

fullstory

GUIDE

Privacy and security

Everything you need to know about FullStory privacy and security

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INTRODUCTION

Executive summary

Now more than ever, people interact with your company through digital touchpoints. To build a more perfect digital experience—one that fosters customer loyalty, generates revenue, and spurs growth—you need a complete understanding of how people engage with that digital experience.

To gain this understanding, you have to rely on customer data. This, of course, begs the question:

How do you collect the data you need to improve the digital experience, while holding end-user privacy preeminent and keeping that data secure?

Answer: Utilize a Digital Experience Platform that has worked tirelessly to solve for these questions.

Your business works hard to earn your customers' trust; FullStory is engineered to help you keep it. Our platform, operations, and culture are designed to put the well-being of your customers first and foremost.

Our industry-leading approach to privacy starts with the core principle of data minimization: Only collect what is relevant, adequate, and absolutely necessary for carrying out the purpose for which the data is processed.

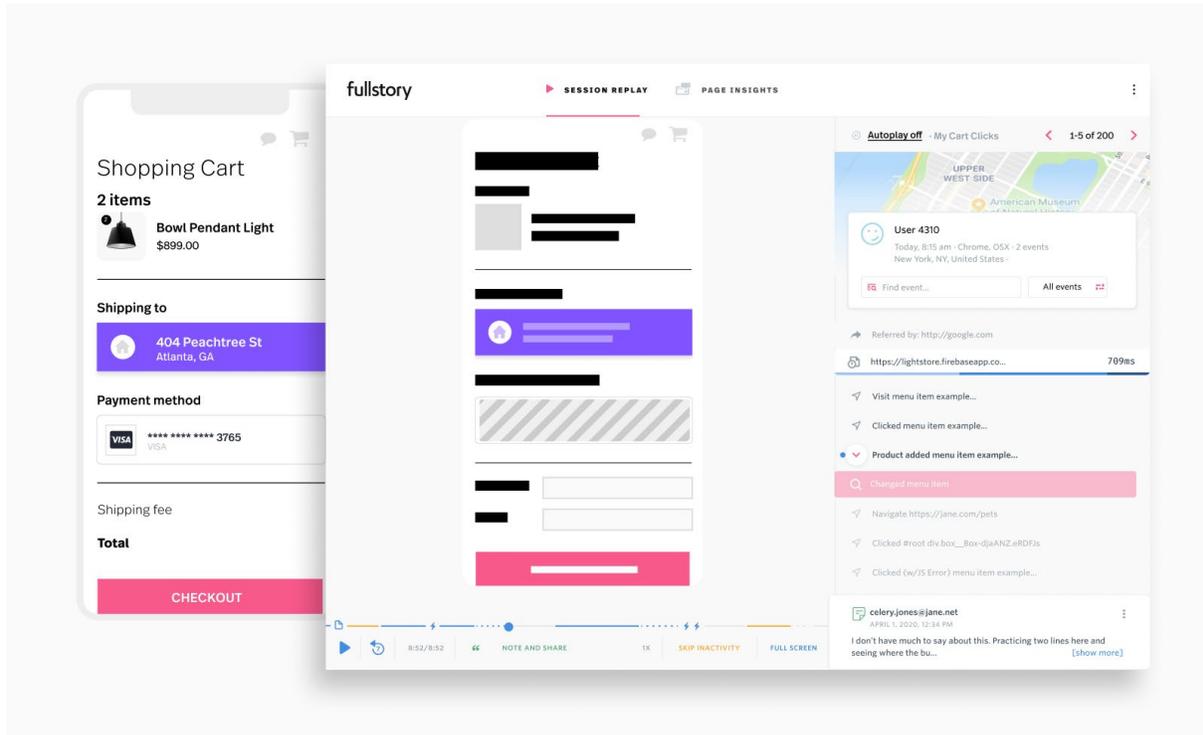
This means going beyond the norm of providing tools that help users exclude data or encrypt it once it's been collected. The common industry approach to data minimization is to encrypt unnecessary (and potentially sensitive) data. But to encrypt unnecessary data, you still have to collect it in the first place.

FullStory's Digital Experience Intelligence platform empowers businesses to continuously improve the digital customer experience across sites and apps without sacrificing end-user privacy.

At the core of the platform is a powerful analytics engine that connects digital interactions to the metrics that matter most to businesses. FullStory proactively surfaces top opportunities to optimize the digital experience, enabling teams to understand issues, prioritize fixes, remediate bugs, and measure the impact of those changes.

Our industry-leading approach to collecting data, Private by Default, masks all text on the end-users' device such that it never reaches FullStory's servers. This unique masking technology provides enough insight to help you improve your digital experience while protecting you from unintentional leaks of sensitive data and sticky compliance infractions.

Private by Default: An industry-leading approach



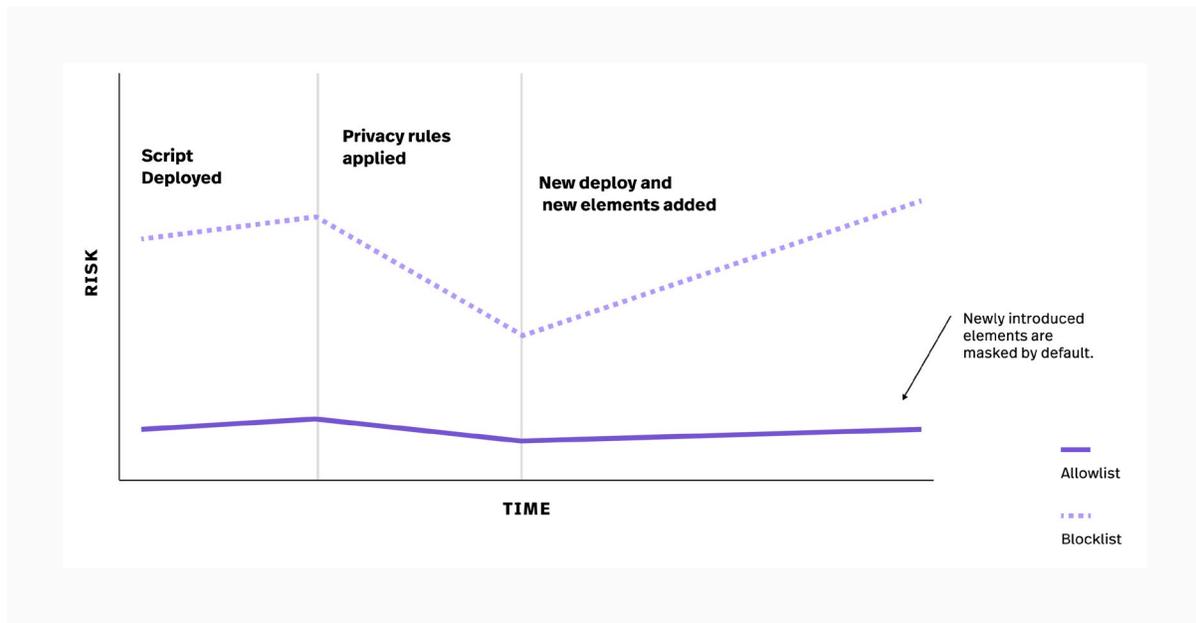
Private by Default is FullStory’s novel approach to collecting data. This functionality is core to FullStory’s product and minimizes the risk of unintentionally recording sensitive data. When enabled, all text elements are masked at the source—no matter where they appear on the page; the information never leaves your customer’s browser or device to reach FullStory’s servers. For customers using FullStory for Mobile Apps, this includes images as well.

This privacy-first approach is made possible by proprietary masking technology that essentially transforms (non-allowlisted) elements of your website into a wireframe during session replay. These wireframes allow you to see valuable user interactions, which means even if you don’t allowlist a single element, you are still able to gain deep insights into the user experience.

With other analytics solutions, failing to properly scope your recording rules may result in the collection of sensitive data. Private by Default means you can use FullStory straight out of the box with minimal risk of collecting unwanted end-user data.

Many solutions will mask some elements or fields by default, but then require you to select the remaining elements that may contain sensitive data. This not only makes implementation more difficult and risky, but it slows your teams down, requiring them to make sure all necessary elements are masked with every new page update or deploy. With Private by Default, you can safely wait until after the deploy to update privacy settings in FullStory. This means that your whole product team can ship fast and fearlessly without needing to stop and confirm that all excluded elements are perfectly configured.

[Learn more about Private by Default here →](#)



Recording rules: Collecting what you need, not what you don't

With FullStory, you control your organization's most important security consideration: the choice of what data to collect in the first place. Private by Default masks all text at the source. However, there may be elements that you want to unmask or exclude depending on their contents and/or the consent of your users.

FullStory offers two different approaches to managing your element recording rules. The first is to implement the appropriate CSS classes into your element libraries, an approach we refer to as "code-first."

The second method for managing element recording rules is through the FullStory Element Recording Rules UI located in Settings > Privacy. Being able to control your recording rules directly in the app allows you to respond quickly to necessary changes without waiting for engineering bandwidth—an option not offered in all digital experience solutions.

Exclude, mask, or unmask

Exclusion is the strictest form of data collection. FullStory automatically excludes sensitive fields such as password or credit card information.

Because excluded element rules are designed to trump masking rules, you can set your own additional custom exclusions to ensure certain data is completely blocked—not only from playback, but from event streams, search, and segmentation too. Excluded elements do not collect any details about the element, meaning no inference can be made about the user or the element.

[Learn more about excluding elements in FullStory →](#)

With masked elements, no text leaves the end-user's device, but certain structural information is collected, including interaction data and the size, location, and color of the element. This means that element can be represented as a wireframe in a session replay and made available for analysis via the selector. This is the default state for all text elements using Private by Default, giving you just the information you need to understand a user's experience, without collecting sensitive data.

With unmasked elements, you'll be able to see your site or app just as the user did. This is a great setting for all safe elements and ensures your teams have complete context when approaching an experience issue. There are simple approaches to unmasking large portions of a website with just a few CSS selectors.

Preview Mode

FullStory includes Preview Mode, a functionality that allows you to stage changes to your recording rules locally on just your own sessions. Verify changes before they are pushed to production without having to set up multiple environments.

[Learn more about Preview Mode →](#)

Consent-based recording

FullStory's FS.consent API gives you the ability to selectively exclude, mask, or unmask parts of your site or app based on explicit user consent, usually connected with your cookie or GDPR banner. This allows you to adhere to your customers' privacy requests and stay compliant with data privacy legislation.

[Learn more about enabling FS.consent →](#)

FullStory and the GDPR and CCPA

Your users' data rights are protected by legislation such as the GDPR in Europe and the CCPA in California. FullStory unequivocally stands behind those rights and offers a suite of consent management tools so that you can ensure compliance and control and delete your users' data on demand. Learn more about [GDPR](#) and the [CCPA](#).

FullStory's legal documents

[Privacy Policy →](#)

[Acceptable Use Policy →](#)

[Terms and Conditions →](#)

[Data Processing Agreement →](#)

Attestations & certifications

FullStory exceeds rigorous international and enterprise standards for security in terms of confidentiality, integrity, and availability. Many SaaS vendors rely on the certifications of their cloud providers, which says nothing of their internal security standards and practices. FullStory holds a SOC 2 Type II attestation, SOC 3 report, is ISO 27001 certified, and stores data securely with [Google Cloud Platform](#). FullStory also adheres to the principles of and is certified under the EU-U.S. and Swiss U.S. Privacy Shield Framework.



FullStory application security

FullStory provides users and administrators with the ability to control how their data is collected and accessed. The privacy controls described above—the ability to exclude, mask, and unmask elements—are a key part of secure analytics.

FullStory also prioritizes security as a core component of the analytics platform. FullStory's application security program is built to ensure that all customer-facing application surface areas—including our web app, APIs, and integrations—are robustly hardened against security vulnerabilities.

Client and server hardening

All FullStory hosts receive weekly authenticated Nessus scans to identify any host or network based vulnerabilities. All FullStory web endpoints also receive weekly automated security scans, which include TLS configuration scans. The FullStory web application undergoes continuous penetration testing via a bug bounty program managed by the third party HackerOne.

The FullStory web application has a built-in rate limiter to protect sensitive endpoints such as those used for authentication or to send emails. All application requests are logged and made searchable to operations staff.

Client code utilizes multiple techniques to ensure that using the FullStory application is safe and that requests are authentic, including:

- IFRAME sandboxing
- XSS and CSRF protection
- Signed and encrypted user auth cookies
- Remote invalidation of extant sessions upon password change/user deactivation

APIs and integrations

Accessing any FullStory REST API endpoint requires an access key that can be regenerated on demand by customers.

[Learn about the API access key →](#)

Integrations with other applications are all opt-in and authenticate via OAuth or other applicable mechanisms required by the third party application. Integrations can be disabled at any time.

Processing FullStory customer payments

At FullStory, we use Stripe—a trusted Level 1 PCI Service Provider—for payment processing. We utilize the direct Stripe JavaScript integration, so credit card information is sent directly to Stripe from the browser and never touches any FullStory servers.

[Learn more about Stripe's security practices →](#)

Secure single sign-on and device verification

FullStory can integrate with your company's single sign-on (SSO) solution so that team members can log in to FullStory using their SSO credentials. This eliminates the need for your users to have separate FullStory credentials, ensures only the right users have access to your data, and enables you to apply the same authentication policies to FullStory as you do with your other enterprise apps.

Session inactivity timeouts are configurable to ensure that no forgotten sessions are lingering open on employee devices. FullStory also has the capability to do email-based account verification when a user accesses FullStory from a new device.

Security doesn't come at the cost of usability; FullStory offers Just-in-Time (JIT) provisioning so eligible new users can be automatically provisioned when they first log in from your enterprise SAML SSO sign-in page.

[Learn more about FullStory's single sign-on options →](#)

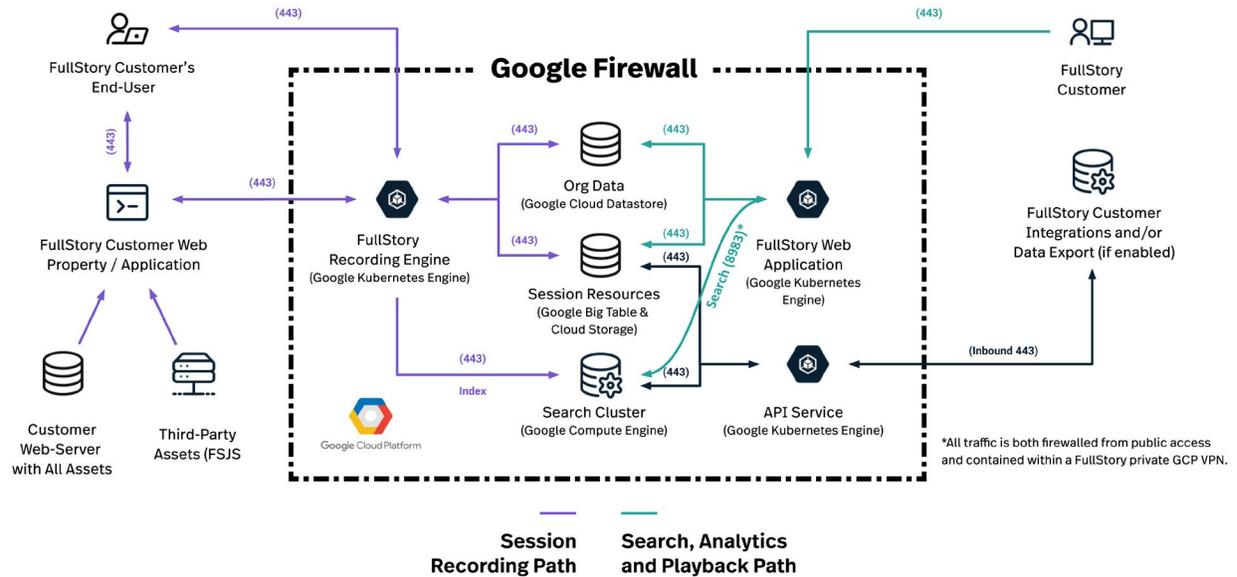
FullStory system security

Architectural security

When it comes to FullStory's architectural security, we consider four gateways of data access:

- Customer access to the FullStory application
- Customer's end-user data recording
- Customer's web application resource (image, CSS) recording
- Customer's integration and programmatic API access

The following diagram illustrates how each of these interactions interfaces with the FullStory engine:



Servers

As seen in the diagram above, almost all of FullStory's infrastructure is implemented via microservices that run inside Google Kubernetes Engine (GKE). On a weekly basis, FullStory rebuilds a new base image from the latest version of Debian, which is used as the base image for all containers.

Each microservice may be deployed independently by the owning team in accordance with our software development lifecycle (See "Software Development and Monitoring"). Most services are updated several times per week; typically no running container is ever more than a week old.

There are safeguards in place to ensure that running software is always recent. In the event that any service has gone 28 days without deploying (and thus refreshing its base image to the latest version), the owning team will receive alerts that their containers have become stale. Additionally, Nessus scans identify any vulnerabilities that need to be remediated immediately and send alerts accordingly.

A small number of services require a persistent data store and run on virtual machines in Google Compute Engine (GCE). These VMs run continuously but have patches (and reboots) applied at least weekly via an Ansible job. Additional hosted services that we utilize, such as Google Cloud Storage, are comprehensively hardened Google infrastructure-as-a-service (IaaS) platforms.

Transport layer security

FullStory's policy is that all TLS endpoints accessed exclusively by FullStory employees support TLS 1.2+ and only TLS ciphers in Google's "RESTRICTED" profile. Endpoints accessed by FullStory customers support TLS 1.2+ and only TLS ciphers in Google's "MODERN" profile.

[Learn more about Google's SSL policies →](#)

Data storage

All persistent data is encrypted at rest using AES-128 or comparable standards. This is managed by Google Cloud, whose security practice implementation has successfully earned ISO 27001, SSAE-16, SOC 1, SOC 2, and SOC 3 certifications.

Data retention and disposal

FullStory retains data, stored encrypted, for the duration contracted with each customer. As data expires, it is deleted from FullStory systems. In the case of a customer request to delete particular data (in response to a data subject access request under GDPR, or other reasons), data can be selectively expunged with a fine-grained approach that leaves the rest of recorded data intact. In some cases, a broader swath may be recommended for deletion, in order to protect end-user privacy and customer compliance.

[Learn more about session deletion →](#)

Service levels, backups, and recovery

FullStory infrastructure utilizes multiple, layered techniques for increasingly reliable uptime, including autoscaling, load balancing, task queues, and rolling deployments. Customer account, organization, and configuration data is backed up on a daily basis. Automated verification of restoring state from backup is also performed on a daily basis.

Due to the very large amount of recorded customer data that FullStory stores, we do not currently make isolated point-in-time backups. However, we do use highly redundant data stores and rapid recovery infrastructure, making unintentional loss of received data due to hardware failures very unlikely.

Software development and monitoring

FullStory stores source code and configuration files in private GitHub repositories. Secrets such as plaintext keys are not stored in the repository. FullStory's security and development teams conduct code reviews and execute static code analysis tools on every code commit. Reviewers check for compliance with FullStory's conventions and style, potential bugs, potential performance issues, and that the commit is bound to only its intended purpose.

Security reviews are conducted on every code commit to security-sensitive modules. Such modules include those that pertain directly to authentication, authorization, access control, auditing, and encryption.

All major components of incorporated open source software libraries and tools are reviewed for robustness, stability, performance, security, and maintainability. The security and development teams establish and adhere to a formal software release process.

Code reviews and production sign-off

All changes to FullStory source code destined for production systems are subject to pre-commit code review by a qualified engineering peer that includes security, performance, and potential-for-abuse analysis.

Prior to updating production services, all contributors to the updated software version are required to approve that their changes are working as intended on staging servers. This is enforced by systems that require the approval of a second engineer who has reviewed the intended deployment.

FullStory operational security

Employee equipment

Employee computers have strong passwords, encrypted disks, firewalls, and, where applicable, inbound and outbound network traffic monitoring and alerting. No Windows computers or servers are used at all other than in isolated testing environments. A large and increasing percentage of employees use Chromebooks exclusively for maximum defense against malware, including powerful security measures such as [verified boot](#).

Employee access

FullStory follows the principle of least privilege when it comes to writing software, diagnosing and resolving problems, and supporting customers. Employees are only granted enough access to meet the task at hand, and no more.

We use Google account infrastructure to verify employee account identity and require physical security keys and/or two-factor authentication for all internal applications without exception. Administrative permissions are enforced where applicable and all administrative access is logged and auditable from both traditional web server logs and via FullStory itself. For third-party SaaS providers, we use Google as an identity provider whenever possible to provide a single point of access control across all the apps that employees access as part of their job.

HR practices

Background checks

Background checks are conducted on all employees prior to their start date. The consequences of problematic background check results may range from a limitation of security privileges to revocation of employment offers.

Our background checks cover:

- County Criminal Search (Last 7 Years)
- National Criminal Search
- Sex Offender Search
- SSN Trace
- Global Watchlist Search

Once the candidate signs their offer letter, the recruiter kicks off the search. The report is delivered back to FullStory by our vendor, Checkr. Offer letters indicate that they are contingent on a successful background check.

If the check does not clear, we examine the flags as a team and make a determination on how to move forward. If the flag was something that impacts the person's ability to do their job or shows an ethical or security risk, we rescind the offer.

Security training

The security team maintains a company-wide, computer-based security awareness program delivered to all FullStory employees at least annually. The program covers security awareness, policies, processes, and training to ensure that employees are sufficiently informed to meet their obligations. Additionally, a mandatory quarterly all-hands meeting is delivered to all employees to reinforce security awareness training and cover additional pertinent topics.

Engineering employees receive an additional mandatory quarterly training which focuses specifically on software security topics. This training is offset by six weeks with the company-wide training to ensure that security is continuously reinforced.

The security team produces and makes available computer-based training on various security topics. Those most responsible for maintaining security at FullStory—including the security team as well as key engineering/operations staff—undergo more technical continuing education.

Separation

In the case of employee termination or resignation, the security team coordinates with human resources to implement a standardized separation process that ensures the outgoing employee's accounts, credentials, and access are all reliably disabled.

FullStory physical security

Office security

Access to FullStory offices is mediated by an electronic control system that provides for identity-aware entrance, programmable control over access time of day, and audits of use. All doors remain locked at all times under normal business conditions, with the exception of the front door, when a guard is present during normal business hours: Monday to Friday, 8am to 6pm ET. The security team may provide approval to unlock doors for short periods of time in order to accommodate extenuating physical access needs. Internet-based security cameras record time-stamped video of ingress/egress; this video is stored off-site.

Data center security

FullStory production data is processed and stored within world-renowned Google Cloud Platform data centers.

[Read more about GCP's robust infrastructure and physical security measures →](#)

IT security

Office network

FullStory employee access to information assets is considered to be 100% remote. There is no FullStory-owned data center or FullStory network. FullStory's corporate offices provide a workspace for employees as well as an internet connection. Internet access is provided to devices via wired ethernet and WPA2 wifi.

Networking switches and routers are placed in a locked networking closet, accessible to only the security team. FullStory executives and the security team may grant individuals access to the networking closet on a case-by-case and as-needed basis. Additionally, a network firewall blocks all WAN-sourced traffic. WAN-accessible network services are not hosted within the office environment.

Access management

FullStory adheres to the principle of least privilege, and every action attempted by a user account is subject to access control checks.

Role-based access control

FullStory employs a role-based access control (RBAC) model utilizing Google-supplied facilities such as organizational units, user accounts, user groups, and sharing controls.

Web browsers and extensions

FullStory may require use of a specified web browser(s) for normal business use and for access to corporate data such as email. For certain specified roles—such as software development and web design—specific job activities may necessitate the use of a variety of browsers, and these roles may do so as needed for those activities.

Any browser that is allowed to access corporate data such as email is subject to a whitelist-based restriction on which browser extensions can be installed.

Administrative access

Access to administrative operations is strictly limited to security team members and further restricted still as a function of tenure and the principle of least privilege.

Regular review

Access control policies are reviewed quarterly with the goal of reducing or refining access whenever possible. Changes in job function by personnel trigger an access review as well.

Disaster and incident management

Incident detection and response

FullStory has a Responsible Vulnerability Disclosure program. This program is managed by the same third party that manages our bug bounty program and that performs our annual penetration test.

Business continuity & disaster recovery

FullStory services hosted in Google Cloud Platform (GCP) are configured to withstand long-term outages to a GCP Availability Zone. Controls such as automated replication or automated data recovery processes may be used to achieve this desired level of availability.

There are no critical servers on our office network. In the event that our office suddenly becomes inaccessible, employees will find alternate, remote work places, potentially coordinating to physically co-work in order to optimize productivity.

If any disaster occurs, whether a fire, weather related, political or pandemic, causing FullStory's physical offices to be affected, local authorities would be contacted for assistance to ensure the safety and security of our employees.

Security benefits of using FullStory

In addition to improving your digital experience, FullStory can add substantial security enhancements for your own security practices.

Monitor and audit suspicious activity

Customers share that FullStory adds an additional and novel type of application security. With a complete record of user interactions and a reproduction of those actions in the form of session replay, businesses from all sectors have found FullStory to be very valuable when it comes to legal and security audits and reviews.

With FullStory, you can validate claims, identify bad actors, and protect your business in new ways. FullStory allows you to explore, search and view any suspicious sessions in near real time. Viewing sessions is a much faster and informative way of assessing a situation than scouring through vast system logs.

Because FullStory is one of the only providers that collects every interaction users have with your site or app—without needing specific event instrumentation—you can be sure you have a thorough record of every interaction to support your security practices.

Reduce staff administrative permissions

Supporting your own customers may require the sharing of privileged administrative passwords—particularly for SaaS providers. These passwords are often circulated widely throughout an organization to aid in troubleshooting user issues via privileged data access or impersonating users within your own application. This practice increases the risk of accidental data corruption, theft, and privacy intrusions as support employees log in and poke through user accounts.

FullStory provides a one-way window into your users' sessions. Session replay is historical (and of course read-only), meaning that information can be ascertained without interacting with your live applications. Buttons cannot be pushed. Settings cannot be changed. Files cannot be exported.

Thus, FullStory provides a means to better support your users while also safely reducing the number of individuals with administrative privileges in your organization.

CONCLUSION

Everyone deserves a more perfect digital experience.

But digital experience improvements should never come at the expense of user privacy. FullStory is committed to our customers' customers and their data security, and we are committed to pushing the rest of the market forward with ongoing research and development of leading privacy settings and security protocols.

Your Digital Experience Intelligence platform should help you build more perfect experiences quickly and confidently in ways that are effortless and safe. Our goal is to provide insights that help you delight your customers while being a trusted partner that keeps your data secure. If you'd like to learn more about how FullStory can help your business, **reach out to your account representative or request a demo.** →

Have additional questions or concerns? Email us at security@fullstory.com.