

Chapter 56: Performance

Section 56.1: Use transform and opacity to avoid trigger layout

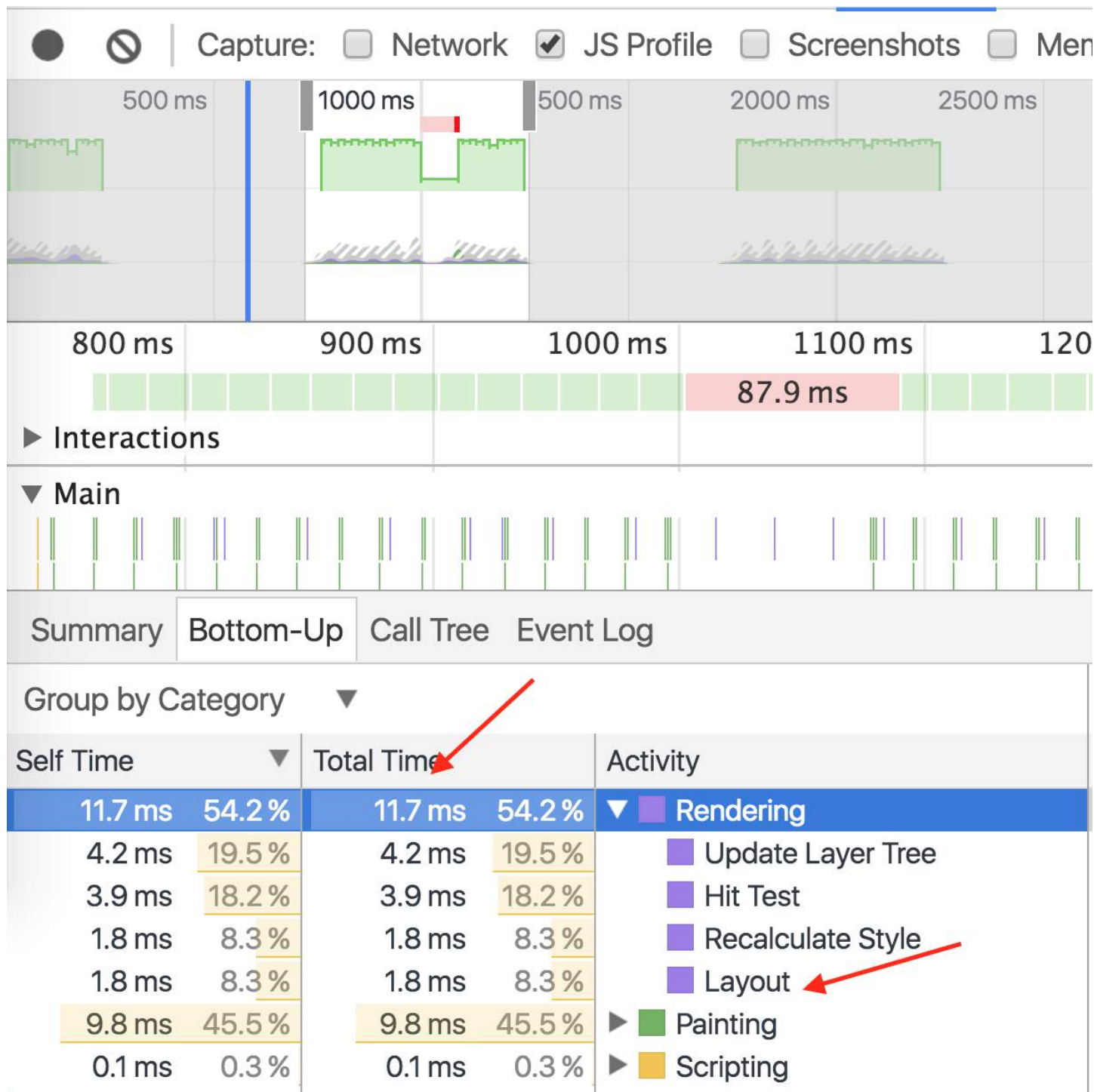
Changing some CSS attribute will trigger the browser to synchronously calculate the style and layout, which is a bad thing when you need to animate at 60fps.

DON'T

Animate with `left` and `top` trigger layout.

```
#box {  
  left: 0;  
  top: 0;  
  transition: left 0.5s, top 0.5s;  
  position: absolute;  
  width: 50px;  
  height: 50px;  
  background-color: gray;  
}  
  
#box.active {  
  left: 100px;  
  top: 100px;  
}
```

[Demo](#) took **11.7ms** for rendering, **9.8ms** for painting



DO

Animate with transform with the same animation.

```

#box {
  left: 0;
  top: 0;
  position: absolute;
  width: 50px;
  height: 50px;
  background-color: gray;

  transition: transform 0.5s;
  transform: translate3d(0, 0, 0);
}

#box.active {

```

```
transform: translate3d(100px, 100px, 0);
}
```

Demo same animation, took **1.3ms** for rendering, **2.0ms** for painting.

