Quilter Full Stack Coding Challenge

PCB Netlist Visualizer + Validator

`(example, not authoritative)`

Task

Build a small, proof-of-concept application which lets users:
1. Upload a simple netlist file formatted as JSON
   a. Schema is yours to define
   b. Must list components w/ pins
   c. Must list nets
   d. Must specify connections between nets and components
2. Visualize (SVG, Canvas, etc) the netlist as a graph where:
   a. Nodes are components (ICs, resistors, connectors, etc)
   b. Edges are electrical connections (nets)
3. Validate submitted netlist data conforms to a series of basic rules like:
   a. Name data must not be blank
   b. GND must be connected to all relevant components
4. Store submissions in a database (e.g. MongoDB)
5. Display list of submissions per-user
6. Display validation results per-submission, highlighting violations

Requirements

- Must use client <-> server architecture
- Must run locally to facilitate live development and review
- Must be deployable + runnable in common cloud hosting services (e.g. AWS) using a docker container