


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"

 image not found or type unknown

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.

 image not found or type unknown

 image not found or type unknown

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