

Supplementary Notes

The WOW factor of our team is mainly composed of three parts: 1) UI improvement 2) Data charts 3) Additional function.

UI improvement

Aesthetic Style

We adopt a dark theme style in our project and use CSS to make the whole scene more coherent. Font and colors are carefully selected to provide users the best experience. We made much effort to select appropriate pictures to make the interface more attractive.

User Interaction

First, we make a decorated welcome page to complete the story of this application and reduce the possible confusions brought to users.



After users click the button "Enter", the Name analysis window will pop up and enable users to choose the report that they want to generate.

Team T-30H: Popular Names

Name Stats

TopN

Popularity

Trend

App1

App2

App3

App4

Top N Names

Top N (N>=1): 10

Gender: ☒ Male ☐ Female

Period (1880 - 2019): 1941 to 1945

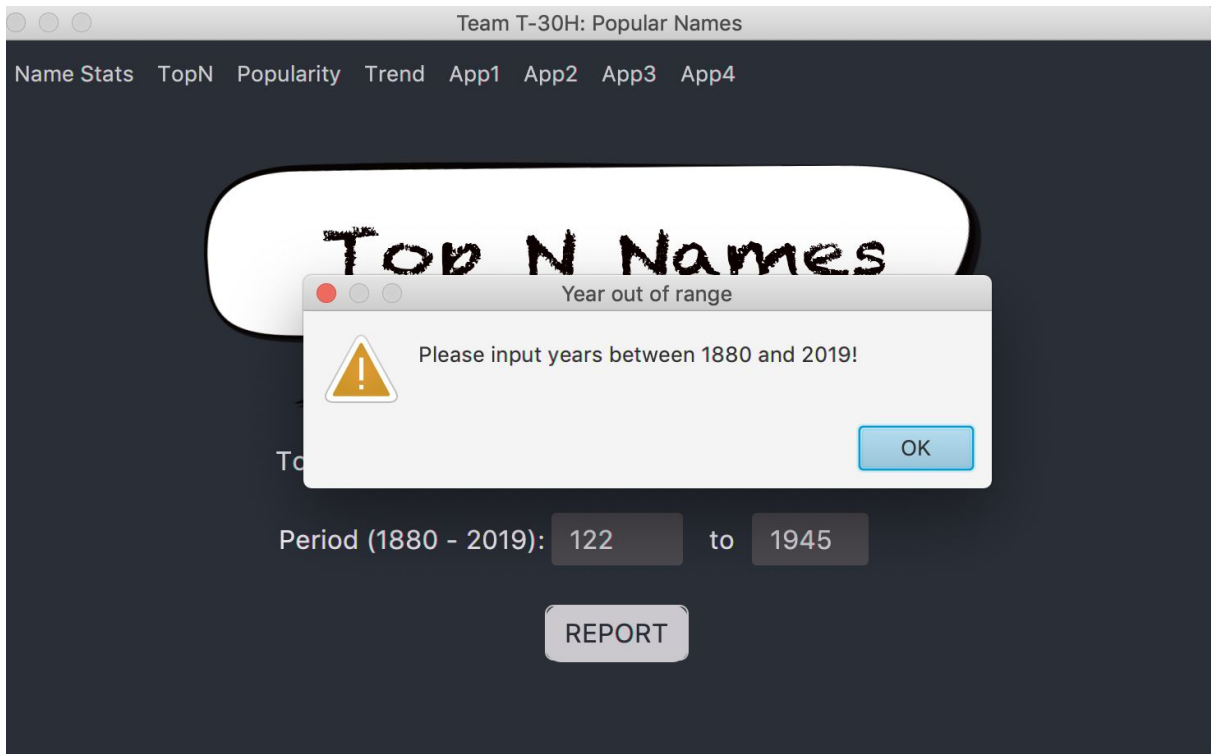
REPORT

Second, instead of using a console, we choose to use popup windows for data reporting tasks. This increases the flexibility for different data deliveries and also makes the application more user friendly. When an invalid user input is provided, an alert pop up window will show up and ban the behavior.

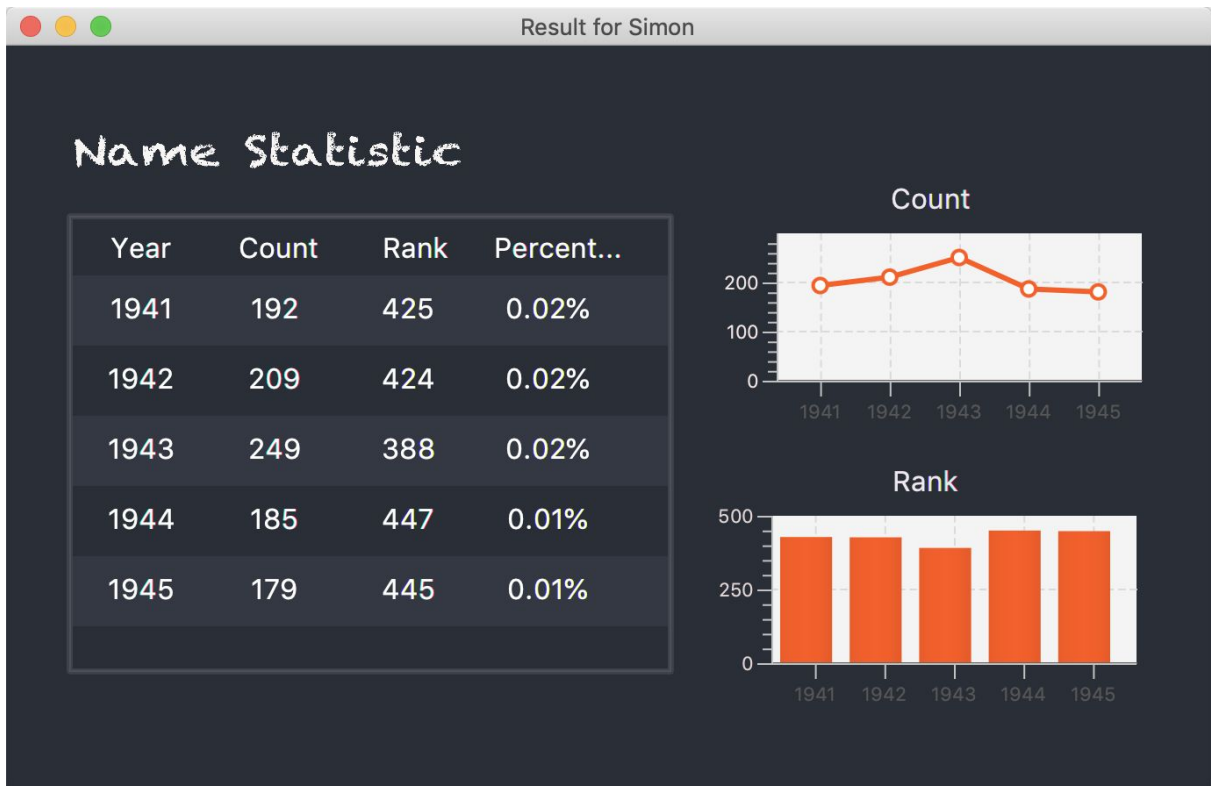
Result for Top 10

Name Statistic

Year	Top1	Top2	Top3	Top4	Top5	Top6	Top7	Top8	
1941	James	Robert	John	William	Richard	Charles	David	Thomas	R
1942	James	Robert	John	William	Richard	David	Charles	Thomas	R
1943	James	Robert	John	William	Richard	David	Charles	Thomas	R
1944	James	Robert	John	William	Richard	David	Charles	Thomas	M
1945	James	Robert	John	William	Richard	David	Charles	Thomas	M



Third, to let users know more about the name, we use a line chart and a bar chart to show more visual information in task2.



Additional function:

In the additional function recommend similar names, we use the data from 2000 - 2019. If the popularity chosen by the user is high, recommended names will be the top 30% ranked name in at least one year, medium, 30% - 70%, low, 70% - 100%. The measure of similarity is based on [Levenshtein distance](#). Ten names with the smallest distance will be recommended. The number shown is the distance between the original name and the recommended name.

Sample Scenario of Application:

- (1) If people want to change their name to a similar one
- (2) If parents want to name their babies with similar names. For example, boy babies want to be named similar to their father's name while girl babies want to be named similar to their mother's name.

The screenshot shows a web application window titled "Team T-30H: Popular Names". The interface has a dark background with a navigation bar at the top containing links: "Name Stats", "TopN", "Popularity", "Trend", "App1", "App2", "App3", and "App4". The main heading is "Names You May Like" in a large, white, handwritten-style font. Below the heading, there are input fields for "Name:" (containing "John"), "Gender:" (with radio buttons for "Male" and "Female", where "Male" is selected), and "Popularity:" (with radio buttons for "High", "Medium", and "Low", where "High" is selected). A "Recommend" button is positioned below these inputs. To the left of the inputs is a cartoon illustration of a yellow cat with question marks around it. Below the cat, the text "Enter the name you like and get more love..." is displayed. On the right side of the interface, a list of recommended names is shown, each followed by a number: Jon 1, Johan 1, Johnny 1, Joan 1, Joe 2, Sohan 2, Joah 2, Rohin 2, Jian 2, and Kohen 2.

Other Algorithm in details

The algorithms in task 1-6 mainly follow the instruction in canvas.

In task 3, besides implementing the requirement of the non-simplified task, we implement another version that calculates the largest rise and drop in the specified period that do not require the rise or drop to be happened in two adjacent data points, i.e, between the reported two years which is the start and end of a rise or drop, there might be some other data points. We illustrate the results of these two versions in a table.

Result for Trending names			
Name Statistic			
Top rise/ fall in consecutive data points			
Name	Lowest Rank	Highest Rank	Trend
Omarion	11821 in 2001	534 in 2002	-11287
Zaveion	3999 in 2004	14358 in 2007	+10359
Top rise/ fall in year range			
Name	Lowest Rank	Highest Rank	Trend
Urijah	13883 in 2006	618 in 2009	-13265
Spenser	1475 in 2000	13949 in 2017	+12474

In task 4-6, if a name is not ranked in a specific year, instead of using 1, we use a random number between 1 and the largest rank of that year to represent the rank.