

E-Book

Complete guide to mobile app heatmaps



uxcam

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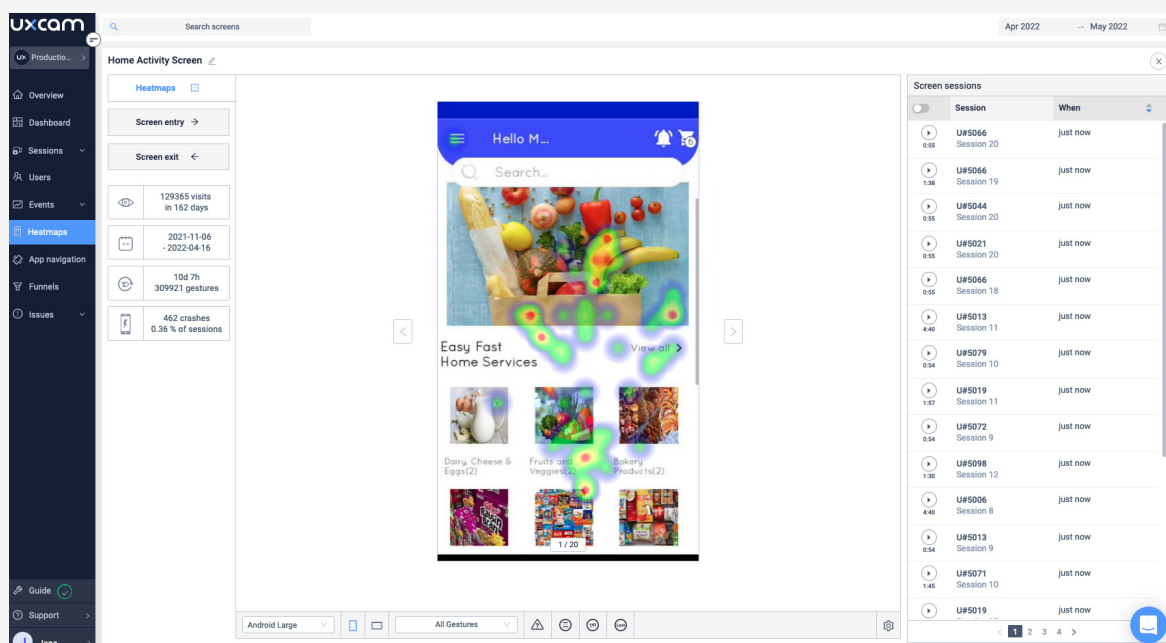


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CHAPTER 01

What is a heatmap?



Heatmaps and their benefits

Heatmaps are an excellent solution for the quick evaluation of individual screens. They're a visual overlay of an array of colors to represent the movements of users.

The visual data represents the average user activity, allowing you to see exactly where they are focusing and where you should be looking.

The human eye can comprehend an array of colors more easily and much quicker than we can analyze a set of numbers. Heatmaps aggregate large numbers of data from users and visualize it in a way that allows us to quickly and accurately draw conclusions from the results.

For this reason, heatmaps are best used in large groups of data and show us extremes (either where the most activity is or the least).

Heatmaps are incredibly valuable to understand if users are getting the right experience from your mobile app. They are easy-to-understand thanks to their visual nature.

Using heatmaps, you can:



Find out which screen elements get the most attention



Identify device specific user behavior



Find out if users touch on elements that are unresponsive



Make informed decisions during A/B testing



Analyze where users are getting frustrated within a screen

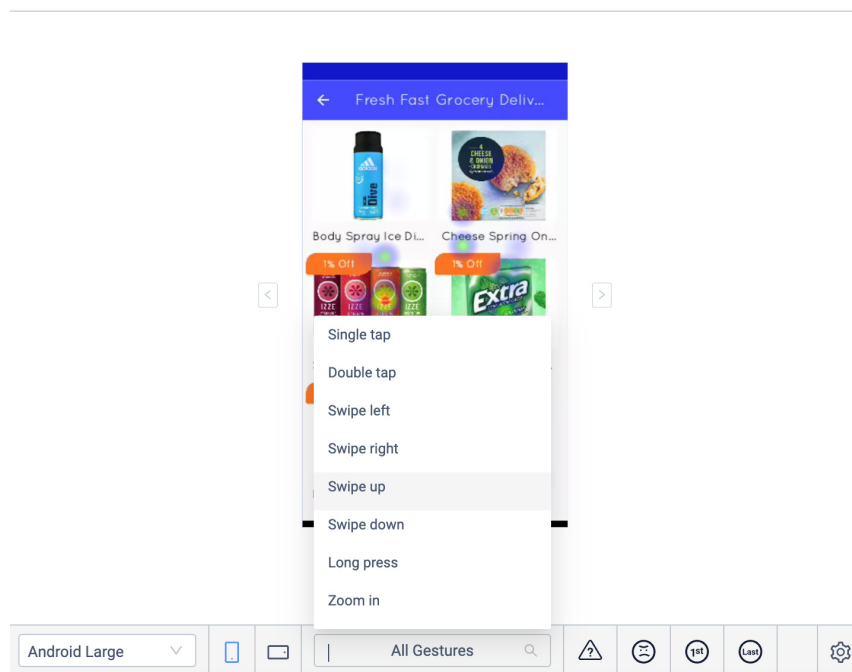


Improve screen design to promote conversions.

CHAPTER 01 - WHAT IS A HEATMAP?

One should not forget about the human element in a modern enterprise during an analysis: Analyzing heatmaps is intuitive, which makes them ideal to show to stakeholders who are unaware of the impact of UX design.

Micro-interaction screen data gets aggregated to generate heatmaps. Screenshots of each screen serve to give visual context to the heatmaps.



What is a mobile heatmap?

Compared to web, there are not many solutions for mobile app heatmaps on the market — for good reason, most companies think that mobile heatmaps are too complex.

Heatmaps for mobile apps are touch heatmaps. Touch heatmaps are, as the name implies, based on gestures of users.



When you get to your first heatmaps screen, check rage taps to target where users are most frustrated.

CHAPTER 01 - WHAT IS A HEATMAP?



Double
tap



Long
presses



Swipes
(up, down, left, right)



Rage
taps



Unresponsive
taps

How it works:

An SDK of analytics solutions like UXCam captures every microinteraction on your app. This means that it auto saves all gestures on their respective screens.

This includes simple gestures such as taps and double taps, but also sophisticated ones, for example, long press, zoom or trail gestures.

This data then gets aggregated to generate the heatmaps. Screenshots of each screen serve to give visual context of the app behavior.



Natural thumb position for smartphone users (right-handed).

The difference between mobile and web heatmaps

First, anyone who worked on both a web and mobile product knows about the general differences between mobile and website navigation.

Websites are placed on bigger screens and have a different input method than mobile apps (clicks vs. gestures). This makes developing a UX system for mobile apps a unique challenge.

Aside from that, the technology is different. On websites, the HTML code of your website serves as a base line, then the captured usage data generates the heatmaps.

On mobile apps, the process is more complex since UXCam needs to account for different types of development platforms (Native, React Native, IONIC etc.).

So if you want to use heatmap tracking on your app, look for a mobile-first heatmap solution that was designed with screen gestures in mind.

CHAPTER 02

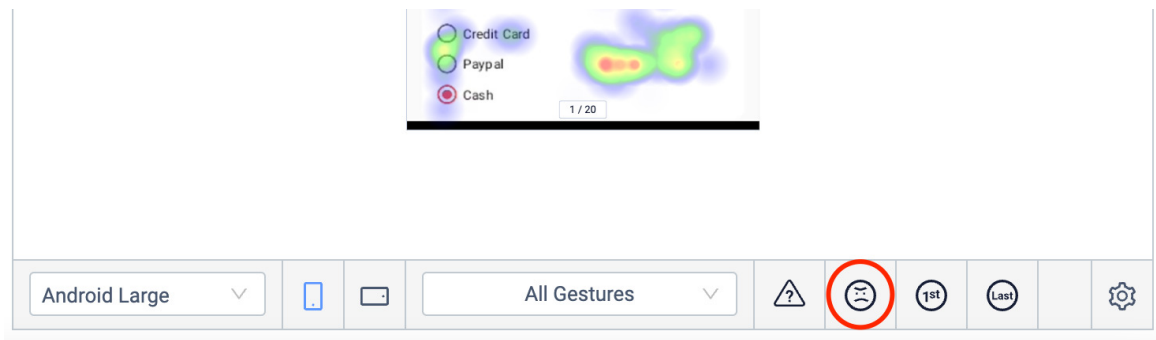
Types of heatmaps



Which heatmaps are available?

There's a specific heatmap that can help with every hypothesis. If you think a static graphic on your app is getting mistaken for a button, check unresponsive gestures. Logins dropping after download? Rage taps might be able to tell you what's blocking users from setting up their account. Here we cover the different types of heatmaps that can make it easier for you to understand user behavior.

1. Rage taps



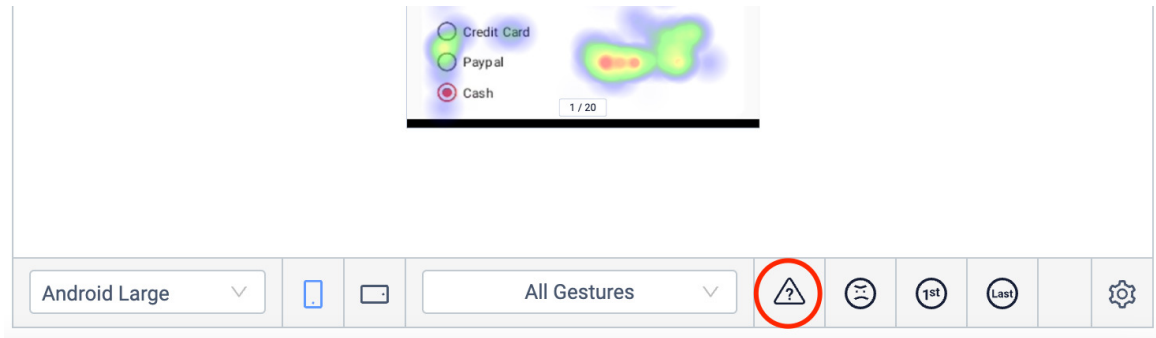
Imagine this: You use an app, try to tap on an element, but nothing happens. You try to tap on it a few times, you get frustrated and leave the app. UXCam calls this tapping behavior “Rage Tap”.

A rage tap represents rapid-fire taps in frustration. It's defined by at least 3 taps within a certain radius on the screen and at most 300ms between consecutive taps.

It would show you when users are frustrated with a certain element in your app.

With UXCam, you can generate heatmaps that show your rage tap elements to help you decrease user frustration.

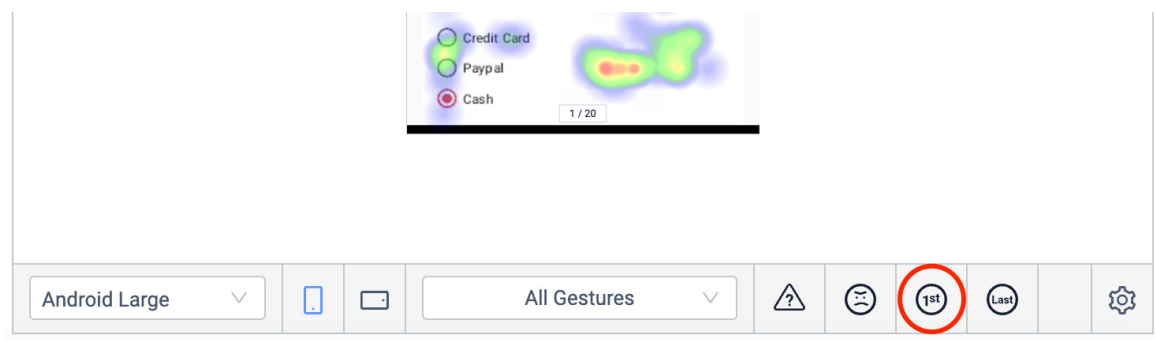
2. Unresponsive Gesture Heatmaps



Unresponsive gestures are defined by the following: An element is touched, but it's not an interactive element. Therefore, the gesture doesn't result in any responses.

Heatmaps of unresponsive gestures can be generated to show you elements that get attention when they shouldn't.

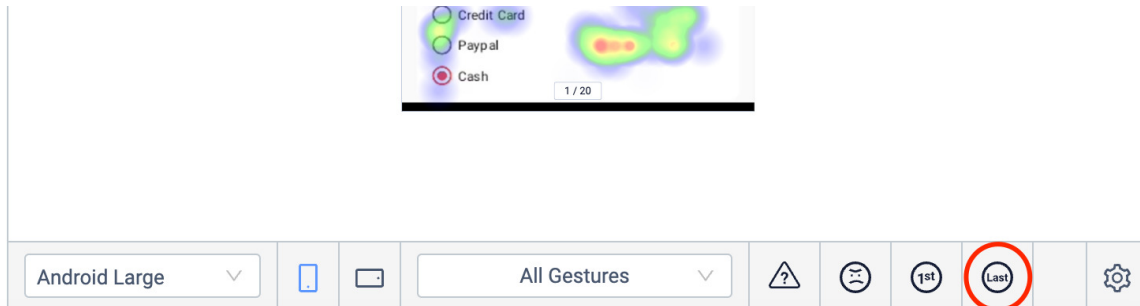
3. First Touch Heatmaps



Human beings form a fast first impression.

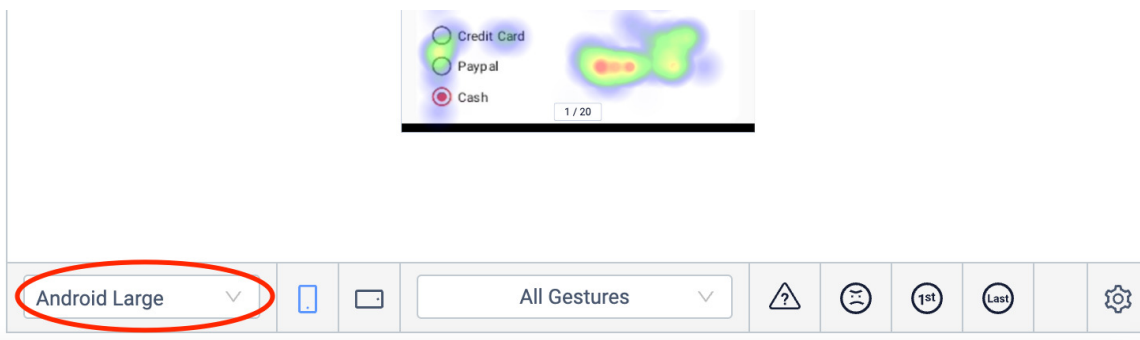
With first touch heatmaps, you can see where users intuitively tap on when they first see a screen.

4. Last Touch Heatmaps



It's insightful to know how users leave your app. Last touch heatmaps allow you to see the leaving touch of each screen.

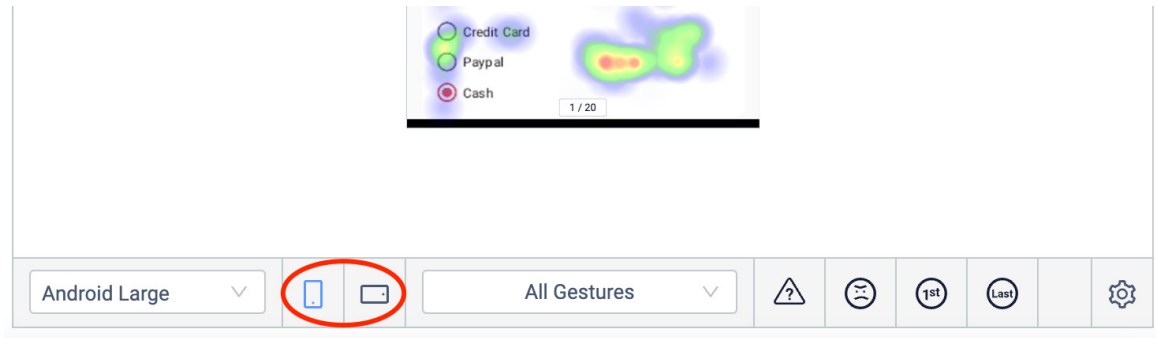
5. Device Heatmaps



When you develop a mobile app, it needs to be responsive to a wide variety of devices and device sizes.

If you look at heatmaps for specific devices only, you can identify issues that are caused by or occur only on specific mobile devices.

6. Landscape and Horizontal Heatmaps



Users might be using your app in landscape or portrait mode, and there might be challenges with those different experiences.

You can adjust the heatmap accordingly and see how the users' experience differs when they flip the device.

CHAPTER 03

How to read heatmaps with examples



Reading heatmaps

Heatmaps enable us to take in a lot of information in a little amount of time. But there are traps that can falsify the heatmap analysis. Here are four things to consider when reading a heatmap.

1. Prepare the heatmap analysis

Set yourself a goal before looking at your heatmap. What do you want to achieve with this analysis? Picking a hypothesis before looking at the data helps approach the analysis more objectively and systematically.

Without a goal, you'll waste time with an aimless analysis that can even lead to misinterpretations.

This is, in spite of the brevity, one of the most important points to keep in mind before you can start reading a heatmap.



To see if users are spending more time on specific screens, check average engagement per screen.

2. Take your time

More data is always better to get a holistic overview of users. The number of visitors you should wait for before you start your analysis depends on the traffic of your app.

As a rule of thumb, at least 2000 users should have visited the respective screen to make a reliable statement about their usage behavior.

Otherwise, the analysis could be based on a few individual users that are not representative of all. If features are adapted to these few users, the change might even be a disadvantage.

3. Segment data

The ambiguity of interpreting a heatmap leads to the fact that the simplest explanation might be the right one, but it can also be the opposite. Since you weren't sitting next to your users while they were using your app, you can never be sure what exactly caused their activity.

But this problem can also be mitigated a bit: Segment data and consider the circumstances of their use.

Common distinctions are listed here:

- Gesture Type
- App Version
- Device Class
- OS Version
- First Tap
- Last Tap

This will give an intimate insight into the usage habits of your users, from which you can take the next steps to improve your mobile app. Here, too, the effort of differentiation will pay off for everyone involved.

4. Compare results

To find out if the changes you've made in your mobile app are achieving what you had in mind, you can compare the heatmaps before and after your

CHAPTER 03 – HOW TO READ HEATMAPS WITH EXAMPLES

change. This can be very informative and will help you assess the value of your change.

Change does not end after implementation. It has to be analyzed constantly and improved further to achieve the most satisfactory result possible.

Heatmap example

A company using UXCam, let's call them Groceries Now Inc., uses heatmaps to understand user behavior.

This is the result:



Based on the results, we can see that Groceries Now's login page was adequate but perhaps not ideal for their users.

CHAPTER 03 – HOW TO READ HEATMAPS WITH EXAMPLES

We can see that many taps were wasted on the static image of the camera. The PM can hypothesize that users thought that this was a button to open a camera, and it should be removed.

With the most activity focused on the Facebook login, they move the Facebook login button above the other options to see if it increase conversions. This makes the Facebook sign-in more prominent and moved the email sign-in to second on the list.

A user's first impression of an interface is 94% design-related.

CHAPTER 04

Mobile heatmaps and analytics



Creating a mobile heatmap

Setting up heatmap analytics for your mobile app is easier than you think.

3 Steps to setting up mobile heatmaps

1. Create an account on app.uxcam.com/signup.
2. Integrate your app by following the instructions on the dashboard.

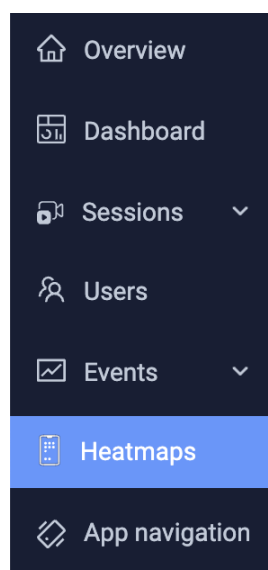
Setting up UXCam in "contentmarketing App" is easy and only takes a few minutes.
Ready to get started by adding two lines of code to your app?

Do it myself

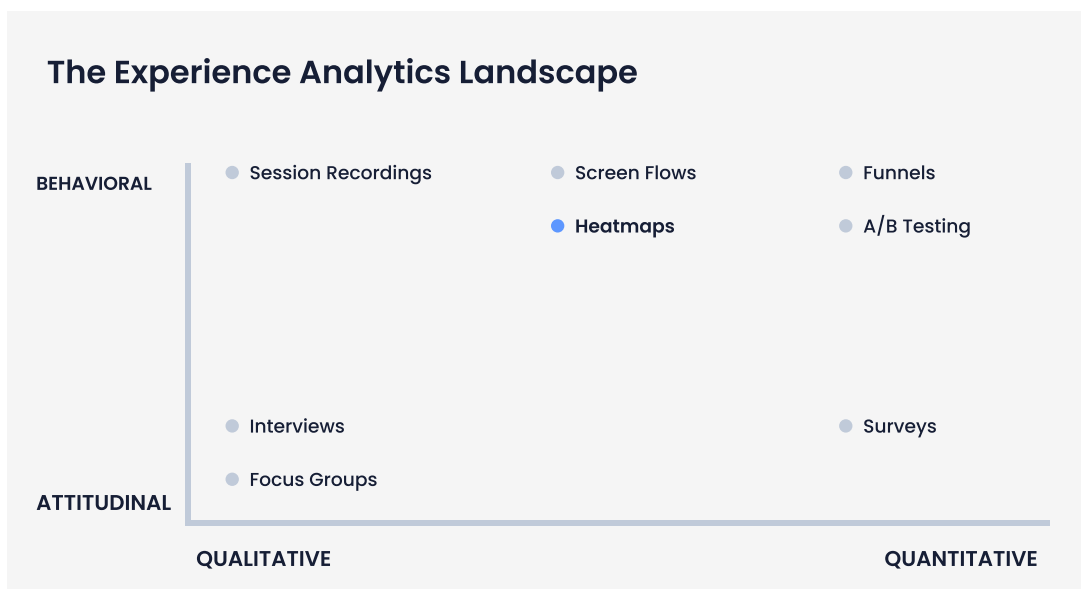
Invite a developer

UXCam app key: sq7hcfg0s36gmcz

3. On the left hand panel, click on Heatmaps to see the list of all your recorded screens.



Heatmaps in the analytics context



Heatmaps have a special position in the analytics landscape.

They are not a fully qualitative method, because they are based on an aggregation of data. They aren't a quantitative analytics method either though, since Heatmaps don't measure numbers - heatmaps are based on math, but you can't measure them on it.

You won't get the whole context as you do with Session Replays and you won't get detailed numbers for sophisticated analysis.

You'll get a way to find and fix problems quickly for each screen. You'll get a fast way to find new ideas to validate. And you'll get a powerful complement to existing analytics methods.

Heatmaps are a method in between qualitative and quantitative. In a nutshell, heatmaps give the answer to the question:

What are users doing?

Heatmaps & A/B Testing

Heatmaps are a natural complement for A/B testing:

1. Roll out a test, e.g. of a new screen design or check-out process.
2. Compare the heatmaps of version A and version B, by filtering for the relevant app versions.
3. Analyze how user gestures differ across the two versions (e.g. first and last taps, swipes, zoom ins, double taps).
4. Find out if there's a difference in user behavior.



You can roll out A/B tests with new app versions to compare heatmaps more easily.

Check out this use case on How to use UXCam to enhance A/B testing results

[Read more](#) →

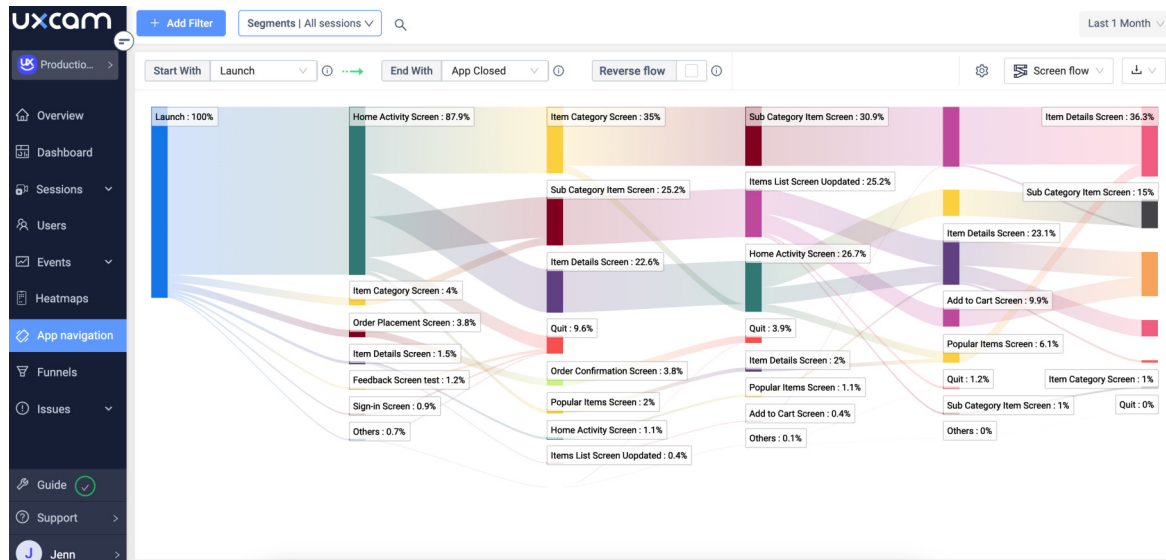
INSIGHTS

Best tools
to run
mobile app
A/B tests



uxcam

Heatmaps and Screen Flow



The home screen for App Navigation, also known as screen flow.

Screen Flow lets you understand the bigger picture of your app in one single view. You'll quickly find bottlenecks by analyzing the branches.

1. Open Screen Flow.
2. Decide which screen flow you want to understand better (e.g. add to Cart Screen).
3. From this flow, identify the different user paths taken (e.g. conversions, drop offs, enters, exits).
4. From the path, identify the screen name you want to investigate further.
5. Search for the screen name in Heatmaps.
6. From the Heatmap dashboard, better understand the user experience through all of the gestures (e.g. long press, swipe left, rage tap, unresponsive gesture).

Heatmaps and Funnel Analytics

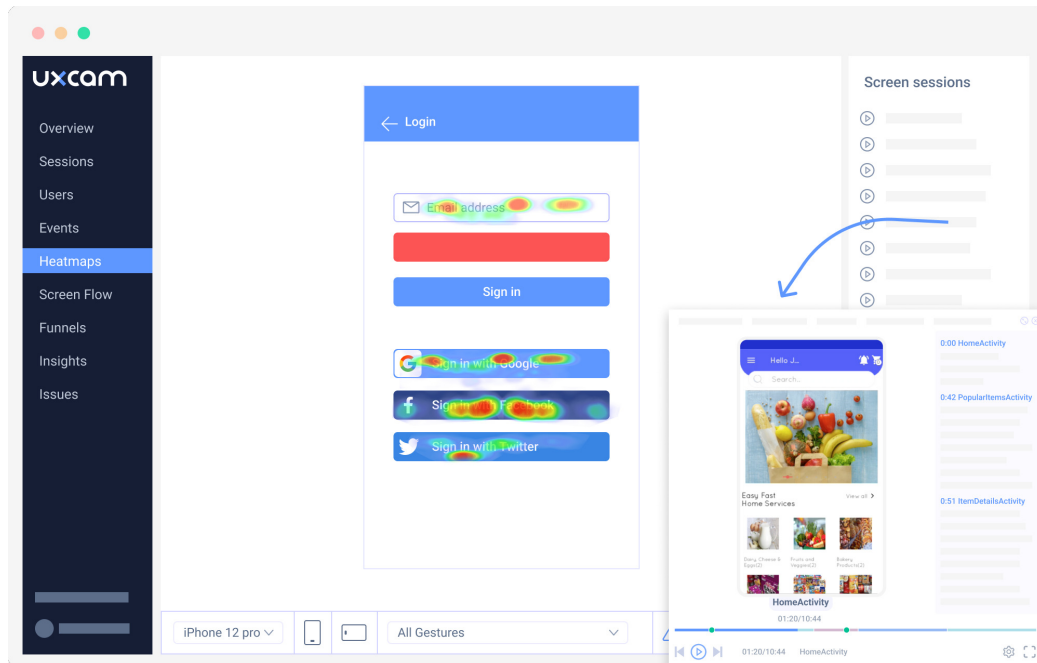


Funnel analysis provides insights into user drop-offs

Funnels allow you to see the success of each step on the way to a conversion. You can better understand bottlenecks that stand in the way of completion.

1. Create a Funnel (e.g. a sign up funnel or check-out funnel).
2. Identify high drop-out rates on a specific screen/event or identify successful conversion rates to better understand the user behavior. Note the screen you want to analyze.
3. Search for the screen you want to investigate in Heatmaps.
4. Analyze the gestures in Heatmaps to better understand the conversions steps.

Heatmaps and session recordings



Heatmaps and session recordings give you an idea of the how and why behind user behavior.

Session Recordings help you see everything your users see.

1. Go to the Heatmaps tab.
2. Click into the screen name you want to analyze.
3. Check out the gestures (e.g. rage tapping, unresponsive, swipe up, left) and identify issues you want to analyze with session recording.
4. You'll find the session recordings on the right hand panel of the Heatmap you are analyzing.
5. Press the play button, and it will take you to two seconds before the screen appears for the user.
6. Watch the sessions to see the user interacting with the desired screen.

How heatmaps can improve conversion rate

There's more to heatmaps than just heatmaps. The UXCam Heatmap dashboard gives an overview of screen performance.

From here, you can identify categories that impact conversion rate. Here are some key metrics that help you monitor and improve conversion rate.

Quit rate

From the list of screens in the Heatmaps tab, there's a column called **Quit Rate**. Here you can see for example, the quit rate of a *confirm order* page. This gives you a more holistic understanding of the pages that are unresponsive or show rage taps.

To further understand the reason for a high or low quit rate, session replays are just one click away from the Heatmaps that are showing user frustrations. Watching sessions enables you to complete the picture of the quantitative data you have on user behavior.

Average engagement

Let's say you want your users to spend more time on a particular page (e.g. an educational page), average engagement gives you this insight and it's measured in seconds. You can see how long users are staying on specific pages, and optimize your design or flow to make sure they spend more or less time on the allocated screens.

Crash and bug count

With crash and bug count, you can quickly identify which screens have the most problems. Crash counts are related to development issues. On the Heatmaps dashboard, you can see the number of crashes and crash rate per screen in a given time frame. Share the names of the problem screens directly to your engineering team to replicate the issue on their end so they can fix them promptly.

What are you waiting for?

As more of the world moves to mobile, you'll need to capture larger and larger micro-interactions data sets. Empowering yourself with tools that auto capture and visualize user behavior, is the best way to discover and deliver better products faster.

Start using heatmaps today to better understand the needs and motives of your users. UXCam helps you move forward smarter. It's a pinch to implement and its built for the entire mobile product team, not just the data experts.

Want to see more of what UXCam can do for your app?

Book a demo with one of our experts, or try UXCam for free.

During our 14-day free trial, you will have access to all UXCam features, including heatmaps. The trial will allow you to capture 100,000 monthly sessions. So you will have plenty of data see how UXCam can help to improve your app.

[Access free trial](#)

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uxcam

team@uxcam.com

814 Mission Street Fl#6,
San Francisco, CA 94103

uxcam.com