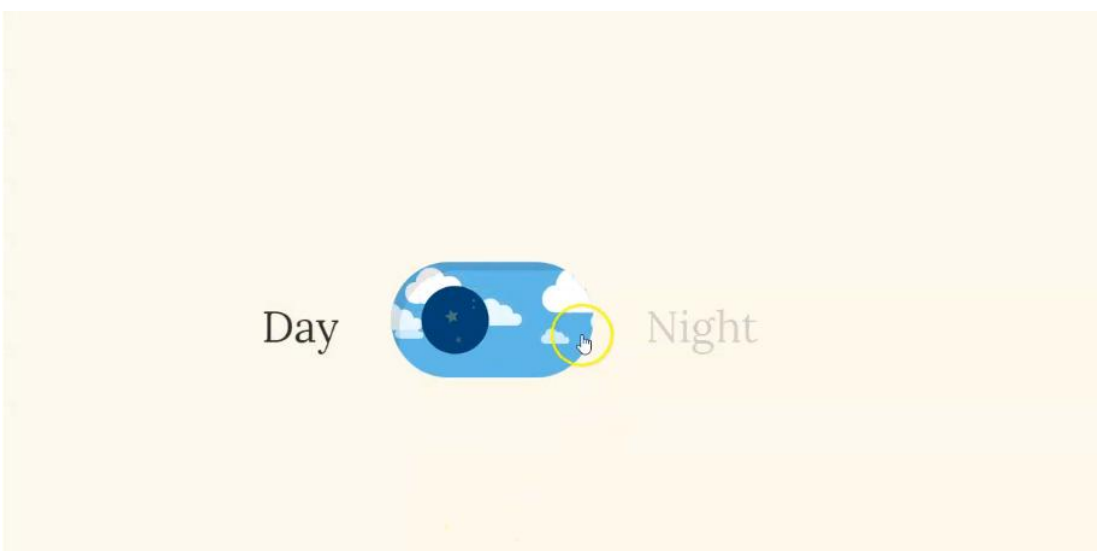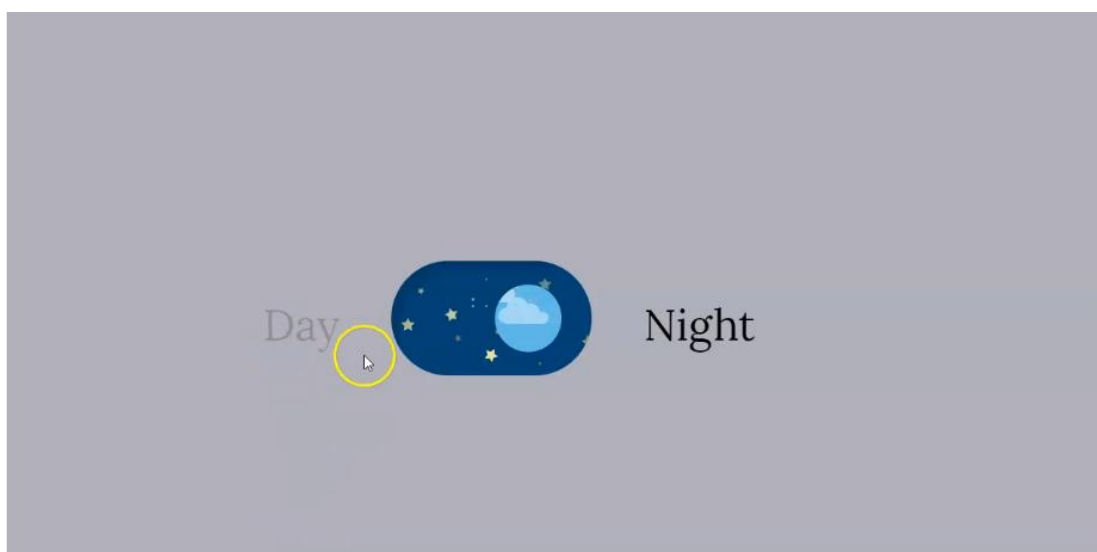# XMU-China iGEM 2022 队员周报

校区： 翔安校区 年级： 2020 日期： 4/10

一、课题设计相关内容

这两周在学习 CSS 动画相关的内容。

二、实验进度内容

一、Day-Night-Toggle-With-Background-Animation

（2）CSS 代码

```css
1   @import url('https://fonts.googleapis.com/css?family=Lora&display=swap');
2
3   body, html
4   {
5     margin: 0;
6     padding: 0;
7     width: 100%;
8     height: 100%;
9     overflow: hidden;
10    font-family: 'Lora', serif;
11    color: ☐#303030;
12  }
13
14  .night-label{
15    opacity: 0.2;
16  }
17
18  body
19  {
20    display: flex;
21    align-items: center;
22    justify-content: center;
23    background-color: ☐#FEF9EA;
24  }
25
26  .layout
27  {
28    width: 70vw;
29    max-width: 300px;
30    min-width: 250px;
31    height: 30vh;
32    display: grid;
33    grid-template-columns: 1fr 2fr 1fr;
34    justify-content: center;
35    align-items: center;
36    gap: 30px;
```

```css
37          font-size: 25px;
38      }
39
40      .layout:nth-child(1)
41      {
42          text-align: right;
43      }
44
45      svg
46      {
47        width: 100%;
48        height: 100%;
49        cursor: pointer;
50      }
51
52      #night-content
53      {
54        opacity: 0.5;
55      }
56
57      .inner-shadow
58      {
59        stroke-opacity: 0.1;
60        stroke-width: 5;
61        stroke: ☐black;
62        fill: none;
63      }
64
65      .container input {
66        position: absolute;
67        opacity: 0;
68        cursor: pointer;
69        height: 0;
70        width: 0;
71      }
```

（3）JS 代码

```javascript
console.clear();

let duration = 0.4;
let isDay = true;

let back = document.getElementById("back");
let front = document.getElementById("front");

let switchTime = () => {
  back.setAttribute("href", "#" + (isDay ? "day" : "night"));
  front.setAttribute("href", "#" + (isDay ? "night" : "day"));
};
let scale = 30;
let toNightAnimation = gsap.timeline();

toNightAnimation
  .to("#night-content", {
    duration: duration * 0.5,
    opacity: 1,
    ease: "power2.inOut",
    x: 0,
  })
  .to(
    "#circle",
    {
      duration: duration,
      ease: "power4.in",
      scaleX: scale,
      scaleY: scale,
      x: 1,
      transformOrigin: "100% 50%",
    },
    0
  )
```
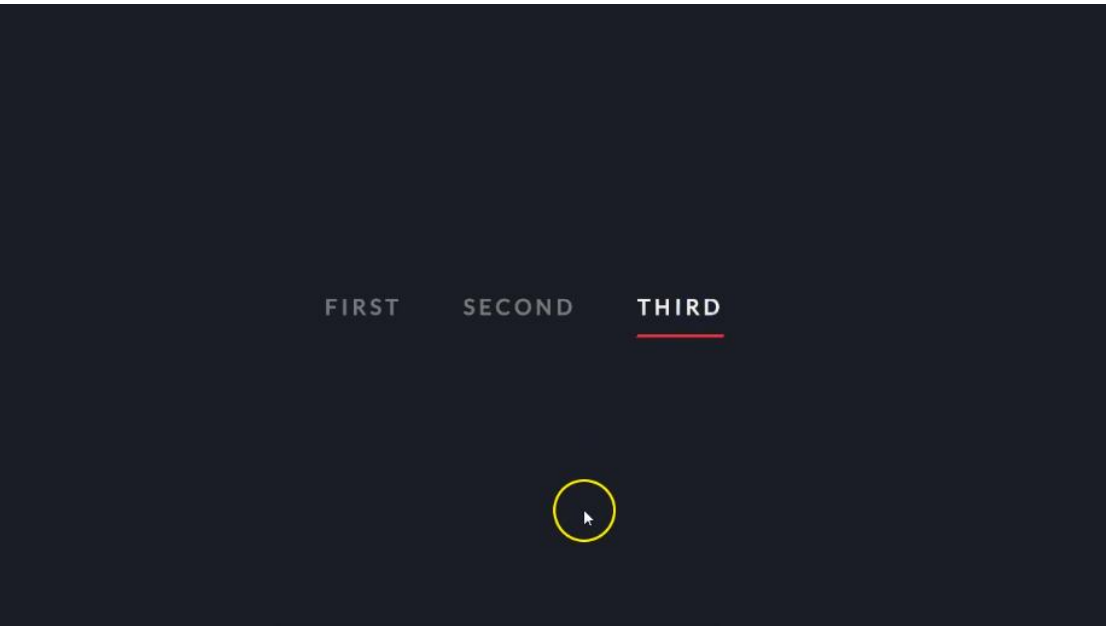
```
35      .to(
36        ".day-label",
37        { duration: duration * 2, ease: "power2.inOut", opacity: 0.2 },
38        0
39      )
40      .to(
41        ".night-label",
42        { duration: duration * 2, ease: "power2.inOut", opacity: 1 },
43        0
44      )
45      .set(
46        "#circle",
47        {
48          // transformOrigin: '0% 50%',
49          scaleX: -scale,
50          // x: 8.5,
51          onUpdate: () => switchTime(),
52        },
53        duration
54      )
55      .to(
56        "#circle",
57        {
58          duration: duration,
59          ease: "power4.out",
60          scaleX: -1,
61          scaleY: 1,
62          x: 2,
63        },
64        duration
65      )
66      .to(
67        "#day-content",
68        { duration: duration * 0.5, opacity: 0.5 },
69        duration * 1.5
```

```
70        )
71        .to(
72          "body",
73          { backgroundColor: "#b0b0b9", color: "black", duration: duration * 2 },
74          0
75        );
76
77    let stars = Array.from(document.getElementsByClassName("star"));
78    stars.map((star) =>
79      gsap.to(star, {
80        duration: "random(0.4, 1.5)",
81        repeat: -1,
82        yoyo: true,
83        opacity: "random(0.2, 0.5)",
84      })
85    );
86    gsap.to(".clouds-big", { duration: 15, repeat: -1, x: -74, ease: "linear" });
87    gsap.to(".clouds-medium", { duration: 20, repeat: -1, x: -65, ease: "linear" });
88    gsap.to(".clouds-small", { duration: 25, repeat: -1, x: -71, ease: "linear" });
89
90    let switchToggle = document.getElementById("input");
91    switchToggle.addEventListener("change", () => toggle());
92
93    let toggle = () => {
94      isDay = switchToggle.checked == true;
95      if (isDay) {
96        toNightAnimation.reverse();
97      } else {
98        toNightAnimation.play();
99      }
100   };
101
102   if (CodePen.isThumbnail) toggle();
103
104   toNightAnimation.reverse();
105   toNightAnimation.pause();
```

二、Stretch And Expand Underline On Click Navigation

（1）JS 代码

```js
1    var nav = $('nav');
2    var line = $('<div />').addClass('line');
3
4    line.appendTo(nav);
5
6    var active = nav.find('.active');
7    var pos = 0;
8    var wid = 0;
9
10   if(active.length) {
11     pos = active.position().left;
12     wid = active.width();
13     line.css({
14       left: pos,
15       width: wid
16     });
17   }
18
19   nav.find('ul li a').click(function(e) {
20     e.preventDefault();
21     if(!$(this).parent().hasClass('active') && !nav.hasClass('animate')) {
22
23       nav.addClass('animate');
24
25       var _this = $(this);
26
27       nav.find('ul li').removeClass('active');
28
29       var position = _this.parent().position();
30       var width = _this.parent().width();
31
32       if(position.left >= pos) {
33         line.animate({
34           width: ((position.left - pos) + width)
35         }, 300, function() {
36           line.animate({
```

```
34          width: ((position.left - pos) + width)
35        }, 300, function() {
36          line.animate({
37            width: width,
38            left: position.left
39          }, 150, function() {
40            nav.removeClass('animate');
41          });
42          _this.parent().addClass('active');
43        });
44      } else {
45        line.animate({
46          left: position.left,
47          width: ((pos - position.left) + wid)
48        }, 300, function() {
49          line.animate({
50            width: width
51          }, 150, function() {
52            nav.removeClass('animate');
53          });
54          _this.parent().addClass('active');
55        });
56      }
57
58      pos = position.left;
59      wid = width;
60    }
61  });
```

（2）CSS 代码

```css
* {
  box-sizing: border-box;
}

body {
  background: #1A1E23;
  font-family: "Lato", sans-serif;
  -webkit-font-smoothing: antialiased;
}

nav {
  position: relative;
  padding-bottom: 12px;
}
nav .line {
  height: 2px;
  position: absolute;
  bottom: 0;
  margin: 10px 0 0 0;
  background: #FF1847;
}
nav ul {
  padding: 0;
  margin: 0;
  list-style: none;
  display: flex;
}
nav ul li {
  margin: 0 40px 0 0;
  opacity: 0.4;
  transition: all 0.4s ease;
}
nav ul li:hover {
  opacity: 0.7;
}
```

```css
36   nav ul li.active {
37     opacity: 1;
38   }
39   nav ul li:last-child {
40     margin-right: 0;
41   }
42   nav ul li a {
43     text-decoration: none;
44     color: #fff;
45     text-transform: uppercase;
46     display: block;
47     font-weight: 600;
48     letter-spacing: 0.2em;
49     font-size: 14px;
50   }
51
52   body {
53     display: flex;
54     justify-content: center;
55     align-items: center;
56     min-height: 100vh;
57   }
```