Technical interview case suggestion

Project: Construction Site Machine Tracker

Background:

You're building a service that helps construction companies track their machines across different construction sites. The system receives location updates from machines (excavators and dozers) and displays their current positions to authorized users.

Core Requirements:

Backend Service:

- Create an API to receive and retrive location updates from machines
- Store machine locations (only current position needed)
- Implement authorization to ensure users can only access machines from their construction sites
- Each machine has a type (excavator/dozer), name, and belongs to a construction site

Frontend Application:

- Display a list of all machines the user has access to
- Show the machines on a map (any map provider of your choice)
- Implement a search field to filter machines by name and type

Technical Notes:

- Location data should be in latitude/longitude format
- Assume user authentication is handled elsewhere
- Authorization should be based on construction site membership
- You can assume a simple data structure where users are pre-assigned to construction sites

For authorization testing, include at least two construction sites with different machines and users assigned to them.

Feel free to ask any clarifying questions but in general, if there is doubt do what you think makes the most sense with the limited time you have.