Vue Events

Vue Events

- **Props** are used to pass data from a parent component to a child
- **Events** are used to pass data from a child component to its parent

- Events have a name and an optional payload
- Vue component instance methods
  - `$emit` publishes events
  - `$on` subscribes to events
- **`v-on`** (`@`) template directive also subscribes to an event

```
<div @event-name="expression">
```

- If ***`expression`*** is a method name,
  event arguments are passed to it

- Vue Devtools provides logging and filtering of all Vue events

Emitting Events

- Vue events emitted from a component can only be subscribed to from the same component instance in a parent component
- Not like DOM events that have a capture and bubbling phase
- For example, a child component named **`Child`** can emit an event named "foo" on a button click

```
<button @click="$emit('foo', value1, value2)">
  Alpha
</button>
```

in template of **`Child`** component

Subscribing to Events ...

- A parent component can subscribe to this event on an instance of **`Child`**

```
<Child @foo="parentMethod" />
```

in template of parent component

- The event payload values ***`value1`*** and ***`value2`*** are passed as separate arguments to **`parentMethod`**

… Subscribing to Events

- A component can subscribe to events it emits

```
<template>
  <div>
    <button @click="$emit('test', 1, 2)”>
      Trigger
    </button>
  </div>
</template>
<script>
export default {
  name: 'EventDemo',
  mounted() {
    this.$on('test', (n1, n2) => {
      console.log(n1, n2);
    });
  }
};
</script>
```

but it seems easier to just use a method

```
<template>
  <div>
    <button @click="test(1, 2)">
      Trigger
    </button>
  </div>
</template>
<script>
export default {
  name: 'EventDemo',
  methods: {
    test(n1, n1) {
     console.log(n1, n2);
    }
  }
};
</script>
```

Event Bus

- Pattern for sharing data between components that do not have a direct parent-child relationship
- Alternative to using a state management library like Vuex that some developers prefer

Event Bus Example

- All `Vue` objects support the methods `$emit`, `$on`, `$once`, and `$off`
- `$once` can be used in place of `$on` to only listen to next occurrence of a given event
- Create a `Vue` object and export it so all components that wish to publish or subscribe to events can do so using this object

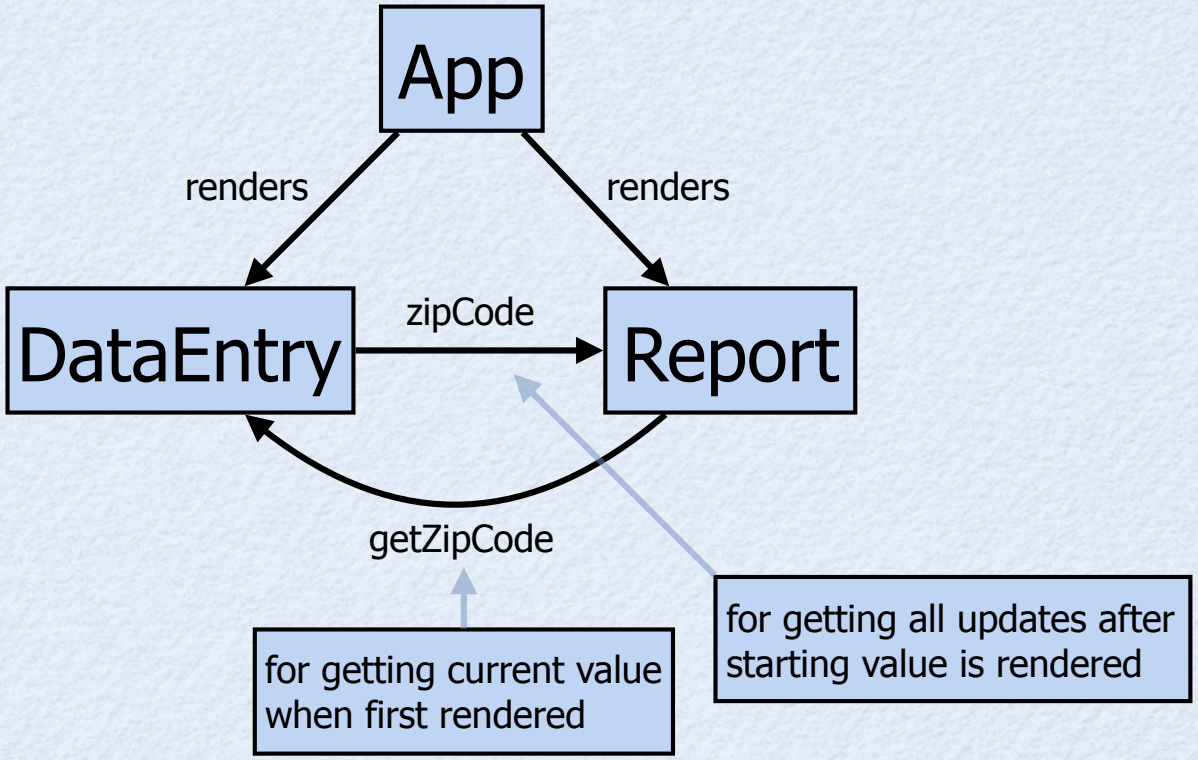
event.js

```
import Vue from 'vue';

export const EventBus = new Vue();
```

Event Bus - `App.vue`

- This component renders the **`DataEntry`** and **`Report`** components
- Provides a button to toggle whether **`Report`** component is rendered



Event Bus - App.vue

```
<template>
  <div>
    <DataEntry />
    <Report v-if="showReport" />
    <button @click="showReport = !showReport">
      Toggle Report
    </button>
  </div>
</template>

<script>
  import DataEntry from './components/DataEntry';
  import Report from './components/Report';
  export default {
    name: 'App',
    components: {DataEntry, Report},
    data() {
      return {showReport: true};
    }
  };
</script>
```

could use **v-show** instead of **v-if**, but we want to exercise the **mounted** method in **Report**

Event Bus - `DataEntry.vue`

- This component renders a number **`<input>`** for entering a zip code
- Emits **`zipCode`** event with value every time it changes
- Subscribes to **`getZipCode`** events and
  emits current value when one is received

Event Bus - DataEntry.vue

```
<template>
  <div>
    <label for="zipCode">Zip</label>
    <input type="number" v-model="zipCode" />
  </div>
</template>

<script>
  import {EventBus} from '../event';
  export default {
    name: 'DataEntry',
    data() {
      return {zipCode: 0};
    },
    mounted() {
      // When value of zipCode is requested, emit it.
      EventBus.$on('getZipCode',
        () => EventBus.$emit('zipCode', this.zipCode));
    },
    watch: {
      // When value of zipCode changes, emit it.
      zipCode() {
        EventBus.$emit('zipCode', this.zipCode);
      }
    }
  };
</script>
```

Event Bus - `Report.vue`

- This component displays current zip code
- **`mounted`** method
  - called every time an instance is rendered
  - subscribes to **`zipCode`** events to get value updates
  - emits a **`getZipCode`** event to get current value
- **`destroyed`** method
  - called when no longer rendered
  - unsubscribes from **`zipCode`** events

Event Bus - Report.vue

```
<template>
  <div>The zip code is now {{zipCode}}.</div>
</template>

<script>
  import {EventBus} from '../event';
  export default {
    name: 'Report',
    data() {
      return {
        listener: null,
        zipCode: 0
      };
    },
    mounted() {
      // Subscribe to "zipCode" event.
      this.listener = zipCode => (this.zipCode = zipCode);
      EventBus.$on('zipCode', this.listener);

      // Request current value.
      EventBus.$emit('getZipCode');
    },
    destroyed() {
      // Unsubscribe this listener from "zipCode" event.
      EventBus.$off('zipCode', this.listener);
    }
  };
</script>
```

Vuex

- A more robust approach to state management that is more complex and more capable than Event Bus approach
- Covered later