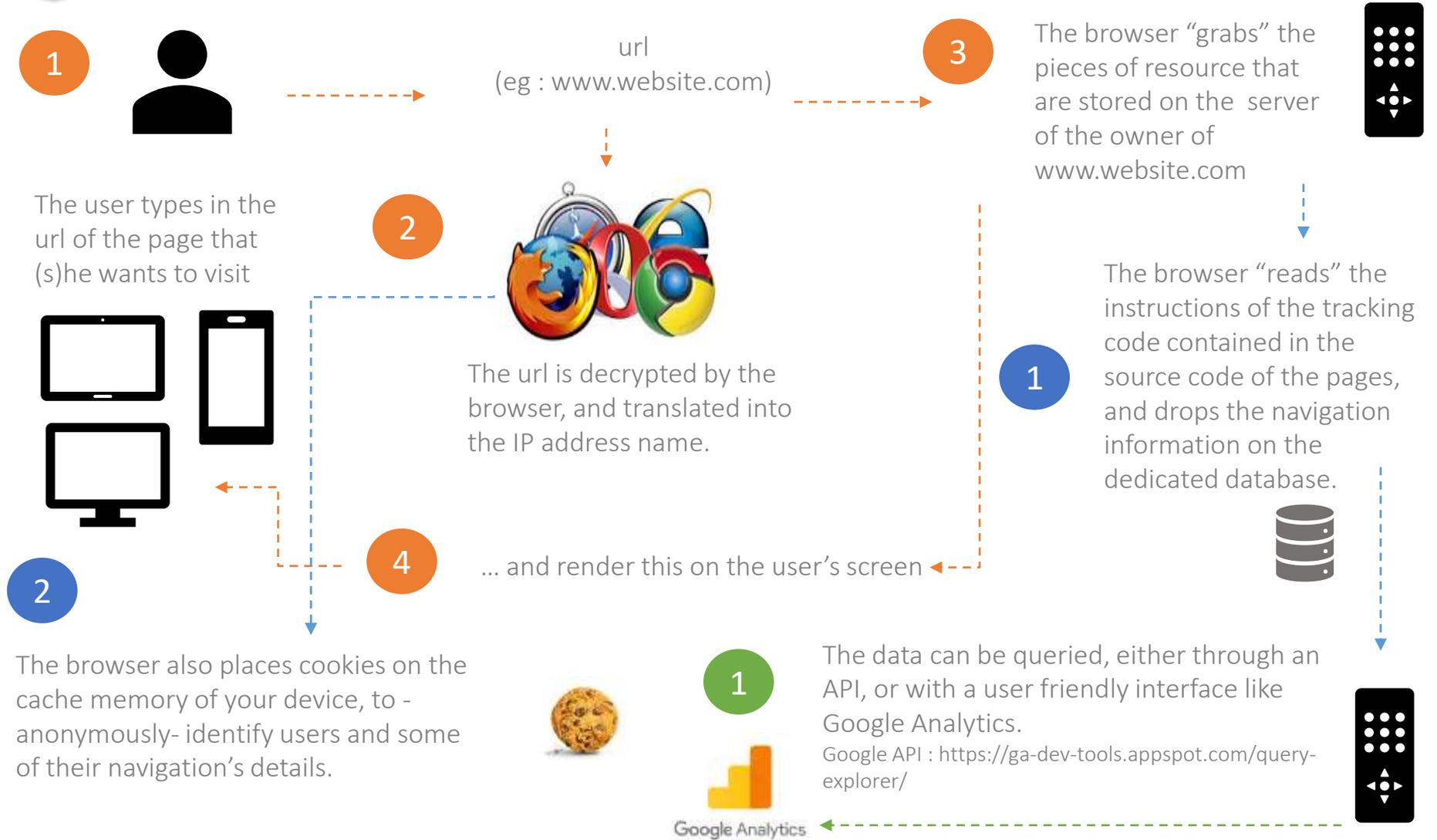
For apps, this code is contained in a SDK

SDK = Software development Kit



Who does what ?

Tracking : overview



Who does what ?

Tracking : focus on steps 1

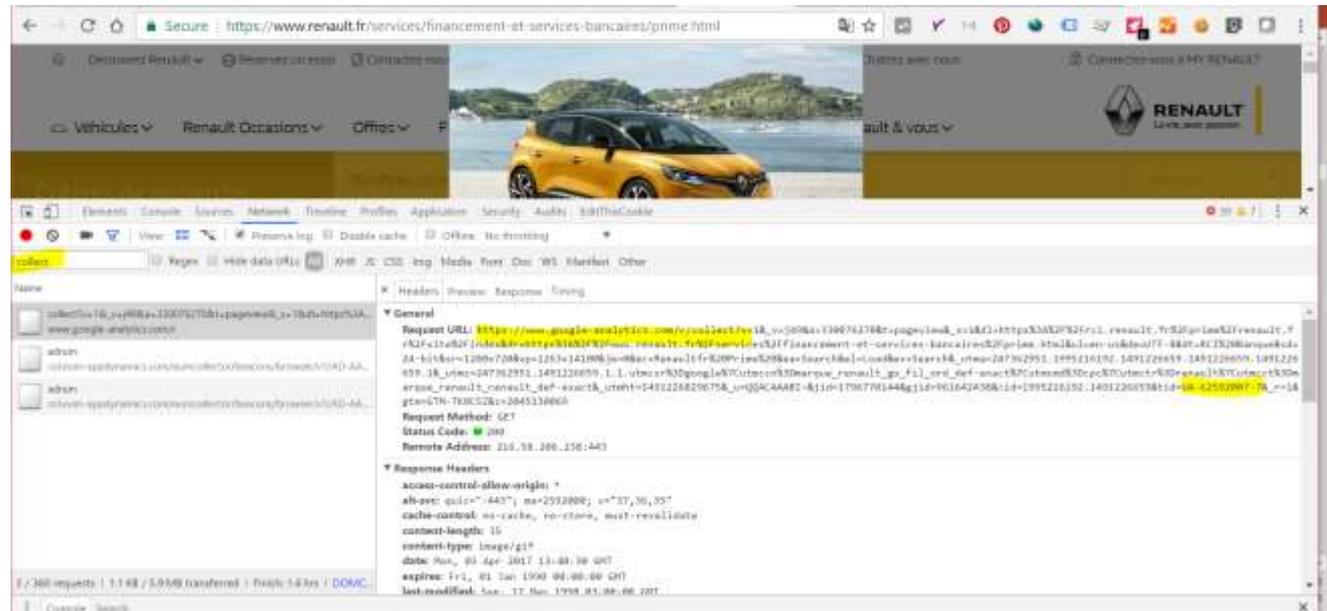
1

The browser is “reading” the instructions of the tracking code, and drops the navigation information on the dedicated database. For Google Analytics, this database is registered under a UA-XXXXXXXX ID.



Tip : to look at the hits that are being sent to the database, just open the console of your browser, and look at the ‘Network’ section.

Let’s assume that your site/app is tracked with GA . To isolate the hit that your browser sends to the Google Analytics database and that contains the navigation data, just type in ‘collect’ in the search bar.



Who does what ?

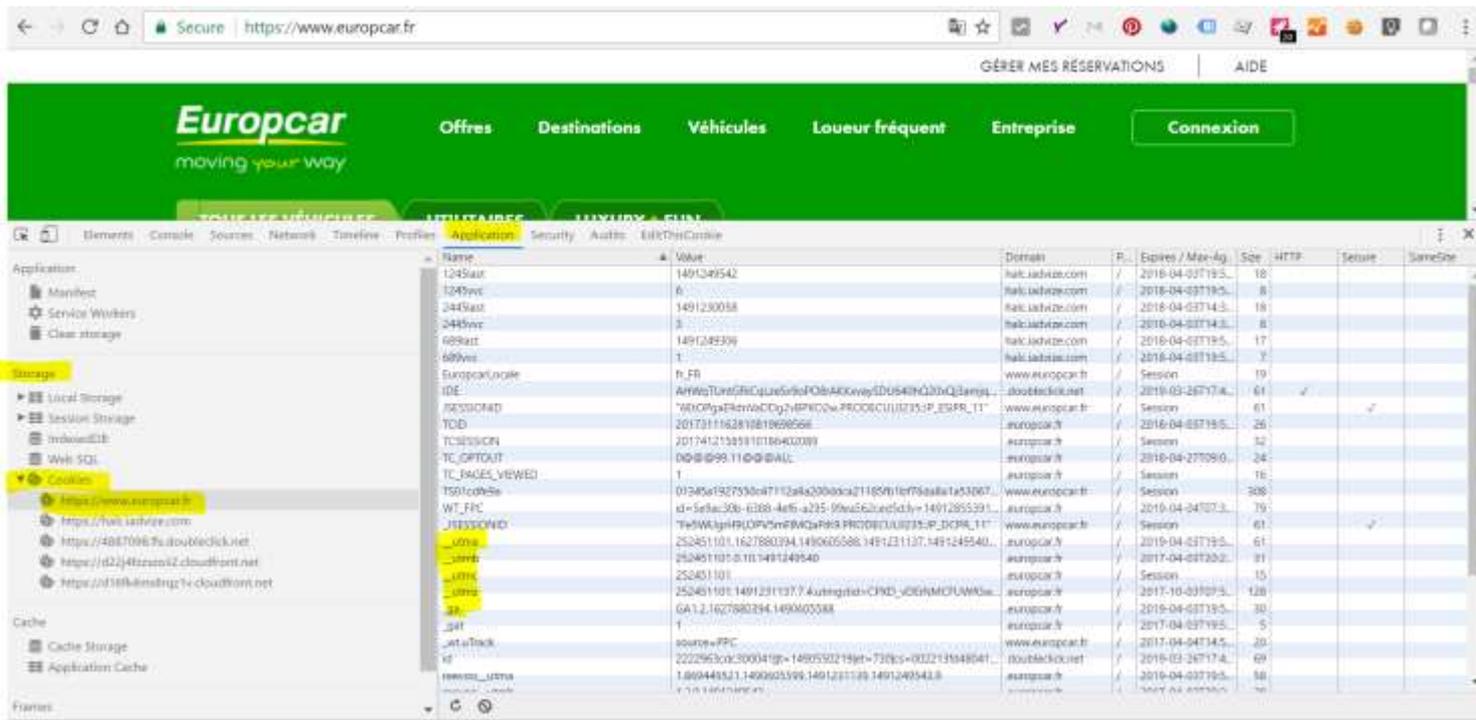
Tracking : focus on steps 2

2

The browser is also placing cookies on the cache memory of your device, to record users and some of their navigation's details.



Tip : if you want to see the cookies that are being placed in the cache memory of your device, open the console of your browser (below is the example with Chrome). Either hit 'F12' (PC), or right-click 'inspect' while on a page. Then, go to the 'application' module.



The screenshot shows the Chrome browser interface with the Application tab open. The Cookies section is expanded, showing a list of cookies for the website https://www.europcar.fr. The cookies table includes columns for Name, Value, Domain, Path, Expires / Max-Age, Size, HTTP, Secure, and SameSite.

Name	Value	Domain	Path	Expires / Max-Age	Size	HTTP	Secure	SameSite
1245aut	1491249542	frak.eurocar.com	/	2016-04-03T19:5...	18			
1245pvc	6	frak.eurocar.com	/	2016-04-03T19:5...	8			
2445aut	1491230038	frak.eurocar.com	/	2016-04-03T14:5...	18			
2445pvc	3	frak.eurocar.com	/	2016-04-03T14:5...	8			
689aut	1491249539	frak.eurocar.com	/	2016-04-03T19:5...	17			
689pvc	1	frak.eurocar.com	/	2016-04-03T19:5...	7			
EuropcarLocale	fr_FR	www.europcar.fr	/	Session	19			
IDE	AWWgTuneGfRcQure6r9fObAR00vwySD0540hQ3hQ&...	doubleclick.net	/	2019-03-26T17:4...	61	✓		
SESSIONID	760QyqPleWbCDGy7BPf0CwFR00CUIU0735JP_25FR_11	www.europcar.fr	/	Session	61			
YDD	20173116281081869266	europcar.fr	/	2016-04-03T19:5...	26			
TCSESSION	2017412158510108640089	europcar.fr	/	Session	32			
TC_OUTPUT	00@099.11@0@ALL	europcar.fr	/	2016-04-27T09:0...	24			
TC_PAGES_VIEWED	1	europcar.fr	/	Session	18			
TS0cdhSe	01240e1927530e47112e8a20040ca21185011e7f9e8a1a53067	www.europcar.fr	/	Session	308			
WT_FPC	id=Se8a-306-6368-4ef5-a295-09wa262ce2d5dy=14912855391	europcar.fr	/	2016-04-04T07:3...	79			
_JSESSIONID	760QyqPleWbCDGy7BPf0CwFR00CUIU0735JP_25FR_11	www.europcar.fr	/	Session	61			
_idmjs	252451101.1627880394.1490605588.3481E31137.3481249540...	europcar.fr	/	2016-04-03T19:5...	61			
_idmjs	252451101.0117491249540	europcar.fr	/	2017-04-03T20:0...	81			
_idmjs	252451101	europcar.fr	/	Session	15			
_idmjs	252451101.1491231137.7A487e9d4b+cJNDI_c00hMCFUWA0a...	europcar.fr	/	2017-10-23T09:5...	128			
_gat	GA1.2.1627880394.1490605588	europcar.fr	/	2016-04-03T19:5...	30			
_gat	1	europcar.fr	/	2017-04-03T19:5...	5			
_gat	source=FFC	www.europcar.fr	/	2017-04-04T14:5...	20			
_idmjs	22229630c300040p=1490550219jet=730cs=002213948041	doubleclick.net	/	2016-03-24T17:4...	69			
_idmjs	1.809448321.1490605588.1491231137.1491249543.8	europcar.fr	/	2016-04-03T19:5...	58			

Different types of cookies (1/3)

Bear in mind that each tracking tool uses its own cookies, the examples below are some of Google Analytics ones.

gtag.js and analytics.js set the following cookies:

Cookie Name	Expiration Time	Description
_ga	2 years	Used to distinguish users.
_gid	24 hours	Used to distinguish users.
_gat	1 minute	Used to throttle request rate. If Google Analytics is deployed via Google Tag Manager, this cookie will be named _dc_gtm_<property-id> .
AMP_TOKEN	30 seconds to 1 year	Contains a token that can be used to retrieve a Client ID from AMP Client ID service. Other possible values indicate opt-out, inflight request or an error retrieving a Client ID from AMP Client ID service.
gac<property-id>	90 days	Contains campaign related information for the user. If you have linked your Google Analytics and Google Ads accounts, Google Ads website conversion tags will read this cookie unless you opt-out. Learn more.

There are tons of cookies, but for site-centric tools, it is essential that at least three basic :

- User cookie -> stores the user ID
- Session cookie -> determines when session starts
- Source cookie -> stores where the user is coming from



On top of the cookies that come along with the advertising agencies' tools or site-centric tools, you can create as many cookies as you want, provided you comply with legal requirements, to store information on your user (like their preferred language) and offer them a better experience.



Cookies have a lifetime duration.

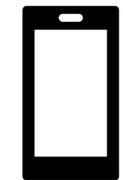
They are activated when they are placed, and expire after a certain time of idleness (i.e if no interaction has been detected or no hits have been sent to the site-centric tool).

This can lead to potential over or under estimation of the number of sessions. We'll see that later in this class.



Cookies are placed in the cache memory of a device

As a consequence, this could impact the number of users that is provided by the site-centric tool. We'll see that later on.



GDPR: now you just have to ask one's permission to place cookies on one's device. As always, each company's legal department has its own interpretation of the law.

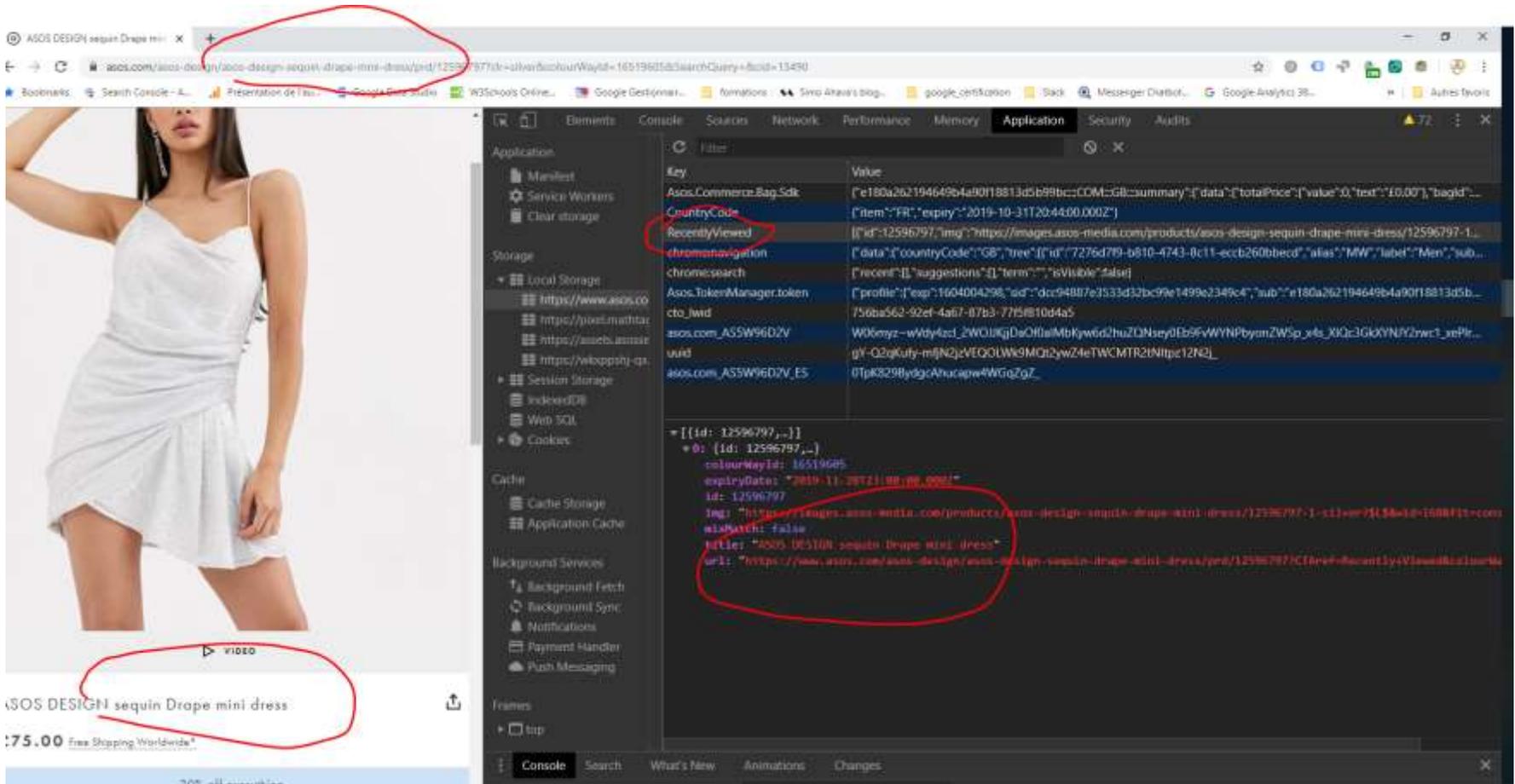
The CNIL regulation is even more strict : user cookie duration should not exceed a certain limit : 13 months.

See for yourselves :

- 1/ Install Adserve (see how in the resources of the 'to go further' section).
- 2/ Temporary disable your adblocker
- 1/ Empty your cookies
- 2/ Go to dibenndemoformation.com with chrome browser
- 3/ Open the console (F12 or right-click 'inspect')
- 4/ Observe what happens before and after you accept cookies. What hits are being sent ?

Do the same thing for other websites of your choice. What do you observe ?

Note : because it allows to store more data, local storage is more and more used



The screenshot shows a web browser displaying a product page for an "ASOS DESIGN sequin Drape mini dress". The browser's developer tools are open to the Application tab, where the Local Storage section is expanded. A table of stored items is visible, with one item circled in red:

Key	Value
Asos.Commerce.Bag.Sdk	[{"e180a262194649b4a90f18813d5b98bc:COM:GB:summary":{"data":{"totalPrice":{"value":0,"text":"£0.00"},"bagId":...}}]
CountryCode	["FR"; expiry:"2019-10-31T20:44:00.000Z"]
RecentlyViewed	[{"id":12596797,"img":"https://images.asos-media.com/products/asos-design-sequin-drape-mini-dress/12596797-1-..."}]
chromenavigation	[{"data":{"countryCode":"GB","tree":{"id":"7276d7f9-b810-4743-8c11-ecb260bbecfd","alias":"MW","label":"Men","sub...}}]
chrome:search	[{"recent":{"suggestions":{"term":"","isVisible":false}}]
Asos.TokenManager.token	[{"profile":{"exp":"1604004296","id":"d0c94807e353d32bc99e1499e2349c4","sub":"e180a262194649b4a90f18813d5b..."}]
cto_jwt	750ba562-92ef-4ab7-87b3-77f5b10d4a5
asos.com_AS5W96D2V	WkKmyz-wWdy4zd_2WQlKjDseOrlMlMkyw6dhuZQhsey0E59FvWYNpbymZW5p_x4s_XlQc3GkXyNYZrwc1_xePlr...
uuid	gY-O2gKuly-mjN2jVEQOLWk9MGi2yw24eTWCMTR2INltpc12N2j
asos.com_AS5W96D2V_ES	0TpK8298YdgcAhucapw4WGoZgZ_

The value for the "RecentlyViewed" key is expanded, showing a detailed JSON object with fields like "id", "img", "title", and "url", all of which are circled in red. The "url" field contains the full product page URL.

Exemple here on Asos website : details of my navigation are being recorded.

Analogy between tracking and management of a restaurant



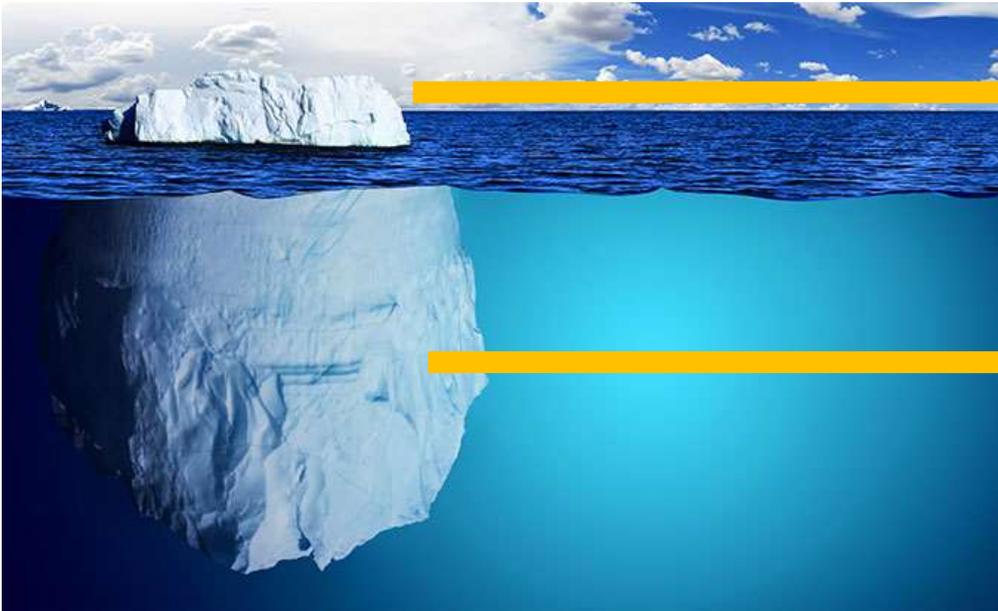
Waiter = your browser

- Meal order = url entered in the address bar or button clicked on, that will lead to this url.
- Order taken by the waiter = hit sent by the browser to the dedicated database of your site centric tool (ex : Google Analytics). Note that you can ask for additional pieces of information to be recorded.
- Clients = clients (you, browsing the web)
- Meals = web content (videos, texts, etc...)

If you were the owner of a restaurant, you would certainly like to be able to consult what has been ordered each day, to prepare for the next day.

Same goes for the owner of a site : knowing what content/ features people consume will nurture the reflexion for continuous improvement.

Your browser is working A LOT



What you 'see' : grabbing content and displaying it on your screens.

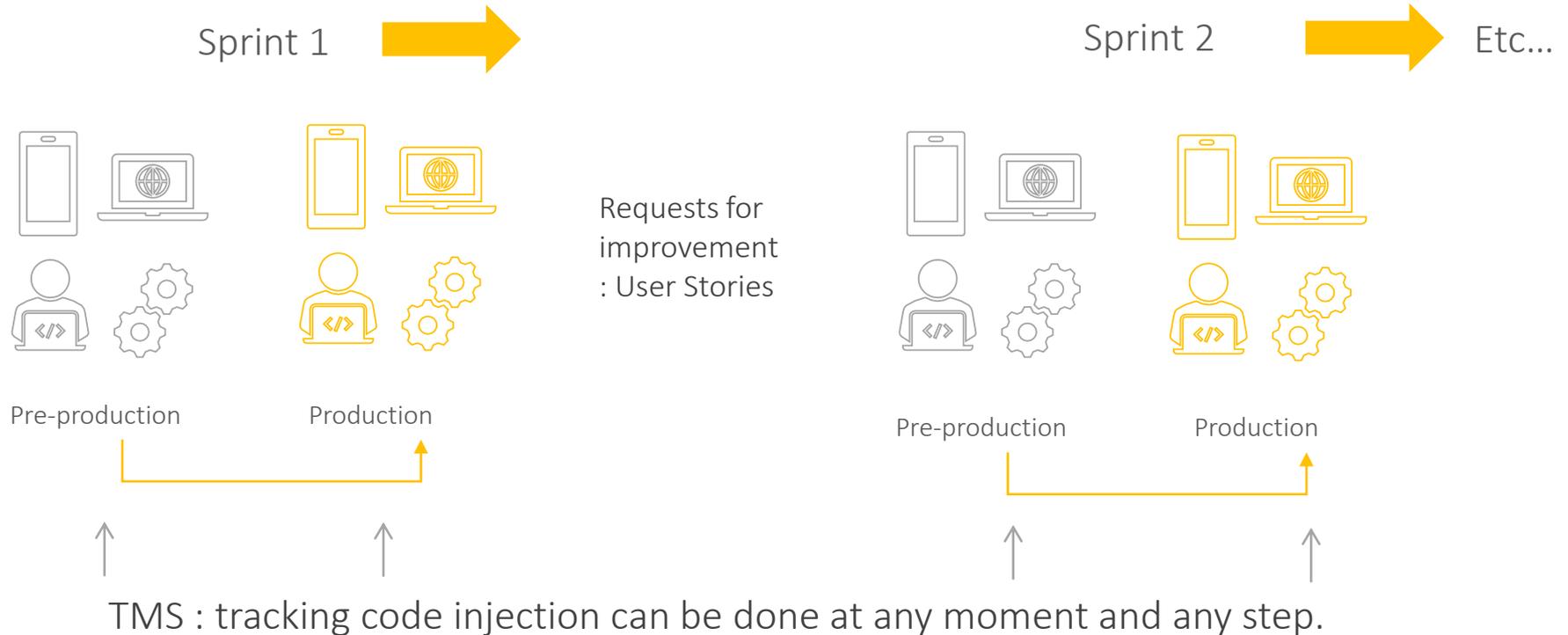
What you don't 'see' : sending hits to databases.

To assess their performance, your business partners (paid search agency, display agency, email agency, affiliation agency, etc...) will be willing to have their tracking code firing as well, in order to have the data collected in their own databases.

This is impacting the time it takes for each page to load, thus the UX, thus the business.

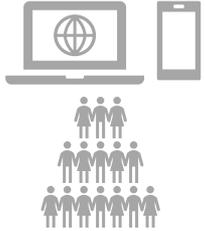
It is best practice to use a TMS to place and manage tags

Site/ app development : most probably achieved using agile method



Tracking codes should not be placed directly in the source code of sites, because sites are always changing, and developers should focus on maintaining and upgrading the site, rather than pasting tracking codes on the source code of the site. Instead, one should use a TMS (Tag management System).

The audience is targeted through digital channels



Paid digital channels

- SEA
- Social media
- Display
- Emails
- ...

Acquisition phase :

Corresponding Kpis : CPM, CPC

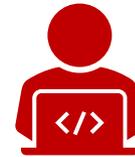
Advertising companies' tools (EG : Google Ads)

How do digital media agencies know if a conversion has been made thanks to their ads ?



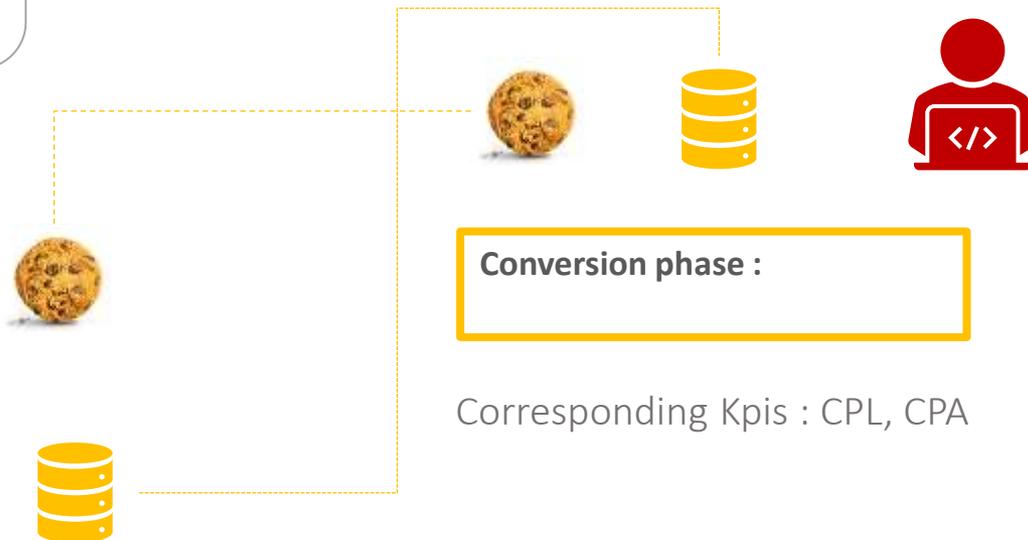
They'll ask the advertiser / the advertiser tracking agency to place a the advertising company tracking code on his site

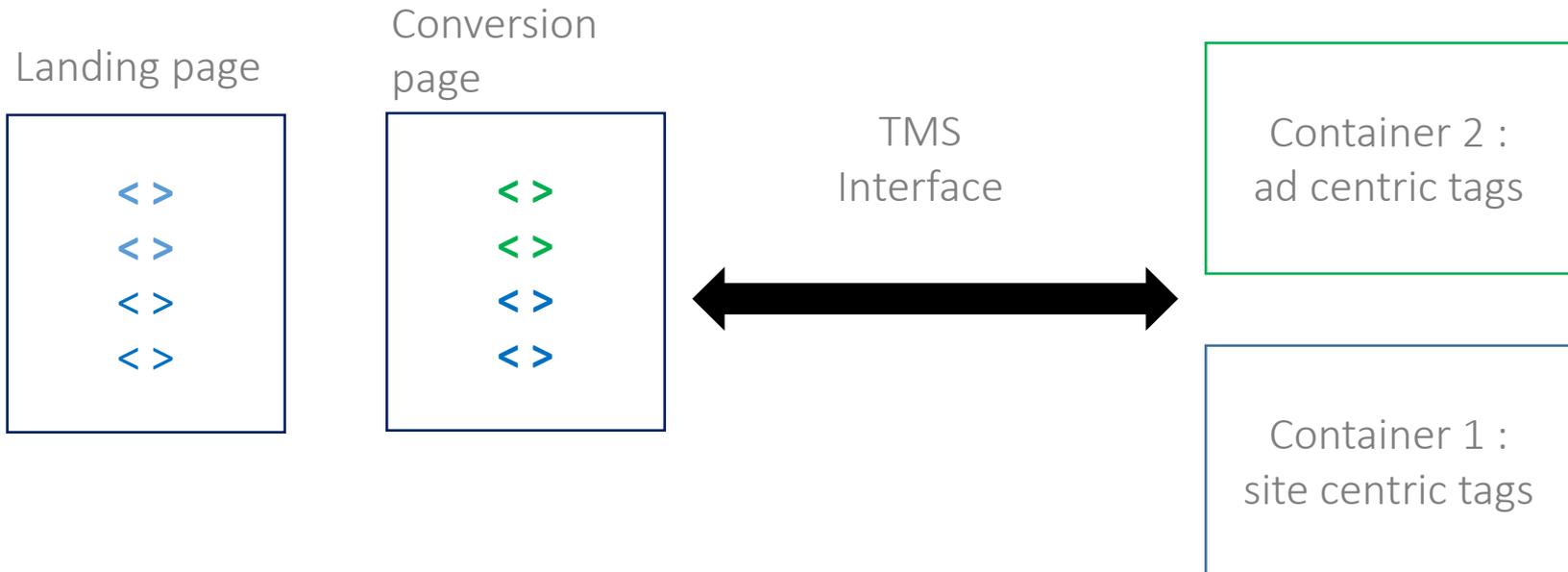
TMS : fire if source = xxxx



Conversion phase :

Corresponding Kpis : CPL, CPA





Trigger = when / where should my tag fire ?

Conditions are specified (eg : on specific pages, when the user comes from a specific source, etc...)

EG : the tag of the Search agency should only fire on the conversion page, if the source of traffic = 'Paid Search'

A tag will fire if certain triggers (conditions) are met.

There are many different TMS tools on the market, and they offer various features.

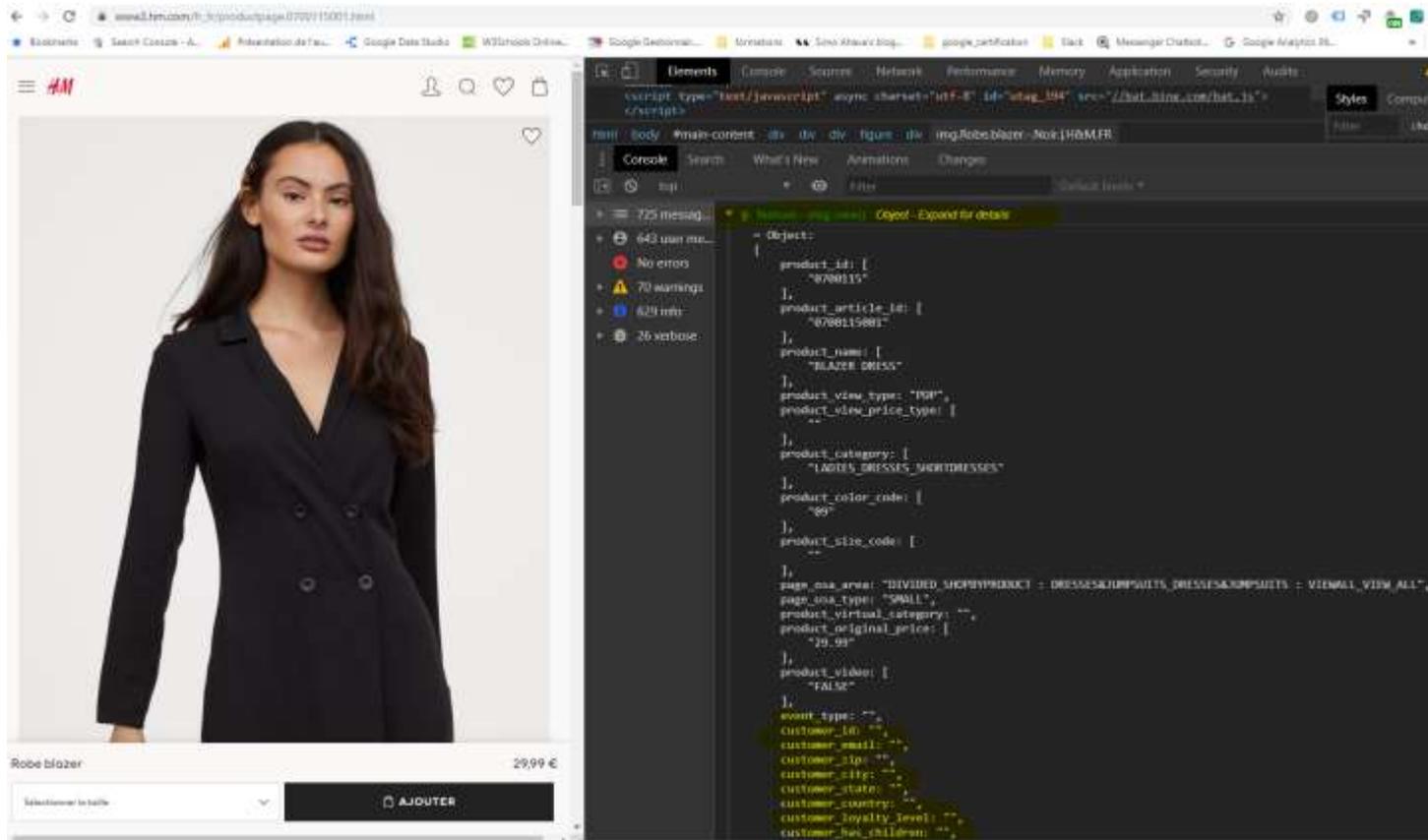
The most useful ones are the following :

- **Place/remove/edit tracking code** on the site/app without having to rely on developers (although you still have to work together).
- **Manage the triggers** (basically when your tag should fire). EG : only after the user has given his consent (GDPR compliance)
- Store additional pieces of information on the fly in a 'temporary database', that you'll be able to query if needed. This is called a **data Layer**.

Additional data can be collected 'on the fly' through a data layer

A Data layer requires technical set ups, to track with more accuracy how the user behave. Variables of the data layer can be used to trigger tags.

EG : what information they enter in some fields. Purpose : build a more accurate audience for (re)targeting.



Campaigns and url parameters



URL = Uniform Resource Locator

Structure

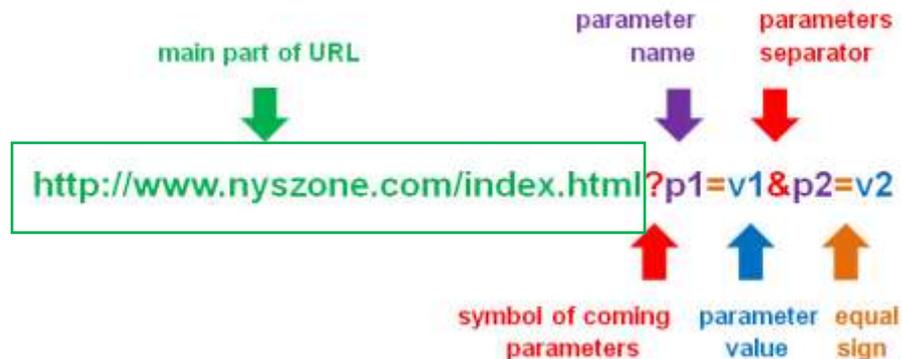


Optional part of the url :

Parameters let you know more about the traffic origin (eg : what campaign, what product you promote, etc...)

Mandatory part of the url :

This is where you want people to go when they click on a link.



How is the source of traffic determined ?

- If no parameters have been placed by the advertiser
Automatic detection : through the 'referrer' value detected by the browser
- If the advertiser has placed some parameters in the url
Thanks to the parameters contained in the redirection url. **Each tool has its own syntax, and its own parameters.**
For Google analytics, they are all prefixed by 'utm'.

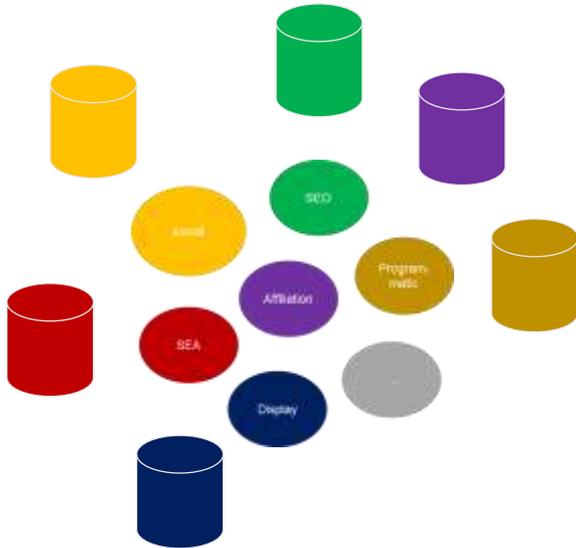
See for yourselves :

- 1/ go to <https://ga-dev-tools.appspot.com/campaign-url-builder/>
- 2/ in the first field (website url), enter : <http://mywebmarketingclass.com/>
- 3/ in the other fields just enter your first name (no space)
- 4/ when all fields have been completed, you should get a full url appearing in the section entitled 'Share the generated campaign url'.
- 5/ copy and paste it in your address bar
- 6/ then, connect to GA : <http://analytics.google.com/analytics/web/>
- 7/ Enter your credentials : demotrainingwebmarketing@gmail.com and ThisismyPw2020@
- 8/ Go to the 'real time' report.

Thanks to the url parameters, it is possible for the advertiser to know the source of traffic.

If a conversion occurs, it is possible to know its source.

Acquisition (agencies)



Agencies use **AD Centric tools**, that will record, track and monitor everything regarding the audience, the creatives, the budget, etc...



Advertisers should share their naming conventions for the url parameters to all digital media agencies or affiliation agencies. .

Conversion (advertiser)

Conversion :

Can be ...

- Subscriptions
- Request for an appointment
- Purchase
- ...

Companies use Site/app centric that will essentially track conversions.

2. Basic KPIs



Within Google Analytics interface, you will see two words referring to the same thing:

Session = visit

User = visitor

“Is recorded each time a page is loaded”

Session

User

Pageview

Unique Pageview

Average time on page

“Identified by an IP address and a cookie”

Session

User

Unique Pageview

Average time on page

“Series of interactions that happen on your website within a given time frame (30 minutes by default).”

Session

Unique Pageview

Average time on page

Session cookie lifetime example for a 30 minutes session cookie



Lunch break



Session
cookie 1



Option 1 : lunch break = 25 minutes
you stay 'idle' (from a tracking point of view) for
less than the cookie session lifetime -> you keep
the same session

Session cookie 1
(lifetime reset to its
maximum value)



Option 2 : lunch break = 35 minutes
you stay 'idle' (from a tracking point of view) for
more than the cookie session lifetime -> Your first
session cookie expires



Session cookie 2
It is a new session
from an analytics
point of view

“Aggregates pageviews generated by the same user during the same session.”

Represents the number of sessions during which that page was viewed one or more times”.

Unique Pageview

Average time on page

“Measures the average amount of time users spent viewing a specified page or set of pages.”

Average time on page

How many....



Page A

Page B

Page C

Page A

15:02

15:03

Same device,
Same IP address
Session duration
cookie = 30 min

Page D

Page A

15:34



Page views = ?

Unique page views (per pages) = ?

Sessions = ?

Users = ?



15:02

15:03



Same device,
Same IP address
Session duration
cookie = 30 min



15:34

Page views = 6

Sessions = 2

Users = 1

Unique pageviews

- Page A = 2 (appears at least once in two sessions)
- Page B = 1 (appears at least in 1 session)
- Page C = 1 (appears at least in 1 session)
- Page D = 1 (appears at least in 1 session)

“For each page, it is the percentage of people who left the website from that page.”

Calculation (for a given page): # sessions ending with a page / # sessions including the page

Entrance (Entry page)

Bounce rate

Exit rate

“Incremented with the first page or screen hit of a session”

It answers the question “through what page do users enter my website” ?

Entrance (Entry page)

Bounce rate

“Percentage of visits that go only one page before exiting a site.”

Calculation (for a given page) : # sessions where this page is the only one / # sessions starting with this page

Bounce rate

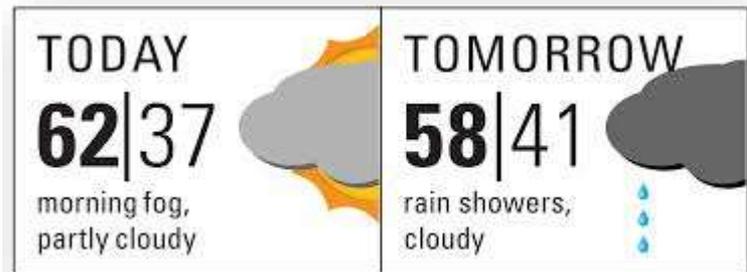
Please note that this is the ‘by default’ calculation. It is possible to adjust the bounce rate to specific site situation (ex : one page websites).

Is a high bounce rate always problematic?



Take into account the purpose and business objective of:

- the website
Is it just a landing page?
Does it just have one simple feature?
- the page within this website



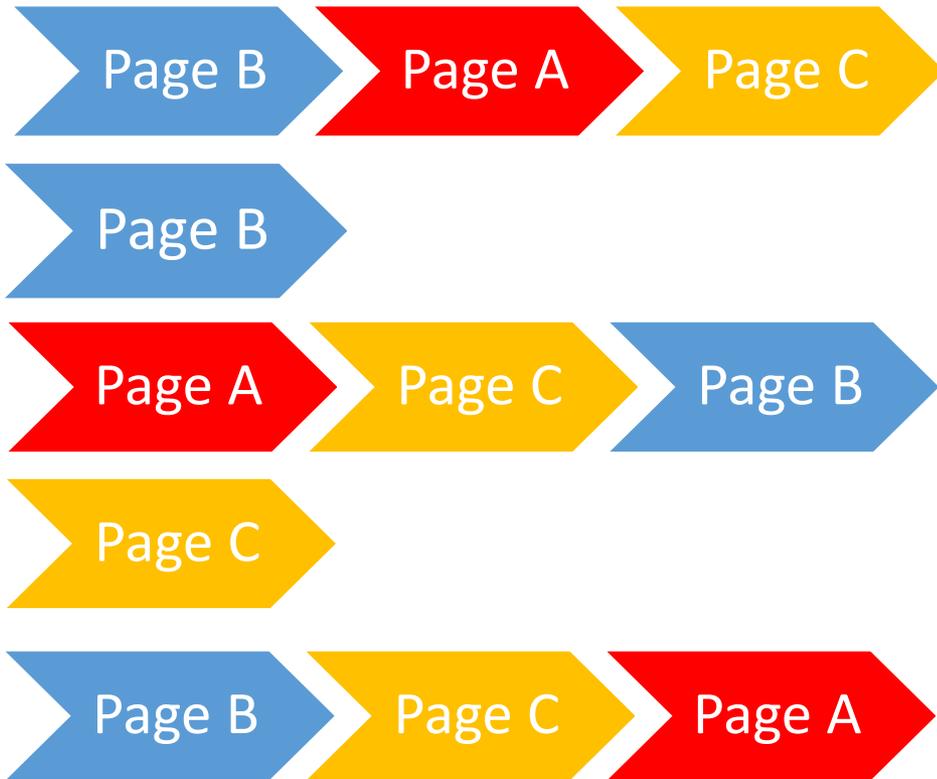
Serves as a “hub” page



[www.website.com
/topic/specific-
info.html](http://www.website.com/topic/specific-info.html)

Deliver specific information

Measure exit rate for each page

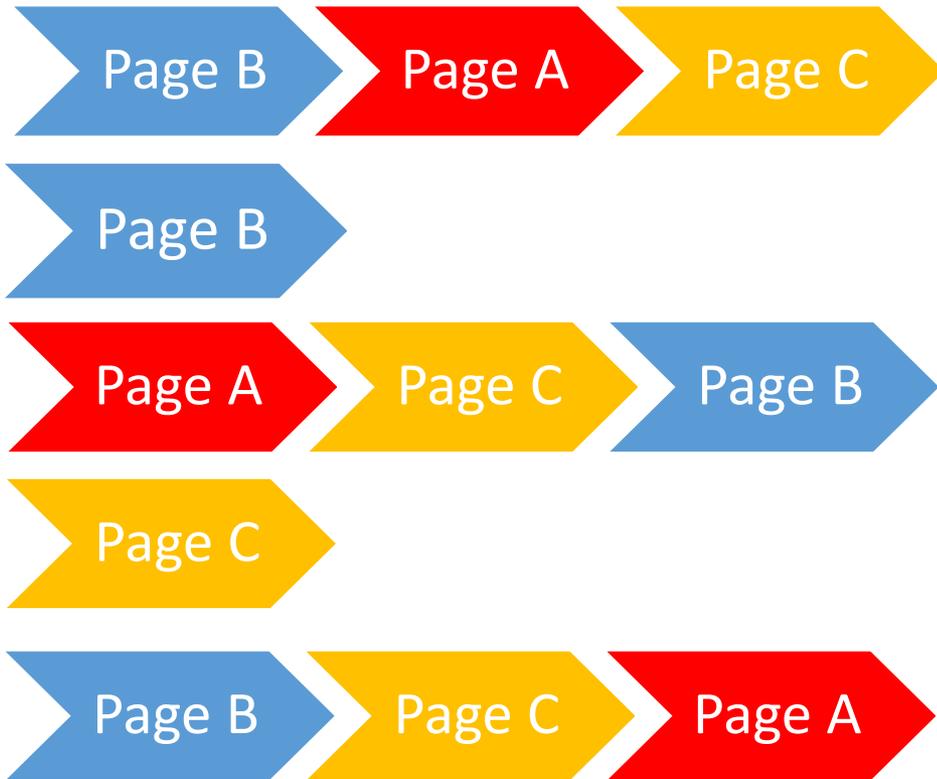


Exit Rate:
Page A = ?
Page B = ?
Page C = ?

“For each page, it is the percentage of people who left the website from that page.”

Calculation (for a given page): # sessions ending with a page / # sessions including the page

Measure exit rate for each page

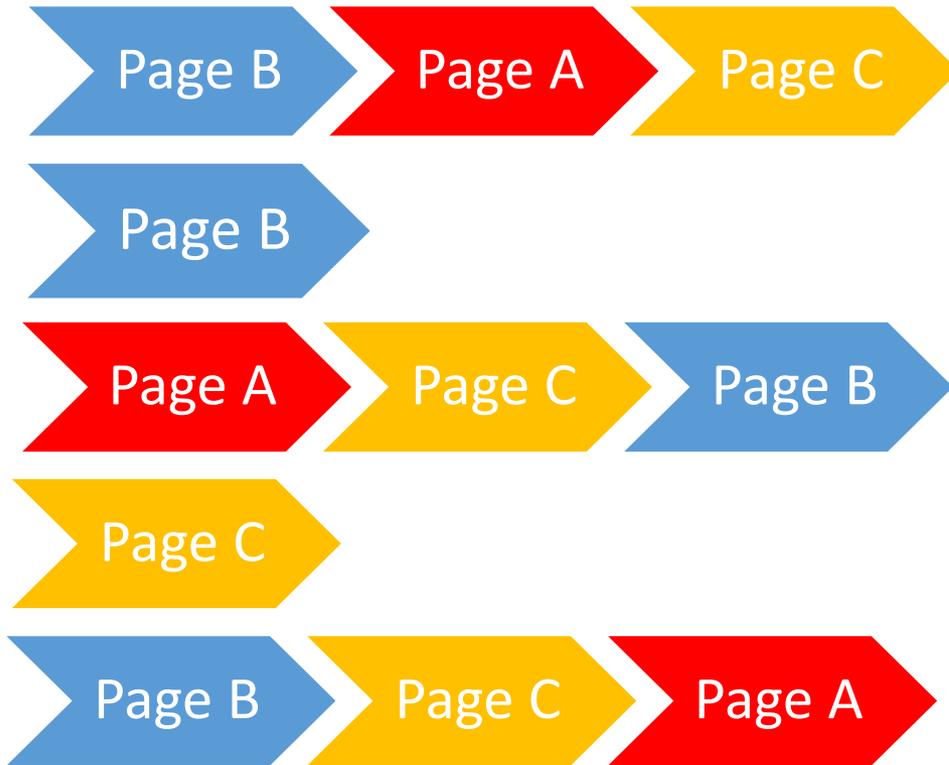


Exit Rate:
Page A = 33%
Page B = 50%
Page C = 50%

“For each page, it is the percentage of people who left the website from that page.”

Calculation (for a given page): # sessions ending with a page / # sessions including the page

Calculate bounce rate for each page

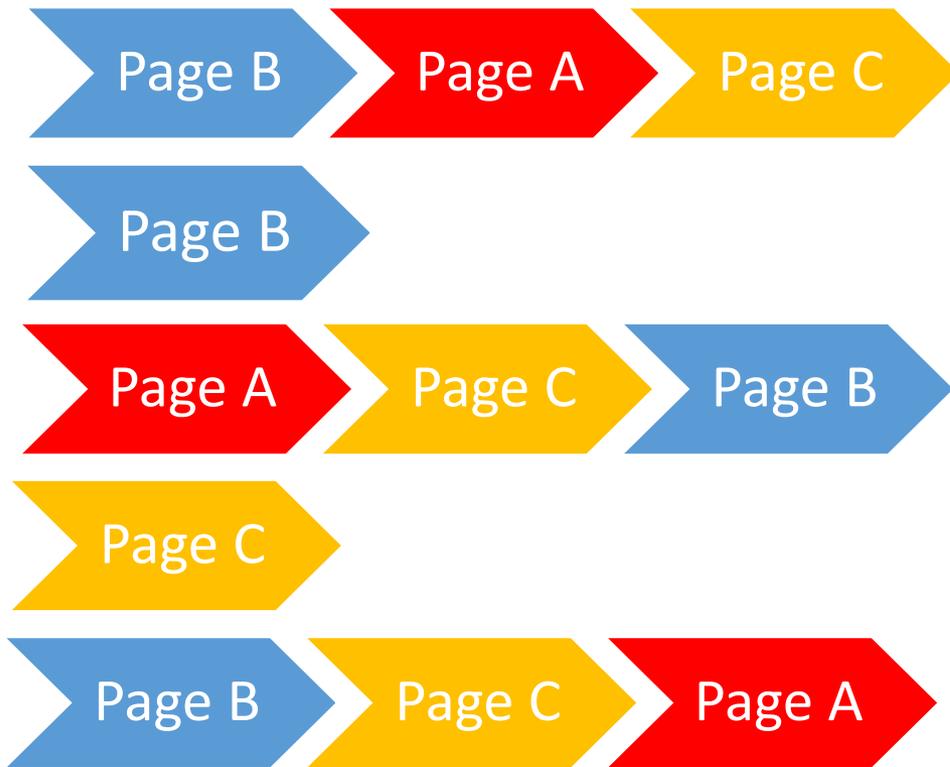


Bounce Rate:
Page A = ?
Page B = ?
Page C = ?

“Percentage of visits that go only one page before exiting a site.”

Calculation (for a given page) : # sessions where this page is the only one / # sessions starting with a page ”

Measure bounce rate for each page



Bounce Rate:
Page A = 0%
Page B = 33%
Page C = 100%

“Percentage of visits that go only one page before exiting a site.”

Calculation (for a given page) : # sessions where this page is the only one / # sessions starting with a page ”

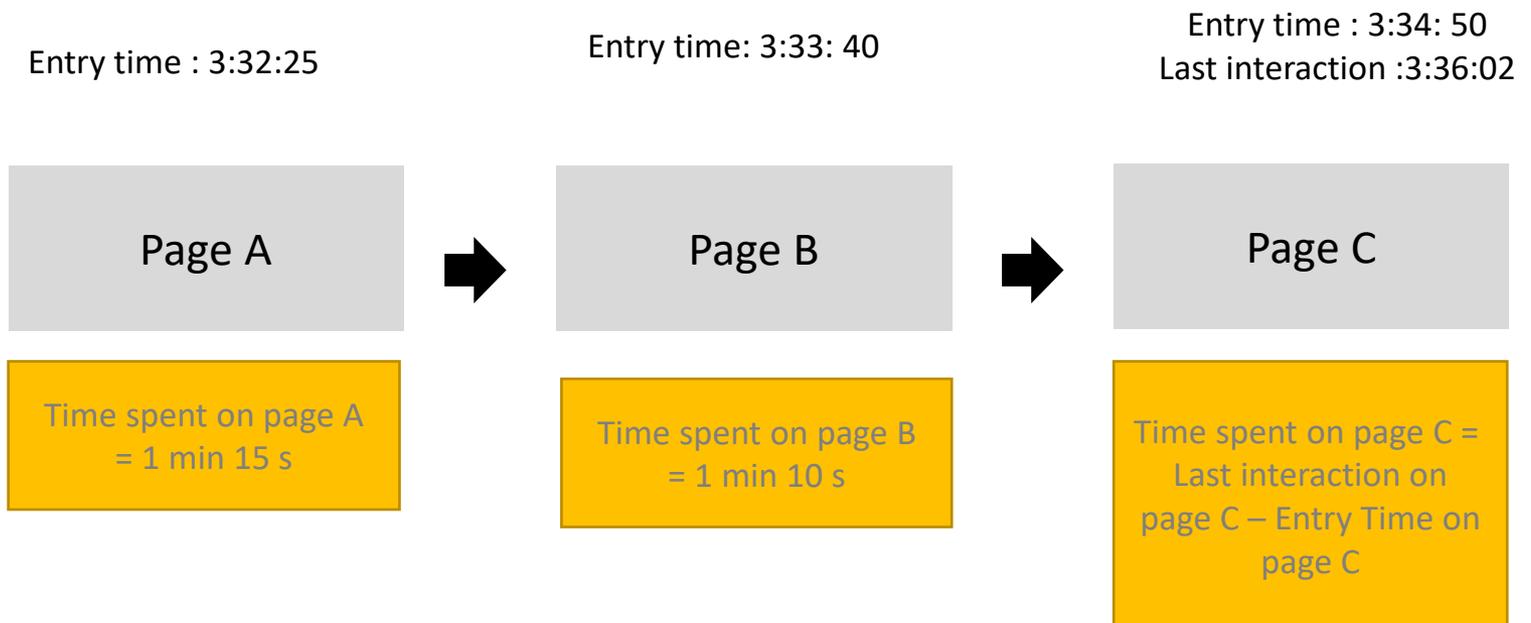
That is the average time users spent consulting a given page, or a set of pages.



Average sessions duration = All sessions durations / total number of sessions.

Session duration

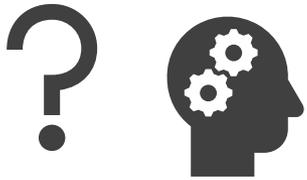
Time spent on Page A + Time spent on page B + Time spent on page C



Events are used a lot, for they allow to measure specific actions occurring on an app or a website.

Indeed, most of the time, the basic Kpis like pageviews are not sufficient to keep track of micros and macro conversions.

Advertisers need to go deeper in details.
This is where events come into play.



Kpis to track

Depends on your objectives



Improve



Define the list of Kpis

For events, define the naming convention for the 3 mandatory parameters

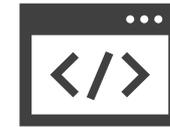
- Category
- Action
- Label

Just as for the url parameters, make sure this is consistent, and sustainable over time.

Note that you can collect additional variables on top of what you'll place in those 3 parameters



See how you perform



Translate this into code (js code)



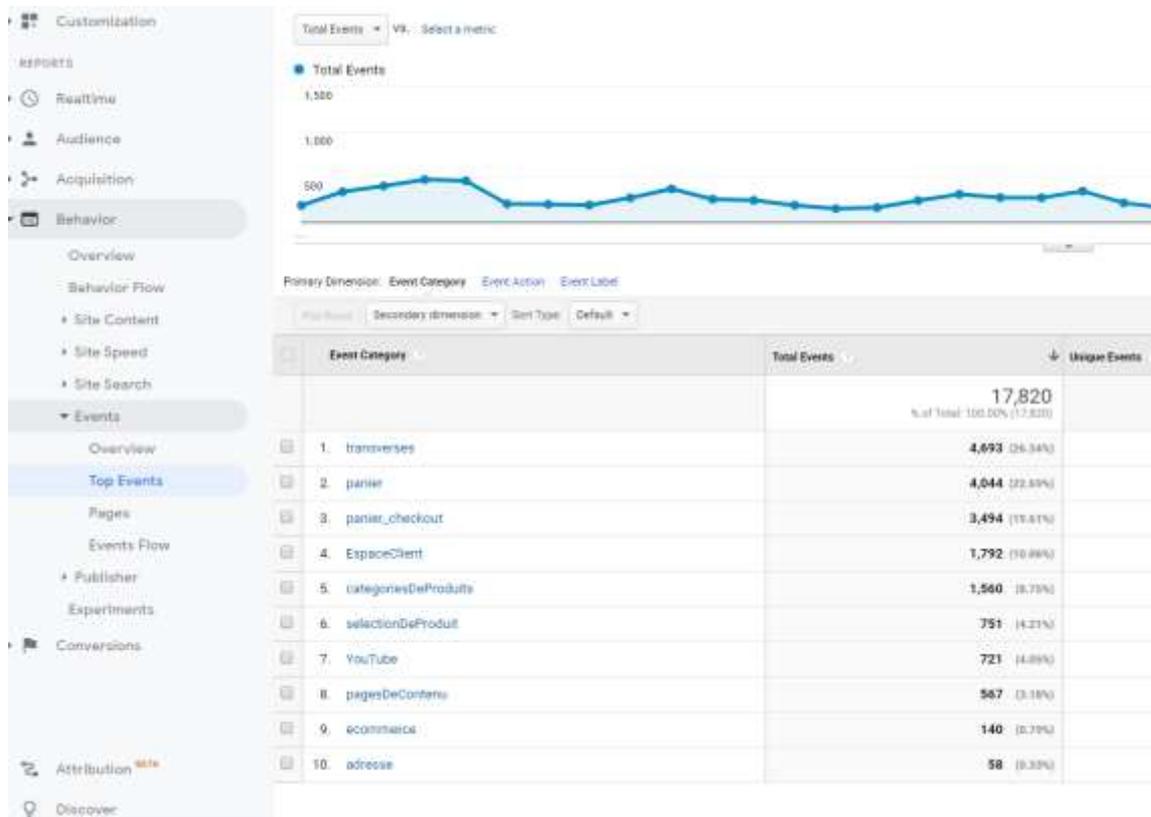
Have it placed on your site or app (using a TMS)



Start collecting data



Once collected, you'll be able to retrieve your data on the corresponding menu.

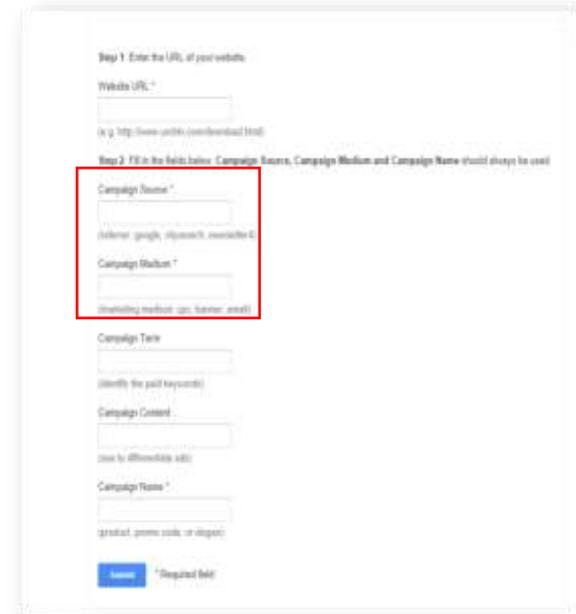


3. Potential biases



Poor tracking settings (1/2)

1. Redirection URLs do not contain media and sources indications.
2. Traffic is not filtered (your IP address is not excluded from the counting)



Step 1: Enter the URL of your website

Website URL *

(e.g. http://www.yourdomain.com)

Step 2: Fill in the fields below. Campaign Source, Campaign Medium and Campaign Name should always be used

Campaign Source *

(Advertiser, google, wikipedia, newsletter)

Campaign Medium *

(Marketing method: ads, banner, email)

Campaign Term

(Identify the paid keywords)

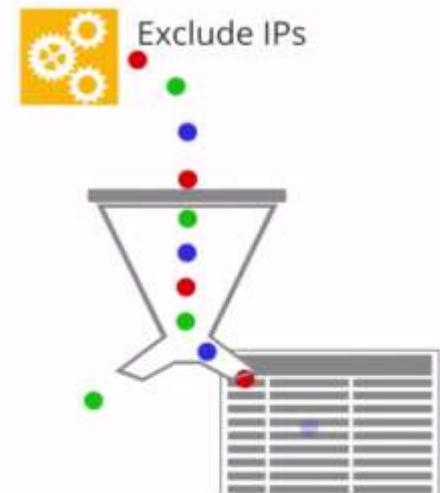
Campaign Content

(Use to differentiate ads)

Campaign Name *

(Special, promo code, or slogan)

Submit * Required field





3. Duration of the session cookie mechanically impacts the number of sessions that are recorded
4. All pages across the consumer journey should be tracked with the same tool and the same UA. It may include external pages (iFrame).
5. Single page websites (very common for mini-websites) can not be tracked the 'standard way'.

IP addresses (1/2)

1. A user can access the website through his laptop, his mobile and his tablet. Each time he switches from one device to an other, there's no connection with what he did on the other devices.

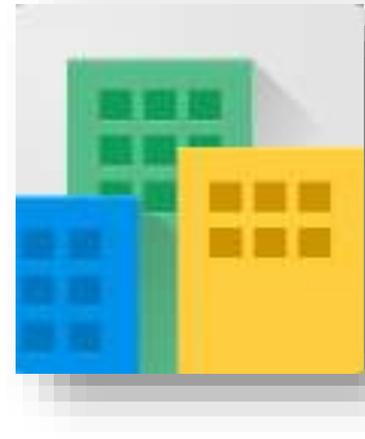
In this example, one person is considered as three users.



Please note that this could be partially handled if the user has to authenticate.

2. B2B context: employees of a same company / organization often share a common server, thus the same IP address.

As a result, the location provided by GA is not always accurate.



Thanks for your attention.