Checkpoint I: Project Proposal

Group: G16
Date: 2020/10/06

Domain

In this project we are looking into "*The Evolution of Mobile Phones: Brands and Specs*". With this visualization, we hope to show how the brands and models developed over time both economically and in terms of the technology and its hardware. We think this is an interesting subject to explore because we are a technological generation and through this project we will be able to expose the evolution of a device so crucial to our lives.

Dataset

We came across two different datasets that will complement each other to enhance the visualization:

- The datasets we'll be using are "*Cell Phones Brands and Models*", a dataset containing over 8000 models and 100 brands, each model along with its hardware specifications; and "*List of best-selling mobile phones - Annual sales by manufacturer*", which has information about the revenue of each of the major brands by year.
- The first dataset is available in Back4App and can be freely downloaded for further use and can be accessed either by the raw file or by their API. The second dataset will need to be treated because the information is stored on a table of a Wikipedia Web Page. Furthermore, the last dataset will complement the first dataset, which doesn't contain the brands sales.

We are going to use all the attributes from both datasets, since all help answer the following questions.

Example Questions

- What are the brands that manufacture models that prioritize battery life over other specs?
- What cell phone brands had a peak in sales? When?
- How many models did each brand develop in a given time period?
- Is there a correlation between the number of models of a brand and that brand's revenue?
- Is there a cyclic period of releases of phone models? Do the peaks occur every year? Every six months?
- When did a certain specification / hardware component start to be implemented on phones? What was its prevalence in phone models across the years?
- Is there a relationship between the sudden usage of a new component (like Bluetooth, DUAL SIM, etc. …) by a brand and the change in revenue of that brand?

Data Sample

(from "Dataset_Cell_Phones_Model_Brand.json")

Brand; Model; Announced; Audio_jack; Battery; Bluetooth; CPU; Chipset; Colors; Dimensions; Display_resolution; Display_size; Display_type; EDGE; FourG; GPRS; GPS; GPU; Internal_memory; Loud_speaker; Memory_card; NFC; Network; Network_Speed; Operating_System; Primary_camera; RAM; Radio; SIM; Secondary_camera; Sensors; Status; ThreeG; TwoG; USB; WLAN

```
{
    "Model": "_3",
    "Brand": "Nokia",
```

```
    "Network": "GSM / HSPA / LTE",
    "TwoG": "GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2 (dual-SIM model only)",
    "ThreeG": "HSDPA 850 / 900 / 1900 / 2100",

    (...)

    "Radio": "FM radio with RDS",
    "USB": "microUSB 2.0| USB On-The-Go",
    "Sensors": "Accelerometer| gyro| proximity| compass",
    "Battery": "Non-removable Li-Ion 2630 mAh battery",
    "Colors": "Silver White| Matte Black| Tempered Blue| Copper White"
}
```

(from "List of best-selling mobile phones – Annual sales by manufacturer")

Manufacturer; 1992; 1993; 1994; 1995; 1996; 1997; 1998; 1999; 2000; 2001; 2002; 2003; 2004; 2005; 2006; 2007; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015; 2016; 2017; 2018; 2019

Nokia; 3; 5; 9; 13; 8; 20.593; 37.374; 76.335; 126.369; 139.672; 151.422; 180.672; 207.231; 265.615; 344.916; 435.453; 472.315; 440.8816; 461.3182; 422.4783; 333.938; 250.7931; ; ; ; ; ;