

**Unique Device** (formerly Unique Visitor or Unique Browser - one of the [IFABC](#) metrics) is an unique and valid identifier (= [IP](#) + [User-Agent String](#)). [1]

## Unique Device not Unique Visitor

This metric does not measure a person but is rather a measure of the device through which a person interacts with a website or network. Formerly it was called the Unique Visitor, but it was misleading as it made people believing that they measure by this way real people. [2]

### Difficulties to count people

We may therefore reasonably assume that number of Unique Devices somehow corresponds to people visiting a website (the trends corresponds well to the increasing or decreasing of the popularity of a website).

However, the very same person accessing a website from the office during the day, from the smart-phone when commuting, and from home the evening will be counted 3 times - because using 3 different devices. On the contrary, when sharing a PC (at home, internet café, etc), the visits of several persons are counted as only 1 Unique Device (as they access over the very same device).

## Understanding aggregation of the Unique Devices

A **typical error** that is done while treating with Unique Device/Browsers/Visitors data is that of taking the figures for a specific period and then **making a simple sum** of single periods for counting a different timespan (for example, summing up unique devices figures for 12 months to obtain a year period's unique devices). Unfortunately, such sum does not have any meaning.

### A practical example: unique and repeated clients in a shop

Imagine you want to know how many clients entered a shop during a week:

- Monday: Jane Dee came the morning = 1 unique client
- Tuesday: Jane Dee came in the afternoon = 1 unique client
- Wednesday: Jane Dee came the morning and she returned the afternoon = 1 unique client coming twice (repeated client)
- Thursday: Jane Dee came at noon = 1 unique client
- Friday: Jane Dee came the afternoon = 1 unique client
- Saturday: Jane Dee came in the morning and John Doo came in the afternoon = 2 unique clients

(The shop is closed Sunday)

You might be tempted to make a simple sum of number of clients per day ( $1+1+1+1+1+2=7$ ) and believe that you have 7 clients, but it is just because you would wrongly count Jane Dee 6 times. In reality, there were **just 2 unique clients** during the week.



Day	Clients	Total
Mon		1
Tue		1
Wed	 	1
Thu		1
Fri		1
Sat	 	2
week	 	2

 Jane DEE  
 John DOO

When measuring number of *clients per week*, you start measuring on Monday and stop on Saturday.

1. On Monday there was 1 client and on Tuesday the very same client came again (repeated client).
2. Then the same loyal client continued to come every day (twice on Wednesday, that is, there was a repeated client).
3. On Saturday there was 1 new client.

Therefore during the week period there were **2 clients** and **1 repeated client**: (1) Jane Dee coming every day (repeated client per week) and (2) John Doo coming once in a week (unique client per week).

If the clients had the same behaviour over a month, so that Jane came every day and John came once a week, the number of unique clients per month will be still 2 (and also number of the repeated client will be 2 as John came every Saturday in the month). The same as well per year (Jane came every day in the year and John every Saturday of the year) and so on.

### Examples with the [Europa web-nest](#)

The following tables show the number of unique and repeated devices aggregated

#### 1. per day:

Number of devices per day

Date	Unique Devices	Repeated Devices
01 Jan 2012	234 697	24 473
02 Jan 2012	362 481	32 052
03 Jan 2012	668 729	58 837
04 Jan 2012	733 644	79 701
05 Jan 2012	718 853	84 057
06 Jan 2012	651 774	70 195
07 Jan 2012	641 498	61 367

#### 1. per week:

### Number of Devices per week

Date	Unique Devices	Repeated Devices
01-07 Jan 2012	733 644	84 057

As previously explained (see example for shop), a specific aggregation is needed to get the number of unique and repeated device aggregated **per week**, as the sum of aggregations **per day** would give a wrong number, as in that way unique device which have been counted already would be - wrongly- counted again. In fact, over the weekly period we can consider that the top daily value counted for unique devices has to be taken into account.

The examples above can be applied to understand the number of unique and repeated devices on EUROPA web-nest by month and by year:

### Entire EUROPA web–nest

Date	Browsers	
	Unique	Repeat
Jan 2010	12 850 621	1 327 438
Feb 2010	13 420 722	1 276 617
Mar 2010	15 180 120	1 412 314
Apr 2010	13 503 404	1 206 464
May 2010	14 383 896	1 327 529
Jun 2010	10 992 139	1 061 298
Jul 2010	11 409 802	1 221 576
Aug 2010	11 072 234	1 110 575
Sep 2010	13 706 782	1 366 027
Oct 2010	14 416 974	1 287 285
Nov 2010	14 529 194	1 287 323
Dec 2010	12 127 823	1 160 074
<i>entire 2010</i>	<i>15 180 120</i>	<i>1 412 314</i>

**Note:**

This reports includes only website measured by Europa Analytics.

All other sites although belonging to the EUROPA web–nest are not included (like the portals of the European Parliament, of the Council, the CORDIS and so).

The conclusion that during 2010 there have been 157 593 711 unique devices (= the sum of the monthly aggregations) would be wrong, because some unique devices would have been counted 12 times. However, an approximation can be done whenever a specific aggregation is lacking (in this case, the yearly aggregation), and we can consider the top value as being the best possible indicator for the period (in the example, March 2010's value).