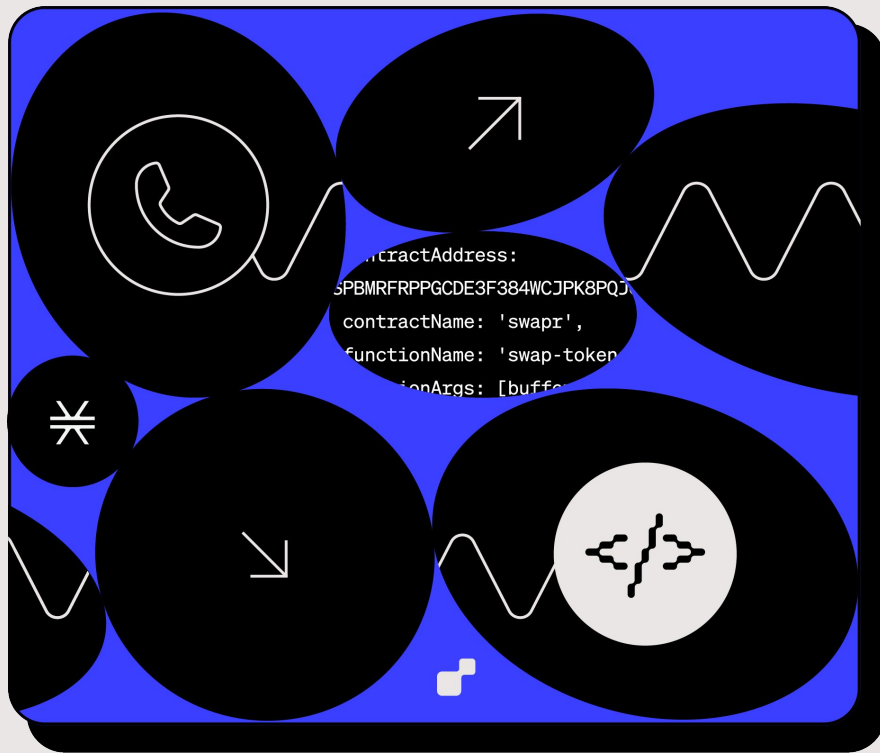


# Hiro Monthly Developer Calls

#4 – July 28, 2022





Purpose

Hiro is  
**developer  
obsessed**

Strive to  
**engage**

with the developer  
community directly

Invite and  
**inspire**  
developers of  
diverse backgrounds  
to Stacks & Hiro

**Listen**

to your needs  
carefully & improve  
the DevX



Shoutouts & Thanks

# July 2022 Contributors

Thank you!

## Clarinet

@LNow

@fariedt

@moodmosaic

## API

@wileyj

## Web Wallet

@luciorubeens

@mcintyre94

@aulneau

@talentdev0807

# Smart Contract of the Month



## Smart Contract of the Month

# send-many-memo



- The send-many-memo Clarity smart contract is a simple, but powerful, utility for transferring STX tokens.
- It transfers STX tokens using variables for the **amount**, the **address** of the recipient, and a **32 byte buffer memo**.
- Just four functions perform the necessary checks and operations for a STX transfer.

```
;; send-many
(define-public (send-stx-with-memo (ustx uint) (to principal) (memo (buff 34)))
  (let ((transfer-ok (try! (stx-transfer? ustx tx-sender to))))
    (print memo)
    (ok transfer-ok)))

(define-private (send-stx (recipient { to: principal, ustx: uint, memo: (buff 34) }))
  (send-stx-with-memo
   (get ustx recipient)
   (get to recipient)
   (get memo recipient)))

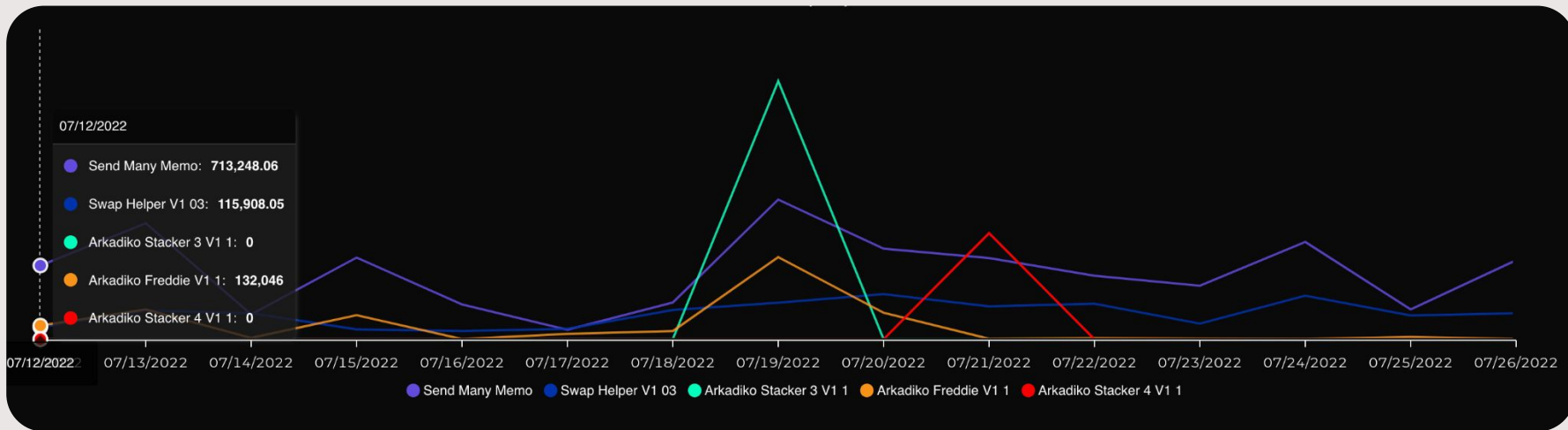
(define-private (check-err (result (response bool uint))
                        (prior (response bool uint)))
  (match prior ok-value result
    (err-value (err err-value))))

(define-public (send-many (recipients (list 200 { to: principal, ustx: uint, memo: (buff 34) })))
  (fold check-err
    (map send-stx recipients)
    (ok true)))
```

[Link to contract in the Stacks Explorer](#)

Smart Contract of the Month

# send-many-memo

[Link to contract in the Stacks Explorer](#)



## Smart Contract of the Month

## send-many-memo

- The send-many-memo contract is used by the popular tool “Send Many” developed by Friedger
- It is a browser UI that calls the send-many-memo smart contract

Total balance:  
**90.562778X (\$36.35)**  
[View on Explorer](#)

**Instructions**

1. Enter recipients and amounts one per line. If all memo field are empty "send-many" contract is used. Otherwise, "send-many-memo" is used.
2. Review the data
3. Click send
4. Follow the instructions on your wallet to complete the transaction.

**Send Many**

Paste entry list


☐ First Memo for all?

**Send**

**Recent Send Many transactions**

No transactions yet

Search for tx, addr **Export** as CSV



**Send Many**

✱ \$0.40137  
mainnet

A UI to interact with the smart contract "send-many" and "send-many-memo"

Send Many is an [open source](#) web app with the purpose of **helping everybody to send and view bulk STX transfers.**

**Efficient STX transfers**

Stacks can be transferred to individual users one by one using the stacks transfer function. However, for organisations or exchanges it can be more efficient to send stacks tokens to many users in one go. This can be done through a smart contract. There is one contract for transfers with a memo and one for transfers without.

This app provides a web interface for these two contracts. User can make bulk transfers easily, search them, export them and share links to individual amounts.

For testing purposes, you can use testnet by appending `?chain=testnet` in the address bar.

[Start now](#)

<https://sendstx.com/>

## Smart Contract of the Month

## send-many-memo

- The UI creates an argument to send to the contract that initiates a transfer to multiple recipients

## Send Stacks (STX)

Wallet Address #1  
SPF1S6WJHKPB873EET97946B2

Amount #1  
0.1

Memo #1  
one

Wallet Address #2  
SP39MV5PEBY93QAYE133QYHX

Amount #2  
0.1

Memo #2  
two

Wallet Address #3  
SP3TJX3837FF0J9S0TT1X0B1TZ

Amount #3  
0.1

Memo #3  
three

Add New Recipient

## Arguments

recipients

list

memo

to

'SPF1S6WJHKPB873EET97946B24G78NNDXQ22PYJ4

ustx

u100000

to

'SP39MV5PEBY93QAYE133QYHXVCZ8S368SWMA8PTS3

ustx

u100000

tuple

(memo

to

'SP3TJX3837FF0J9S0TT1X0B1TZXSJWW30DJJ9HX6Q

ustx

u100000

## Post conditions



SP3GNH2H...CBK688EH

Transfers exactly 0.3 STX

## Smart Contract of the Month

# send-many-memo

## send-stx-with-memo

- Accepts amount of ustx, recipient principal, and text memo
- Attempts a stx-transfer?
- Prints the memo
- Gives feedback about successful transaction

```
;; send-many
(define-public (send-stx-with-memo (ustx uint) (to principal) (memo (buff 34)))
  (let ((transfer-ok (try! (stx-transfer? ustx tx-sender to))))
    (print memo)
    (ok transfer-ok)))
```

send-stx-with-memo (public function)

ustx

to

memo

## send-stx

- Passes in the recipient map
- Pulls the correct recipient from the recipient map and passes to send-stx-with-memo
- Recipient info: ustx amount, principal, and memo

```
(define-private (send-stx (recipient { to: principal, ustx: uint, memo: (buff 34) }))
  (send-stx-with-memo
    (get ustx recipient)
    (get to recipient)
    (get memo recipient)))
```

Smart Contract of the Month

# send-many-memo

## check-err

A simple function for checking booleans returned from other functions to ensure successful transfer

```
(define-private (check-err (result (response bool uint))
                          (prior (response bool uint)))
  (match prior ok-value result
    err-value (err err-value)))
```

The **fold** function condenses **sequence\_A** into a value of type **B** by recursively applies the function **func** to each element of the input sequence and the output of a previous application of **func**.

## send-many

Pulls the map of recipients and checks for errors using check-err function

```
(define-public (send-many (recipients (list 200 { to: principal, ustx: uint, memo: (buff 34) })))
  (fold check-err
    (map send-stx recipients)
    (ok true)))
```

[Link to contract in the Stacks Explorer](#)

# Community Topics



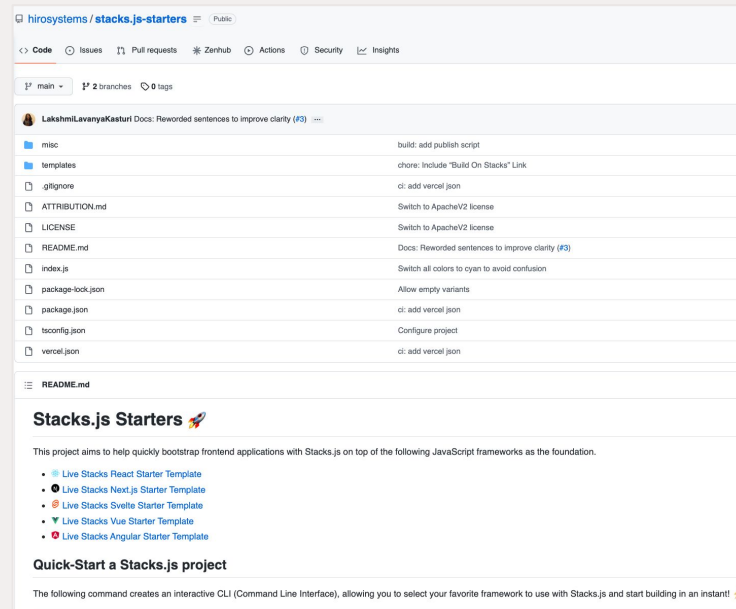
## Community Topics

**Topic 1:** How can Hiro improve communication and further be more transparent?



## Community Topics

## Topic 2: Announcing Stacks.js Starters



<https://github.com/hirosystems/stacks.js-starters>

## Community Topics

# Topic 3: Q3 2022 Product Focus

## API

- Maintain 99.99% uptime
- Observe and update FT/NFT/SFT metadata
- Microservices architecture
- Performance improvements

## Stacks.js

- Stacks.js Starters CLI & GUI DevEx
- Hyperchains compatibility
- Stacks 2.1 compatibility

## Clarinet

- VS Code web extension
- Hyperchains compatibility
- Stacks 2.1 compatibility
- Trigger off-chain logic for BTC/STX on-chain events

## Blockchain

- NFT use-case launch on Testnet!
- Performance benchmarks
- Abstraction to implement other VM compatible hyperchains

## Wallet

- BTC support
- Hyperchains compatibility
- Resolve Tx broadcasting issues
- Display NFTs held per account

## Explorer

- Faster Explorer!
- Deliver richer insights when dependent APIs & systems are down or if they are slow

## Docs

- Revised onboarding and getting-started DevEx
- FAQs & Troubleshooting guides

<https://www.hiro.so/blog/hiros-focus-for-q3-2022>



Are you looking for  
the roadmap,  
timelines, open  
feature requests,  
or report problems?



github.com/hirosystems

hirosystems / stacks-blockchain-api Public

<> Code Issues 81 Pull requests 32

Labels Milestones

Q3-2022

Due by September 30, 2022 0% complete

Q3 2022

8 Open 0 Closed

- 10x faster tsv event replay with preorg #1166 opened on May 10 by zone117x · Approved
- Refactor the Token Metadata Processor into #1222 opened 27 days ago by rafaelcr
- Optimize event replay process Epic XL #1082 opened on Feb 25 by rafaelcr 5 of 8 tasks
- add cache handlers for individual items (bl #1230 opened 19 days ago by rafaelcr
- re-orgd transactions return 404 if they were #1231 opened 19 days ago by rafaelcr
- API support for Hyperchains P2 #1237 opened 11 days ago by saralab
- Refactor the WebSockets/Socket.IO server #1244 opened 3 days ago by rafaelcr
- refactor the /v2 Stacks node endpoint pro #1245 opened 3 days ago by rafaelcr

hirosystems / stacks.js Public

<> Code Issues 23 Pull requests

Labels Milestones

Q3-2022

Due by September 30, 2022 14% complete

Q3 2022

6 Open 1 Closed

- Add initializer site for create-s #1316 opened 19 days ago by janniks
- Remove nodejs buffer polyf #1256 opened on May 13 by zone117x
- [wallet-sdk] Offload triplése #1272 opened on May 23 by janniks
- [bns,stacking] switch from Bu #1257 opened on May 13 by janniks
- [wallet-sdk] switch from Buffe #1258 opened on May 13 by janniks
- Add Hyperchains Support for #1324 opened 5 days ago by saralab

hirosystems / clarinet Public

<> Code Issues 103 Pull requests

Labels Milestones

Q3-2022

Due by September 30, 2022 0% complete

Q3 2022

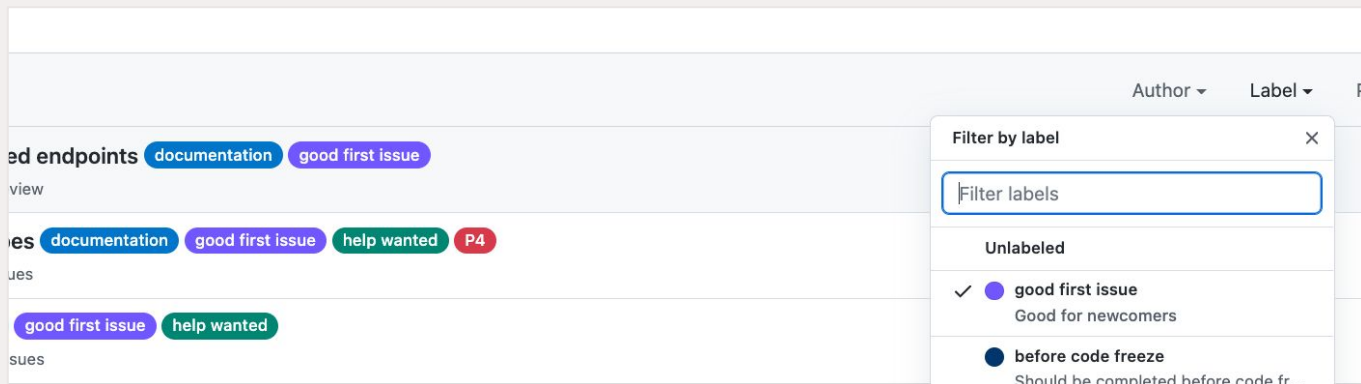
2 Open 0 Closed

- Revise and update ReadMe f #478 opened 13 days ago by saralab
- Migration to canonical Clarity #474 opened on Aug 19, 2021 by reedros

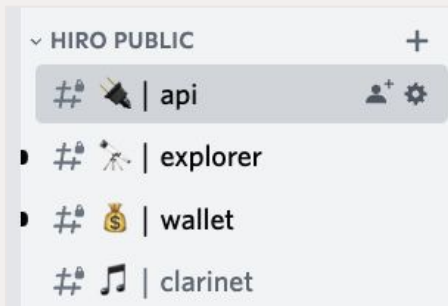
# New to Hiro, and are looking for ways to contribute?



[github.com/hirosystems](https://github.com/hirosystems)



Are you wondering  
how to engage with  
Hiro or ask  
questions?



# Thank You

