Data Self Portrait

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Project Description

Our project highlights the profound connection between human growth and nature. As our data of steps transforms into the rhythms of nature, you'll discover how deeply intertwined we truly are. Our steps will be symbolized through a growing forest with peaceful background music, evoking a sense of our nomadic past and our intrinsic relationship with the environment and technology. We aim to illustrate the harmony between nature, humanity, and technology by representing humanity as a force that synthesizes nature and technology. This generative forest serves as a living exploration of growth, a synthesis of subjects, and the passage of time.

Overview

This project visualizes personal step data as generative trees. Each tree represents an individual's step count data over the course of a year, creating a unique and interactive visualization of personal activity patterns. The background music also correlates with the data, where each individual is set to an instrument and each note's pitch is mapped to the step count of one day, creating a special arrangement specific to this dataset.

The program features:
- A splash screen to introduce the project.
- Dynamic sonification audio background.
- CSV file processing to read and display data.
- Generative tree visualization representing the data.
- Interactive buttons to start and restart the program.

Features

1. **Splash Screen**
   a. Displays the project title and description.
   b. Features a start button to transition into the main visualization.

2. **Dynamic Tree Visualization**
   a. Each tree represents an individual, growing based on their daily step count from a CSV file.
   b. Trees are color coded:
      i. Lindsay as **red**
      ii. David as **yellow**
      iii. Sadie as **blue**
      iv. Chi as **purple**
      v. Reggie as **green**
   c. Branch length changes dynamically as step data updates.

3. **Data Processing**
   a. The program reads data from a CSV file (`step-data.csv`) containing:
      i. Date/Time`: Timestamp of the step count.
      ii. Step counts for each individual.
   b. Data is sorted and visualized in a temporal sequence.

4. **User Interaction**
   a. Start Button: Allows user to start the visualization
   b. Reset Button: Allows users to reset the visualization.
   c. Mouse Interaction: Point of user input

5. **Sonification/ Audio Background**
   a. Background audio (`stepSonification.mp3`) plays during the visualization.
      i. Pitch is mapped on how many steps were taken per day, along with the daily average temperature.
      ii. Created using https://jythonmusic.me/
      iii. Instruments:
         1. **David** as soprano, "Music Box"
         2. **Sadie** as mezzosoprano, "Pizzicato Strings"
         3. **Reggie** as alto, "Piano"
         4. **Chi** as tenor, "Harp"
         5. **Lindsay** as baritone, "Atmosphere"
         6. Average temperature as bass, "Ice Rain"

6. **Reset Functionality**
   a. Button to clear the trees and restarts the visualization process.
   b. Or when the mp3 file ends, call to reset the program