SYSTEMS : ASSIGNMENT 4

APPLICATION DATA MODEL

APPLICATION **SKETCH**

DATA TYPE **VECTOR GRAPHICS**

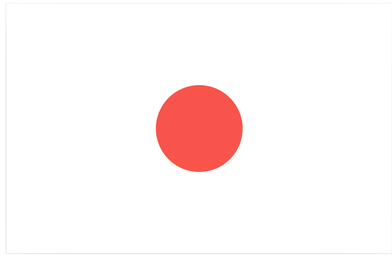
EMPTY FILE

```
1  <?xml version="1.0" encoding="UTF-8"?>
2  <svg width="2125px" height="1375px" viewBox="0 0 2125 1375"
   version="1.1" xmlns="http://www.w3.org/2000/svg" xmlns:xlink="
   http://www.w3.org/1999/xlink">
3      <!-- Generator: Sketch 62 (91390) - https://sketch.com -->
4      <title>empty artboard</title>
5      <desc>Created with Sketch.</desc>
6      <g id="empty-artboard" stroke="none" stroke-width="1" fill="
       none" fill-rule="evenodd"></g>
7  </svg>
```

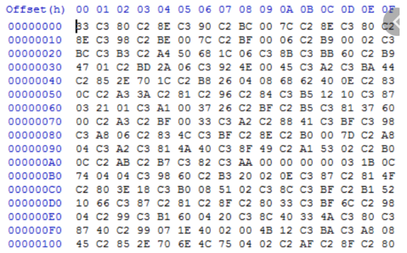
EXAMPLE FILE

```
1  <?xml version="1.0" encoding="UTF-8"?>
2  <svg width="478px" height="478px" viewBox="0 0 478 478" version="
   1.1" xmlns="http://www.w3.org/2000/svg" xmlns:xlink="
   http://www.w3.org/1999/xlink">
3      <!-- Generator: Sketch 62 (91390) - https://sketch.com -->
4      <title>Oval</title>
5      <desc>Created with Sketch.</desc>
6      <g id="Page-1" stroke="none" stroke-width="1" fill="none"
       fill-rule="evenodd">
7          <g id="sample" transform="translate(-824.000000,
           -449.000000)" fill="#F55951">
8              <path d="M1063,927 C1194.99606,927 1302,819.996055
               1302,688 C1302,556.003945 1194.99606,449 1063,449
               C931.003945,449 824,556.003945 824,688
               C824,819.996055 931.003945,927 1063,927 Z" id="Oval">
               </path>
9          </g>
10     </g>
11 </svg>
```

views



consists of



USER

The user views the orange circle which is displayed in a vector format.

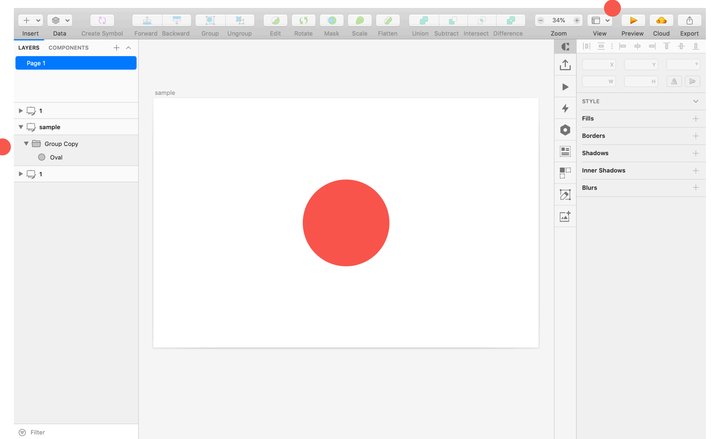
FILE

The orange circle is displayed in pixels per inch where each pixel contains a color value.

PIXELS

Each pixel typically consists of 24 bits (3 bytes) for a color image-- one byte each for Red, Green, and Blue.

is a part of



can be broken further into

HEX DATA

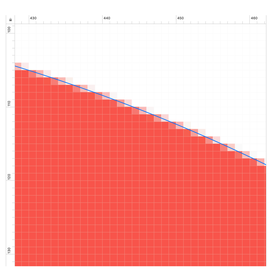
BINARY

Each bucket contains 16 color values. Each cube contains bits, i.e. 0 or 1 where 0 corresponding to off and 1 corresponds to off.

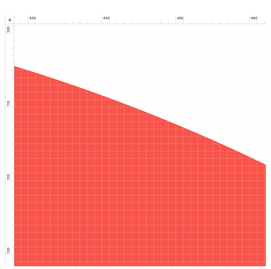
APPLICATION

Each page is one JSON file. The application is a ZIP file with a lot of JSON files.
Text layers are described as BASE64 encoded Binary Plists, pasted inside the JSON files

VECTOR VS BITMAPS



BITMAP



VECTOR

HOW IS DATA STORED?

In sketch, only the locations of the main anchor points and the style of the graphical image, in this case path is stored.

Location includes the page it is on, the exact mapping of each anchor point the fill, fill rule, stroke, stroke width etc.

WHAT IS THE SHAPE OF DATA?

The shape of the data is defined as path, line etc. There is an option to show pixels on zoom, which gives an exact idea of the size and the different colors each pixel is broken down into.

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CCA MDes IxD, Spring 2020
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