

AN ANIMATED GUIDE TO VUE 3







X



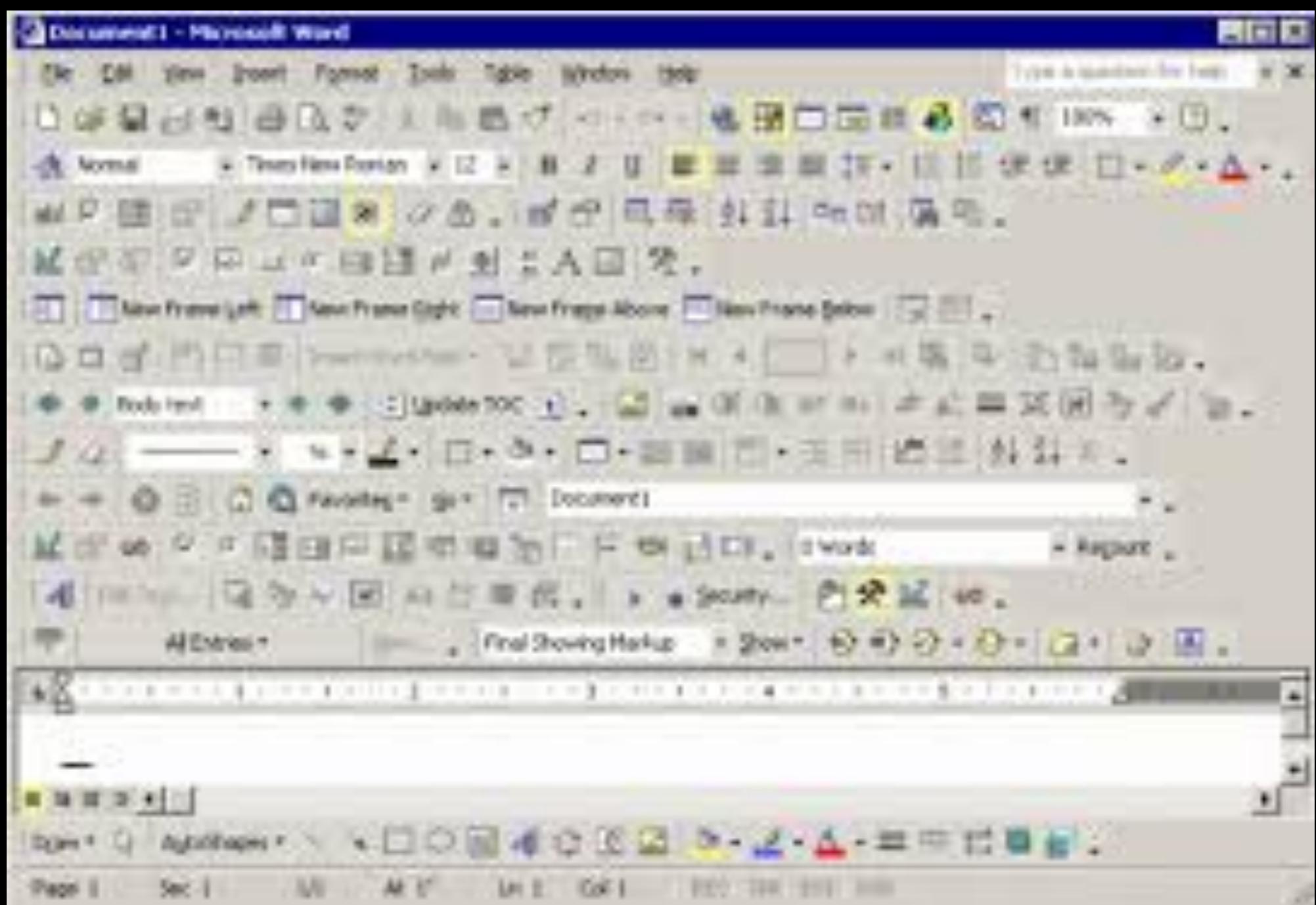
?





OPEN







Homes for Rent



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ROOMS



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CHILD



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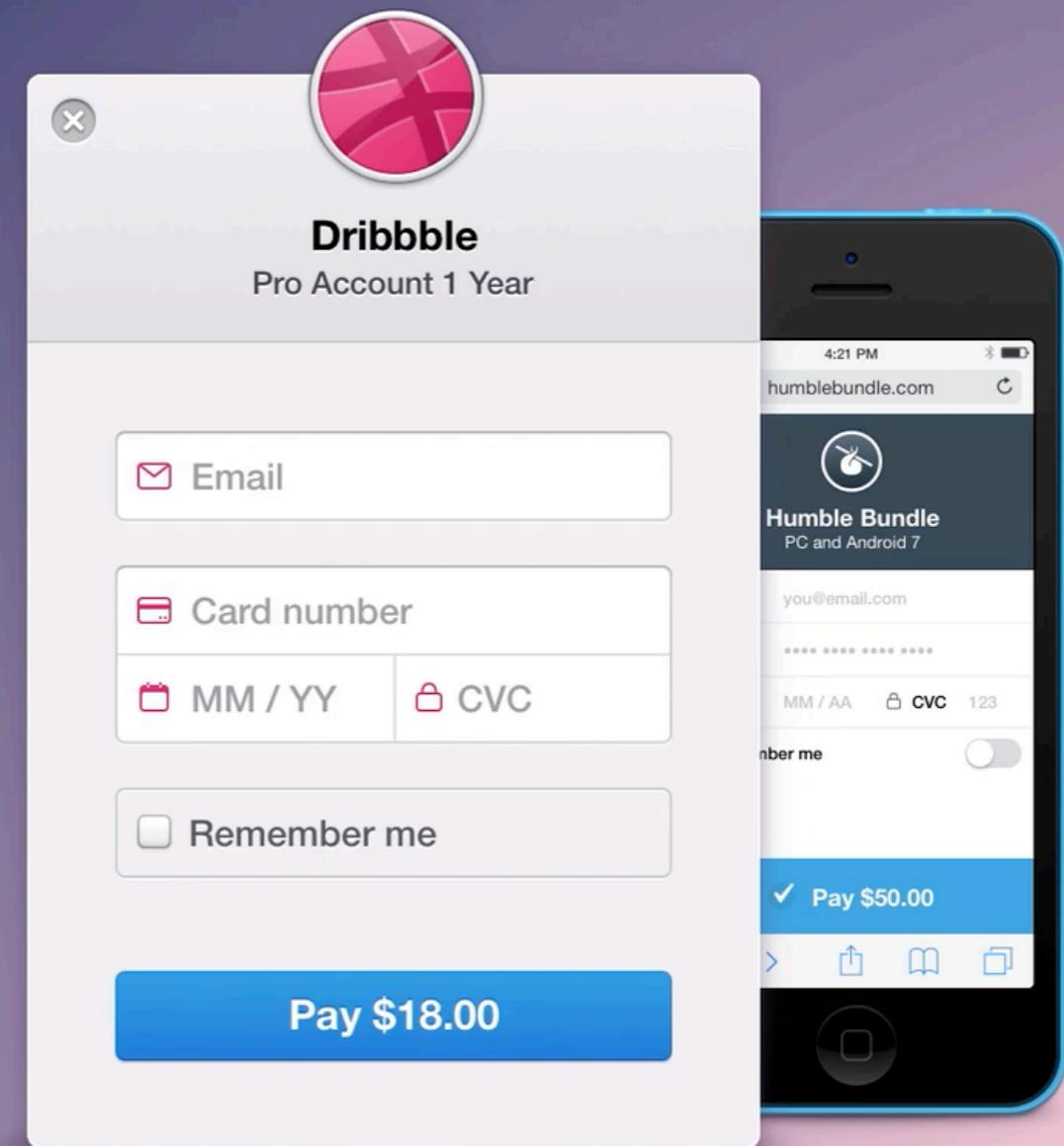
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The easiest payment flow
on web and mobile

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HOW?

AN ANIMATED GUIDE TO VUE 3

SARAH DRASNER

@SARAH_EDO



netlify



WHAT IS
REACTIVITY?

fx

=SUM(A1:A2)

A

B

1

2

2

3

3

? =SUM(A1:A2|)

4

5

6

7

8

```
> var val1 = 2;  
var val2 = 3;  
var sum = val1 + val2;
```

```
< undefined
```

```
>
```

- Detect when there's a change in one of the values
- Track the function that changes it
- Trigger the function again so it can update the final value

codepen.io/sdras/full/zYYzjBg

Proxies

Is an object that encases another object or function and allows you to intercept it.

```
new Proxy(target, handler)
```

```
const dinner = {  
  meal: 'tacos'  
}
```

```
const handler = {  
  get(target, prop) {  
    return target[prop]  
  }  
}
```

```
const proxy = new Proxy(dinner, handler)  
console.log(proxy.meal)
```

```
> tacos
```

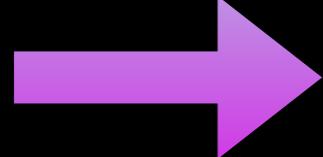
```
const dinner = {  
  meal: 'tacos'  
}
```

```
const handler = {  
  get(target, prop) {  
    console.log('intercepted!') ←  
    return target[prop]  
  }  
}
```

```
const proxy = new Proxy(dinner, handler)  
console.log(proxy.meal)
```

```
> intercepted! ←  
> tacos
```

```
const dinner = {  
  meal: 'tacos'  
}
```



```
const handler = {  
  get(target, prop) {  
    console.log('we swapped out your dinner!')  
    return 'burger'  
  }  
}
```

```
const proxy = new Proxy(dinner, handler)  
console.log(proxy.meal)
```

```
> we swapped out your dinner!  
> burger
```



```
const dinner = {  
  meal: 'tacos'  
}
```

```
const handler = {  
  get(target, prop) {  
    return target[prop]  
  }  
}
```

```
const proxy = new Proxy(dinner, handler)  
console.log(proxy.meal)
```

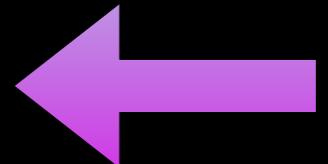
```
> tacos
```

```
const dinner = {  
  meal: 'tacos'  
}
```

REFLECT

Binds **this** properly

```
const handler = {  
  get(target, prop, receiver) {  
    return Reflect.get(...arguments)  
  }  
}
```



```
const proxy = new Proxy(dinner, handler)  
console.log(proxy.meal)
```

```
> tacos
```

TRACK (IN VUE)

Saves any changes

```
const dinner = {  
  meal: 'tacos'  
}
```

```
const handler = {  
  get(target, prop, receiver) {  
    track(target, key)  
    return Reflect.get(...arguments)  
  }  
}
```

```
const proxy = new Proxy(dinner, handler)  
console.log(proxy.meal)
```

```
> tacos
```

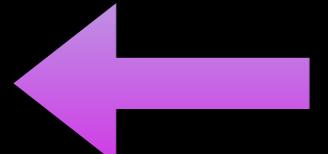
TRIGGER (IN VUE)

Runs the changes

```
const dinner = {  
  meal: 'tacos'  
}
```

```
const handler = {  
  get(target, prop, receiver) {  
    track(target, key)  
    return Reflect.get(...arguments)  
  },  
  set(target, key, value, receiver) {  
    trigger(target, key)  
    return Reflect.set(...arguments)  
  }  
}
```

```
const proxy = new Proxy(dinner, handler)
```



```
const dinner = {  
    meal: 'tacos'  
}  
  
const handler = {  
    get(target, prop, receiver) {  
        track(target, key)  
        return Reflect.get(...arguments)  
    },  
    set(target, key, value, receiver) {  
        let oldValue = target[key]  
        let result = Reflect.set(...arguments)  
        if (oldValue !== result) {  
            trigger(target, key)  
        }  
        return result  
    }  
}
```

- ~~Detect when there's a change in one of the values~~

TRACK

- Track the function that changes it (CALLED EFFECT)

TRIGGER

- Trigger the function again so it can update the final value

OTHER VUE 3 REACTIVITY NOTES

- Separate package- github.com/vuejs/vue-next/tree/master/packages/reactivity
- Proxies are ES6 (previously Object.defineProperty)

HOW DO
WATCHERS WORK?

0

Console

Clear



HTML

```
1 <div id="app">
2   <input type="number" v-model.number="counter"></input>
3 </div>
```

CSS (SCSS)

JS (Babel)

```
1 new Vue({
2   el: '#app',
3   data () {
4     return {
5       counter: 0
6     }
7   },
8   watch: {
9     counter() {
10       console.log('The counter has changed!')
11     }
12   }
13});
```

BASE CONCEPTS

- Set()
- Map()
- WeakMap()

Set()

A Set is a series of *only* values, (similar to an array), where any particular value can only be inserted once

Set()

```
const myLunchItems = new Set(['🌮', '🍔', '🌯'])  
console.log(myLunchItems)
```

OUTPUT

► *Set(2) {"🌮", "🍔"}*

Map()

A Map is a series of *keys and values*, similar to an object, but with some differences:

- Key/value pairs remember their explicit ordering
- Performs better in scenarios involving frequent additions and removals
- Like `Set()`, you can only add key/value pairs once
- It has some nice methods, like `size`, `has`, `set`, `clear`, `delete(key)`

Map()

```
> const newMap = new Map()  
< undefined  
  
> newMap.set('lunch1', '🌮')  
< ►Map(1) {"lunch1" => "🌮"}  
  
> newMap.set('lunch2', '🍔')  
< ►Map(2) {"lunch1" => "🌮", "lunch2" => "🍔"}  
  
> newMap.set('lunch1', '🌮')  
< ►Map(2) {"lunch1" => "🌮", "lunch2" => "🍔"}
```

WeakMap()

Similar to a Map(), but the references are held weakly. In other words, if you delete something,
the reference can be garbage collected

(in a Map() it can't)

* this also means it loses the implicit ordering





```
export default {
  data() {
    return {
      color: 'yellow',
      price: 15,
      brand: 'milkie',
      sizes: [6, 7, 8]
    }
  }
};
```

✨ More info! ✨

VUE MASTERY

vuemastery.com/courses/vue-3-reactivity/

HOW DOES THE
VIRTUAL DOM WORK?

The DOM

This is a webpage. This webpage has some text in a p tag. Below is a list:

- Thing
- Another thing

It's fun to make websites with
Vue you know? Some more text.

WHAT IS
HYDRATION?

Why Jamstack?

codepen.io/sdras/pen/NWqNBzV



Nuxt: Universal mode

`npm run generate`

Publish directory: `dist`

Deployed to Netlify

Netlify Functions



netlify

- Not having a single point of origin server
- Doesn't need to make subsequent requests
- Better security because they don't have access to the server



- Amazing performance
- Better security

codepen.io/sdras/pen/oNXgKQY

- How reactivity works
- How Vue 3 uses proxies
- How watchers work in Vue 3
- How the Virtual DOM works in Vue 3
- How and why Nuxt and Gridsome use prerendered content and how they then hydrate the DOM





The Progressive JavaScript Framework

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Résumé: "List your skills..."

Me:



o shit waddup!



THANK YOU!

@sarah_edo

@sarah_edo