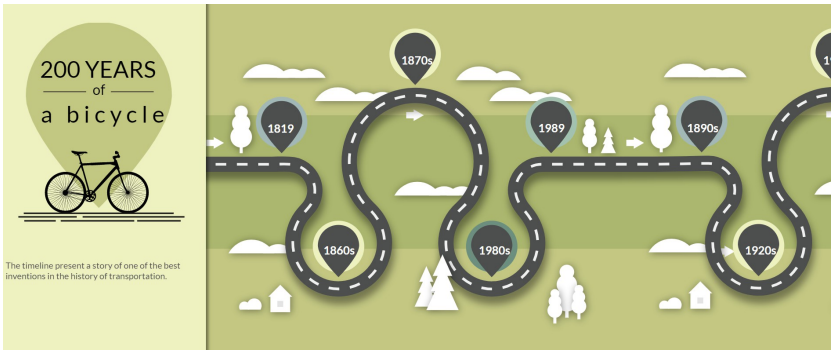
Marta Netza

200 YEARS OF THE BICYCLE



https://github.com/martanetza/svg-timeline-bike

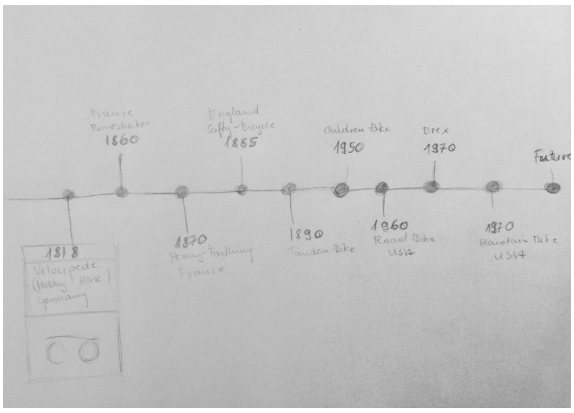
https://martanetza.github.io/svg-timeline-bike/

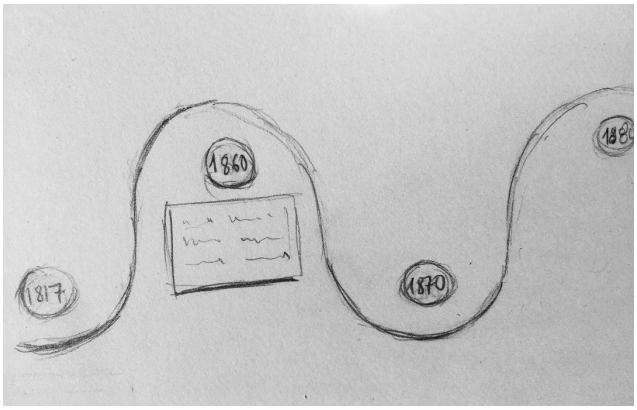
01. A DESCRIPTION OF THE TIMELINE AND THE DATA IT CONTAINS

The timeline presents the history of the bicycle. I picked ten points that, in my opinion, represents the most important innovations and were the milestones that led the the modern bicycle. Each point contains a short description that is displayed when the user hovers over it.

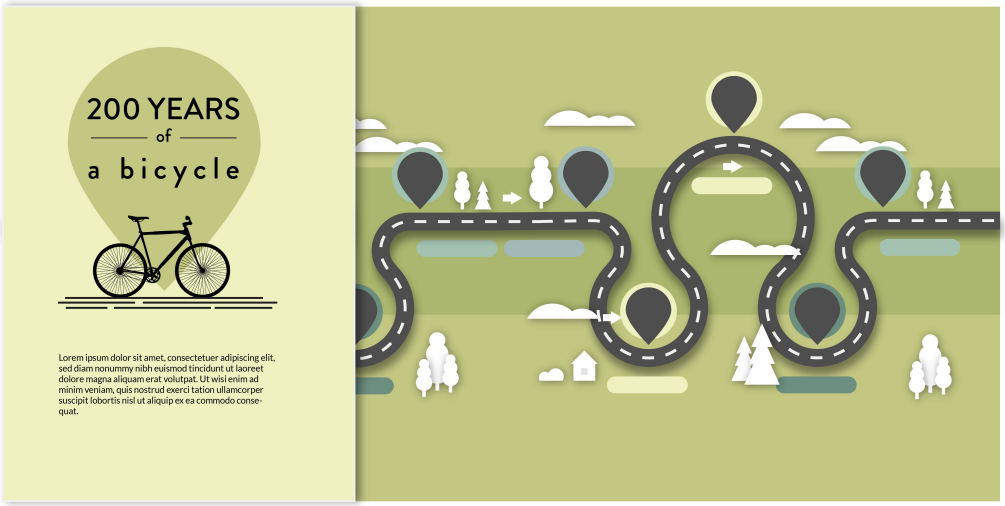
Most of the information used in the timeline were obtained from the wikipedia website: https://en.wikipedia.org/wiki/History_of_the_bicycle

02. SKETCHES



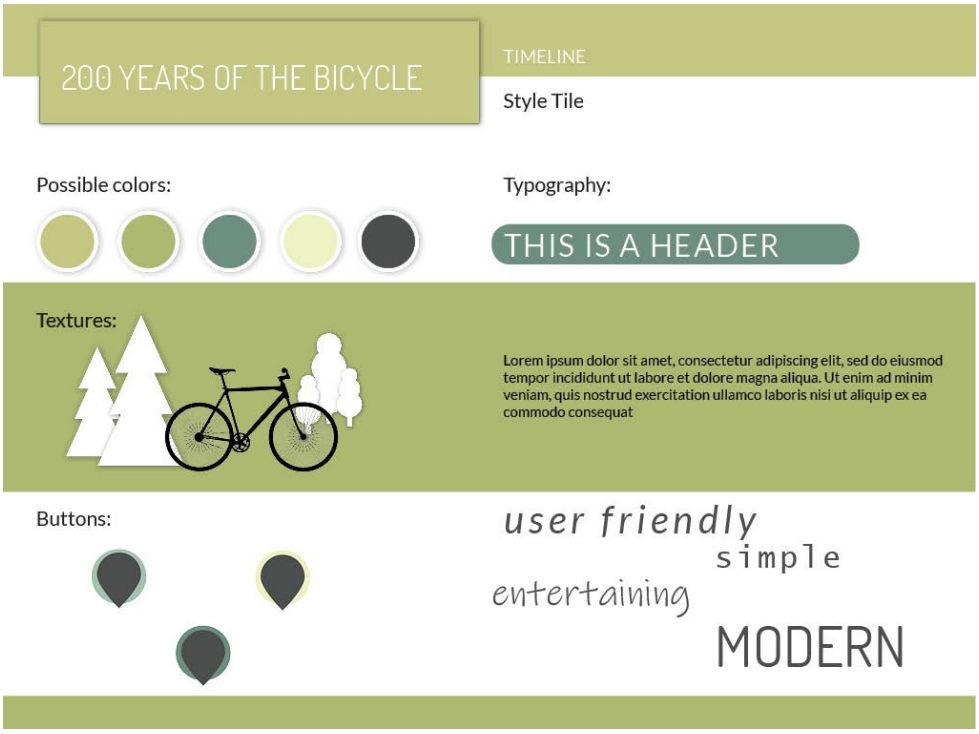


03. MOCKUP



04. STYLETILE WITH COMMENTS AND ARGUMENTS FOR THE CHOICES

I used a picture of a road that not only refers to the topic of the timeline but also can be read as a metaphor of movement and passing time.
Furthermore, my idea was to create the shapes that look as if they were cut-out of paper. I used flat design with some drop shadows to create an impression of depth, which makes the illustration a bit lither and dynamic. The simplicity of the design reflects the text content that presents only the basic information and facts.
Finally, biking is one of the most sustainable transport mode and this is why I wanted to show the history of the bicycle as well as emphasis its earth friendly character. For that reason I decided to use green as the base color for the whole design.



05. DESCRIPTION OF THE CHOSEN ANIMATION

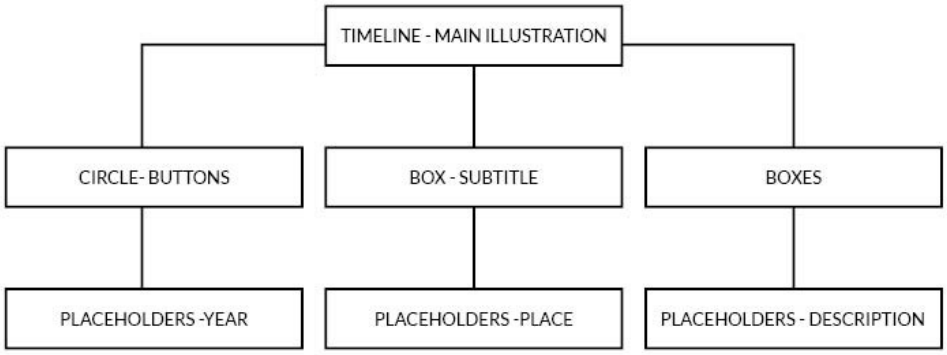
To make the design more engaging and interesting I decided to use a variety of animations. The first set of animations starts just after the content is loaded. It shows the process of creating the illustration of timeline, where elements appear one after another in a different way. Most of the animations are controlled by TweenMax and javascript, except the line of the road which is animated, by CSS keyframes. In addition, there are also animations that are triggered by the user – this are mainly points in the timeline, that display information when are hovered over.

06. JSON-FILE STRUCTURE

For text data presented in the timeline I created a JSON-file with the following structure:

```
[{
"id": " ",
"time": " ",
"country": " ",
"name": " ",
"description": ""
}]
```

07. SVG LAYERS STRUCTURE



08. AN EXPLANATION OF A PART OF THE CODE

For most of the animations in the timeline I used TweenMax, which is one of the animations tools from GreenSock Animation Platform. The below code animates arrays of svg elements, so that one element appears after another with a small delay.

1. **Creating an variable that contains an array of elements with the class ".animCircle"**

```
let animateArray = document.querySelectorAll(".animCircle");
```

2. Creating for loop function that will be executed the number of times that equals to the length of an

array.

```
for (let i = 0; i < animateArray.length; i++) {
```

3. **Creating a variable that contains information about an element of the array with a selected index**

```
let element = animateArray[i];
```

4. **Using TweenMax to add animation.**

- **element** – a selected element from earlier defined array
- **1** – duration of the animation (number of seconds)
- **delay: i / 1.6** – I decided to use "index" as a changeable value that will be added to each animation as a delay – since 1 second delay turned out to be too long I speed up the animation by dividing the delay by 1.6
- **opacity: 1** – changes the opacity from 0 to 1, so that the element becomes visible

```
TweenMax.to(element, 1, { delay: i / 1.6, opacity: 1 });
}
```

09. CALL – GRAPH FOR THE JAVASCRIPT CODE