FAMILY CHART LIBRARY - FUNCTIONALITY TEST REPORT

INTRODUCTION

The Family Chart library is a JavaScript and [D3.js](#) based tool that visualizes family trees or hierarchical relationships using JSON data.
Each person in the dataset is represented as a "node" with fields such as id, first name, last name, children, and optional relationships (mother, father, spouse).

The library uses two core functions:

- **f3.calculateTree(data, options)** : Builds the hierarchical structure from JSON.
- **f3.view(tree, svg, Card, props)** : Renders the visual chart.

OBJECTIVE

The goal of this task was to explore the Family Chart library's internal logic and rendering behavior, understand how it uses JSON data to generate visual family trees, and test how the library handles invalid, missing, or circular data relationships. The aim was to identify weak points, log runtime errors, and suggest validations to prevent them.

HOW I TESTED

I downloaded the examples from the documentation (https://donatso.github.io/family-chart-doc/examples) and recreated them locally using a simple server (python3 -m http.server 8000).

I tested each example separately and used multiple JSON files , some valid and some intentionally wrong , to observe when the library breaks and what error it shows in the browser console. All tests were performed using Google Chrome.

	Breaks When	Type of Issue
1. Basic Tree	Missing child ID	Crash (undefined.children)
2. Aristotle Tree	Missing label field	Blank card
3. Custom Tree Card	Circular reference	Infinite recursion
4. Custom Main Node	Clicking root hides others	Logic (re-rooting)
5. Custom Text Display	Missing name fields	Blank display
6. HTML Cards	Missing children array	Overlapping layout
7. Custom Elements	Missing .card-inner	Silent failure
8. Zoom to Card	Single node dataset	Undefined data
9. Big Tree + search	Missing main_id	Empty view
10. Vue Plugin	Null data	Crash
11. HTML Card Styling	Missing label/avatar	TypeError undefined label
12. Single Parent	Missing id	Crash (undefined.children)
13. Horizontal Tree	Very long names	Text overflow
14. Sort Children	Gender missing	Unstable sort
15. Trim Tree	Depth too large	Lag / slow render

Conclusion:
The Family Chart library is a powerful D3-based visualization tool for family or hierarchical data, but its reliability depends entirely on the structure and validity of the input JSON. Through this testing, multiple crash scenarios were identified all caused by unvalidated relationships or missing fields.