**Demo Scope and concept explanations**:

Partner Hierarchy Explanation

In this app, "Partner" is a generic term for any entity in the network—this includes Distributors, Agents, and Ambassadors. Every Distributor, Agent, and Ambassador is a "Partner" with a unique partner\_id, a name, a level, a parent\_id, and a join\_date.

Levels:

Distributor: Top-level partner (root of the hierarchy). There is usually one "Root Distributor".

Agent: Mid-level partner, recruited by a Distributor or another Agent.

Ambassador: Entry-level partner, recruited by a Distributor or an Agent.

Relationships:

Every partner (except the root Distributor) has a parent\_id pointing to the partner\_id of the partner who recruited or manages them.

The hierarchy is multi-level and tree-like:

* Distributors can have Agents and Ambassadors as children.
* Agents can have Ambassadors as children.
* Ambassadors do not have children.

**Example Structure:**

Partner (Distributor: Root Distributor)

├── Partner (Agent: Agent 1)

│ ├── Partner (Ambassador: Ambassador 1)

│ └── Partner (Ambassador: Ambassador 2)

├── Partner (Agent: Agent 2)

│ └── Partner (Ambassador: Ambassador 3)

└── Partner (Ambassador: Ambassador 4)

All Distributors, Agents, and Ambassadors are "Partners" in the dataset.

The level field distinguishes their role.

The parent\_id field defines the hierarchy.

1. Synthetic Partner Hierarchy Data

The app generates a synthetic dataset that simulates a real-world partner network or channel hierarchy.

Each "partner" in the data has:

partner\_id: Unique identifier for the partner.

name: Name of the partner (e.g., "Partner 5").

level: The type or role of the partner, such as Distributor, Agent, or Ambassador.

parent\_id: The partner\_id of the partner’s parent in the hierarchy (who recruited or manages them).

join\_date: The date the partner joined.

The hierarchy is multi-level:

Distributor is the top level (root node).

Agents and Ambassadors are added as children under Distributors or other Agents, depending on their level.

2. What the App Visualizes

The app uses this data to build a directed network graph:

Nodes represent partners.

Edges (arrows) represent the parent-child relationship (who recruited whom).

Colors indicate the partner’s level (Distributor, Agent, Ambassador).

Interactive Features:

Filter: You can filter the graph to show only certain levels (e.g., only Agents).

Search: You can search for a partner by name.

Details: When you select a partner, you see their info, including their parent and children in the hierarchy.

Regenerate: You can create a new random hierarchy for demo/testing.

3. What This Demonstrates

Channel/Partner Management: This is a common structure in sales, marketing, and network marketing organizations, where there are multiple levels of partners, each recruiting or managing others.

Network Visualization: The app shows how such a hierarchy can be visualized and explored interactively.

Data Relationships: It demonstrates parent-child relationships, filtering, and searching in a business network.

Summary:

The app is a demo for visualizing and exploring a multi-level partner (channel) hierarchy, showing how partners (Distributors, Agents, Ambassadors) are related, and allowing you to interactively explore the structure and details of each partner.