Interface interactions and animations

let's create a game with Vue.js

@krystalcampioni

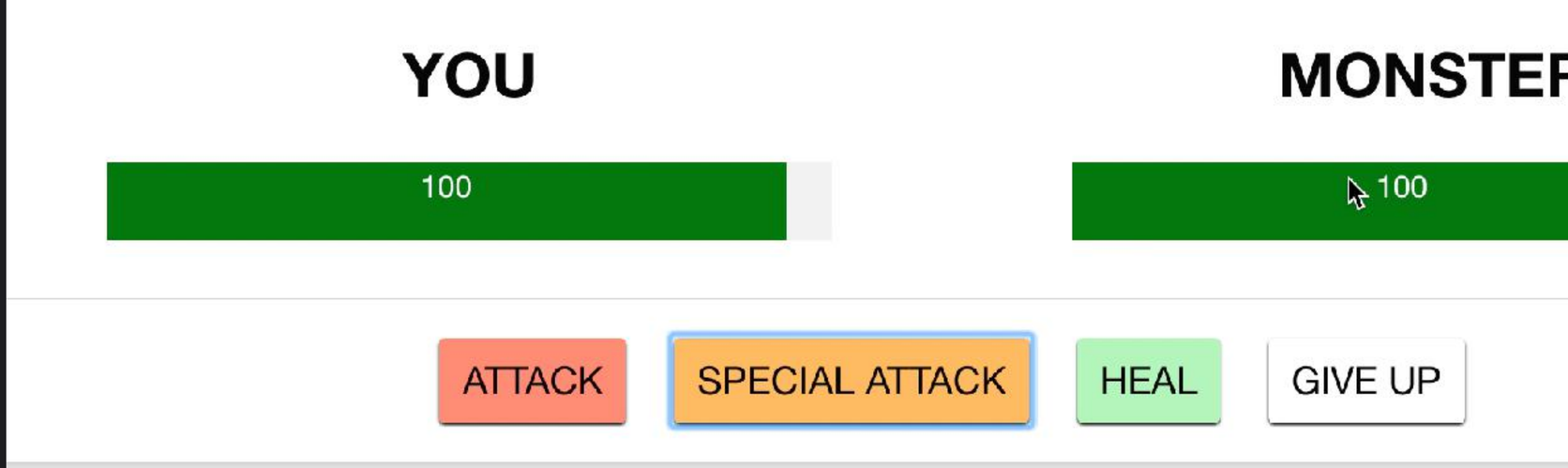
Oberlo shopify

Questions?

slido.com

#K100

WHAT ARE WE GOING TO BUILD?



REF: www.udemy.com/vuejs-2-the-complete-guide

WHAT ARE WE GOING TO BUILD?

REF: github.com/krystalcampioni/monster-slayer

FIRST OF ALL: WHAT IS VUE.JS?

- Approachable
- Versatile
- Performant
- Javascript
- Library/FrameworK

FIRST OF ALL: WHAT IS VUE.JS?

HTML

```html
<script src="https://unpkg.com/vue/dist/vue.js"></script>

<div id="app">
  <input type="text" v-on:input="changeTitle">
  <p v-text="title"></p>
</div>
```

CSS (SCSS)

JS

```js
new Vue({
  el: '#app',
  data: {
    title: 'Hello World!'
  },
  methods: {
    changeTitle: function(event) {
      this.title = event.target.value;
    }
  }
})
```

Hello World!

FIRST OF ALL: WHAT IS VUE.JS?

- npm install -g vue-cli
- vue init template-name project-name
- e.g. vue init webpack myproject

VUE CLI: github.com/vuejs/vue-cli

~

localhost:8080

Welcome to Your Vue.js App

Essential Links

Core Docs Forum Gitter Chat Twitter
Docs for This Template

Ecosystem

vue-router vuex vue-loader awesome-vue

THE .VUE FILE

```
<template>
  <div class="hello">
    <h1>{{ msg }}</h1>
  </div>
</template>

<script>
export default {
  name: 'HelloWorld',
  data () {
    return {
      msg: 'Hello World!'
    }
  }
}
</script>

<style>
  h1 {
    color: #2cd1af
  }
</style>
```

THE .VUE FILE

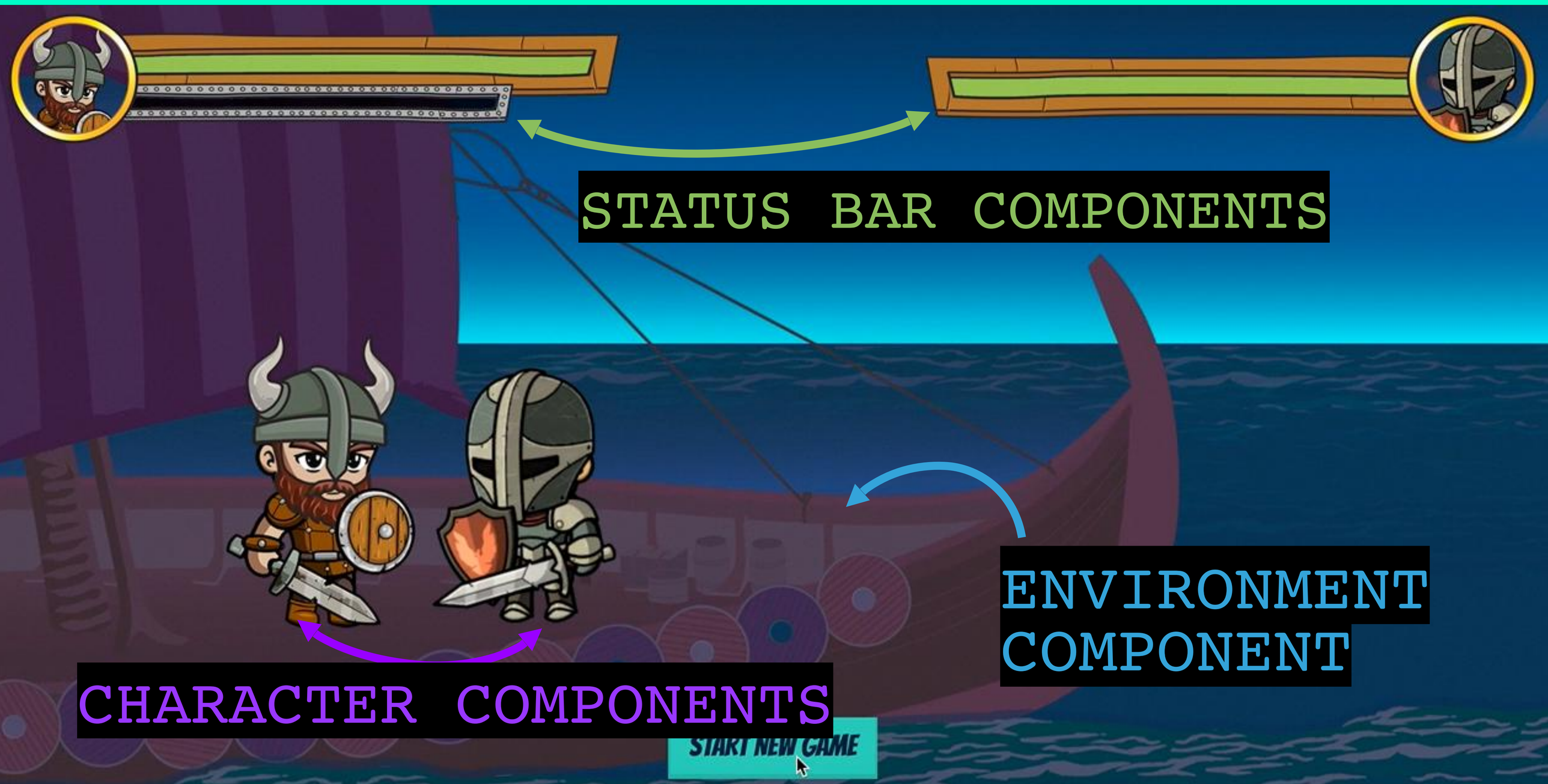
```
<template>
  <div class="hello">
    <h1>{{ msg }}</h1>
  </div>
</template>

<script>
export default {
  name: 'HelloWorld',
  data () {
    return {
      msg: 'Hello World!'
    }
  }
}
</script>

<style>
  h1 {
    color: #2cd1af
  }
</style>
```

```
<template lang='pug'>
  .hello
    h1 {{ msg }}
</template>

<script>
export default {
  name: 'HelloWorld',
  data () {
    return {
      msg: 'Hello World!'
    }
  }
}
</script>

<style lang='scss' scoped>
  h1 {
    color: $main-color;
  }
</style>
```

```
NPM INSTALL PUG --SAVE-DEV
```

```
NPM INSTALL SASS-LOADER NODE-SASS --SAVE-DEV
```

USING COMPONENTS

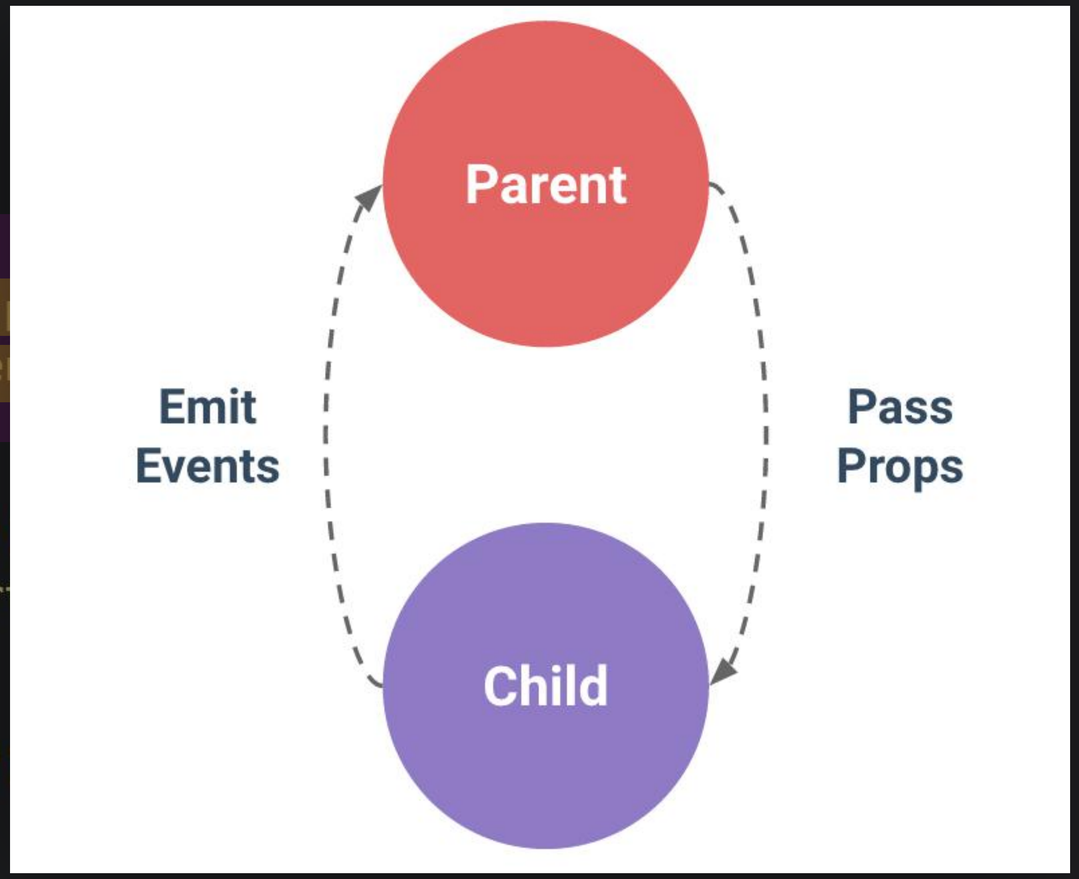


APP.VUE FILE

```
<template lang="pug">
  #app
    .row-fixed-top
      StatusBar(:character='player' :hasMana='true')
      StatusBar(:character='enemy' :hasMana='false')

    Environment
      Character(characterName='viking' :animationName='player.animation')
      Character(characterName='enemy' :animationName='enemy.animation')

    transition(name="bounce"  mode="out-in")
      .controls(v-if="!gameIsRunning" key="startButton")
        button.controls__button.-startGame(@click="startGame") START NEW GAME

      .controls(v-else key="gameControls")
        button.controls__button.-attack(@click="attack") ATTACK
        button.controls__button.-specialAttack(
          @click="specialAttack"
          :class='{ "-isDisabled" : player.mana !== 100}'
        ) SPECIAL ATTACK
        button.controls__button(@click="giveUp") Give up!
</template>
```

APP.VUE FILE

```
<template lang="pug">
  #app
    .row-fixed-top
      StatusBar(:character='player' :hasMana='true')
      StatusBar(:character='enemy' :hasMana='false')

    Environment
      Character(characterName='viking' :animationName='
      Character(characterName='enemy' :animationName='e

    transition(name="bounce"  mode="out-in")
      .controls(v-if="!gameIsRunning" key="startButton"
        button.controls__button.-startGame(@click="star

      .controls(v-else key="gameControls")
        button.controls__button.-attack(@click="attack"
        button.controls__button.-specialAttack(
          @click="specialAttack"
          :class='{ "-isDisabled" : player.mana !== 100}'
        ) SPECIAL ATTACK
        button.controls__button(@click="giveUp") Give up!
</template>
```



APP.VUE FILE

```
<template lang="pug">
  #app
    .row-fixed-top
      StatusBar(:characte
      StatusBar(:characte

    Environment
      Character(character
      Character(characte

    transition(name="boun
      .controls(v-if="!ga
        button.controls__

      .controls(v-else ke
        button.controls__
        button.controls__
          @click="special
          :class='{ "-isD
        ) SPECIAL ATTACK
        button.controls__
</template>
```

```
<template lang="pug">
  .background
    ul.clouds
      li(v-for='n in 10')
        img.clouds__cloud( src='@/images/background/cloud.png'
    .ocean
      .ocean__back-wave(v-for='n in 3')
    .ship
      slot
      .ocean__front-wave
</template>

<script>
export default {
  name: 'Environment'
}
</script>
```

APP.VUE FILE

```
<template lang="pug">
  #app
    .row-fixed-top
      StatusBar(:characte
      StatusBar(:characte

    Environment
      Character(character
      Character(character

    transition(name="boun
      .controls(v-if="!ga
        button.controls__

      .controls(v-else ke
        button.controls__
        button.controls__
          @click="special
          :class='{ "-isD
        ) SPECIAL ATTACK
        button.controls__
</template>
```

```
<template lang="pug">
  .background
    ul.clouds
      li(v-for='n in 10')
        img.clouds__cloud( src='@/images/background/cloud.png'
    .ocean
      .ocean__back-wave(v-for='n in 3')
      slot(name='ocean')
    .ship
      slot(name='ship')
      .ocean__front-wave
</template>
<script>
export default {
  name: 'Environment'
}
</script>
```

ENVIRONMENT.VUE FILE

```
.clouds {
```

```
@keyframes front-wave {
  0% {
    background-position: 100vw 0;
    transform: translate(0, 0)  rotate(1deg);
  }
  50% {
    background-position: 0 0;
    transform: translate(10px, -20px)  rotate(-5deg);
  }
  100% {
    background-position: -100vw 0;
    transform: translate(0, 0)  rotate(1deg);
  }
}
```

```
animation-direction: normal;
animation-iteration-count: infinite;
animation-name: horizontal-scroll;
animation-timing-function: linear;
animation-duration: (5 * ($i * 2))+(s);
opacity: (.25 * $i);
will-change: auto;
}
}
}
```

```
<template lang="pug">
  .background
    ul.clouds
      li(v-for='n in 10')
        img.clouds__cloud( src='@/images/background/cloud.png')
    .ocean
      .ocean__back-wave(v-for='n in 3')
    .ship
      slot
      .ocean__front-wave
</template>

<script>
export default {
  name: 'Environment'
```

```
@keyframes horizontal-scroll {
  from { right: -100vw }
  to { right: 100vw }
}
```

APP.VUE FILE

```
<script>
import Character from '@/components/Character'
import Environment from '@/components/Environment'
import StatusBar from '@/components/StatusBar'

export default {
  name: 'app',

  components: {
    Character,
    Environment,
    StatusBar
  },
```

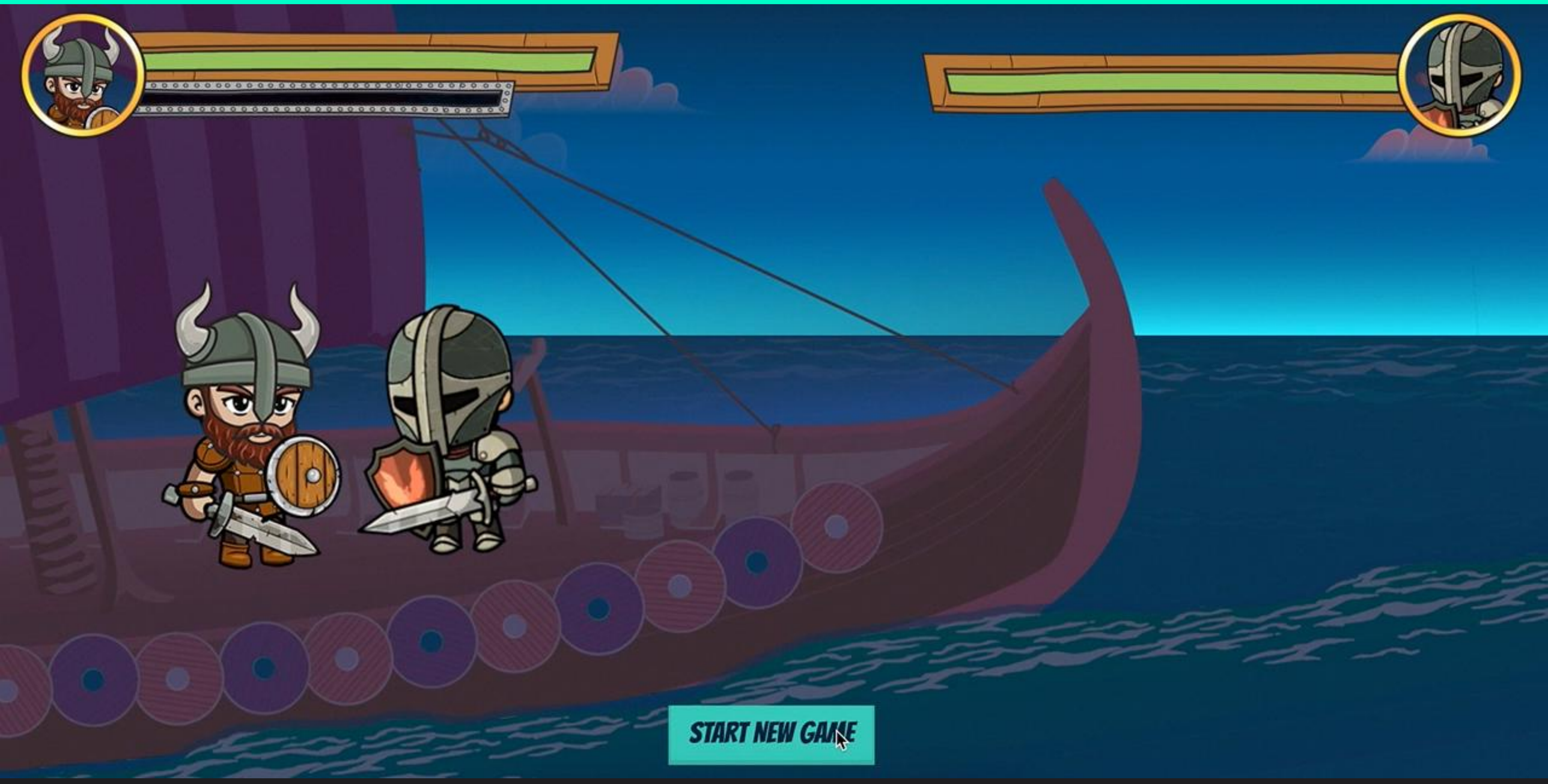
APP.VUE FILE

```
data() {
  return {
    player: {
      animation: 'idle',
      imagePath: require(`@/images/viking/profile.jpg`),
      health: 100,
      mana: 0,
    },
    enemy: {
      animation: 'idle',
      imagePath: require(`@/images/enemy/profile.jpg`),
      health: 100,
    },
    gameIsRunning: false,
    animationDelay: 300,
  }
},
```

APP.VUE FILE

```
methods: {

    updateAnimation(character, newValue, oldValue){⋯

    startGame() {⋯

    attack() {⋯

    increaseMana() {⋯

    specialAttack() {⋯

    heal() {⋯

    enemyAttacks() {⋯

    calculateDamage(min, max) {⋯

    checkWin() {⋯
},
```

THE GAME SEQUENCE



THE GAME SEQUENCE

```
.controls(v-else key="gameControls")
  button.controls__button.-attack(@click="attack") ATTACK
  button.controls__button.-specialAttack(
    @click="specialAttack"
    :class='{ "-isDisabled": player.mana <= 100}'
  ) SPECIAL ATTA
  button.control
```

```
attack() {
  this.increaseMana();
  this.updateAnimation(this.player, 'idle', 'attacking');
  var damage = this.calculateDamage(5, 10);
  this.enemy.health -= damage;

  if (this.isGameOver()) {
    return;
  }
  this.enemyAttacks();
},
```

THE GAME SEQUENCE

```
.controls(v-else key="gameControls")
  button.controls__button.-attack(@click="attack") ATTACK
  button.controls__button.-specialAttack(
    @click="specialAttack"
    :class='{ "-isDisabled": player.mana <= 100}'
  ) SPECIAL ATTA
  button.control
```

```
attack() {
  this.increaseMana();
  this.updateAnimation(this.player, 'idle', 'attacking');
  var damage = this.calculateDamage(5, 10);
  this.enemy.health -= damage;

  if (this.isGameOver()) {
    return;
  }
  this.enemyAttacks();
},
```

THE GAME SEQUENCE

```
attack() {
  this.increaseMana();
  this.updateAnimation(this.player, 'idle', 'attacking');
  var damage = this.calculateDamage(5, 10);
  increaseMana() {
    if (this.player.mana < 100) {
      this.player.mana += 25
    }
  },
  this.enemyAttacks();
},
```

THE GAME SEQUENCE

```
attack() {
    this.increaseMana();
    this.updateAnimation(this.player, 'idle', 'attacking');
    var damage = this.calculateDamage(5, 10);
    this.enemy.health -= damage;
```

```
updateAnimation(character, afterAnimation, currentAnimation){
    character.animation = currentAnimation;

    setTimeout(() => {
        character.animation = afterAnimation;
    }, this.animationDelay);
},
```

```
},
```

THE GAME SEQUENCE

```
attack() {
  this.increaseMana();
  this.updateAnimation(this.player, 'idle', 'attacking');
  var damage = this.calculateDamage(5, 10);
  this.enemy.health -= damage;

  calculateDamage(min, max) {
    return Math.max(Math.floor(Math.random() * max) + 1, min);
  },
  this.enemyAttacks();
},
```

THE GAME SEQUENCE

```
attack() {
  this.increaseMana();
  this.updateAnimation(this.playe
  var damage = this.calculateDama
  this.enemy.health -= damage;

  if (this.isGameOver()) {
    return;
  }
  this.enemyAttacks();
},
```

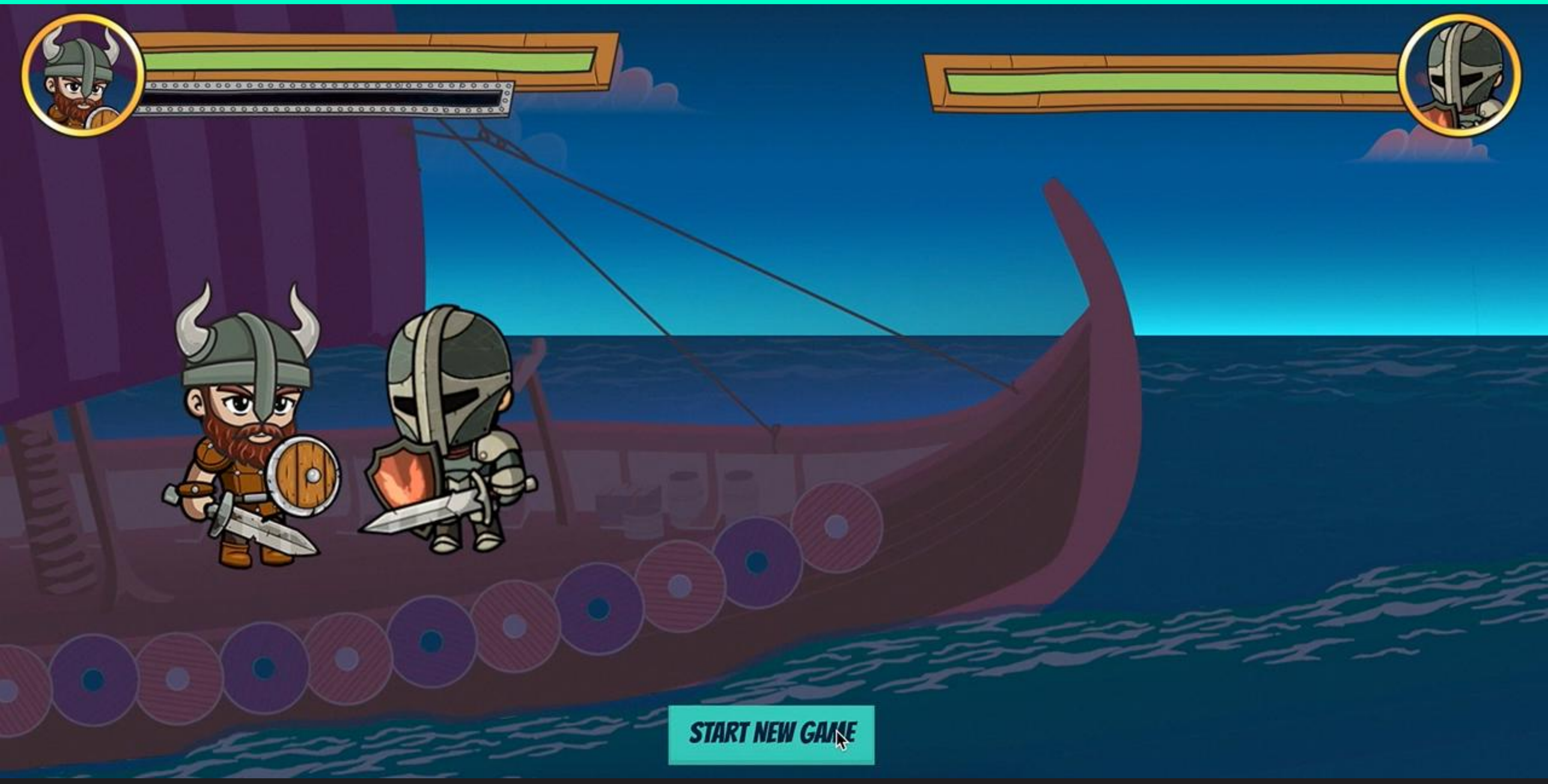
```
data() {
  return {
    player: {
      animation: 'idle',
      imagePath: require(`@/images/viking/
      health: 100,
      mana: 0,
    },
    enemy: {
      animation: 'idle',
      imagePath: require(`@/images/enemy/p
      health: 100,
    },
    gameIsRunning: false,
    animationDelay: 300,
  }
},
```

THE GAME SEQUENCE

```
attack() {
  this.increaseMana();
  this.updateAnimation(this
  var damage = this.calcula
  this.enemy.health -= dama

  if (this.isGameOver()) {
    return;
  }
  this.enemyAttacks();
},
```

```
isGameOver() {
  if (this.enemy.health <= 0) {
    this.updateAnimation(this.enemy, 'dead', 'dying');
    this.dialogTitle = 'You won!';
    this.showDialog = true;
    return true;

  } else if (this.player.health <= 0) {
    this.updateAnimation(this.player, 'dead', 'dying');
    this.dialogTitle = 'You lost!';
    this.showDialog = true;
    return true;
  }
  return false;
}
```

THE GAME SEQUENCE



CHARACTER.VUE FILE

```
<template lang="pug">
  .character(:style='inlineStyle')
</template>

<script>
export default {
  name: 'Character',

  props: {
    characterName: String,
    animationName: String
  },

  computed: {
    inlineStyle() {
      return `background-image: url(${this.characterImagePath}); animation-name: ${this.animationName}`
    },
    characterImagePath() {
      return require(`@/images/${this.characterName}/animations.png`)
    }
  },
}
</script>
```

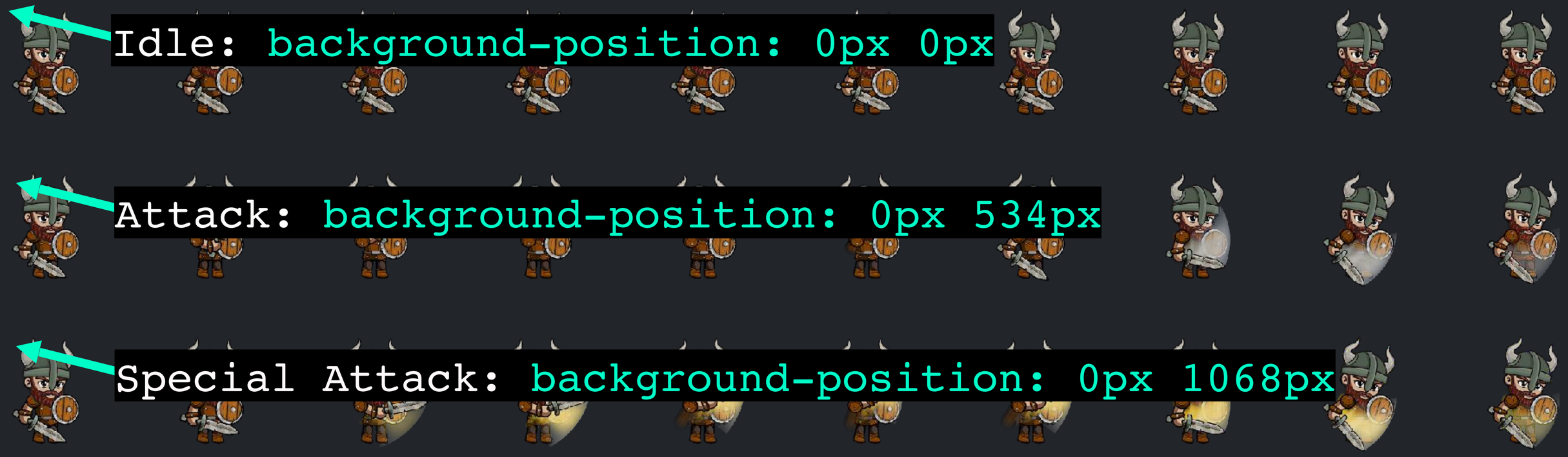
SPRITE ANIMATIONS

background-size: 5345px

SPRITE ANIMATIONS

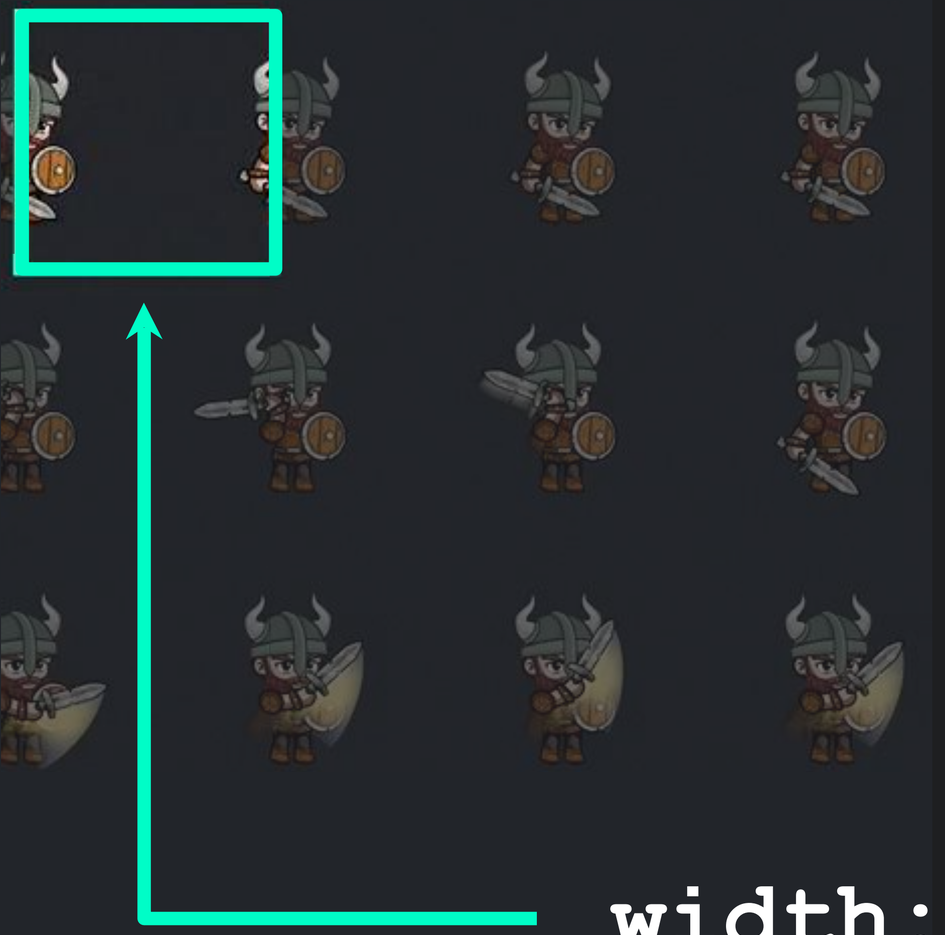
10 steps

SPRITE ANIMATIONS




```
@keyframes idle {
  from { background-position: 0 0; }
  to { background-position: -5345px 0; }
}
```

SPRITE ANIMATIONS



width:
height

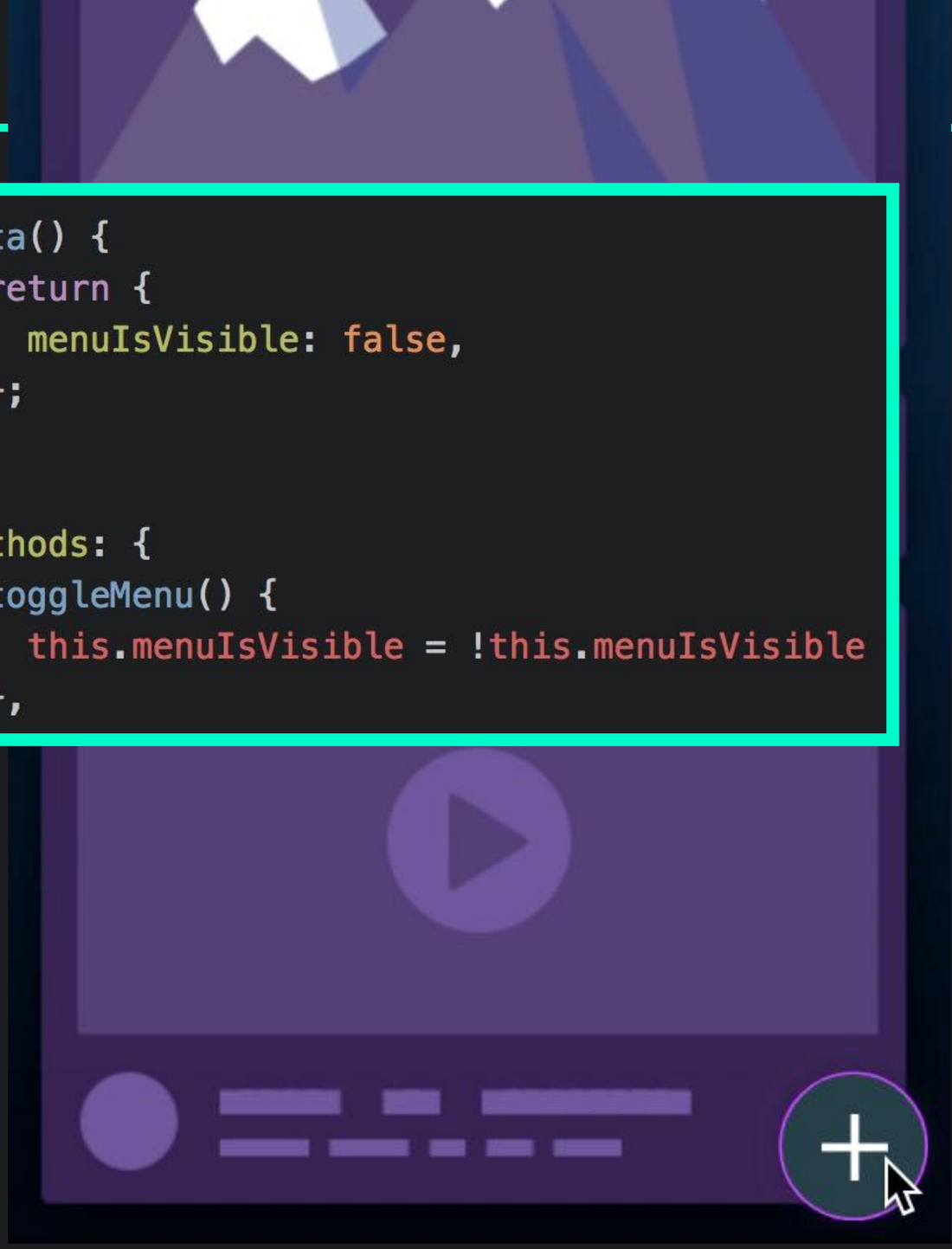
```
.character {
  position: absolute;
  z-index: 100;
  width: 530px;
  height: 530px;
  background-size: 5345px;
  animation-duration: .8s;
  animation-timing-function: steps(10);
  animation-iteration-count: infinite;

  &.enemy {
    transform: scale(-1, .1);
  }
```

SOME REAL LIFE EXAMPLES NOW

FLOATING BUTTON MENU

```
<template lang='pug'>
  .floating-menu__wrapper
    transition(name="fade")
      .floating-menu__overlay(
        v-if="menuIsVisible"
        @click='toggleMenu'
      )
    button.floating-menu__button(
      @click='toggleMenu'
    )
    a.floating-menu__child(
      v-for='(item, index) in childButtons'
      v-bind:key='index'
      :href='item.link'
      :style='calculateButtonStyle(index)'
    )
      img.floating-menu__child-img(:src='item.icon')
</template>
```

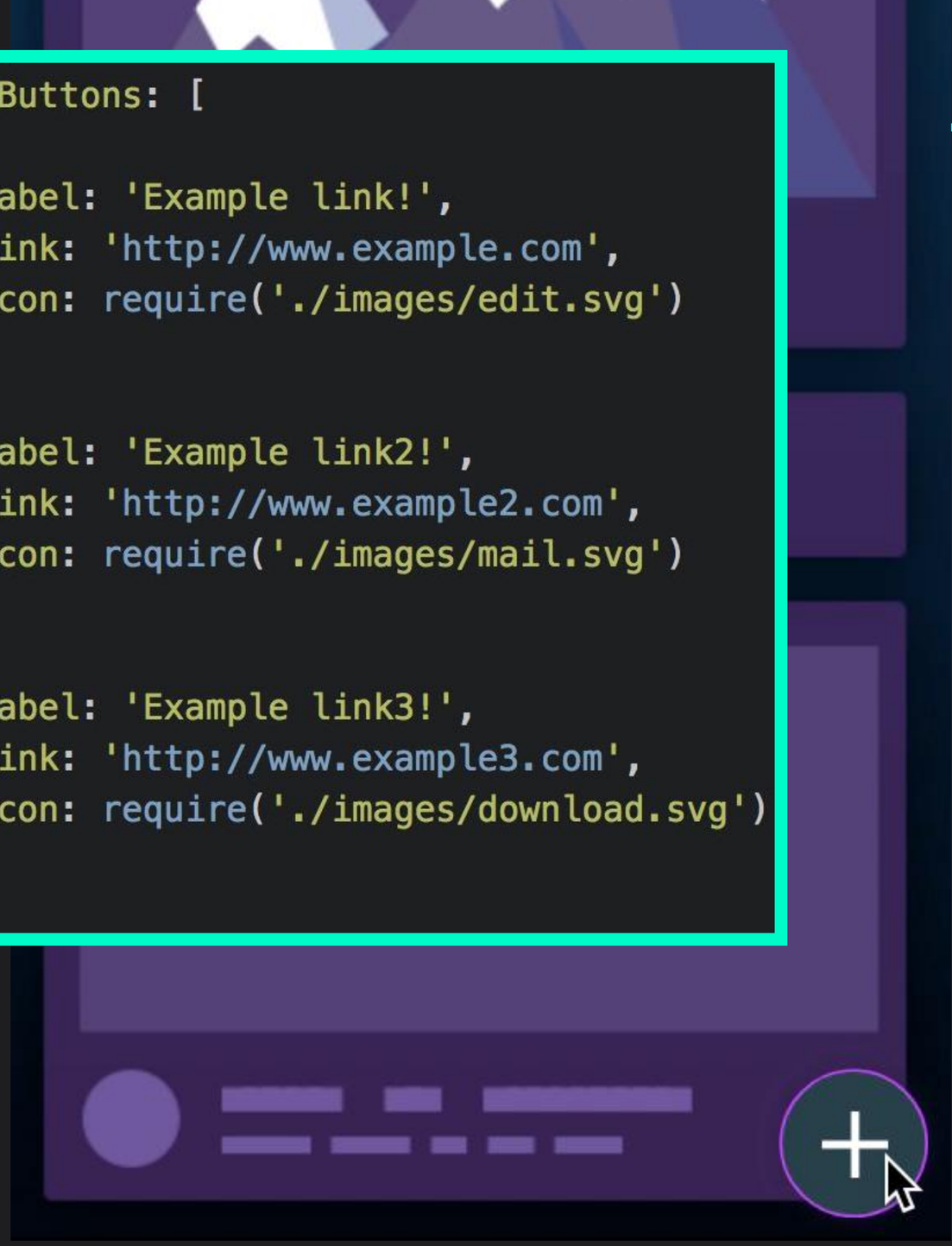
```
data() {
  return {
    menuIsVisible: false,
  };
},

methods: {
  toggleMenu() {
    this.menuIsVisible = !this.menuIsVisible
  },
```



FLOATING BUTTON MENU

```pug
<template lang='pug'>
  .floating-menu__wrapper
    transition(name="fade")
      .floating-menu__overlay(
        v-if="menuIsVisible"
        @click='toggleMenu'
      )
    button.floating-menu__button(
      @click='toggleMenu'
    )
    a.floating-menu__child(
      v-for='(item, index) in childButtons'
      v-bind:key='index'
      :href='item.link'
      :style='calculateButtonStyle(index)'
    )
      img.floating-menu__child-img(:src='item.icon')
</template>
```

```
childButtons: [
  {
    label: 'Example link!',
    link: 'http://www.example.com',
    icon: require('./images/edit.svg')
  },
  {
    label: 'Example link2!',
    link: 'http://www.example2.com',
    icon: require('./images/mail.svg')
  },
  {
    label: 'Example link3!',
    link: 'http://www.example3.com',
    icon: require('./images/download.svg')
  }
],
```



FLOATING BUTTON MENU

```pug
<template lang='pug'>
  .floating-menu__wrapper
    transition(name="fade")
      .floating-menu__overlay(
        v-if="menuIsVisible"
        @click='toggleMenu'
      )
    button.floating-menu__butto
      @click='toggleMenu'
    )
    a.floating-menu__child(
      v-for='(item, index) in c
      v-bind:key='index'
      :href='item.link'
      :style='calculateBtnStyle(index)'
    )
      img.floating-menu__child-img(:src='item.icon')
</template>
```

```ts
calculateBtnStyle(index) {
  return {
    'bottom': `${this.menuIsVisible ? (index + 1.3) * 50 : 0}px`,
    'transition-delay': `${index * .1}s`,
    'transform': `scale(${this.menuIsVisible ? 1 : .5})`,
  };
}
```

FLOATING BUTTON MENU

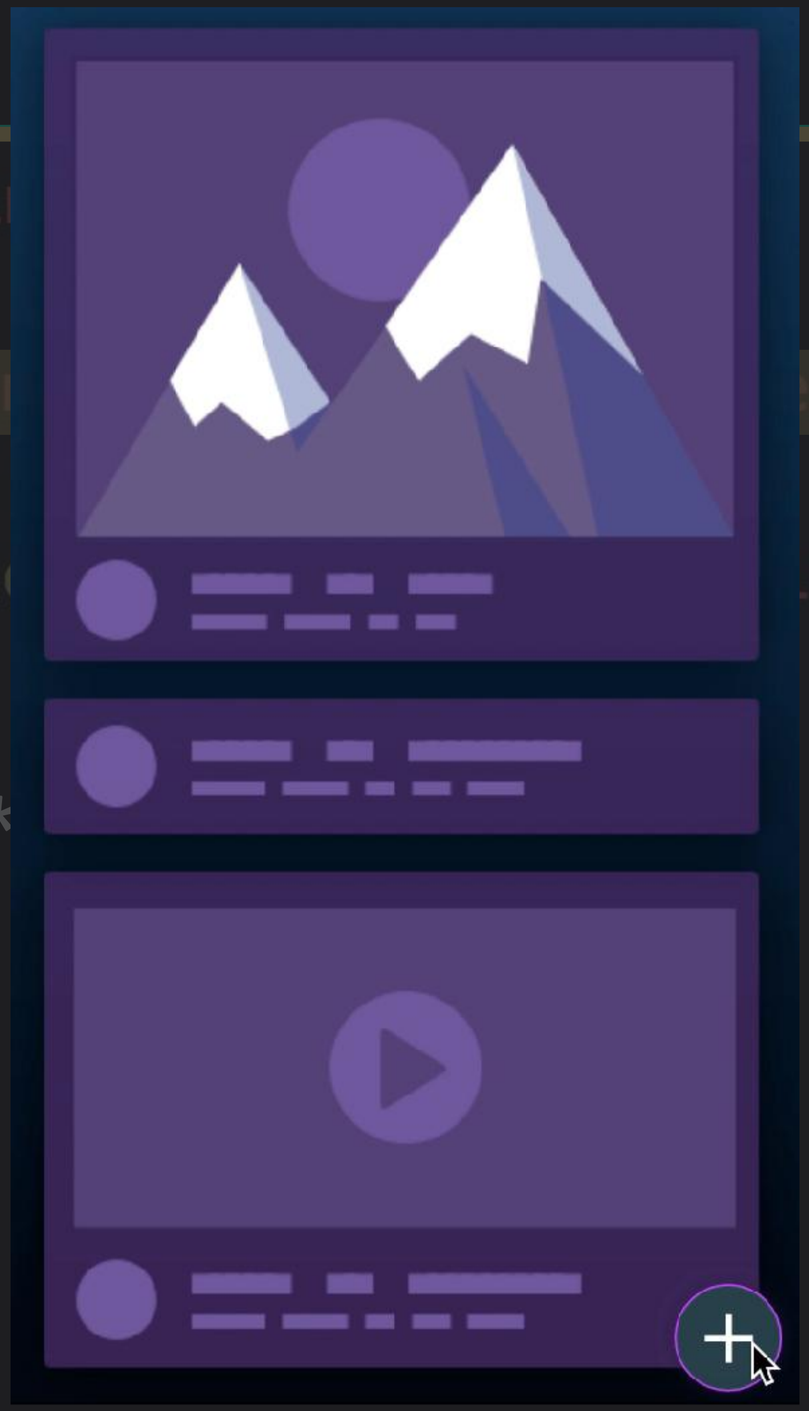
```
calculateButtonStyle(index) {
  return {
    'bottom': `${this.menuIsVisible ? (index + 1.3) * 50 : 0}px`,
    'transition-delay': `${index * .1}s`,
    'transform': `scale(${this.menuIsVisible ? 1 : .5})`,
  };
}
```

```
// 1.3  * 50 = 65x
// 2.3 * 50  =  115px
// 3.3 * 50  =  165px
...
```

FLOATING BUTTON MENU

```
calculateButtonStyle(i
  return {
    'bottom': `${this.                    ex + 1.3) * 50 : 0}px`,
    'transition-delay'
    'transform': `scal                    .e ? 1 : .5})`,
  };
}
```

```
// 1.3   *
// 2.3 *
// 3.3 *
...
```



COLLAPSIBLE CONTENT COMPONENT

```
<template lang="pug">
  .content-wrapper
    .-hidden-content(:class='hiddenContentClass')
      p.text
        slot
    button.read-more(v-on:click='show = !show')
      .read-more__icon(:class='toggleButtonClass')
      | {{ readMoreText }}
</template>
```

COLLAPSIBLE CONTENT COMPONENT

```
<script>
export default {
  name: 'CollapsibleContent',

  data() {
    return {
      show: false,
    }
  },

  computed: {
    hiddenContentClass: function(){
      return  this.show ? '-is-open' : '-is-collapsed';
    },
    toggleButtonClass: function(){
      return  this.show ? 'read-more__icon--is-open' : 'read-more__icon--is-collapsed';
    },
    readMoreText() {
      return this.show ? 'Show less' : 'Show more';
    }
  },
}
</script>
```

COLLAPSIBLE CONTENT COMPONENT

```sass
.read-more__icon {
  width: 18px;
  height: 18px;
  border-radius: 50%;
  border: 2px solid $primary-color;
  position: relative;

  &::before,
  &::after {
    transition: all .5s cubic-bezier(.68, -.55, .27, 1.55);
    width: 10px;
    height: 2px;
    background: $primary-color;
    content: ' ';
    left: 2px;
    top: 6px;
    position: absolute;
  }
  &--is-collapsed::before { transform: rotate(270deg); }
  &--is-collapsed::after { transform: rotate(180deg); }
}
```

@krystalcampioni