

# Collaborative Apps over Matrix using the Collabs Library

Matthew Weidner

*(Alpha Prototype)*



**Carnegie Mellon University**  
School of Computer Science

Custom Widget

App controls  Connected  Send connected  Receive connected

Sans Serif Huge B I U  $x^2$   $x_2$  H1 H2 " " </>

Invite to this room

mweidner created and configured the room. expand

Send an encrypted message...

Custom Widget

App controls  Connected  Send connected  Receive connected

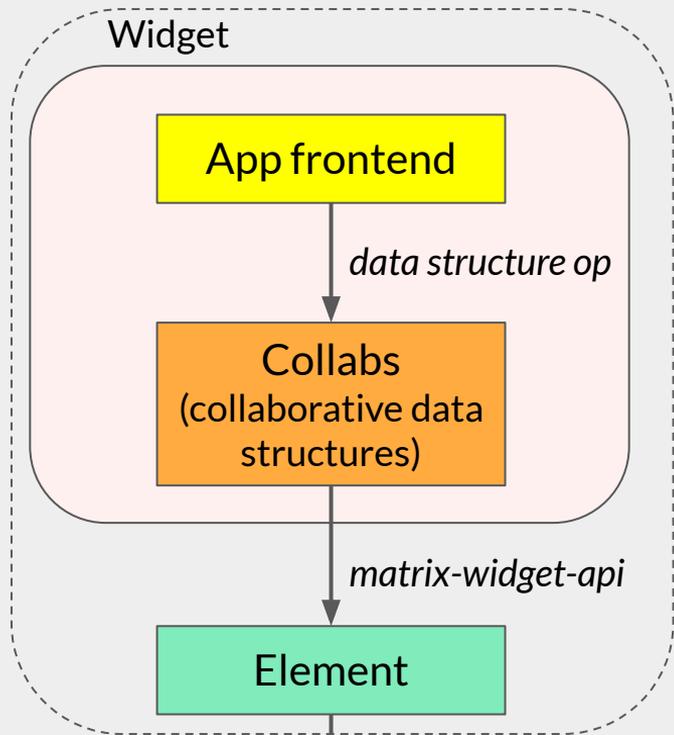
Sans Serif Normal B I U  $x^2$   $x_2$  H1 H2 " " </>

Invite to this room

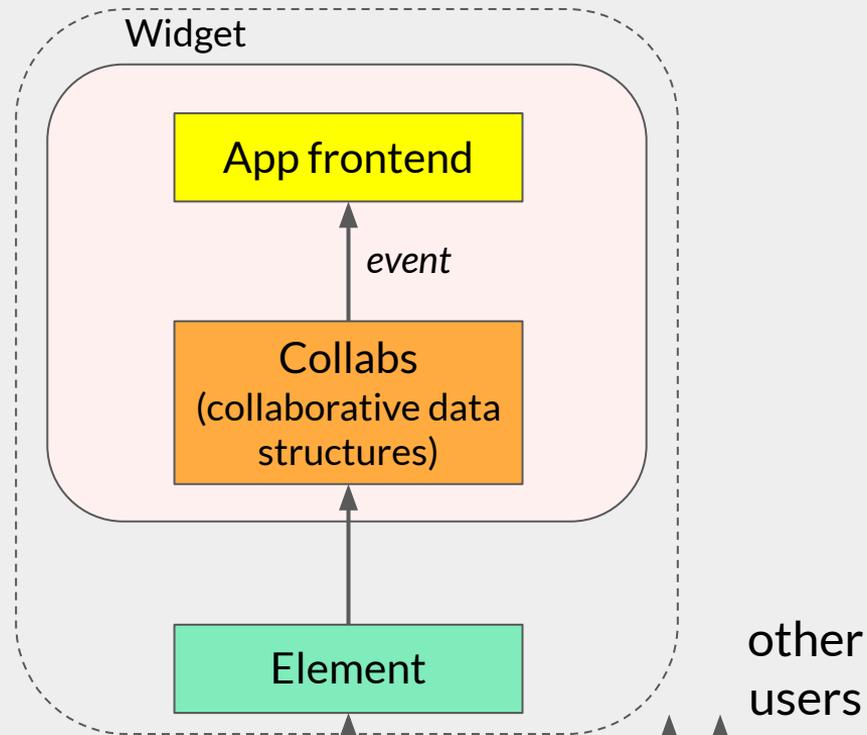
mweidner created and configured the room. expand

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User 1



User 2



Matrix network

## Users

- ✓ E2EE
- ✓ Federated & self-hostable
- ✓ Open-source tech stack

## Developers

- ✓ Deploy w/ static site
- ✓ Matrix handles user accounts, scaling, ...
- ✓ Forkable

Custom Widget

Color palette: Red, Orange, Yellow, Green, Blue, Purple, Black

Clear

Invite to this room

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Custom Widget

Color palette: Red, Orange, Yellow, Green, Blue, Purple, Black

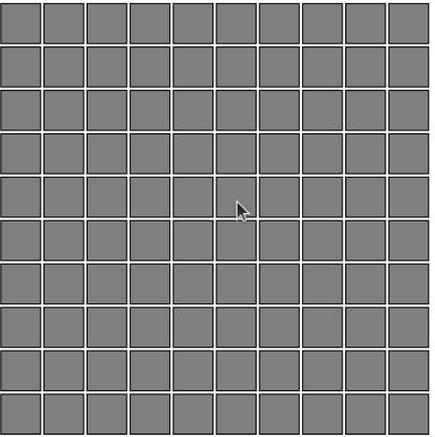
Clear

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Custom Widget



New Game

Width: 10

Height: 10

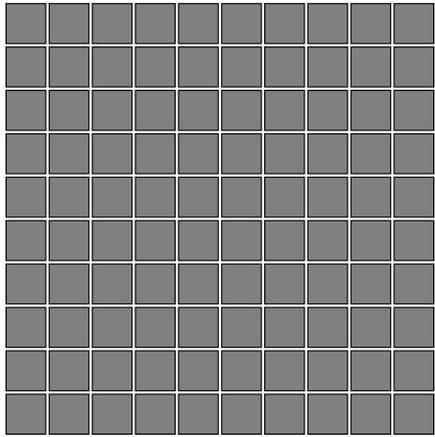
% Mines: 15

Invite to this room

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Send an encrypted message...

Custom Widget



New Game

Width: 10

Height: 10

% Mines: 15

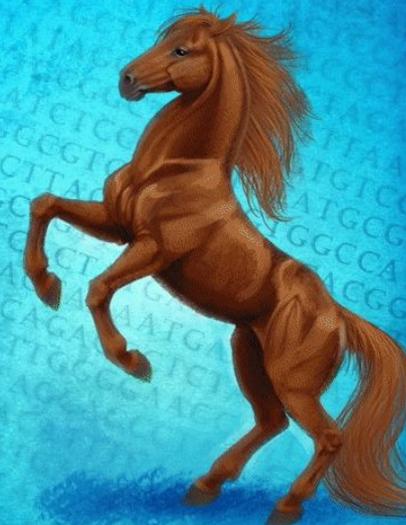
Invite to this room

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Send an encrypted message...

Custom Widget

# Chestnut



Grid of genetic markers:

e	e
a	a
g	g
cr	cr
d	d
ch	ch
F	F
z	z
sty	sty
rb	rb
rn+	rn+
sbl+	sbl+
w+	w+
to+	to+
o	o
spl	spl
lp	lp
patn1	patn1
patn2	patn2

show help ?

CC BY NC SA

Invite to this room

mweidner created and configured the room.

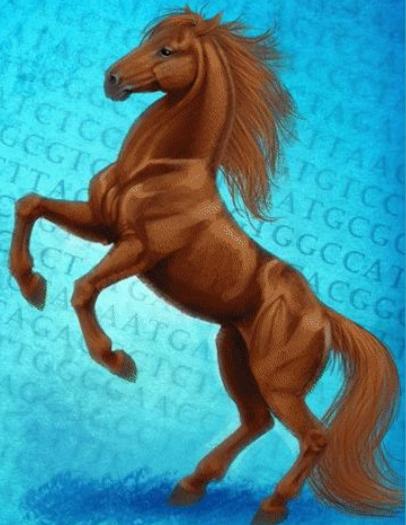
expand

Send an encrypted message...



Custom Widget

# Chestnut



Grid of genetic markers:

e	e
a	a
g	g
cr	cr
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z	z
sty	sty
rb	rb
rn+	rn+
sbl+	sbl+
w+	w+
to+	to+
o	o
spl	spl
lp	lp
patn1	patn1
patn2	patn2

show help ?

CC BY NC SA

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expand

Send an encrypted message...



**Collabs** is a TypeScript library of client-side **collaborative data structures** (specifically, CRDTs).

```
// Whiteboard state: a collaborative Map.  
boardState: LwwCMap<[x: number, y: number], string>;  
  
// When user draws:  
boardState.set(pt, color);  
  
// Respond to changes (possibly external):  
boardState.on("Set", (event) => {  
  ctx.fillStyle = boardState.get(event.key)!;  
  ctx.fillRect(event.key[0], event.key[1], GRAN, GRAN);  
});
```

**Collabs is a collections library, not just a set of CRDT implementations.**

- Keep your data model & types
- Flexible & extensible
- Composition (objects, collections, ...)

# Collabs

(Alpha Prototype)

<https://www.npmjs.com/package/@collabs/collabs>

<https://compoventuals-tests.herokuapp.com/>



Heather Miller  
CMU, Faculty Advisor



Huairui Qi  
CMU (M.S. 2020)



Ignacio Maronna  
CMU (M.S. 2020)



Maxime Kjaer  
EPFL/CMU (M.S. 2021)



Ria Pradeep  
CMU (B.S. 2021)



Benito Geordie  
Rice

# Thank you!