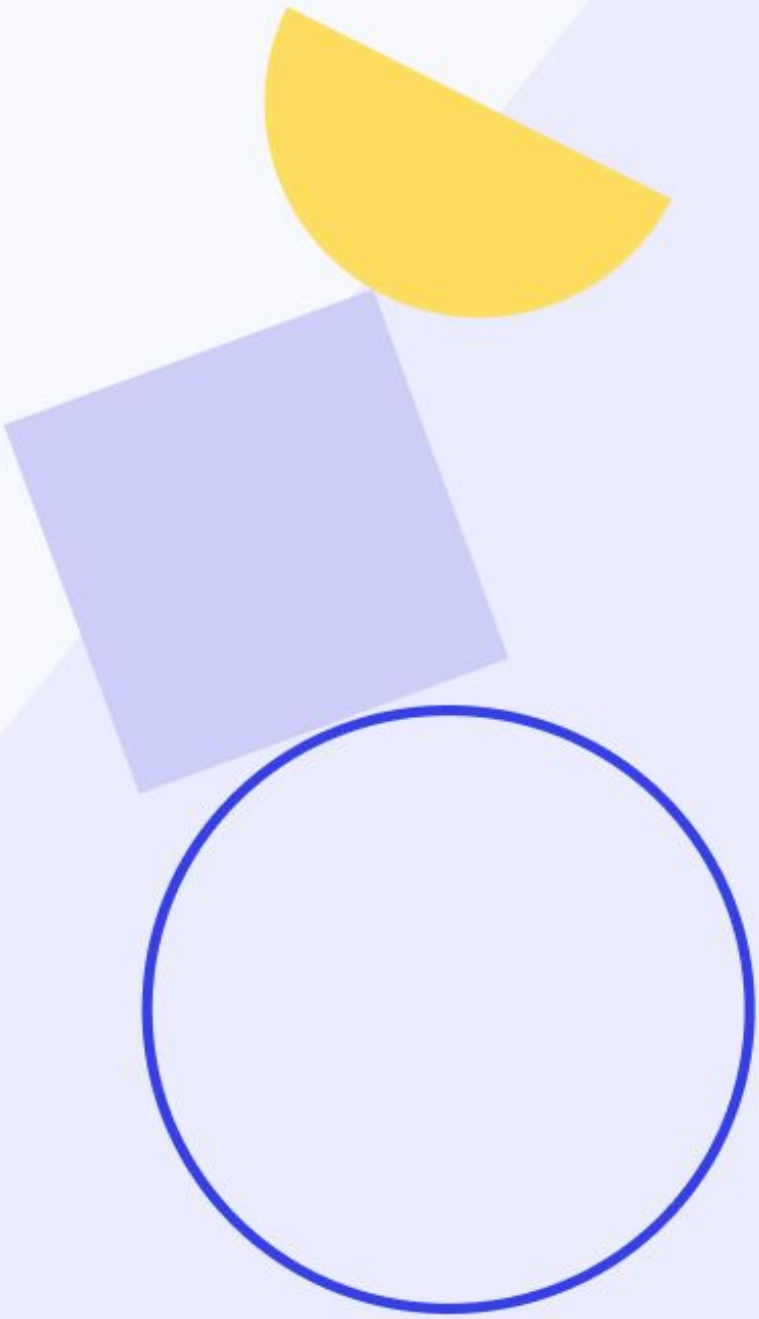
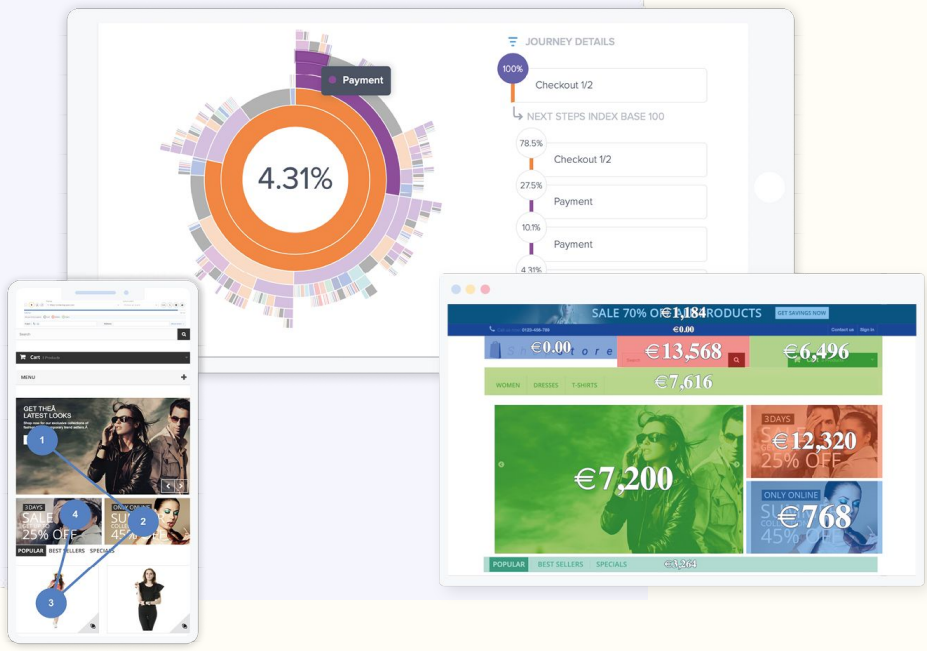
Contentsquare

CS Apps Booklet

Metric Definitions & Use Cases



About Contentsquare



Contentsquare is a digital insights platform that helps businesses understand how and why users are interacting with their app, mobile and websites. We compute billions of touch and mouse movements, and transform this knowledge into profitable actions that increase engagement, reduce operational costs and maximize conversion rates. We capture 100% of digital behavior without a tagging plan (SDK for mobile apps), and give brands actionable insights that increase conversions.

Using behavioral data, artificial intelligence and big data to provide automatic recommendations, Contentsquare empowers every member of the digital team to easily measure the impact of their actions, and make fast and productive data driven decisions to optimize the customer journey.

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NOTES

A screen view is collected from the moment the SDK fires a screenview event. When the app is put in the background and then brought back to the foreground, it fires another screenview event.

All formulas that take the average into account are referring to the mean average.

The sessions considered by the metrics are always defined by the Analysis Context.

App Overview, Screen Metrics and Zoning Analysis metrics are also available in Workspace and Alerts.

APP OVERVIEW METRICS

App Overview metrics provide you a global view of user's actions that occur within your app. Any data displayed is applied at an app level. (number of sessions, session time, bounce rate, etc.). You can then put this data into perspective by setting your Analysis Context to a specific period and segment.

Average Cart

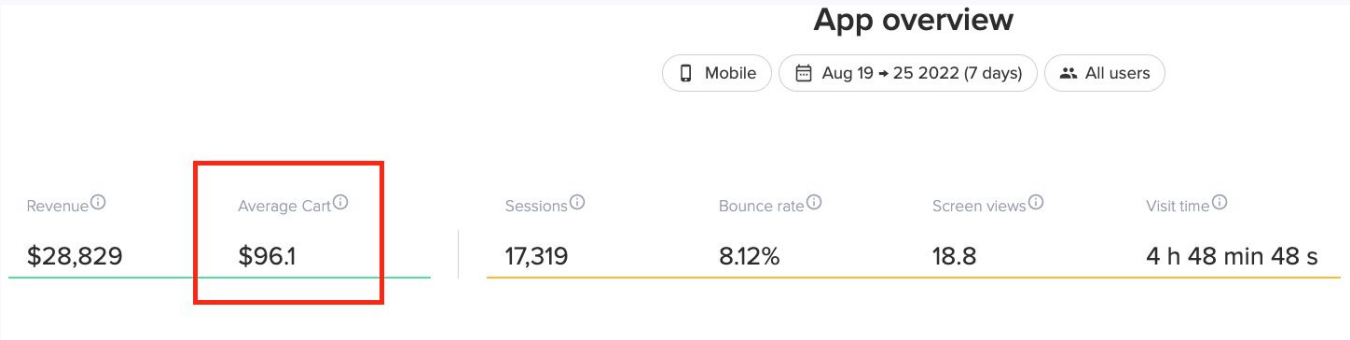
Definition

Average cart shows how much a shopper is spending on average in a single transaction.

Calculation

$$\frac{\text{Total revenue of all sessions}}{\text{Number of transactions from all sessions}}$$

Use case



The **Average cart** generated by **All users** for the last seven (7) days on my app is US$96.1.

Bounce Rate

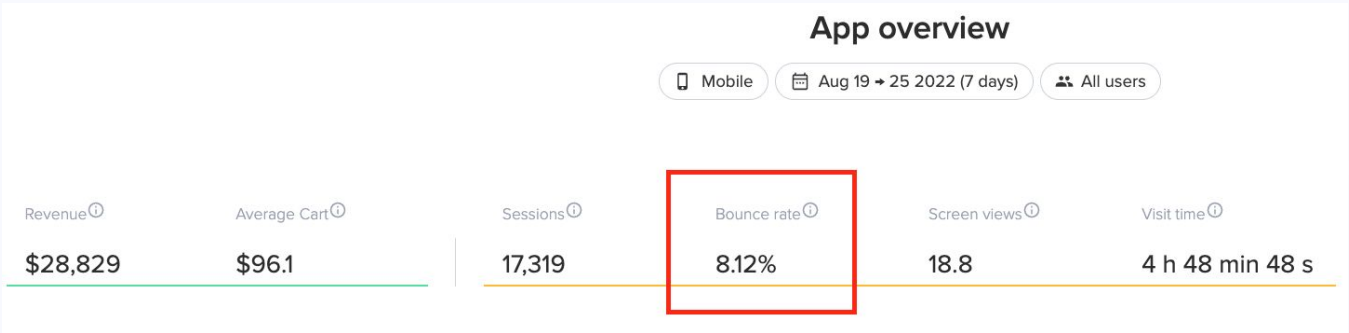
Definition

Ratio between the users who entered the app and left it without having seen a second screen and all users.

Calculation

$$\frac{\text{Number of session with one (1) screen view}}{\text{Total number of sessions}}$$

Use case



On this app, 8.12% of users have left the app without seeing a second screen.

Conversion Rate

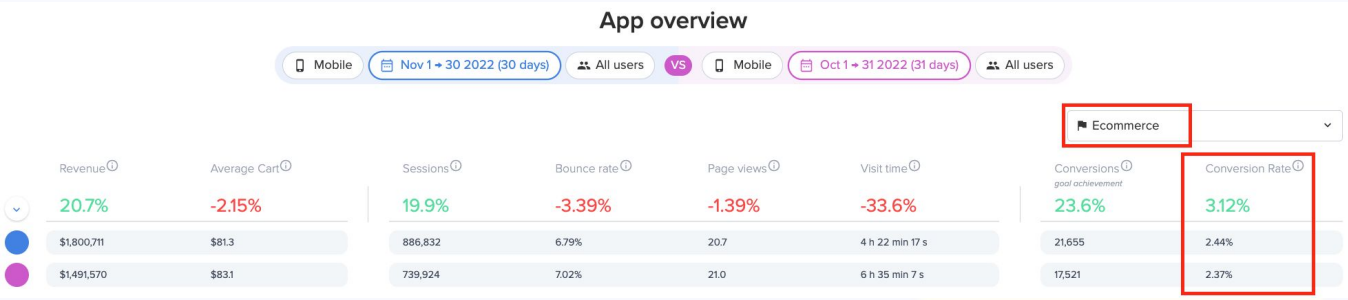
Definition

This metric calculates the percentage (%) of sessions during which users achieved a defined goal (e.g. making a transaction on an e-commerce app or performing a certain behavior on a screen).

Calculation

$$\frac{\text{Number of sessions during which the objective was achieved}}{\text{Total number of sessions}}$$

Use case



The analyzed conversion goal is **Ecommerce**, which means we are looking at transactions.

Conversion rate is 3.12% higher in November compared to October.

If your app is a non-ecommerce company, you can analyze any user behavior as a Conversion.

Conversions

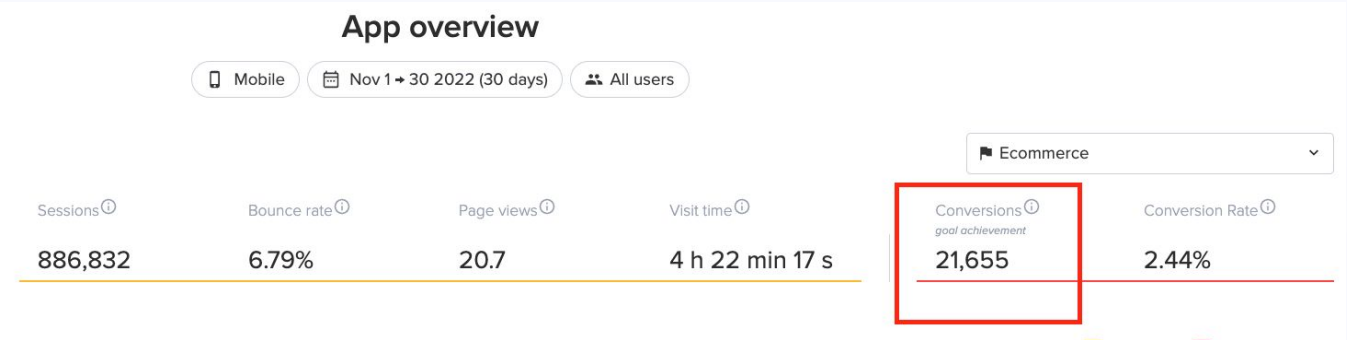
Definition

The total number of sessions during which the defined goal was achieved. The goal can be either transactional or behavioral.

Calculation

Number of sessions with conversion

Use case



Here, the defined goal is “Ecommerce” : if users make a transaction, they convert.

21,655 conversions have occurred on this app for the period and population defined by the Analysis Context.

Revenue

Definition

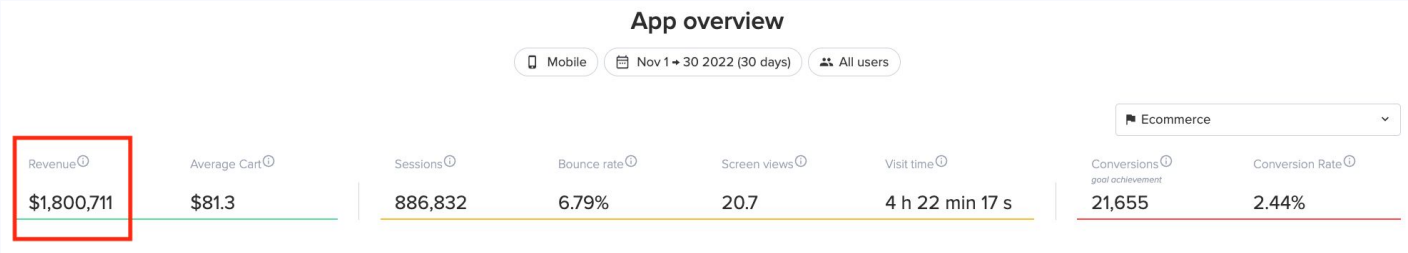
The Revenue metric calculates the total amount of revenue generated on your app for a set period. It equals the sum of all the transaction amounts (within the Analysis Context).

Calculation

Total purchase amount in the specific currency of all sessions.

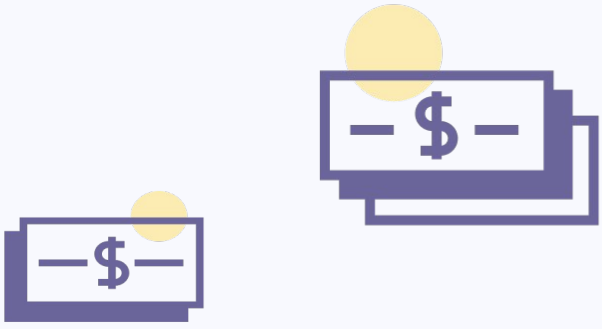
Use case

Compare Revenue against Views, Average cart, and Conversion rate to monitor the overall e-commerce generated by your e-commerce app.



On this app, you can see a global revenue of US$1,800,711.

Out of the 886,832 sessions on the app, 2.44% converted, i.e. made a purchase, with an average cart of US$81.3.



Sessions

Definition

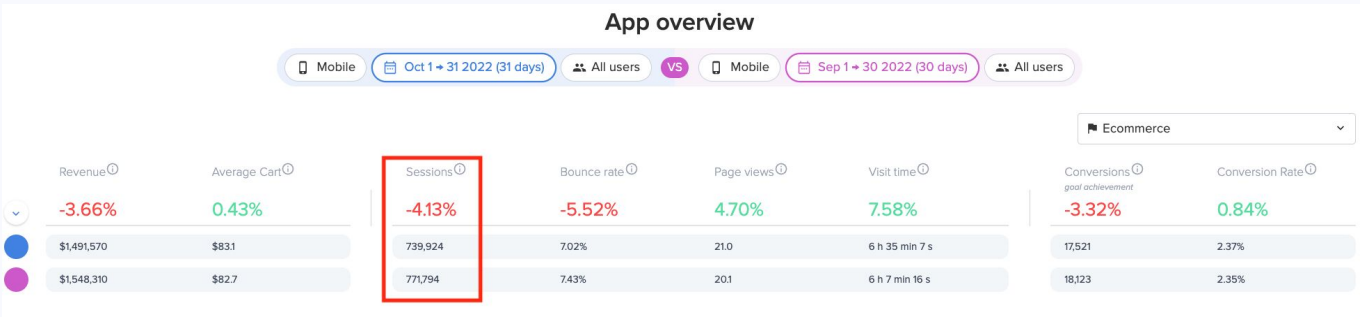
This metric gives you the number of sessions that happened on your app. Use it as a starting point to analyze if there are any external factors that could be impacting your app traffic.

Calculation

Number of unique sessions that happened within the selected Analysis Context.

Use case

Compare your session numbers against your conversion rate to see if conversion holds up during variances in sessions.



Despite the sessions drop of 4.13%, the conversion rate holds up by 0.84% for the defined period.

A session is defined as uninterrupted navigation on the app. It starts from the moment a user enters your app, and ends after 30 minutes of inactivity.

Session Time

Definition

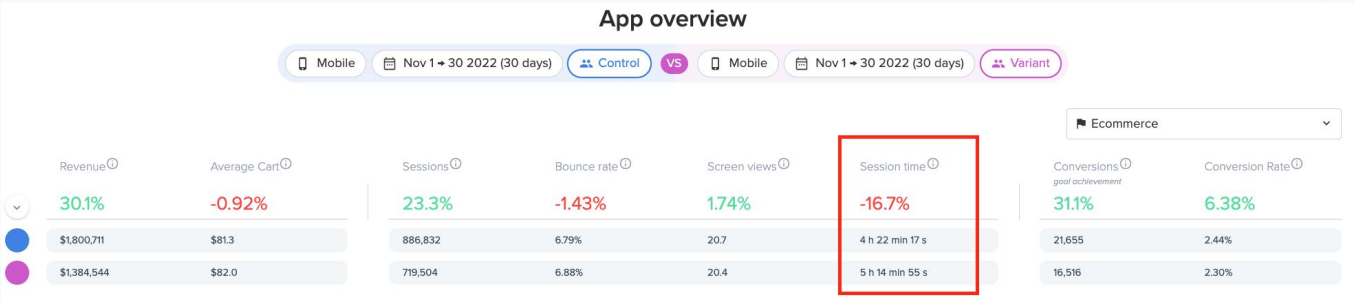
Session Time displays the average time spent from entry to the app to app exit for each session.

Calculation

$$\frac{\text{Total duration of all sessions}}{\text{Number of sessions on the app (for the defined period)}}$$

Use case

You've redesigned your app and launched an AB test to see which version performs the best. Compare how long users spend on control vs variant.



Control users spend -16.7% less time on the app compared to variant users.

Screen Views

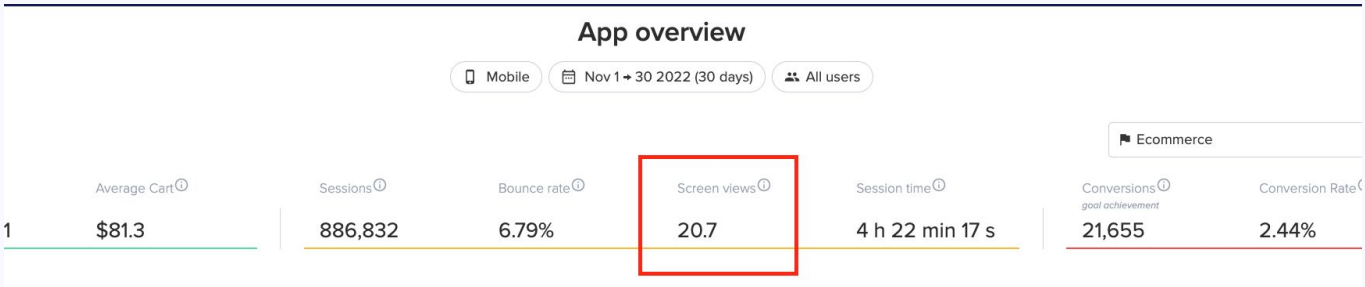
Definition

This metric displays the total number of times a screen is viewed during a session, including repeat views from the same user.

Calculation

$$\frac{\text{Total number of screenviews}}{\text{Total number of sessions}}$$

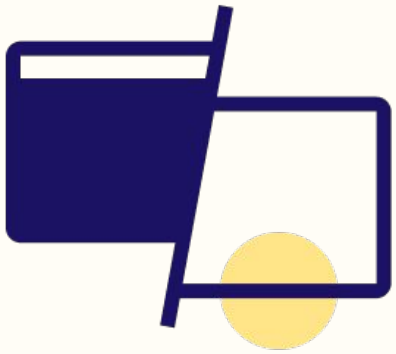
Use case



On this app, 20.7 screens have been viewed in average in the last 30 days.

Refreshing a screen counts as a screenview, irrespective of sessions.

SCREEN METRICS



Screen metrics display data on common behaviors that occur at a screen level. They give you insights on the contribution of a screen to a goal reach, and help identify friction happening on a screen. Screens can be compared in light of the different metrics to assess the performance of each screen with one another.

Views

Definition

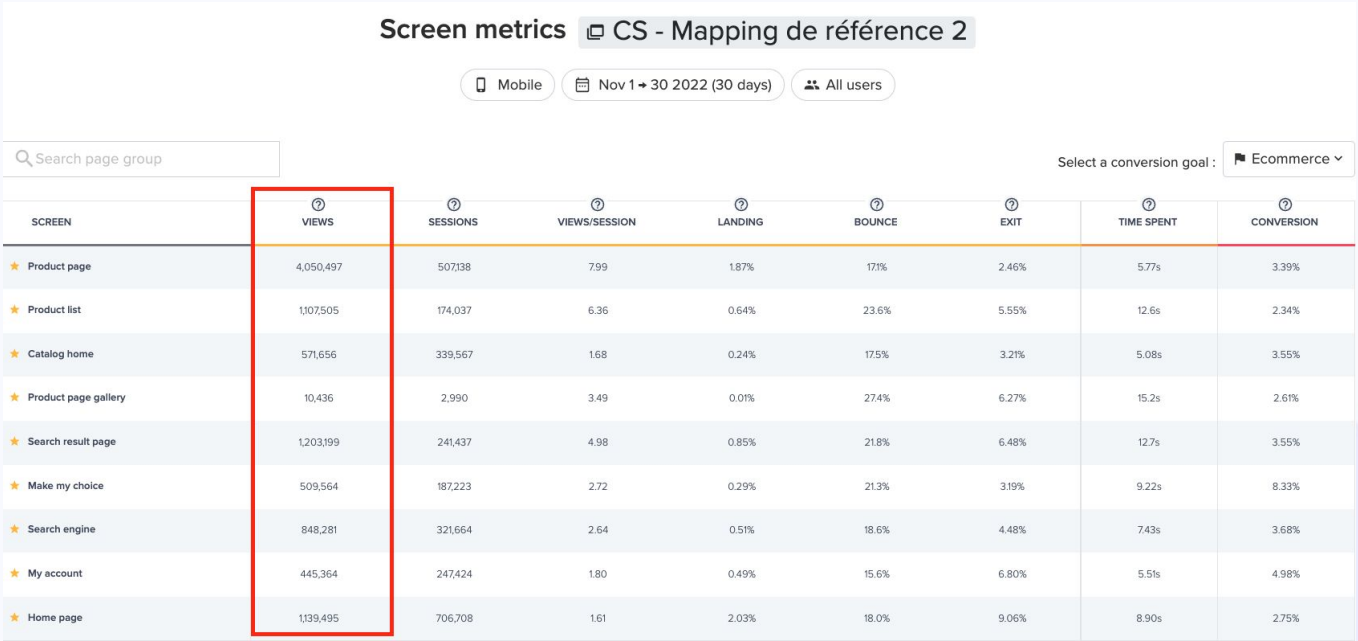
This metric shows the number of times the screen was viewed during the selected period.

Calculation

Number of times the screen was viewed.

Use case

Identify top viewed screens.



Screen metrics CS - Mapping de référence 2

Mobile | Nov 1 → 30 2022 (30 days) | All users

Search page group

Select a conversion goal : Ecommerce

SCREEN	VIEWS	SESSIONS	VIEWS/SESSION	LANDING	BOUNCE	EXIT	TIME SPENT	CONVERSION
Product page	4,050,497	507,138	7.99	1.87%	17.1%	2.46%	5.77s	3.39%
Product list	1,107,505	174,037	6.36	0.64%	23.6%	5.55%	12.6s	2.34%
Catalog home	571,656	339,567	1.68	0.24%	17.5%	3.21%	5.08s	3.55%
Product page gallery	10,436	2,990	3.49	0.01%	27.4%	6.27%	15.2s	2.61%
Search result page	1,203,199	241,437	4.98	0.85%	21.8%	6.48%	12.7s	3.55%
Make my choice	509,564	187,223	2.72	0.29%	21.3%	3.19%	9.22s	8.33%
Search engine	848,281	321,664	2.64	0.51%	18.6%	4.48%	7.43s	3.68%
My account	445,364	247,424	1.80	0.49%	15.6%	6.80%	5.51s	4.98%
Home page	1,139,495	706,708	1.61	2.03%	18.0%	9.06%	8.90s	2.75%

Sessions

Definition

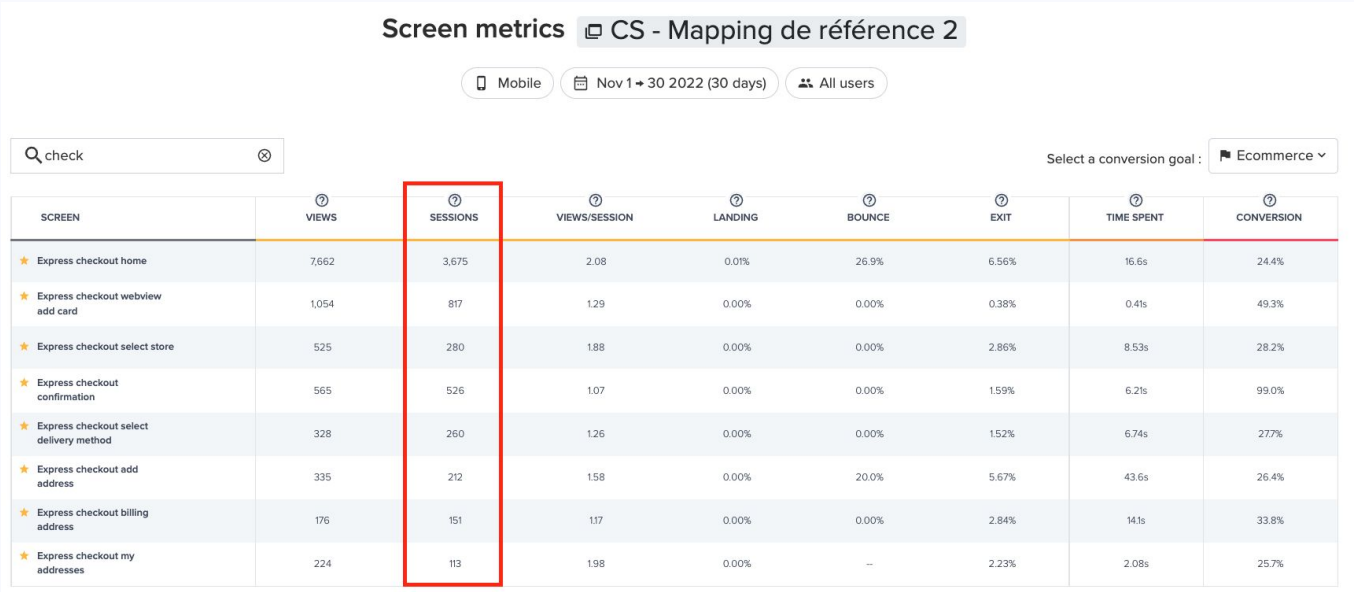
The number of unique users who saw the selected screen at least once during their session.

Calculation

Number of sessions where the screen has been seen at least once.

Use case

Use Sessions to see how many users dropped off during each step of a checkout funnel, and spot problematic screens that cause users to leave your app.



SCREEN	VIEWS	SESSIONS	VIEWS/SESSION	LANDING	BOUNCE	EXIT	TIME SPENT	CONVERSION
Express checkout home	7,662	3,675	2.08	0.01%	26.9%	6.56%	16.6s	24.4%
Express checkout webview add card	1,054	817	1.29	0.00%	0.00%	0.38%	0.41s	49.3%
Express checkout select store	525	280	1.88	0.00%	0.00%	2.86%	8.53s	28.2%
Express checkout confirmation	565	526	1.07	0.00%	0.00%	1.59%	6.21s	99.0%
Express checkout select delivery method	328	260	1.26	0.00%	0.00%	1.52%	6.74s	27.7%
Express checkout add address	335	212	1.58	0.00%	20.0%	5.67%	43.6s	26.4%
Express checkout billing address	176	151	1.17	0.00%	0.00%	2.84%	14.1s	33.8%
Express checkout my addresses	224	113	1.98	0.00%	--	2.23%	2.08s	25.7%

Views / Session

Definition

Allows you to see how many times the average user is seeing the same screen during a single journey on your app. This allows you to see which screen users are viewing the most. For example, you can compare category screens to product screens.

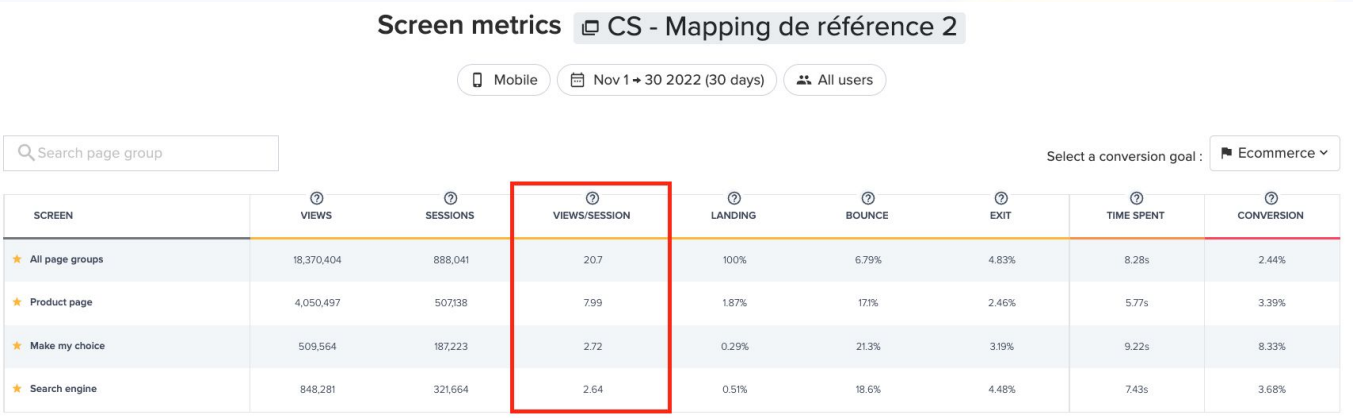
Calculation

Average number of times the screen was viewed during a session.

$$\frac{\text{Total number of screenviews of the screen}}{\text{Number of sessions which visited the screen}}$$

Use case

Identify which screen(s) was/were the most viewed during a session.



SCREEN	VIEWS	SESSIONS	VIEWS/SESSION	LANDING	BOUNCE	EXIT	TIME SPENT	CONVERSION
All page groups	18,370,404	888,041	20.7	100%	6.79%	4.83%	8.28s	2.44%
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Search engine	848,281	321,664	2.64	0.51%	18.6%	4.48%	7.43s	3.68%

Landing Screen

Definition

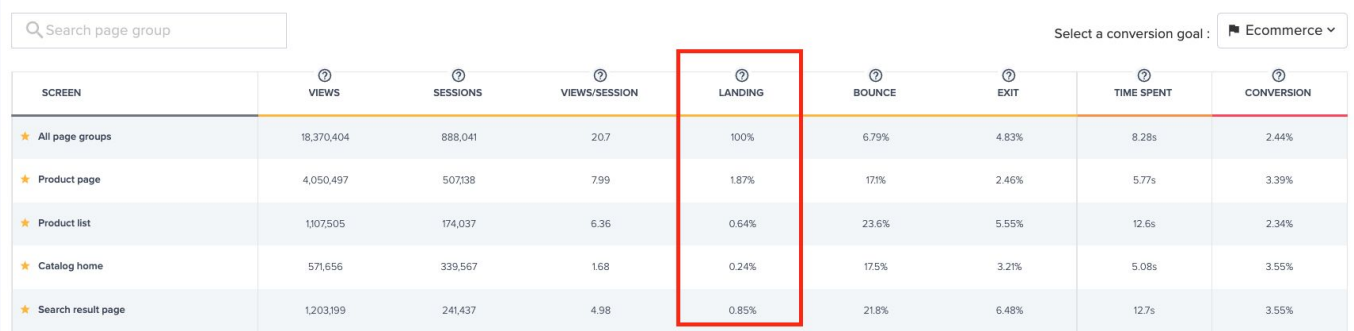
Identify top screen landing screens on the app.

Calculation

$$\frac{\text{Number of users that landed on the screen}}{\text{Total number of users}}$$

Use case

Check this metric along with the bounce rate and see which landing screen presents the highest bounce rate.



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Product list	1,107,505	174,037	6.36	0.64%	23.6%	5.55%	12.6s	2.34%
Catalog home	571,656	339,567	1.68	0.24%	17.5%	3.21%	5.08s	3.55%
Search result page	1,203,199	241,437	4.98	0.85%	21.8%	6.48%	12.7s	3.55%

Bounce

Definition

Ratio between users that landed on the screen and left the app without viewing a second screen and the total number of users who landed on this screen.

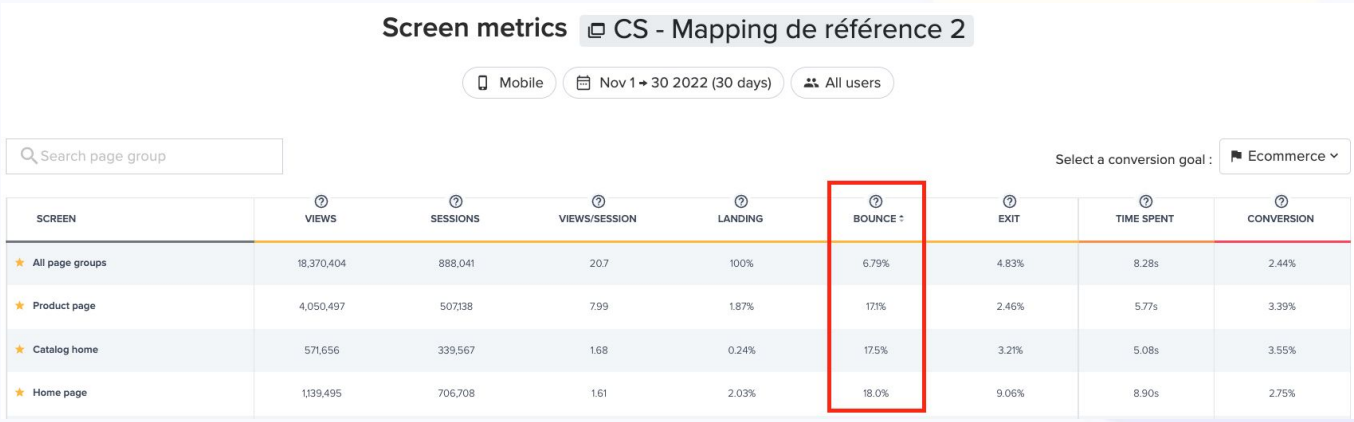
Calculation

$$\frac{\text{Number of users who landed on the selected screen and left the app without viewing a second screen}}{\text{Total number of users who landed on the screen}}$$

Use case

Depending on the context of the screen, a bounce can be good, or bad. Bouncing is considered as positive if:

- On a store locator screen, users get the information they need, and bounce.
- On a content screen, users spend a lot of time reading and interacting with the content.
- On a product details screen, users view the details of the product or tap on in-store availability, bounce and make a purchase at a different date.



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Home page	1,139,495	706,708	1.61	2.03%	18.0%	9.06%	8.90s	2.75%

Exit

Definition

This metric displays the ratio between the number of users that ended their navigation on the screen group and the total number of screenviews.

Calculation

$$\frac{\text{Number of views of the screen group, which is the final screen group of the sessions}}{\text{Total number of views of the screen group}}$$

Use case

Exit rate helps you understand which screen group(s) people are exiting the most, and at which percentage, so you know which screen group(s)might need improvement. Check for instance which screen group(s) have an unusual exit rate, especially in a checkout.

SCREEN	VIEWS	SESSIONS	VIEWS/SESSION	LANDING	BOUNCE	EXIT	TIME SPENT	CONVERSION
Checkout webview	139,390	58,356	2.39	0.49%	23.3%	17.3%	65.9s	36.2%
Express checkout home	7,675	3,681	2.09	0.01%	26.9%	6.57%	16.6s	24.4%
Express checkout webview add card	1,056	819	1.29	0.00%	0.00%	0.38%	0.41s	49.3%
Express checkout select store	525	280	1.88	0.00%	0.00%	12.86%	8.53s	28.2%
Express checkout confirmation	567	528	1.07	0.00%	0.00%	1.59%	6.22s	99.1%

Time Spent

Definition

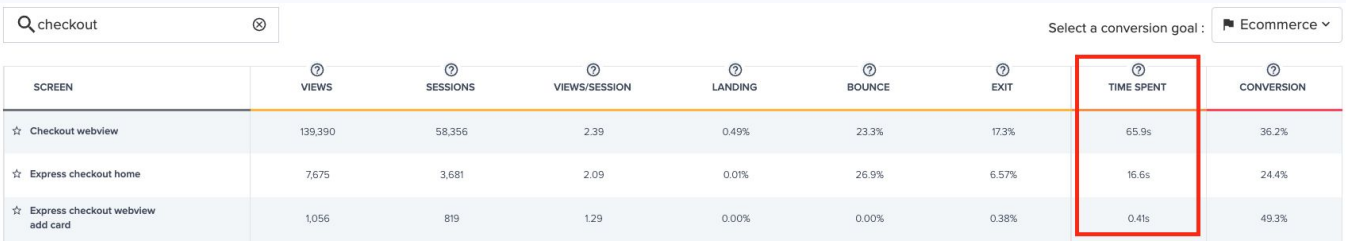
Average time spent on the screen group, from the first screenview event to the last event sent.

Calculation

Time of last event sent - Time of first screenview sent

Use case

Time Spent represents how long users spend on a screen group. It is good to think of it in terms of content consumption. For instance : a product screen group should not be on for as long as a blog post or the like.



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☆ Express checkout home	7,675	3,681	2.09	0.01%	26.9%	6.57%	16.6s	24.4%
☆ Express checkout webview add card	1,056	819	1.29	0.00%	0.00%	0.38%	0.41s	49.3%

Conversion

Definition

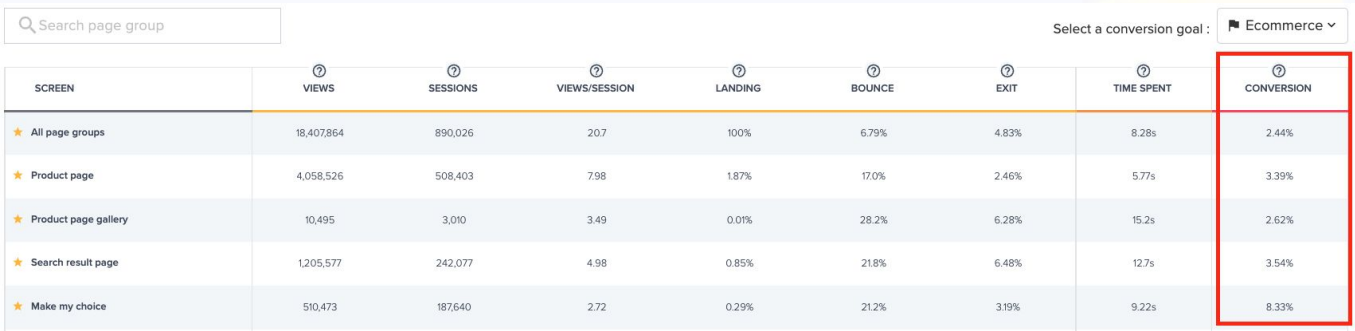
Conversion Rate shows the percentage of sessions during which users achieved a certain behavior, be it making a purchase on an e-commerce app or achieving a certain behavior on a screen group.

Calculation

$$\frac{\text{Number of users that viewed the screen group and reached the objective during their navigation}}{\text{Total number of users that viewed that screen group}}$$

Use case

The conversion rate is tied to the specific behavior you are looking at. Remember, this can be based around views, taps or ecommerce.



SCREEN	VIEWS	SESSIONS	VIEWS/SESSION	LANDING	BOUNCE	EXIT	TIME SPENT	CONVERSION
All page groups	18,407,864	890,026	20.7	100%	6.79%	4.83%	8.28s	2.44%
Product page	4,058,526	508,403	7.98	1.87%	17.0%	2.46%	5.77s	3.39%
Product page gallery	10,495	3,010	3.49	0.01%	28.2%	6.28%	15.2s	2.62%
Search result page	1,205,577	242,077	4.98	0.85%	21.8%	6.48%	12.7s	3.54%
Make my choice	510,473	187,640	2.72	0.29%	21.2%	3.19%	9.22s	8.33%

ZONING ANALYSIS
METRICS

Zoning Analysis metrics display in-screen data on users' behaviors (tap rate, revenue per tap, hesitation time, etc). Get insights on how users interact with the different elements of your screen.

Attractiveness Metrics

Identify where users are taping on the screen

Tap Rate (screenview level)

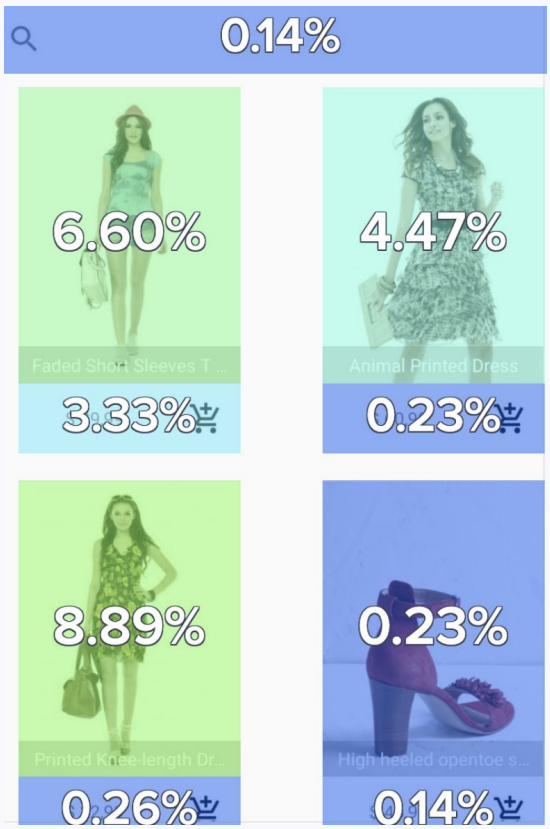
Definition

Percentage of users that tapped on the zone at least once. This metric allows you to rank zones according to their attractiveness.

Calculation

$$\frac{\text{Number of screenviews where the zone was tapped}}{\text{Total number of screenviews}}$$

Use case



This metric is useful when analyzing zones that can be tapped several times (like a carousel) because it does not inflate the tap rate. If, during a screenview, a user taps twice on a zone, the tap rate just considers one tap. So even if the zone is tapped hundreds of times by one user, and once by another user, the metric is not «inflated».

Tap Rate (session level)

Definition

Percentage of sessions with at least one tap on the zone.

Calculation

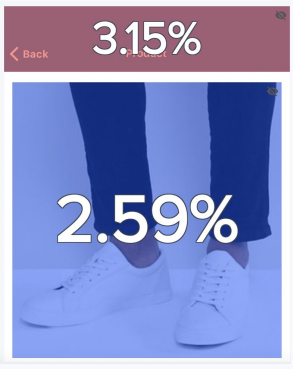
$$\frac{\text{Number of sessions where the zone was tapped}}{\text{Total number of sessions}}$$

Use case

This metric is useful when analyzing zones that can be tapped several times, as it does not inflate the result based on how many times a user taps. This means that if a user taps several times on a zone, they will still count as one session.

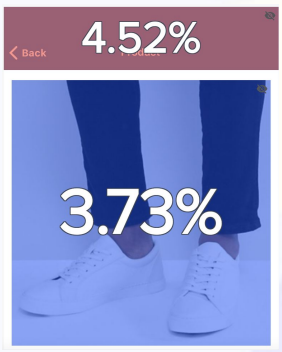
See the difference between both tap rates:

Tap rate (screenview level)



Of all the screenviews on product screen group, the product picture is tapped during 2.59% of them.

Tap rate (Session level)



3.73% of sessions where users visited the homescreen include at least one tap on the homepage carousel.

Tap Distribution

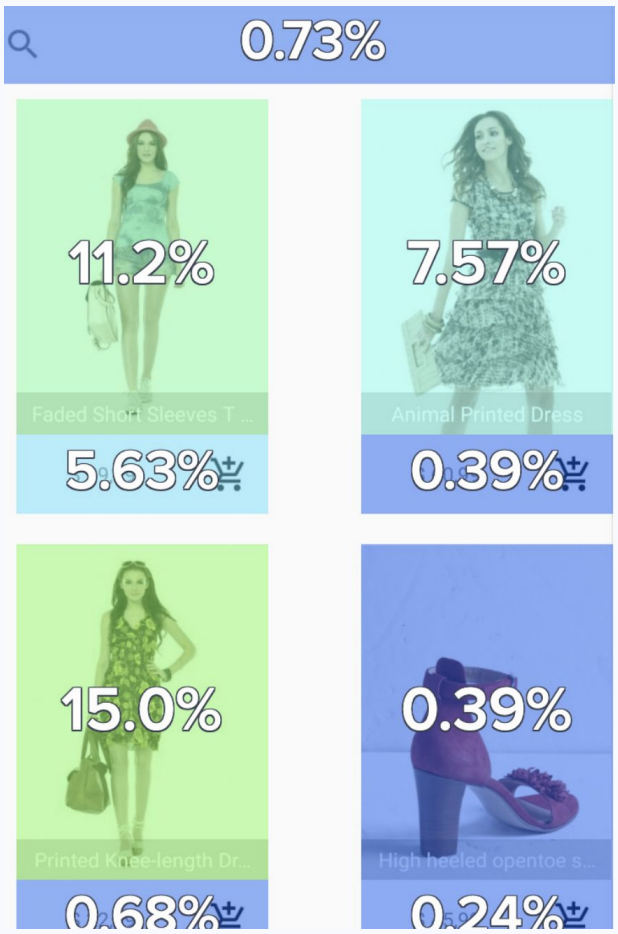
Definition

Allows you to identify the zones where users most frequently perform a tap (the sum of all zones is 100%). This metric allows you to rank zones according to their shares of taps on the screen, and to evaluate their importance.

Calculation

$$\frac{\text{Number of taps on the zone}}{\text{Sum of taps on all created zones}}$$

Use case



This metric allows you to determine zones which receive the highest and lowest share of taps on the screen.

This is useful for merchandising, to determine which zone is most tapped, and can be helpful to organize the top navigation menu of an app.

Number of taps

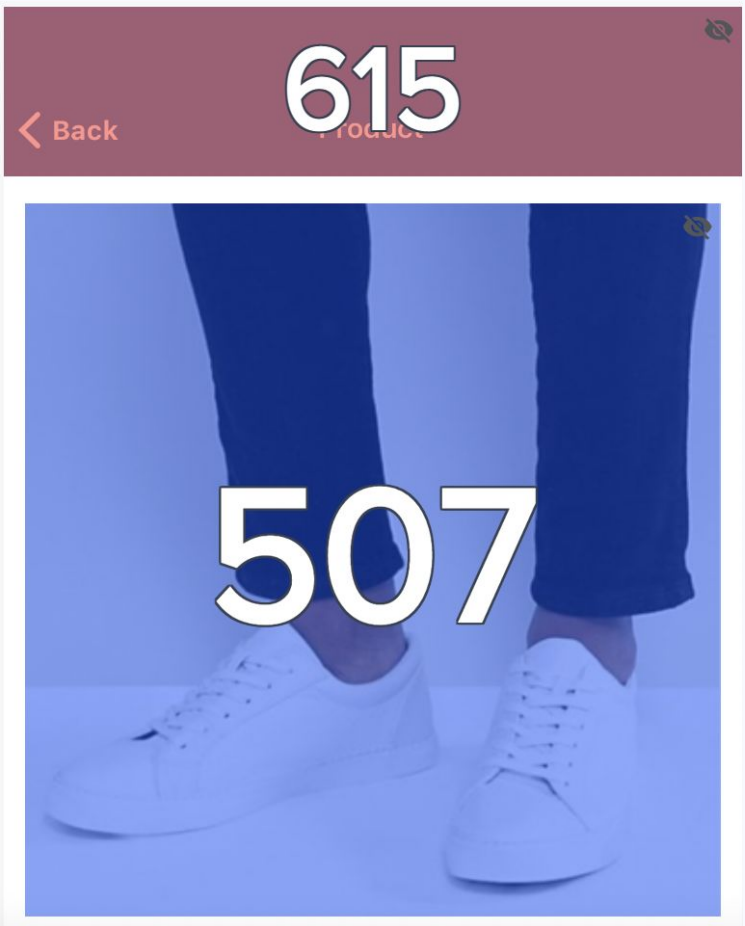
Definition

This metric displays the total number of taps on the zone for the period selected in the Analysis Context.

Calculation

Total number of taps on a zone.

Use case



The product image received 507 taps during the selected period.

Time Before first Tap

Definition

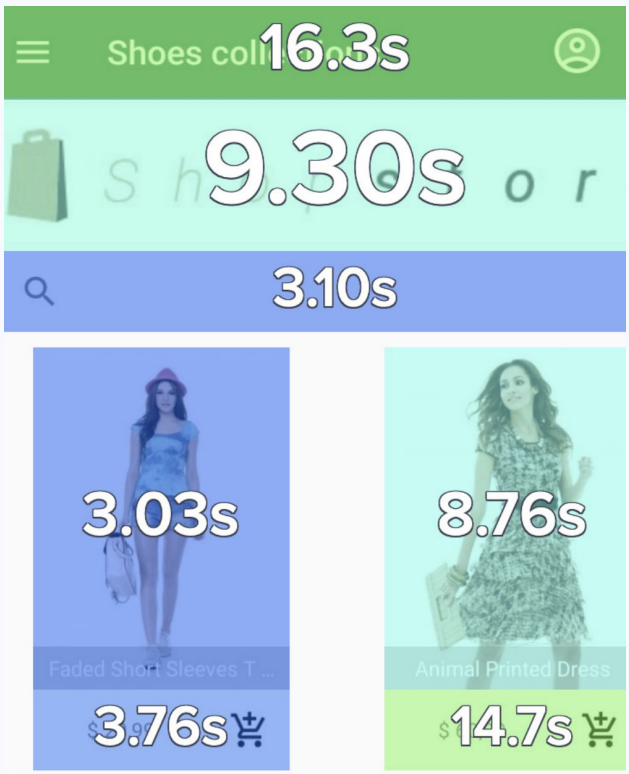
The number of seconds between when the screenview event is triggered and the first tap on the zone. This metric identifies which elements were interacted with first.

Caution: You can only use the time before first tap on those zones that display a high enough tap rate to be significant (tap rate ≥ 1%).

Calculation

Average time from when the SDK sends a screenview and the first tap on the zone.

Use case



Time before the first tap is very useful in relation to form field completion. It allows you to see if forms are being filled out in the correct order.

This metric also shows you which areas of the screen are most immediately attractive to users and where people are tapping first.

If a visitor has a CTA in view, the time before the tap should be low, but if there is text on the screen, we can expect a longer time before the first tap.

Tap Recurrence

Definition

Average number of times an element was tapped when engaged with during a screenview. This metric measures engagement and frustration.

Calculation

$$\frac{\text{Total number of taps on the zone}}{\text{Total number of screenviews with at least one tap on the zone}}$$

Use case

This metric can help you identify if users are trying to engage with non-tappable elements. If users are repeatedly tapping on a banner with the expectation to be brought somewhere but then are not, it creates a negative experience.

A high tap recurrence could indicate a banner to be removed or one that should be linked to another screen.

Swipe

Definition

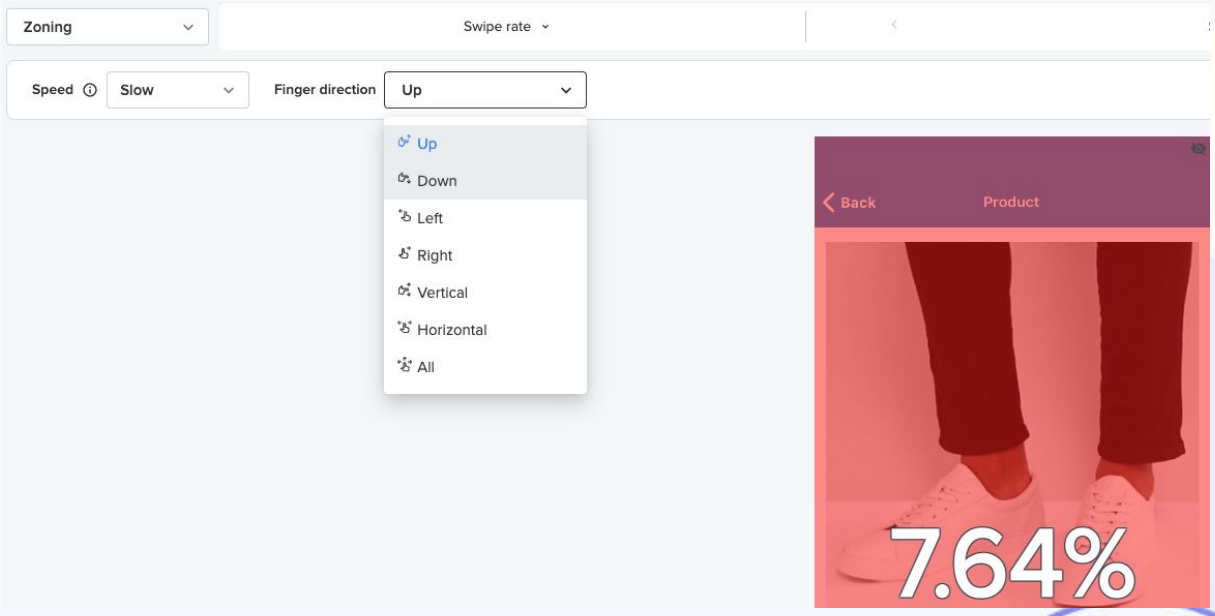
A swipe is a movement of the finger on the screen in one of 4 directions (up, down, left and right). This metric corresponds to the percentage of users performing at least one swipe on a zone during a screen display.

Calculation

$$\frac{\text{Number of screenviews where the zone was swiped at least once, whatever the swipe speed, in the direction specified by the Contentsquare user}}{\text{Total number of screenviews}}$$

Use case

This metric is useful when analyzing zones that can be swiped several times (like a carousel) because it does not inflate the swipe rate. (If during a screen view a user swipes twice on a zone, the swipe rate just counts one swipe. So even if the zone is swiped hundreds of times by one user, and once by another user, the metric is not «inflated»).



The vertical swipes on the whole screen allow for analysis of overall consumption of the screen, while the horizontal swipes are relevant to analyze the consumption of particular elements, such as carousels.

Fast Swipe

Definition

Percentage of users performing at least one fast swipe on a zone during a screen display.

Calculation

$$\frac{\text{Number of screenviews where the zone was fast swiped}}{\text{Total number of screenviews}}$$

Fast swipe is defined as such: Finger Velocity > 100 dp/s + distance >48dp

Use case

A high fast swipe rate on a rather short screen might indicate that :

- users are looking for something
- the content is not engaging (users are just swiping fast to check the content of the screen, without actually reading it)

Slow Swipe

Definition

Percentage of users performing at least one slow swipe on a zone during a screen display.

Calculation

$$\frac{\text{Number of screenviews where the zone was slow swiped}}{\text{Total number of screenviews}}$$

Slow swipe is defined as such: Finger Velocity < 100 dp/s + distance >48dp

Use case

Slow swipe rate might show better engagement from users.

Swipe Recurrence

Definition

Average number of times an element was swiped when engaged with during a screenview.

Calculation

$$\frac{\text{Total number of swipes}}{\text{Total number of screenviews}}$$

Use case

Spot when users are trying to engage with elements that cannot be swiped, but were designed for tapping (E.g. a user trying to swipe through a carousel, when the carousel is designed for users to tap on the arrows.)

If users are repeatedly swiping on a banner with the expectation to be led somewhere but are not, it is a negative experience. High swipe recurrence may encourage you to consider updating the pagination of an image or carousel.

ROI Metrics

These metrics are all tied to revenue and ecommerce conversions

Revenue

Definition

Total revenue generated by the segmented users after they tapped on an element. This metric ranks elements based on their contribution to revenue.

Calculation

Total purchase amount of all sessions that tapped on the zone.

Use case

When analyzing a screen, you can use this metric to see which zones are generating the most revenue.

Revenue per Tap

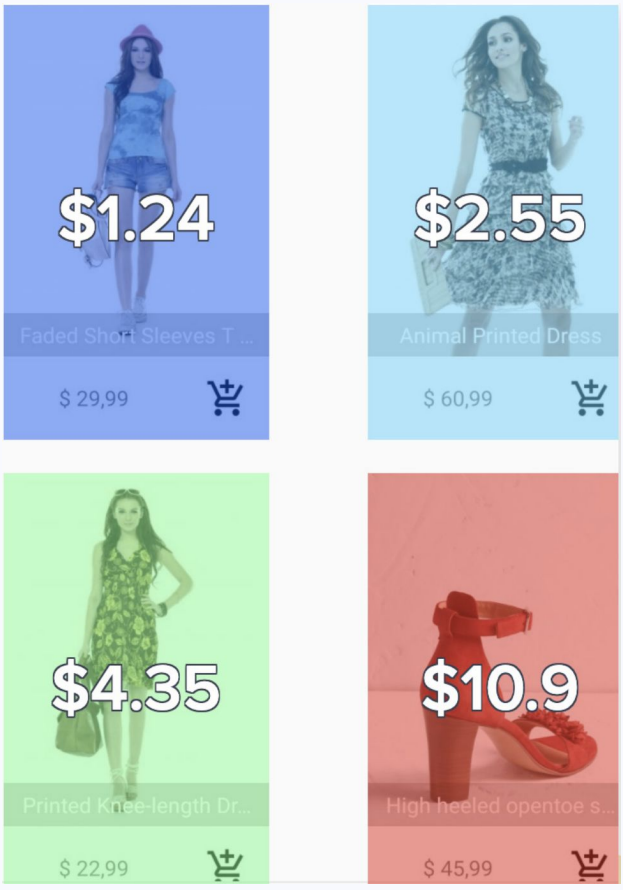
Definition

Average revenue per tap generated by users after they tapped on an element. This metric ranks elements based on their contribution to revenue.

Calculation

$$\frac{\text{Total purchase amount of all sessions that tapped on the zone}}{\text{Total number of sessions where the zone was tapped}}$$

Use case



A zone with a high total revenue may just be caused by a high number of visitors tapping. Revenue per tap lets us see which zones are both attractive and have a high contribution to ROI.

Similar to purchase conversion rate per tap, with this metric, you are able to think about ranking zones by exact revenue.

Purchase | Conversion Rate per Tap

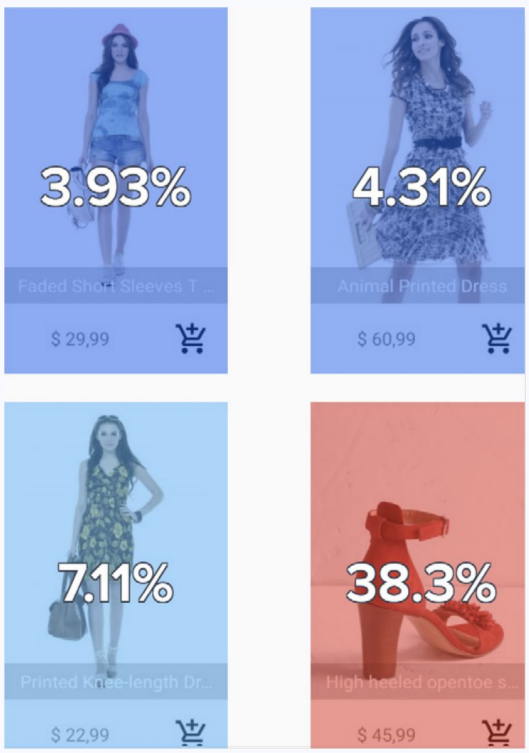
Definition

This metric allows a user to decide whether tapping on a zone impacts the purchase or not.

Calculation

$$\frac{\text{Number of purchasers who tapped a zone}}{\text{Number of users who tapped a zone}}$$

Use case



It allows you to quickly see which zones on a screen are contributing to conversions when they are tapped on.

This can be useful to prioritize a screen based on the tapped zones that led to conversions.

Performance Metrics

Measure performance of zones according to business objectives. Help identify strengths and weaknesses of the screen by identifying the role of every element in the screen.

Conversion Rate per Swipe

Definition

This metric allows you to determine whether interacting (swipe) with a zone encourages or prevents visitors from exhibiting the behavior.

Calculation

$$\frac{\text{Number of screen viewers who achieved the set goal}}{\text{Number of screen viewers}}$$

Use case

This metric allows you to quickly see which zones on a screen are contributing to conversions when they are swiped.

For example, check if the consumption of a carousel (horizontal swipe) or reaching the bottom of a screen (vertical swipe) contributes to conversion.

This can be useful to prioritize a screen based on the swiped zones that led to conversions.

Conversion Rate per Tap

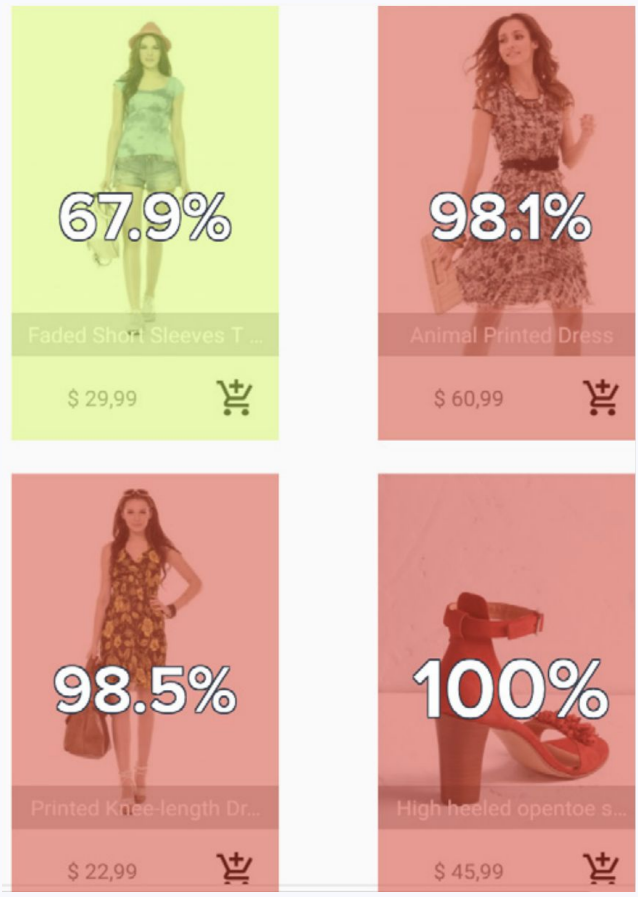
Definition

This metric allows you to determine whether interacting (tap) with a zone encourages or prevents visitors from exhibiting the behavior.

Calculation

$$\frac{\text{Number of screen viewers who achieved the set goal}}{\text{Number of screen viewers}}$$

Use case



Conversion Rate per Tap allows you to quickly see which zones on a screen are contributing to conversions when they are tapped on.

This can be useful to prioritize a screen based on the tapped zones that led to conversion.

WORKSPACE & ALERTS METRICS

All CS Digital metrics are available in **Workspace** and **AI Alerts**. You can monitor a metric or create an alert on three different levels.
In this section, discover a couple additional metrics that you can use in these features.

Percentage of Session (screenview level)

Definition

This metric shows the ratio between sessions on the screen that belong to the segment you set and the total number of sessions on the screen.

Calculation

$$\frac{\text{Number of sessions to a screen of a particular segment}}{\text{Number of sessions to the screen across all segments}}$$

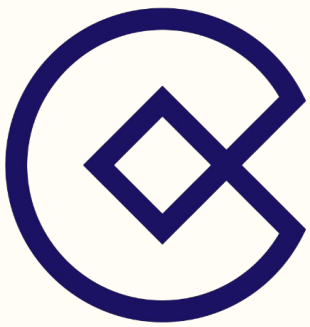
Percentage of Session (app level)

Definition

This metric shows the ratio between sessions on the app that belong to the segment you set and the total number of sessions on the app.

Calculation

$$\frac{\text{Number of sessions of a particular segment}}{\text{Number of sessions across all segments}}$$



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