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Information visualization and visual analytics - exam proposal

My research is focused on simulation in the context of Smart Grids. My most recent work consisted in a simulation of 1 day of an electric network with 10 bus (one parent node and 9 children) and 140 substations (divided among the previous mentioned child nodes). In this work we were using a State Estimation algorithm that is able to provide an estimation of the value of voltage and current starting from the measurement collected at the first bus (the root of the graph). My objective is to create a visualization of the output of such algorithm similar to the mockup in the figure below. The idea was to have two parallel view:

- On the left the structure of the network will be shown as a graph
- On the right 2 charts will shows the values of voltage and current for

In this visualization the user would be able to select the substation on the graph on the left and see on the right the values of voltage and current during the simulated day.
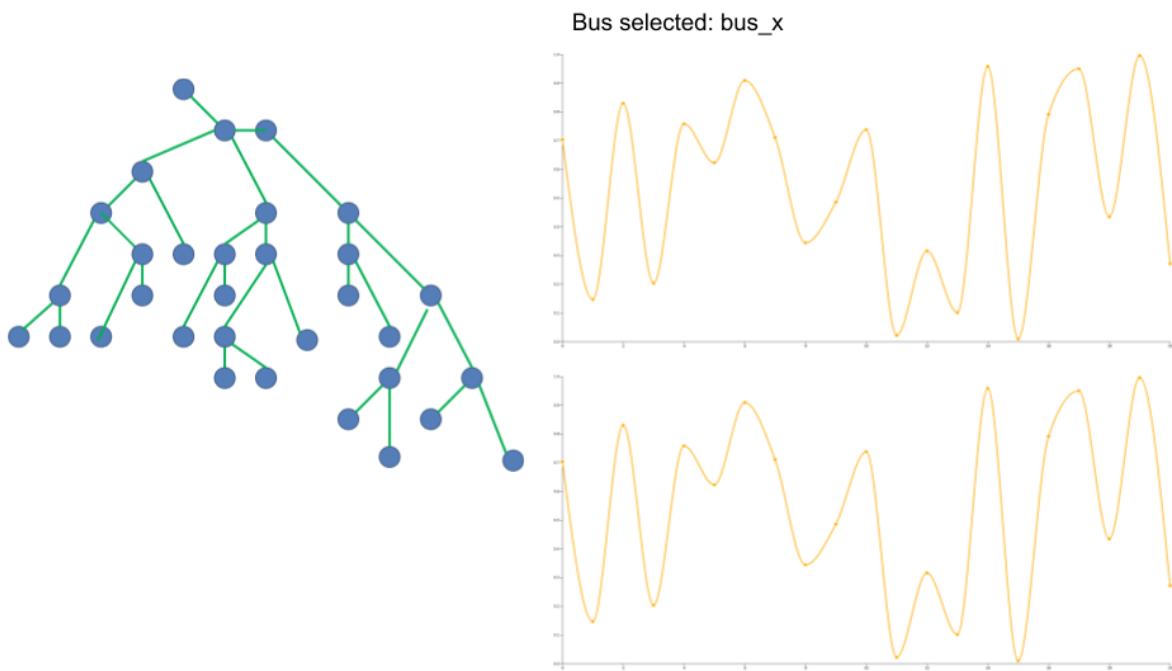
The framework I planned to use is d3.js

Figure. Mockup of the visualization