

PrivacyChain – Enterprise Permissioning Framework Demo Script

Background

1. PrivacyChain is consortium of data collectors, data providers, regulators, ad tech, advertisers and publishers within a permission based blockchain.
2. As consumer data moves through the ecosystem each party records the consent into the ledger.
3. Within PrivacyChain PII data is never stored. The platform only tracks by way of a consent ID.
4. The vision of PrivacyChain is to allow companies to comply with data privacy laws; and future-proof for regulatory change.

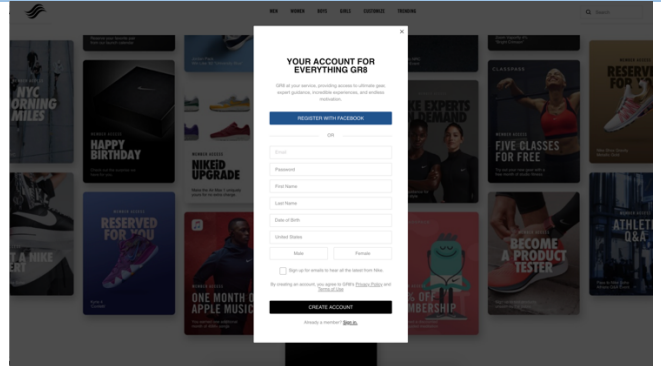
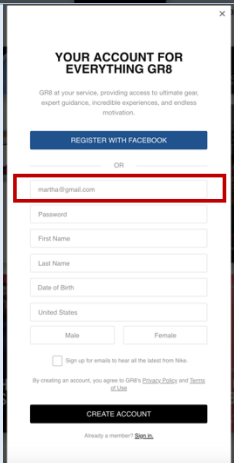
The demo is a simplified use case which we built as POC on a permission based five-node Hyperledger Fabric environment. Hyperledger Fabric is chosen because it is a more established framework and has a more matured tech stack for permissioned base enterprise blockchain.

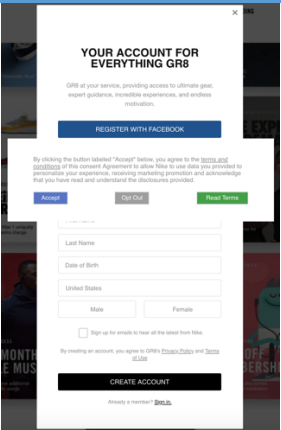
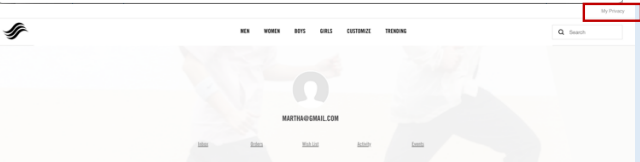
In a centralized DB environment information are held by one trusted entity. In a distributed ledger system, a copy of the single source of truth is distributed to all nodes and no single controlling entity is required.

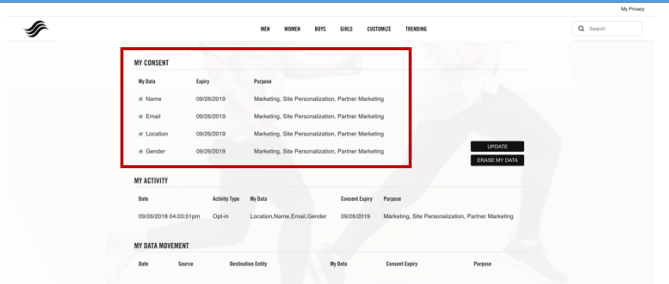
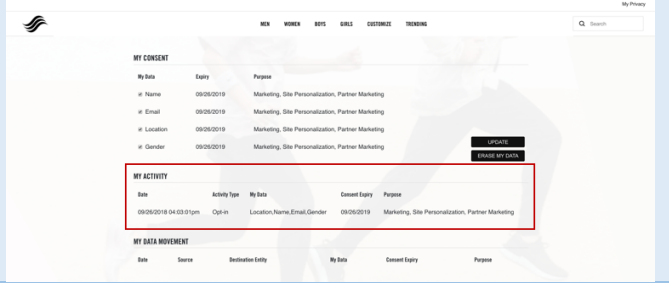
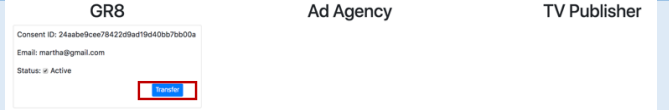
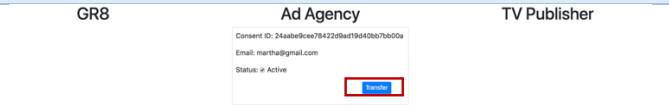
Demo Use Case

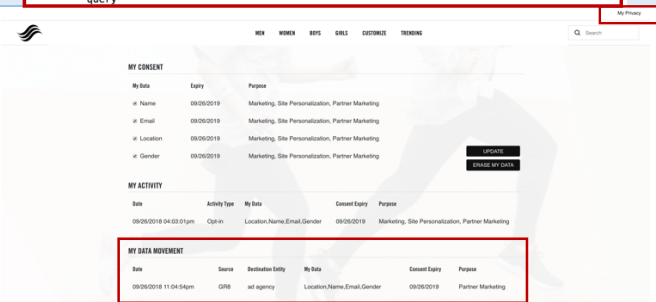
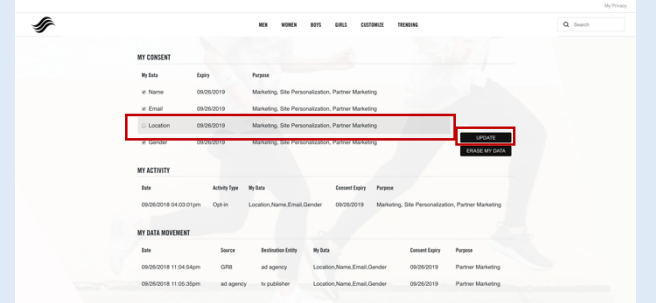
Our use case starts with a consumer, Martha. We will show how Martha's consent of allowing her personal data being used for specific purposes are being tracked across the data supply chain and Adtech ecosystem within PrivacyChain.

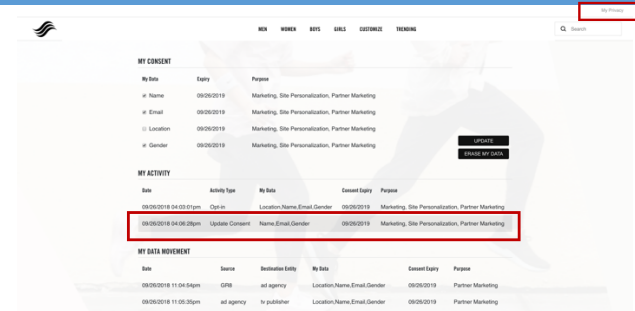
Demo Script

Step	Action	Script	Screen Shot
1.	<p>Brand Site: Enter http://privacychain.iabtechlab.com:1337/gr8_signup.html in the browser</p> <p>Blockchain Nodes: Open two browser windows, arrange them top and bottom and enter the links to display two nodes:</p> <p>Peer 1: http://privacychain.iabtechlab.com:1337/log.html?node=peer1&length=5000</p> <p>Peer 2: http://privacychain.iabtechlab.com:1337/log.html?node=peer2&length=5000</p>		
2.	Switch to Brand Site Sign Up page	Our consumer Martha signs up as a member for her favorite brand, GR8 Shoes	
3.	<p>Input an email address into “User Name”. Click “Create Account”</p> <p>Make sure you use a new email address each time you run this demo otherwise email already exist message will display</p>	Let’s input Martha’s email as her user name	

Step	Action	Script	Screen Shot
4.	Click “Accept”	GR8 Shoes uses consent popup to collect consumer consents. Martha gives her consent to GR8 Shores to use her personal information for site personalization and marketing purpose	
5.	Switch to the Peer 1 and Peer 2 windows to inspect the nodes	At this point Martha’s consent is being written sync to all the nodes in PrivacyChain	
6.	Highlight details in Peer 1 and Peer 2	You can see that Martha’s attributes, attributes ONLY NOT actual data, Name, Email, Gender, Location along with the consent expiry and purpose are captured in both nodes in the blockchain	<p>Node: PEER1</p> <pre> 2018-09-28 01:50:22.602 [http-nio-8088-exec-1] INFO com.axiom.controller.SubscriptionController - [createSubscription]({"subscriptionDate":"2018-09-28T01:50:22.596Z","consentId":"4e24eca716f4dde968d93be7c5f5867","email":"feng.xu@axiom.com","entity":"","publisher","status":"active"}) ----- query ----- 2018-09-28 01:50:22.603 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:22.680 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:24.793 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:26.911 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" 2018-09-28 03:11:08.657 [http-nio-8088-exec-3] INFO com.axiom.controller.ConsentController - [createConsent]({"expires":"2018-09-28T03:11:08.655Z","consentType":"Data Collection","attributes":{"Location","Name","Email","Gender"},"entity":"GR8","status":"valid"}) ----- query ----- 2018-09-28 03:11:08.658 [http-nio-8088-exec-3] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:11:10.795 [http-nio-8088-exec-3] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" </pre> <p>Node: PEER2</p> <pre> 2018-09-28 01:50:22.602 [http-nio-8088-exec-1] INFO com.axiom.controller.SubscriptionController - [createSubscription]({"subscriptionDate":"2018-09-28T01:50:22.596Z","consentId":"4e24eca716f4dde968d93be7c5f5867","email":"feng.xu@axiom.com","entity":"","publisher","status":"active"}) ----- query ----- 2018-09-28 01:50:22.603 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:22.680 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:24.793 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:26.911 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" 2018-09-28 03:11:08.657 [http-nio-8088-exec-3] INFO com.axiom.controller.ConsentController - [createConsent]({"expires":"2018-09-28T03:11:08.655Z","consentType":"Data Collection","attributes":{"Location","Name","Email","Gender"},"entity":"GR8","status":"valid"}) ----- query ----- 2018-09-28 03:11:08.658 [http-nio-8088-exec-3] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:11:10.795 [http-nio-8088-exec-3] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" </pre> <p>Node: PEER2</p> <pre> 2018-09-28 01:50:22.602 [http-nio-8088-exec-1] INFO com.axiom.controller.SubscriptionController - [createSubscription]({"subscriptionDate":"2018-09-28T01:50:22.596Z","consentId":"4e24eca716f4dde968d93be7c5f5867","email":"feng.xu@axiom.com","entity":"","publisher","status":"active"}) ----- query ----- 2018-09-28 01:50:22.603 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:22.680 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:24.793 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 01:50:26.911 [http-nio-8088-exec-1] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" 2018-09-28 03:11:08.657 [http-nio-8088-exec-3] INFO com.axiom.controller.ConsentController - [createConsent]({"expires":"2018-09-28T03:11:08.655Z","consentType":"Data Collection","attributes":{"Location","Name","Email","Gender"},"entity":"GR8","status":"valid"}) ----- query ----- 2018-09-28 03:11:08.658 [http-nio-8088-exec-3] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:11:10.795 [http-nio-8088-exec-3] WARN com.axiom.bean.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" </pre>
7.	Switch to browser GR8 Shoes Brand Site Click “My Privacy” on the top right hand corner	Let’s go back to our brand website. Martha checks the status of her consent from GR8 Shoes’ Privacy Portal	

Step	Action	Script	Screen Shot
8.	Highlight the “My Consent” section	It shows that Martha gives permission for GR8 Shoes to use her data	
9.	Highlight the “Activity” section	And this data collection activity is being tracked	
10.		<p>Now GR8 Shoes is working with their advertising agency to target millennial members for their new sneakers</p> <p>GR8 Shoes creates an audience segment of their opt-in millennial members and transfer to the Advertising Agency</p>	
11.	<p>Open a new browser tab or window</p> <p>Enter <a href="http://54.204.206.41:1337/dataTransfer?company=GR8&email=<email_address>">http://54.204.206.41:1337/dataTransfer?company=GR8&email=<email_address> in the browser where <email_address> is the email address in Step 3</p> <p>Click “Transfer” under GR8 Shoes</p>	<p>Let’s simulate an audience data transfer where data is sent from GR8 Shoes to the Advertising Agency</p> <p>And at this point in time a consent transfer record is written to PrivacyChain tracking movement of Martha’s data and consent</p>	<div>GR8</div> <div>Ad Agency</div> <div>TV Publisher</div> 
12.	Click “Transfer” under Advertising Agency	<p>Let’s go ahead and assume the Advertising Agency send the same audience segment to a TV Publisher</p> <p>Again a consent transfer record is written to PrivacyChain tracking downstream movement of Martha’s data and consent</p>	<div>GR8</div> <div>Ad Agency</div> <div>TV Publisher</div> 

Step	Action	Script	Screen Shot
13.	<p>Switch to the Peer 1 and Peer 2 windows to inspect the nodes</p> <p>Highlight details in Peer 1 and Peer 2</p>	<p>Let's look at our two blockchain nodes which has recorded the same information about this data transfer and consent movement</p>	<div> <p>Node: PEER1</p> <pre> agency , status : active / ----- query ----- 2018-09-28 03:44:55.492 [http-nio-8088-exec-7] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:44:55.566 [http-nio-8088-exec-7] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:44:57.678 [http-nio-8088-exec-7] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:44:59.791 [http-nio-8088-exec-7] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" 2018-09-28 03:45:18.447 [http-nio-8088-exec-9] INFO com.axiom.controller.ConsentController - [getConsentById]290bd5f5ac614c498c415b1f9254318b ----- query ----- 2018-09-28 03:45:18.448 [http-nio-8088-exec-9] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" 2018-09-28 03:45:18.510 [http-nio-8088-exec-6] INFO com.axiom.controller.DatatransferController - [createDataTransfer]{"consentId":"290bd5f5ac614c498c415b1f9254318b","destination":"tv publisher","attributes":{"Location","Name","Email","Gender"},"source":"ad agency","status":"valid","timestamp":"2018-09-28T03:45:18.508Z"} ----- query ----- </pre> </div> <div> <p>Node: PEER2</p> <pre> agency , status : active / ----- query ----- 2018-09-28 03:44:55.492 [http-nio-8088-exec-7] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:44:55.566 [http-nio-8088-exec-7] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:44:57.678 [http-nio-8088-exec-7] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" ----- start ----- 2018-09-28 03:44:59.791 [http-nio-8088-exec-7] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" 2018-09-28 03:45:18.447 [http-nio-8088-exec-9] INFO com.axiom.controller.ConsentController - [getConsentById]290bd5f5ac614c498c415b1f9254318b ----- query ----- 2018-09-28 03:45:18.448 [http-nio-8088-exec-9] WARN com.axiom.been.SampleStore - Could not find the file "/tmp/HFCSampletest.properties" 2018-09-28 03:45:18.510 [http-nio-8088-exec-6] INFO com.axiom.controller.DatatransferController - [createDataTransfer]{"consentId":"290bd5f5ac614c498c415b1f9254318b","destination":"tv publisher","attributes":{"Location","Name","Email","Gender"},"source":"ad agency","status":"valid","timestamp":"2018-09-28T03:45:18.508Z"} ----- query ----- </pre> </div>
14.	<p>Switch to Brand Site My Privacy Portal page</p> <p>Click “My Privacy” to refresh the page</p> <p>Highlight “My Data Movement” section</p>	<p>Back to Martha, she can see from GR8 Shoes’ Privacy Portal that certain elements of her data has been transferred to an Advertising Agency and a TV Publisher</p>	
15.	<p>Go to “My Consent” section</p> <p>Uncheck “Location”</p> <p>Click “Update”</p>	<p>Now Martha is not very comfortable that her “Location” is being shared and so she decided to opt-out of sharing her location</p>	

Step	Action	Script	Screen Shot
16.	Click “My Privacy” to refresh the page Highlight Activity section	Martha’s location permission is being revoked	
17.	Click browser refresh of the Data Transfer browser Ensure this screen is what you see. If not, enter the link in Step 11		<div>GR8</div> <div>Ad Agency</div> <div>TV Publisher</div> <div>Consent ID: 24aabe9cee78422d9ad79d402b7bb00a</div> <div>Email: martha@gmail.com</div> <div>Status: <input checked="" type="checkbox"/> Active</div> <div>Transfer</div>
18.	Click “Transfer” under GR8 Shoes	Now let us do a second data transfer	<div>GR8</div> <div>Ad Agency</div> <div>TV Publisher</div> <div>Consent ID: 24aabe9cee78422d9ad79d402b7bb00a</div> <div>Email: martha@gmail.com</div> <div>Status: <input checked="" type="checkbox"/> Active</div> <div>Transfer</div>
19.	Switch to Brand Site Privacy Portal page Click “My Privacy” to refresh the page Highlight “My Data Movement” section	<p>We can see that Martha’s location is no longer being sent downstream</p> <p>And the downstream entities will also be notified of the fact that Martha revoked her consent for this piece of data</p>	