Mister-BITCoin

Building stuff with React!

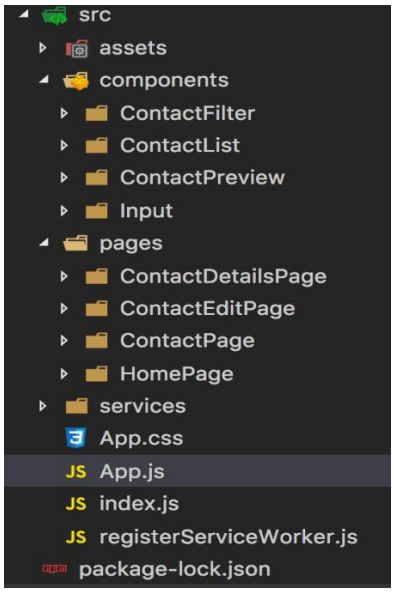
Let's build a digital wallet for holding my bitcoins and sending (paying) them to my contacts.

Start by creating the following pages.

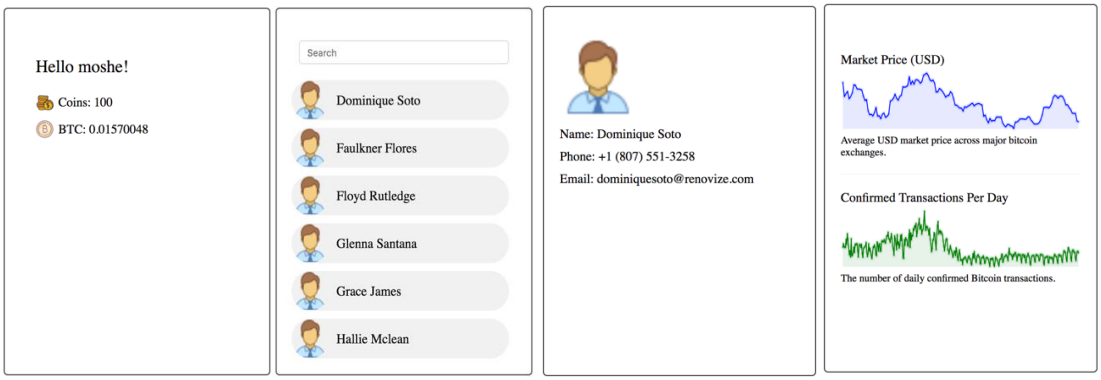
As we don't have routing yet – and to keep you focused, you can comment-out components or add some buttons to switch between pages.

Directory structure

Please follow the following structure and naming conventions:



Part 1 Contacts



Services

ContactService

Use the provided ContactService!

Example to contact model:

```
{
  "_id": "5a56640269f443a5d64b32ca",
  "name": "Ochoa Hyde",
  "email": "ochoahyde@renovize.com",
  "phone": "+1 (968) 593-3824"
}
```

UserService

Functions:

- getUser()

this function will return a user (currently hardcoded and synchronously)

Example for user model:

```
{
  name: "Ochoa Hyde",
  coins: 100,
  moves: []
}
```

BitcoinService

Use *axios* to fetch the data.

Functions:

- getRate(coins) (returns Promise)
  - Bitcoin rate (use a Bitcoin value API such as this)
- getMarketPrice(), getConfirmedTransactions()
  - Return chart data as described below.

Charts:

Here are some APIs to fetch data from:

1) trade-volume
    a. Site - https://www.blockchain.com/charts/trade-volume ,
    b. JSON: https://api.blockchain.info/charts/trade-volume?timespan=5months&format=json&cors=true
2) avg-block-size
    a. Site - https://www.blockchain.com/charts/avg-block-size ,
    b. JSON: https://api.blockchain.info/charts/avg-block-size?timespan=5months&format=json&cors=true
3) market-price
    a. SITE- https://www.blockchain.com/charts/market-price ,
    b. JSON: https://api.blockchain.info/charts/market-price?timespan=5months&format=json&cors=true

You can find more of the APIs here.

this will open a new window and display the json data, you need just to copy the url

```
https://api.blockchain.info/charts/market-price?format=json
```

Note: to prevent the API blocking you for too many requests, save the response in the service (or local storage) for development and later switch to using the real API

Note: Some chart's API calls are available with CORS headers, add a &cors=true parameter to the GET request.

Note: You can add 'timespan=XXX' to fetch more/ less data

(XXX can be one of: {X}months, {X}days, {X}years)

Url query example:

```
https://api.blockchain.info/charts/market-price?timespan=5months&format=json&cors=true
```

Pages

<HomePage>

Use UserService.getUser and BitcoinService and display:

- User Name and Coins
- Current Bitcoin rate

<ContactPage>

Gets contacts from ContactService and renders a *<ContactList>* component, passing down the contacts.

<ContactDetailsPage>

Get the contact by given contactId from ContactService and render the contact details (currently get the contactId from props or hardcoded)

<StatisticPage>

Display the charts:

- Market price
- Confirmed transactions per day

You may use/ add other charts if you like

Components

<ContactPreview> Props: contact

Render a div with an image (You can use robohash) and a span for preview

<ContactList> Props: contacts

Render each contact previews inside an

<Chart>

Render a chart

Props for example -: title, data, description, color…

Use a charts library like this one

<ContactFilter> Props: onFilter

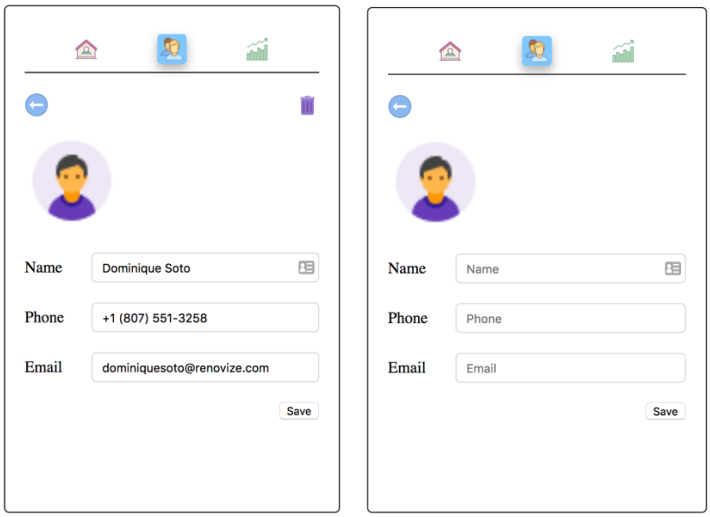
Allows free text search by name / phone and calls onFilter() on every keypress (onChange), passing a filter object e.g. : {term: 'puk'}

GIT Push, Go Home.

Part 2 CRUDL

Add Router, Header and implement the full CRUDL on Contact.

Note – for routing to work in github pages, we will need to use the *HashRouter* and not the *BrowserRouter*.



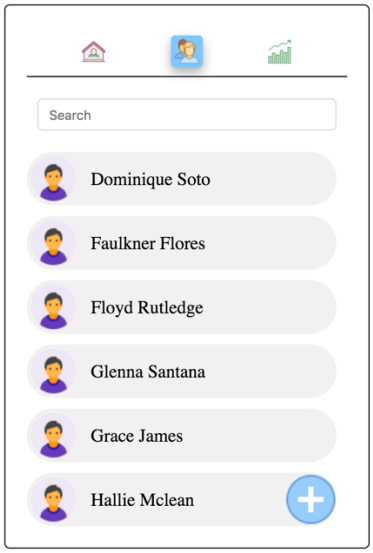
Pages

<HomePage> (route: /)

1) make sure you can access to this page from route

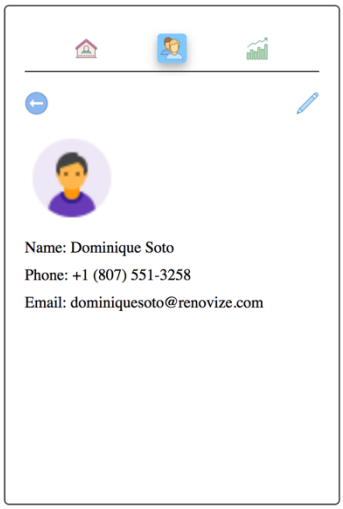
<ContactPage> (route: /contact)

2) make sure you can access to this page from route
3) add new contact button (when user click it will move to *<ContactEditPage>*)



<ContactDetailsPage> (route: /contact/:id)

1) Change the component so now you will receive an id as route param and gets a contact from the ContactService, display that contact in full.
2) Add navigation buttons:
   Back – when clicking navigate back to *<ContactPage>*
   Edit – when clicking navigate to *<ContactEditPage>*

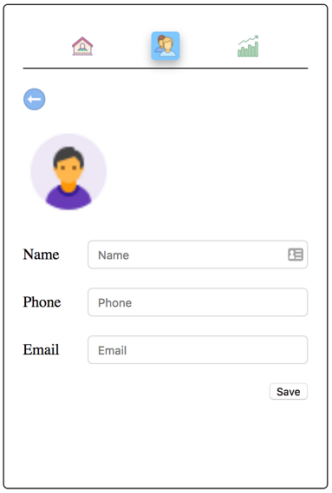


<ContactEditPage> (route: /contact/edit/:id?)

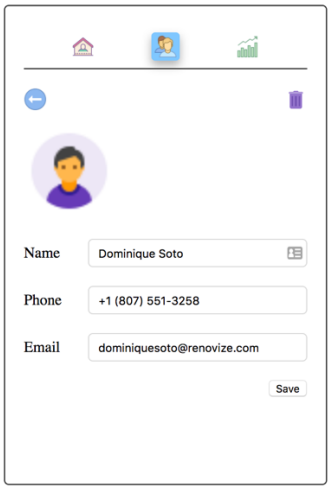
Allows Adding and Editing a contact

- Gets a contact from the service by id or start with a new contact
- Allow editing the name, email and phone of that contact

CREATE MODE:



EDIT MODE:



- Add action buttons:
  Back – back to contact details
  Delete – remove the contact and navigate to *<ContactPage>*

Components

<Header>

Render a div with NavLink (react router dom) so we can navigate between different pages

<ContactList>

Add <Link> element to add the ability navigate to contact details page when clicking on each contact

Add the project to github pages (look at the docs in create react app -> user guide -> github pages)

Edit the manifest with colors and icons, and check your PWA from Mobile

GIT Push, Go Home.

Part 3 User authentication

Services

UserService

Add the functions:

- signup(name)
- addMove(contact, amount)

Use the local storage to save/ load the user.

Move model:

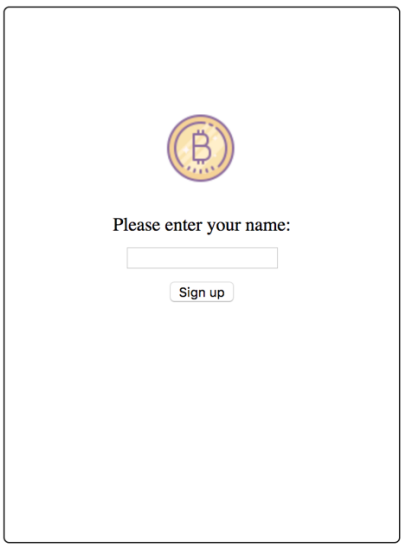
```
{
  toId: "d99e3u2ih329"
  to: "Moshiko",
  at: 2652712571,
  amount: 2
}
```

PAGES:

<SignupPage> (route: '/signup')

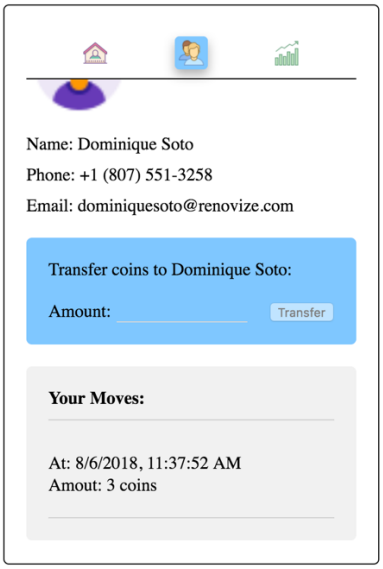
Ask for user name and save the new user in local storage and local variable using the UserService.

- When user is not known we route to this page
- The <SignupPage> just requests a name
- New user gets 100 coins when signup
- To keep it simple, do the signup process synchronously (no need for promises here in UserService)



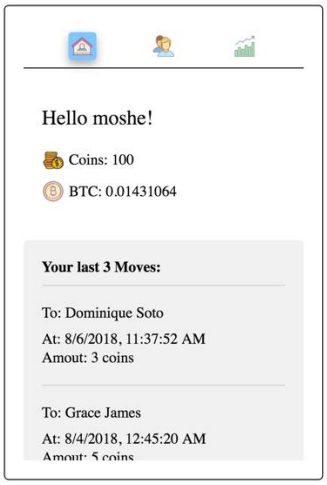
<ContactDetailsPage>

- render a *<TransferFund>* component – allow to move coins from user to this contact.
- render a *<MovesList>* component - display all moves to current contact



<HomePage>

- render a *<MovesList>* component - display the last 3 transactions



Components

< MovesList > props: title, moves-list

- display a list of moves using the UserService

< TransferFund > props: contact, maxCoins, onTransferCoins

- show a Transfer Fund form (with an amount field).
- when submitted (call to *onTransferCoins*):
  1) call to UserService to add a move.
  2) reduce from the user balance (this money goes nowhere!) using the UserService.

  Note: at this point you will need to refresh the page to see the new transaction in *<MovesList>*. you can add callback as props to render the *<ContactDetailsPage>* but when we will use the state management it will render automatically.

Part 4 Getting serious - State management

Use Mobx, Add a store and manage your state like a pro

Part 5 Over the edge

1. Support offline
    - Show an Offline / Online indication (see navigator.onLine)
    - Keep the BTC and last charts data in local storage
    - Use local data first, then get from network
2. Add unit testing
3. Deploy your components to storybook

Some Inspiration