

An abstract composition on a dark gray background. It features several diagonal lines: a white line in the upper left, a light gray line in the lower left, and a bright pink line in the lower right. The word 'Substrate' is written in a bold, orange, sans-serif font, positioned between the white and light gray lines. The word 'River' is written in the same font and color, positioned between the light gray and pink lines.

Substrate

River

The background is dark gray with several diagonal lines. Two white lines are in the upper left, and two pink lines are in the lower right, all sloping upwards from left to right.

Web-UI-002

Rendering Kitties

<https://substrate.dev/substrate-collectables-workshop/#/4/rendering-kitties>



KittyCards component

<https://github.com/substrate-developer-hub/substrate-collectables-workshop/raw/master/4/assets/KittyCards.zip>

我们已经建立了一个自定义的组件显示小猫。



1-位置

```
substratekitties-ui/  
|  
+-- src/  
|  
+-- KittyCards/    <-- Place here  
|  
+-- AccountIdBond.jsx  
|  
+-- ...
```



2- import KittyCards组件

```
import { KittyCards } from './KittyCards';
```

```
<KittyCards count={runtime.substratekitties.allKittiesCount} />
```



3-添加Kitty类型

```
constructor()
```

```
addCodecTransform('Kitty<Hash,Balance>', {  
  id: 'Hash',  
  dna: 'Hash',  
  price: 'Balance',  
  gen: 'u64'  
});
```



效果



Substrate Kitties

There are 6 kitties purring.



0x491a6b5e5e7f87...

0x491a6b5...

Owner: Alice

Generation: 0

\$0 unit



0x681db46cdc6656...

0x681db4...

Owner: Alice

Generation: 0

\$0 unit



0x1d75eaa48579c2...

0x1d75eaa...

Owner: Shawn

Generation: 0

\$0 unit



Shawn

Create Kitty





allKittiesCount

```
<KittyCards count={runtime.substratekitties.allKittiesCount} />
```

当allKittiesCount发生变化时，我们的KittyCards组件的readyRender()部分将触发，它获取最新的计数，并循环遍历allKittiesArray()中的每一项，它将返回唯一的kitty id散列。

```
readyRender() {  
  let kitties = [];  
  
  for (var i=0; i < this.state.count; i++){  
    kitties.push(  
      <div className="column" key={i}>  
        <KittyWrap hash={runtime.substratekitties.allKittiesArray(i)} />  
      </div>  
    );  
  }  
}
```



然后，它将kitty id Hash发送到KittyWrap组件，后者对所有者和kitty对象执行简单的查找。如果发送到KittyWrap的Hash在循环之间没有变化，那么React将直接跳过重新呈现过程。

```
class KittyWrap extends ReactComponent {
  constructor(props) {
    super(['hash']);
  }

  readyRender() {
    const { hash } = this.state; // Object destructuring assignment syntax

    return (
      <KittyCard
        kitty={runtime.substratekitties.kitties(hash)}
        owner={runtime.substratekitties.kittyOwner(hash)}
      />
    );
  }
}
```

最后，KittyWrap调用KittyCard，它实际生成每张卡片的内容。



Cards Contents

KittyCard组件获取从KittyWrap传递过来的Kitty对象和所有者，并格式化所有数据。
从上到下:

The Kitty ID

The Kitty DNA (which is the same for kitties that are gen 0)

The Kitty Owner

The Kitty Generation

The Kitty Price

```
<Card>
  <KittyAvatar dna={kitty.dna} />
  <Card.Content>
    <Card.Header>
      <Pretty
        value={kitty.id}
        className='limit-name'
      />
    </Card.Header>
    <Card.Meta>
      <Pretty
        value={kitty.dna}
        className='limit-dna'
      />
    </Card.Meta>
    <Rspan>
      <b>Owner</b>: {
        secretStore()
          .find(this.state.owner)
          .name
      }
    </Rspan>
    &nbsp;
    <Identicon
      key={this.state.owner}
      account={this.state.owner}
      size={16}
    />
    <br />
    <Rspan>
      <b>Generation</b>: {kitty.gen}
    </Rspan>
    <br />
  </Card.Content>
  <Card.Content extra>
    <Pretty
      value={kitty.price}
      prefix="$"
    />
  </Card.Content>
</Card>;
```




Generating Kitties from DNA

在KittyCard组件中还有一个抽象层<KittyAvatar>。

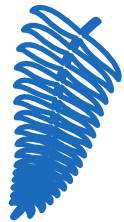
如果你在“/KittyCards/avatars/index”中查找。您将看到管理kitty图像生成的最终React组件。

```
function dnaToAttributes(dna) {  
  let attribute = (index, options) => dna[index] % options;  
  
  return {  
    body: IMAGES.body[attribute(0, 15)],  
    eyes: IMAGES.eyes[attribute(1, 15)],  
    accessory: IMAGES.accessories[attribute(2, 20)],  
    fur: IMAGES.fur[attribute(3, 10)],  
    mouth: IMAGES.mouth[attribute(4, 10)]  
  };  
}
```



You Turn!

1- KittyCard



More...To be done

1- 设定Kitty的价格

2- 购买Kitty

3- 展示owner的所有Kitty

4- 繁殖Kitty



Substrate

River

Thanks