


How to get from flat data to a Network Graph

This article follows up from the Network Graph article.

A typical process for creating networks out of flat datasets, such as a list of people, is to iterate through a dataset having say people in each row, looking for unique values in a categorical column, like a project name, turn those project names into new nodes, and then connect those new project name nodes up to the people rows.

The above dataset started out as a simple list of ids with "tags"

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Running it through the algorithm described, results in new nodes added, in this case A, B, and C, each with connection to the ids 1 through 6 based on the tags present.

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Javascript proto-code for this looks like this:

```
var nodes = [];
var tag_column_name = "tag";

for (var i = 1; i < rows.length-1; i++) {
    var row = rows[i].split(",");
    var node = {};
    for (var j = 0; j < header.length; j++) {
        node[header[j]] = row[j];
    }
    node['type']='node';
    node['connections']=undefined;
    node['connectionCount']=undefined;
    nodes.push(node);
    if (!tagMap[node[tag_column_name]]) {
        tagMap[node[tag_column_name]] = [];
```

```
}
tagMap[node[tag_column_name]].push(node.id);
}
var taglist = Object.entries(tagMap).map(([key, value]) => ({ id: key, links: value }));

for (var i = 0; i < taglist.length; i++) {
  taglist[i].type = tag_column_name;
  taglist[i].connections = taglist[i].links ? taglist[i].links.join("|"): null;
  taglist[i].connectionCount = taglist[i].links ? taglist[i].links.length : 0;
  nodes.push(taglist[i]);
}
```

Revision #2

Created 14 February 2023 00:02:12 by Jason Marsh

Updated 7 March 2023 23:20:48 by Jason Marsh