

# Designing Lightning wallets for the Bitcoin user

# Patrícia Estevão

Personal site: <https://patestevao.com/>

Social media: @patestevao

[https://patestevao.gitbooks.io/  
lightning-network-ux-research/](https://patestevao.gitbooks.io/lightning-network-ux-research/)

# Usability and wallet security

- Usability: what and why?
- The Bitcoin financial revolution needs interfaces.

# From Bitcoin to the Lightning Network



# New complexities

To whom?

# New complexities

To whom?

- Remove unnecessary complexities and don't break the user's mental model

# Looking at the wallet

The one we need,  
not the one we deserve.

# Pay

Sketch 9:41 AM 100%

< Send

Address / Payment code

Bitcoin Amount

US\$

Label (optional)

Priority

Low Normal High

Fee: [set custom fees](#)

Cancel SEND

Wallet Send Receive Settings

Address

Amount

Label

Priority



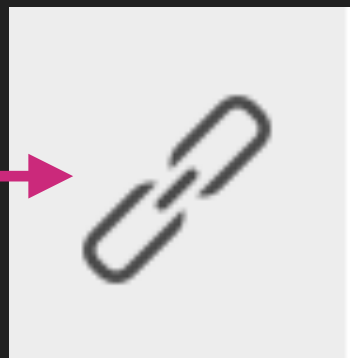


## Send



Address / Payment code

2N4dGj9NbEd8hRA33RuSFxAdCsFDfaKXere



0.3031

US\$

2,000.00

Label *(optional)*

Hotel stay in Hawaii

### Priority



Low



Normal



High



Fee: US\$ 1.15 (50 sat / byte)

[set custom fees](#)

[Cancel](#)

SEND

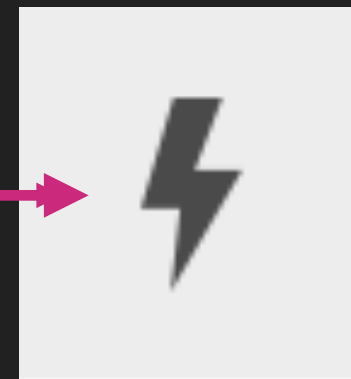


## Send



Address / Payment code

Intb1500n1pdj9xytyp5g9u6amd4d0rcndkfhnd.



0.003032

US\$

20.00

Label *(optional)*

Cold brew at hipster cafe



Estimated fee: US\$ 0.01

[Cancel](#)

SEND



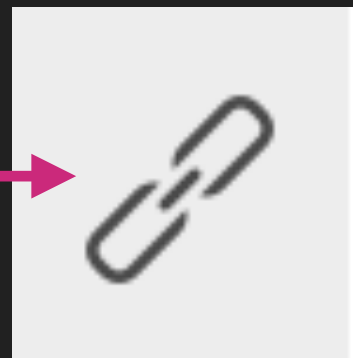


## Send



Address / Payment code

2N4dGj9NbEd8hRA33RuSFxAdCsFDfaKXere



0.3031

US\$

2,000.00

Label *(optional)*

Hotel stay in Hawaii

### Priority



Low



Normal



High



Fee: US\$ 1.15 (50 sat / byte)

[set custom fees](#)

[Cancel](#)

SEND

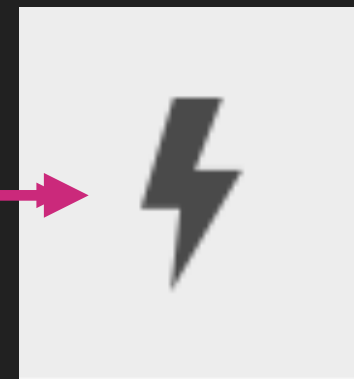


## Send



Address / Payment code

Intb1500n1pdj9xytpp5g9u6amd4d0rcndkfhnd.



0.003032

US\$

20.00

Label *(optional)*

Cold brew at hipster cafe



Estimated fee: US\$ 0.01

[Cancel](#)

SEND





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2N4dGj9NbEd8hRA33RuSFxAdCsFDfaKXere



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[set custom fees](#)

Cancel

SEND



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Address / Payment code

Intb1500n1pdj9xypp5g9u6amd4d0rcndkfhnd...



0.003032

US\$

20.00

Label *(optional)*

Cold brew at hipster cafe



Estimated fee: US\$ 0.01

Cancel

SEND





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[set custom fees](#)

[Cancel](#)

SEND



## Send



Address / Payment code

Intb1500n1pdj9xytpp5g9u6amd4d0rcndkfhnd...



0.003032

US\$

20.00

Label (optional)

Cold brew at hipster cafe



Estimated fee: US\$ 0.01

[Cancel](#)

SEND



# Request

Sketch 9:41 AM 100%

< Request

Bitcoin  (optional)

US\$

Label (optional)



 2N8fGANxXH4ZfFPyggvNAGiEmBH6i54BKw6 

Amount

Label

Address



## Request



(optional)

US\$

Label (optional)



2N8fGANxXH4ZfFPygqvNAGiEmBH6i54BKw6



## Request



(optional)

US\$

Label (optional)



Intb1500n1pdj9pgrpp54qzv239l6gj34fzugz56...





## Request



(optional)

US\$

Label (optional)



2N8fGANxXH4ZfFPygqvNAGiEmBH6i54BKw6



## Request



(optional)

US\$

Label (optional)



Intb1500n1pdj9pgrpp54qzv239l6gj34fzugz56...



# Channels



# Open Channel

Sketch

9:41 AM

100%

<

Open Channel

Peer Address

Ex: 0270685ca81...0caaab7b@159.203.125.125

Search by name

Amount in this channel

₿

US\$

Priority

Low

Normal

High

Fee: US\$ 1.15 (50 sat / byte)

[set custom fees](#)

Cancel

OPEN +

US\$ 20.00

**Label** *(optional)*

Cold brew at hipster cafe



Estimated fee: US\$ 0.01

**We couldn't find a route for your payment.**

Do you want to connect directly with your peer?

**Connect**

**Cancel**

**SEND**



## Settings

\$ CURRENCY

US Dollar



Bitcoin Unit (BTC)



\$↔\$ EXCHANGE RATE

Bitstamp



🔒 SECURITY

Change PIN



See backup



Enable touch ID



⚡ LIGHTNING ACTIONS

Channels List



Open Channel



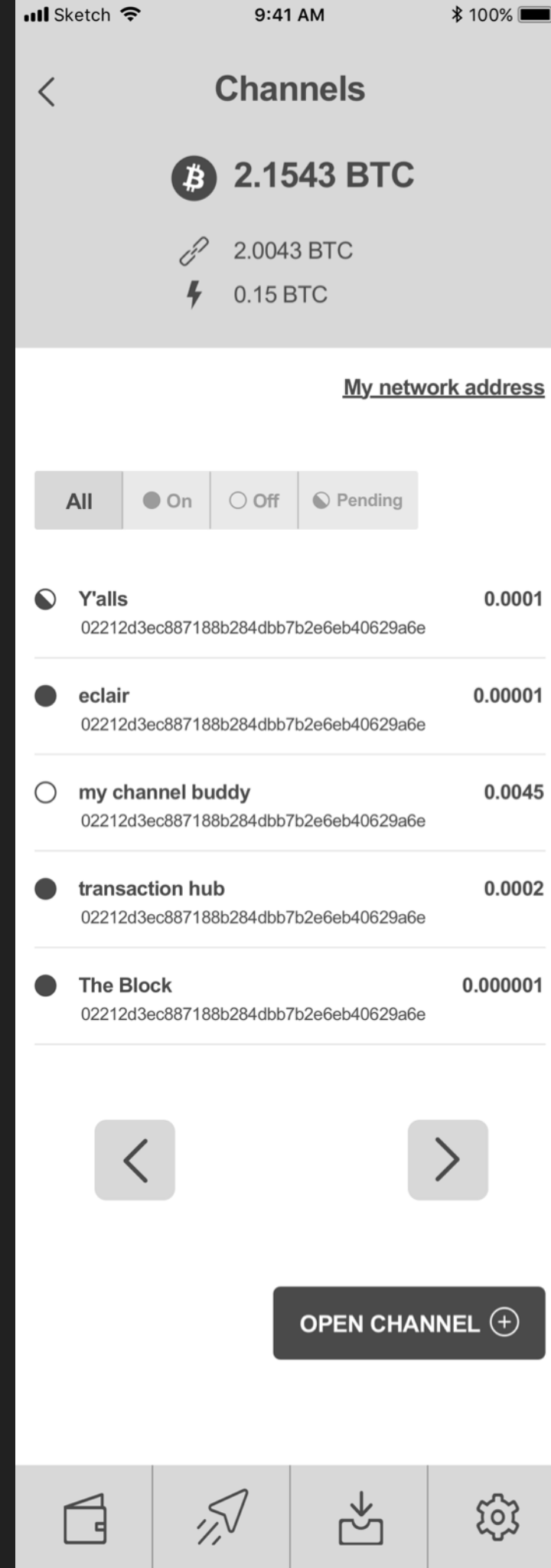
Network address



Settle Lightning Funds



# Channels Page



# Settle

Sketch 9:41 AM 100%

## < Settle Lightning Funds

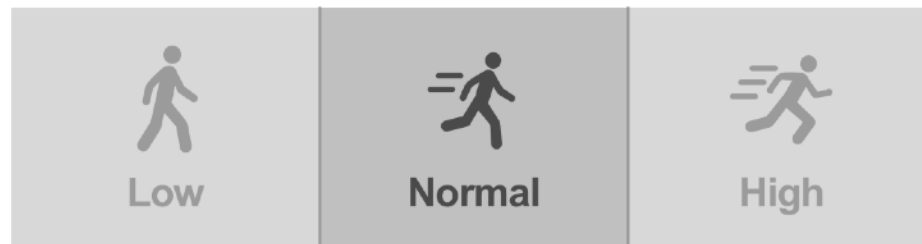
⚡ 0.15 BTC available

### Amount to settle

₿ 0.05

US\$ 323.30

### Priority



📄 Fee: US\$ 1.15 (50 sat / byte) [set custom fees](#)

Cancel

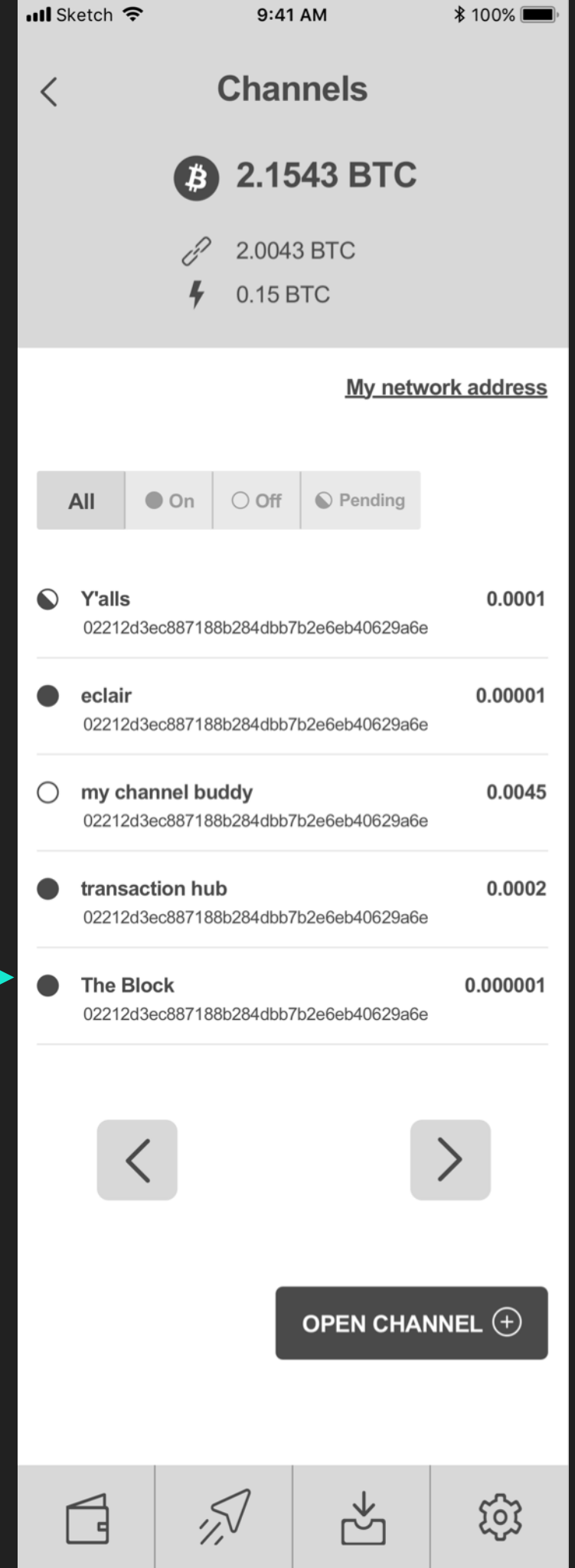
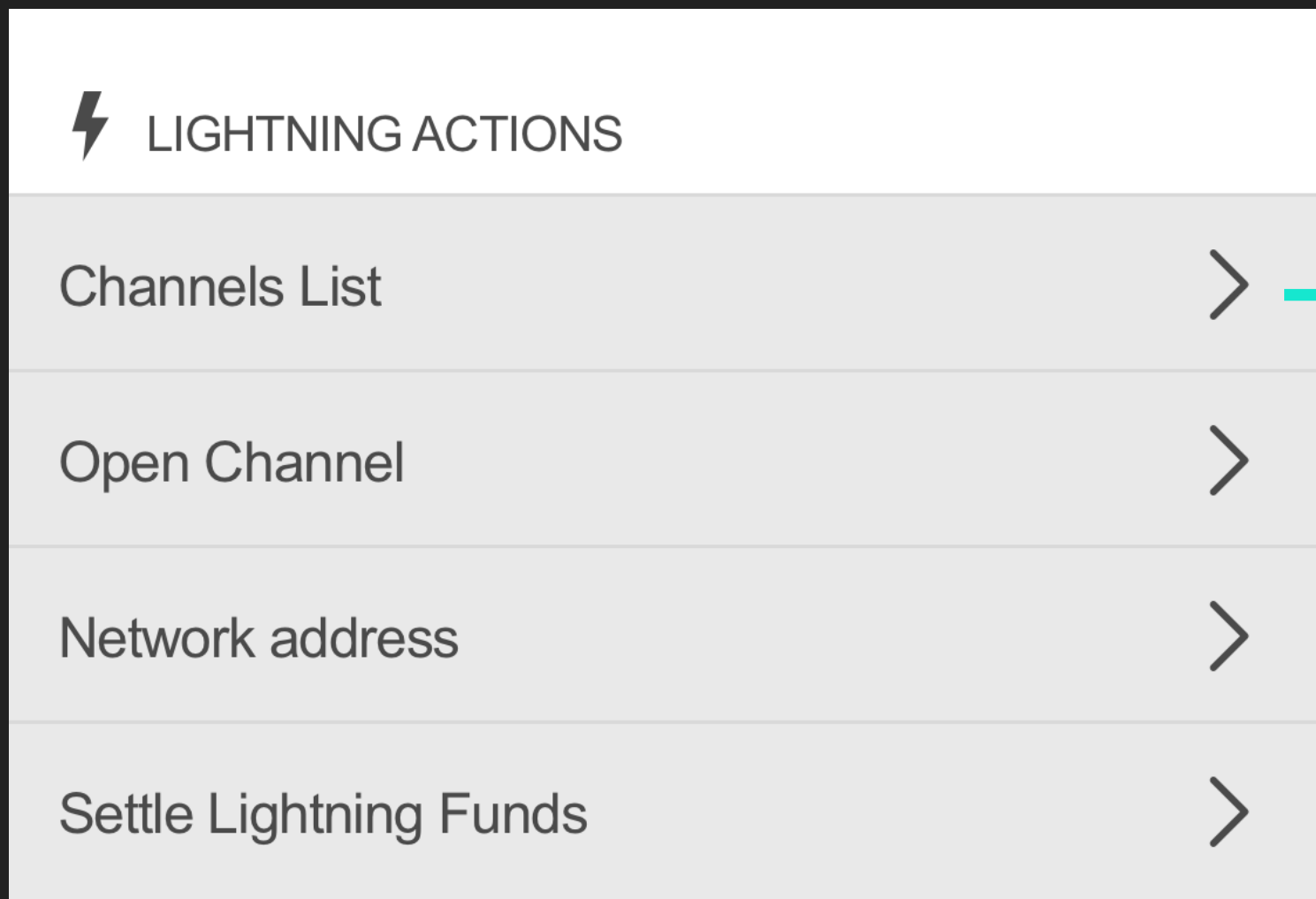
SETTLE NOW

◀ Lightning amount

◀ Amount to settle

◀ Priority

# Channels Page



# Channels Page

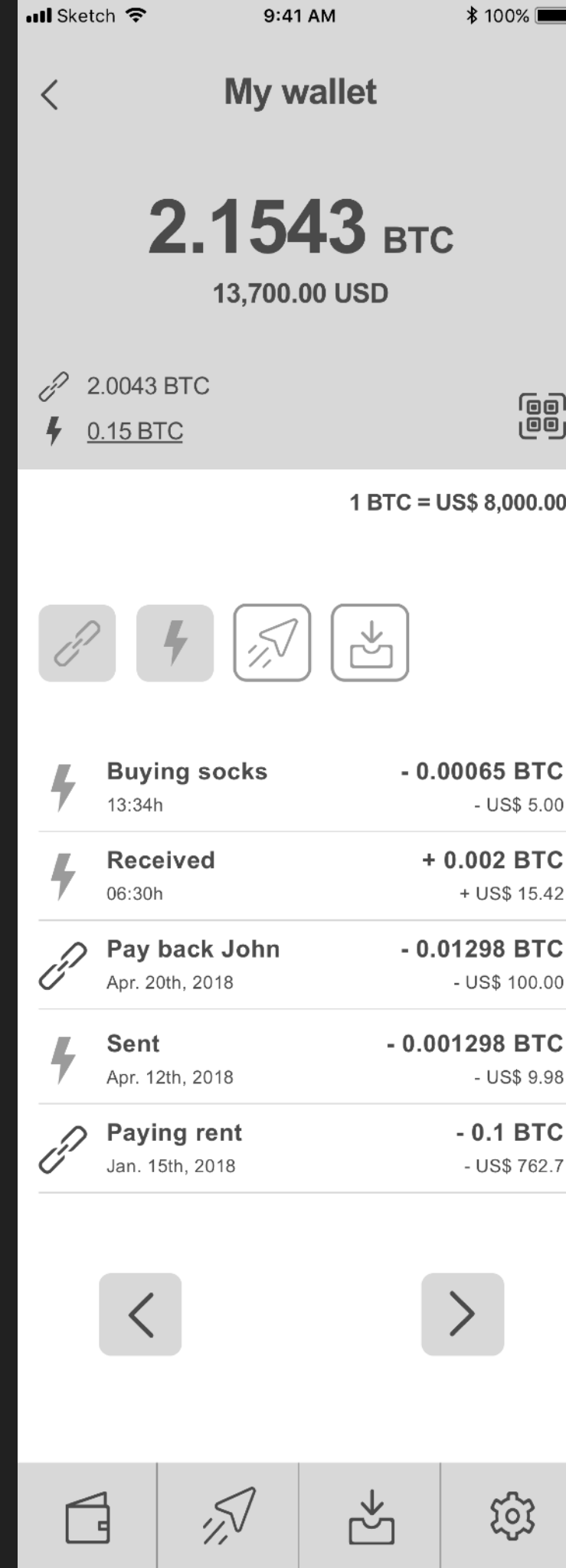
<input type="radio"/>	<b>my channel buddy</b> 02212d3ec887188b284dbb7b2e6eb40629a6e	0.0045
<input checked="" type="radio"/>	<b>transaction hub</b> 02212d3ec887188b284dbb7b2e6eb40629a6e	0.0002
<input checked="" type="radio"/>	<b>The Block</b> 02212d3ec887188b284dbb7b2e6eb40629a6e	0.000001



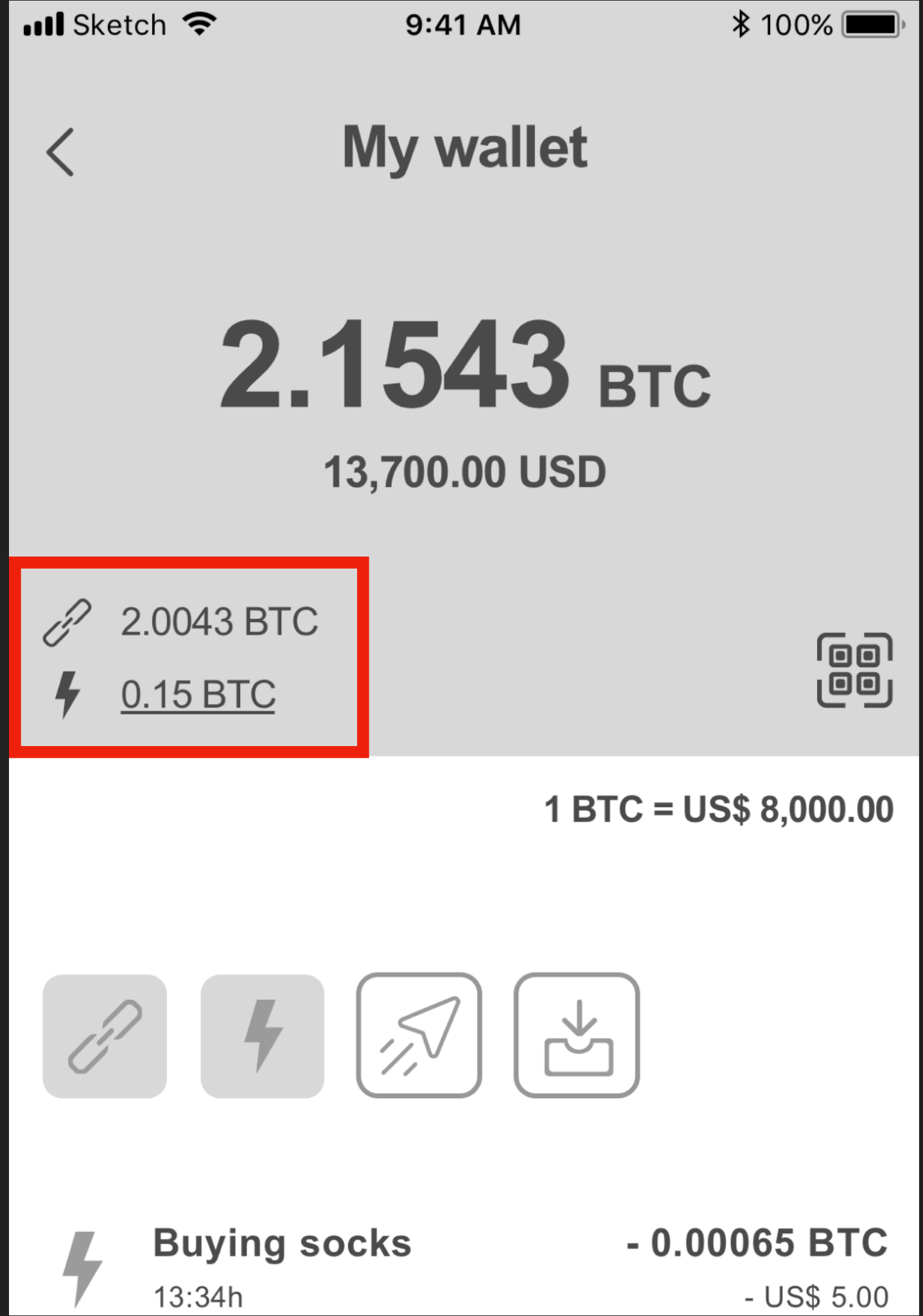
OPEN CHANNEL 



# Lightning cues



# Lightning cues





# Lightning cues



**Buying socks**

13:34h

**- 0.00065 BTC**

- US\$ 5.00



**Received**

06:30h

**+ 0.002 BTC**

+ US\$ 15.42



**Pay back John**

Apr. 20th, 2018

**- 0.01298 BTC**

- US\$ 100.00



**Sent**

Apr. 12th, 2018

**- 0.001298 BTC**

- US\$ 9.98



**Paying rent**

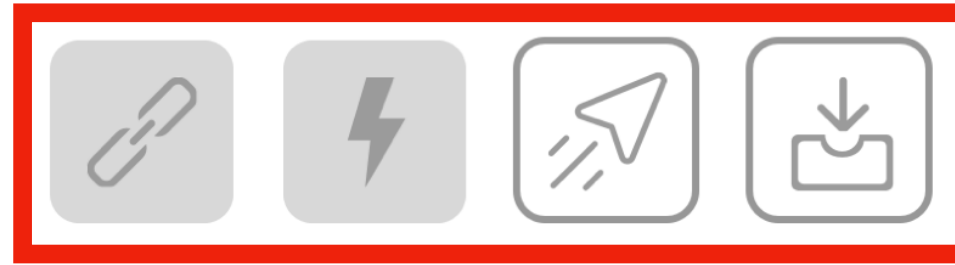
Jan. 15th, 2018

**- 0.1 BTC**

- US\$ 762.7



# Lightning cues



**Buying socks**

13:34h

**- 0.00065 BTC**

- US\$ 5.00



**Received**

06:30h

**+ 0.002 BTC**

+ US\$ 15.42



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**Sent**

Apr. 12th, 2018

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- US\$ 9.98



**Paying rent**

Jan. 15th, 2018

**- 0.1 BTC**

- US\$ 762.7



# Know your user

- I've been talking mostly about the general non-technical users, so far.

The user who  
understands just  
enough

Lack of  
usability can  
be a feature

# TL; didn't listen

- We can build Lightning tools that don't necessarily break the user's mental model.
- Lightning wallet interfaces don't need to be very different from Bitcoin wallets, after all.
- It's our responsibility as tech creators to deliver it.

# Thank you!

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@patestevao

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