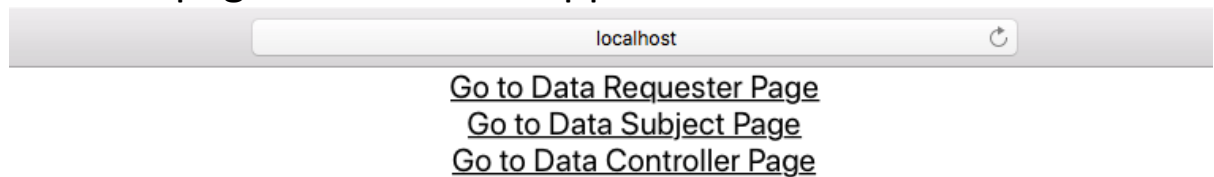


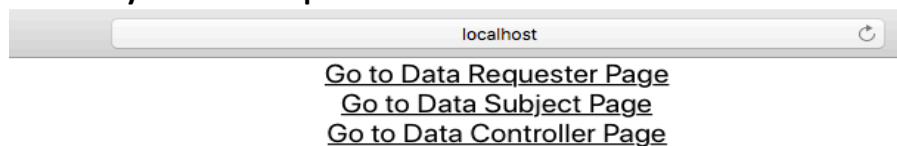
User interface screenshots of demo

1. Homepage after run the app: localhost:3000



2 to start the data flow in the data requester page.

DR page includes five parts: history of consent, history of sticky policies, history of hash value, request form, and history of receipts.



DR Page

My Consent

numbers of consent from DS: 0

My Sticky Policies

numbers of policies from DC: 0

Hash Values of Required Data

numbers of values from DC: 0

My Receipts

Send Request

Welcome back,Alice

To:

Purpose: ☒ read ☐ update ☐ delete ☐ add ☐ all

StartDate:

Expired:

3 in the part of request form, DR (data requester) fill the form to ask a request about data access from data subject (DS). In the demo, we assume DR is Alice. Alice can choose

one DS in the select options or input a new DS. **refresh this page webpage if there is error to send a request**

Send Request

Welcome back,Alice

To:

select or input

John Martin

Mike Burton

Bob Ying

Rebecca Wood

Purpose:

add all

StartDate:

22102022

Expired:

24122023

Conditions:

just a test

Send

4 after the request sent, a receipt responded as an evidence proof for DR. Alice can download it. The receipt includes block id, blockhash of the request, content of request, and hash of receipt. To refresh this webpage after the request sent, you can view correct block hash in the receipt.

My Receipts

ID: 1/ BlockNumber: 5/ BlockHash: 0x167df928802ecb57acd1d2600f849bac39bd41a2afe833a9cc7d5a95e9dde057/ Content: dataRequester:Alice,Purpose:read,dataSubject:Mike Burton,startDate:22102022,Expired:24122023,Conditions:just a test,Status:Null

Download

Send Request

Welcome back,Alice

To:

select or input

```
yourRequestReceipt.json
{"receipt":
{"blockId":"5","blockHash":"0x167df928802ecb57acd1d2600f849bac39bd41a2afe833a9cc7d5a95e9dde057","dataRequester":"Alice","dataSubject":"Mike Burton","purpose":"read","startDate":"22102022","expired":"24122023","condition":"just a test","status":"Null","dataController":"Null"},"hashOfReceipt":"3bc9a4398c62cd22974725a0e8cc0729f747deeffe28ac9684c66b70118e62dfc894288e0707e190654aa1832b4e2fd82a9c582c9ced5b86f441d2ec5982f9fa"}
```

5 Now data subject (DS) receives the request from DR(Alice). We can view it in the 'Requests' part of DS webpage. If DS consents this request with any changes, DS can click the button 'consent' located in the request record. If DS views details of the request and changes some content, DS can click the button 'view details' to have a look an online editable form for the request and then consent. All fields can be edited by DS except the first two fields.

DS Page

Requests

numbers of requests from DR: 1

From	To	StartDate* (MM-DD-YYYY)	Expired* (MM-DD-YYYY)	Purpose*	Conditions*	Status*
Alice	Mike Burton	22102022	24122023	read	just a test	authorized

View Details

DataRequester: Alice/ DataSubject:Mike Burton/ Expected Start Date:22102022/ Expected Expired: 24122023/ Status:Null

Consent

DS Page

Requests

numbers of requests from DR: 1

StartDate* (MM-DD-YYYY)	Expired* (MM-DD-YYYY)	Purpose*	Conditions*	Status*	Data Controller*	Actions
22102022	24122023	read	just a test	authorized	Null	consent

View Details

aSubject:Mike Burton/ Expected Start Date:22102022/ Expected Expired: 24122023/ Status:Null

Consent

6 After DS consents the request from DR. There is a record of this consent and a receipt. DS can choose download the receipt as a proof.

[Go to Data Controller Page](#)

DS Page

Requests

numbers of requests from DR: 1

[View Details](#)

- DataRequester: Alice/ DataSubject:Mike Burton/ Expected Start Date:22102022/ Expected Expired: 24122023/ Status:Null [Consent](#)

My Consent

numbers of consents: 1

- Data Requester: Alice/ Data Subject:Mike Burton/ Authorized Start Date:22102022/ Purpose:read/ Authorized Expired: 24122023/ Conditions: just a test/ Authorized Status:authorized/ Data Controller:Null

My Receipts

- ID: 1/ Content: dataSubject:Mike Burton,dataRequester:Alice,Purpose:read,Start from:22102022,Expired:24122023,Conditions:just a test,Status:authorized [Download](#)

7 data controller (DC) would receive the consent from DS.
There is a record shown in the DC webpage.

DC Page

Consent

numbers of consents from DS: 1

- Data Requester: Alice/ Data Subject:Mike Burton/ Authorized Start Date:22102022/ Purpose:read/ Authorized Expired: 24122023/ Conditions: just a test/ Authorized Status:authorized/ Data Controller:Null [Download](#)

8 Then, DC create a sticky policy with details about data exchange for data requester based on the consent. It is a form to create. After creation, DC receives a record of this policy and a receipt. If you can't see them, refresh the webpage.

Sticky Policies Records

count: 1

Data Requester: Alice/ Data Subject:Mike/ Data Controller:data controller/ Start Date:22102022/ Purpose:read/ Expired: 24122023/ Conditions: just a test/ Authorized Status:authorized

Create Sticky Policy

<input type="text" value="Alice"/>
<input type="text" value="Mike"/>
<input type="text" value="read"/>
<input type="text" value="22102022"/>
<input type="text" value="24122023"/>
<input type="text" value="just a test"/>
<input type="text" value="data controller"/>
<input type="button" value="Send"/>

Hash Value of Required Data

<input type="text" value="input hash"/>
<input type="button" value="Share"/>

My Receipts

receipts of policies

D: 1/ Sticky Policy: dataController:data controller,dataRequester:Alice,purpose:read,dataSubject:Mike,startDate:22102022,expired:24122023,conditions:just a test,status:authorized [Download](#)

9 DC processes the required healthcare data to share with DR and pushes the hash value of this data into the blockchain. After push, DC receives a receipt for this transaction. At the same time, DS and DR also receive a record of the hash value as a proof for the exchanged healthcare data.

Hash Value of Required Data

3bc9a4398c62cd22974725a0e8cc0729f747deeffe28ac9684c66b7

Share

My Receipts

receipts of policies

ID: 1/ Sticky Policy: dataController:data controller,dataRequester:Alice,purpose:read,dataSubject:Mike,startDate:22102022,expired:24122023,conditions:just a test,status:authorized

Download

receipts of hash values shared

ID: 1/ Content of hash: 3bc9a4398c62cd22974725a0e8cc0729f747deeffe28ac9684c66b7

Download

10 Finally, data requester has a record of authorized consent from data subject, a record of policy and hash value respectively from data controller, a receipt for the request.

localhost

Go to Data Requester Page
Go to Data Subject Page
Go to Data Controller Page

DR Page

My Consent

numbers of consent from DS: 1

Data Subject:Mike Burton/ Data Requester: Alice/ Purpose:read/ Authorized Start Date:22102022/ Authorized Expired: 24122023/ Conditions: just a test/ Authorized Status:authorized/ Data Controller:Null

Download

My Sticky Policies

numbers of policies from DC: 1

Data Subject:Mike/ Data Controller:data controller/ Data Requester:Alice/ Purpose:read/ Start Date:22102022/ Expired: 24122023/ Conditions: just a test/ Authorized Status:authorized/

Download

Hash Values of Required Data

numbers of values from DC: 1

Hash value of shared data:3bc9a4398c62cd22974725a0e8cc0729f747deeffe28ac9684c66b7

Download

My Receipts

ID: 1/ BlockNumber: 5/ BlockHash: 0x167df928802ecb57acd1d2600f849bac39bd41a2afe833a9cc7d5a95e9dde057/ Content: dataRequester:Alice,Purpose:read,dataSubject:Mike Burton,startDate:22102022,Expired:24122023,Conditions:just a test,Status:Null

Download

data subject has a record of unauthorised request, a record of processed consent, a record of hash value, and a receipt for the consent.

localhost

[Go to Data Requester Page](#)
[Go to Data Subject Page](#)
[Go to Data Controller Page](#)

DS Page

Requests

numbers of requests from DR: 1

View Details

DataRequester: Alice/ DataSubject:Mike Burton/ Expected Start Date:22102022/ Expected Expired: 24122023/ Status:Null

Consent

My Consent

numbers of consents: 1

Data Requester: Alice/ Data Subject:Mike Burton/ Authorized Start Date:22102022/ Purpose:read/ Authorized Expired: 24122023/ Conditions: just a test/ Authorized Status:authorized/ Data Controller:Null

My Receipts

ID: 1/ Content: dataSubject:Mike Burton,dataRequester:Alice,Purpose:read,Start from:22102022,Expired:24122023,Conditions:just a test,Status:authorized

Download

History of Hash Values of Exchanged Data

numbers of values shared by DC: 1

Hash value of shared data:3bc9a4398c62cd22974725a0e8cc0729f747deeffe28ac9684c66b7

Download

data controller has a record of an authorized consent, a record of authorized policy, a receipt for the policy, and a receipt for the hash value transaction.

localhost

[Go to Data Requester Page](#)
[Go to Data Subject Page](#)
[Go to Data Controller Page](#)

DC Page

Consent

numbers of consents from DS: 1

Data Requester: Alice/ Data Subject:Mike Burton/ Authorized Start Date:22102022/ Purpose:read/ Authorized Expired: 24122023/ Conditions: just a test/ Authorized Status:authorized/ Data Controller:Null

Download

Sticky Policies Records

count: 1

Data Requester: Alice/ Data Subject:Mike/ Data Controller:data controller/ Start Date:22102022/ Purpose:read/ Expired: 24122023/ Conditions: just a test/ Authorized Status:authorized

Create Sticky Policy

DataRequester

DataSubject

Purpose:read/update/

start date MM-DD-YY

Expired date MM-DD-

conditions

Data controller

Send

Hash Value of Required Data

input hash

Share

My Receipts

receipts of policies

ID: 1/ Sticky Policy: dataController:data controller,dataRequester:Alice,purpose:read,dataSubject:Mike,startDate:22102022,expired:24122023,conditions:just a test,status:authorized

Download

receipts of hash values shared

ID: 1/ Content of hash: 3bc9a4398c62cd22974725a0e8cc0729f747deeffe28ac9684c66b7

Download