

Three leaf clover

Website Design Documentation

1. Strategy

LCC 6313 Principles of Interactive Design

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1-1. Site Objectives

This site visualizes the social connection and the political inclination of the most powerful U.S. companies. This site can answer various questions such as how companies are connected by their directors and sister companies, how a company or a person can affect his power to other companies, what are their political position, and how significant their political influence is.

Many other sites that provide political or social data, such as fec.gov, opensecrets.org, and choosethebue.com, focus on the detailed figures and names. The emphasis on the specific information can hinder from reading and predicting the overall trend. Unlike these sites, this site provides the overview visualization as well as the detailed information. Web site users can start from the overview of data through a bird eye view and then get more specific information by exploring the detailed data. By this way, the real understanding about social system and its context can be brought.

As you see from the title, three leaf clover doesn't imply a good luck as four leaf clover does. Each leaf represents the top companies, their sister companies, and affiliated directors. Through the relationship of these three factors, users will see how the current political and economical system are connected and controlled by a small number of people and companies. They also can predict unlucky future system that unbalanced social power will bring. Accordingly, the objectives of this site is to emphasize the importance of balanced power by visualizing the status of the current society.

1. Strategy

1-2. User Needs

User analysis

- Age: over 20
- Income level: low ~ high
- Education level: high school ~ college
- Technology level: low ~ middle
- Male and female who have interests in political and economical issue
- Employer and employee of the related companies
- Democrat, republican, and neutral party

Based on the estimation of potential users, the following users' needs can be predicted. These issues can be useful criteria for design decisions in the later stages.

The goal of users

Users, who visit this site, have a very specific goal, so focus doesn't need to be placed on aesthetic factors. There is always a tradeoff between aesthetic and functional factors. If a site pursues fancy graphic design, the speed and/or function of system can't be maximized. Like news sites, such as CNN and New York Times, this site will more focus on the main goal of the site, which is to visualize data and deliver correct information in efficient way. Additional factors such as aesthetic elements can be a secondary issue.

1. Strategy

1-2. User Needs

Familiarity to technology

Users who are in mainstream will be educated people who have political inclination. Although their education level is relatively high, it doesn't mean their technology level is also high. For example, a politician or a director, who wants to visit, can be an aged person among the generation that aren't familiar with a computer. Therefore, interface and interactivity of the site need to be simple and easy in such a way that follows conventions that many websites share.

Help for a better decision

Users want to see the data in various way because they want to make a correct decision based on accurate data. Seeing only visualization can make users fall into fallacy. In other words, multiple ways in which user can analyze data should be provided for a better decision. It also could be a design strategy that enable users to visit the site frequently.

Neutral political position

Because users' political inclination can be various such as democrats, republicans, or neutral parties, the site will try to keep a neutral position. As we see from a site example, "Choose The Blue" (www.choosetheblue.com) shows their strong political inclination on purpose. However, showing their strong opinion can be a factor that limits the range of potential users. If someone who sees the title of the website is a republican, he or she might never visit the site. Users want to know the fact, not to be persuaded. Decision depends on users.

2. Scope

2-1. Functional Specifications

Overview and details

The site will provide both overview and details of data. The overview will help understand overall trend and pattern of the current social connection, and the details will provide more specific information such as figures and names.

Flexible reference for sorting

The site will provide flexible reference for sorting and displaying data. That is, the related data will be sorted and displayed by top companies, sister companies, or directors.

Multiple visualizations

This site will visualize same data in various ways. Observation from multiple point of view can bring serendipitous founding.

Easy conversion between visualizations

This site will facilitate users to switch form of visualization. Once users select particular data, users can see this data in the different visualization by switching the form of visualization.

Search and print

User can search data by company and director name and see the related visualization. Also, this site will support to print the visualization by providing printer-friendly version.

Help and scenario

This site will provide textual help to facilitate interactivity with visualization tool. Also, this site will provide a scenario as an example to show how users manipulate the data and how they read the visualization.

2. *Scope*

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2-2. Contents Requirements

Datasets

The following three main datasets will be used for the site.

1) Top 500 companies

This is a dataset about the most powerful 500 companies in U.S. The data related to these companies are sister companies, directors of the board, website, contribution to democrats (% and \$), and contribution to republicans (% and \$)

2) Directors of board

This is a dataset about directors of the top 500 companies. The data related to this datasets are comprised of directors' name, gender, and companies that they are working as a director.

3) Sister companies

This is a dataset about sister companies of the top 500 companies. The data related to this dataset are comprised of the name of sister company and her parent company that is one of the top 500 companies.

Resources of datasets

The above datasets will be combined from the database of "They rule" (www.theyrule.net) and "Choose The Blue" (www.choosetheblue.com). The data of "They rule" was collected from the websites and SEC filings in early 2004. In addition, all numbers used on "Choose The Blue" site pertain to the 2003-2004 election cycle and were gathered from information in the public domain, including data from "the Federal Election Commission's website" (www.fec.gov) and from "the Center for Responsive Politics" (www.opensecrets.org) as available on December 12, 2004

2. Scope

2-2. Contents Requirements

The way of gathering and editing datasets

"They rule" site provides its database in sql file. However, some of fields are unnecessary for this website and also need to be edited for combining with "Choose The Blue" data. To do this, text editing tool such as Excel and UltraEdit will be used. In particular, macro function will be used to avoid repetition and save time. Whereas "They rule" provides the raw data, "Choose The Blue" doesn't provide any resources. Thus, the database that is related to this site should be generated. This dataset will be completed manually by querying the top 500 companies inside the site. After the raw data are gathered, the gathered data will be organized by using text editing tool, and new data with sql syntax will be generated later on.

Content maintenance

This content will be updated along with the change of its parent website, "They rule" and "Choose The Blue." In contrast, the expansion of the content will be continued all the time. The expansion will be based on the individual users' input having a credential source. However, the site won't accept anonymous users' careless input. Accordingly, this site won't have any form that users can input through website. Instead, their input will be delivered through an email or a formatted document, indicating its source, and then the site will be updated after validating the data.

2. *Scope*

2-3. Requirements Priority

Functions

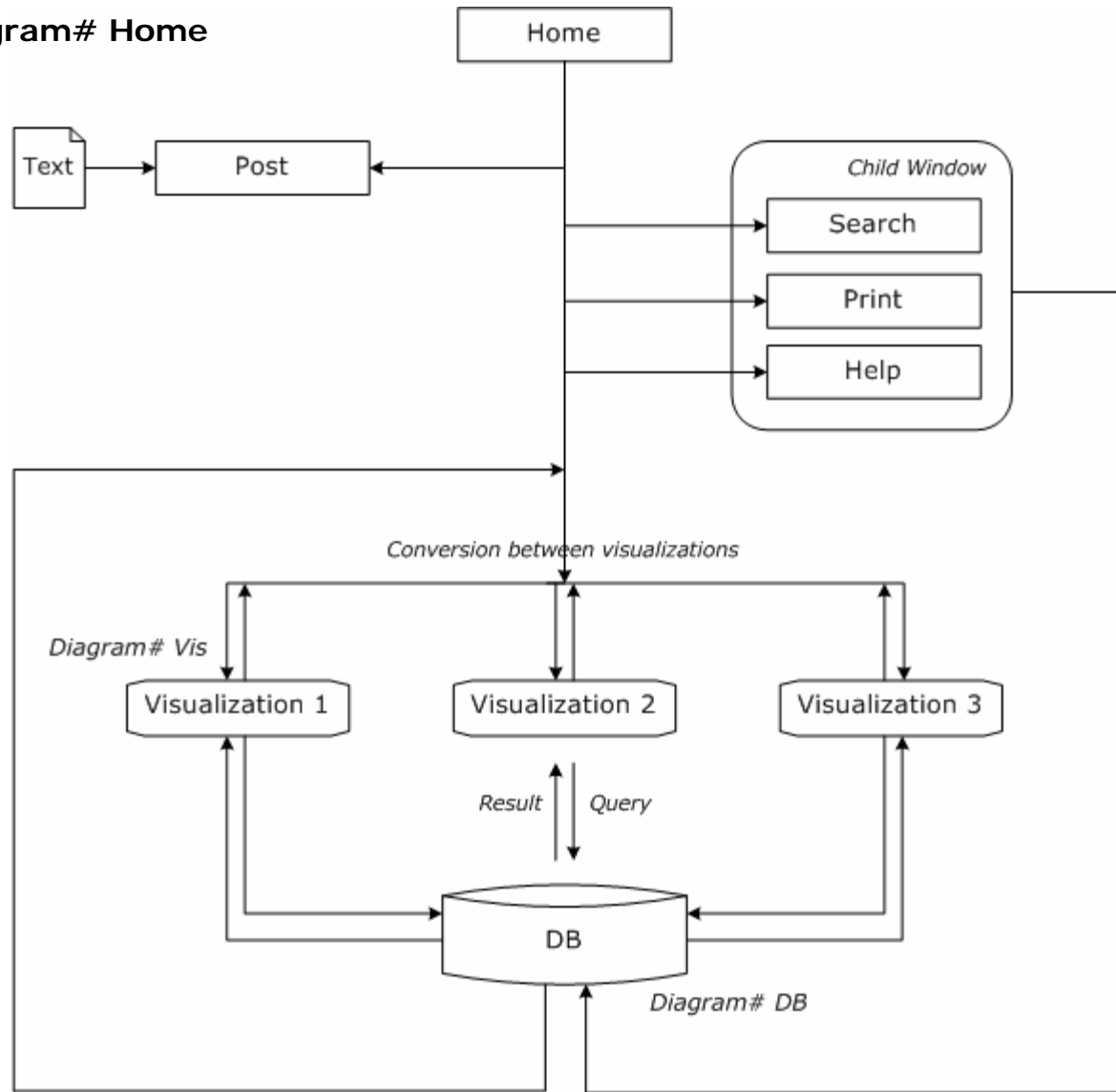
Because of time constraints, all planned functions can't be implemented in this release. "Overview and details", "flexible reference", and one of visualization will be included in this phase. Because only one visualization out of multiple visualizations will be implemented, "conversion between visualizations" function won't be included to this release. Auxiliary functions, such as "search and print" and "help and scenario", will be implemented after the all visualizations are implemented because they are relatively secondary functions and they could be changed significantly depending on design change.

Contents

All the planned contents will be prepared in this phase because even one of visualization can't be implemented without the whole datasets. Also, they will be formatted in proper database form so that we can easily expand the numbers of data further. The data expansion will be continued no matter what phases we are in because, contrary to the function implementation, the contents expansion doesn't need to wait for the next generation of development.

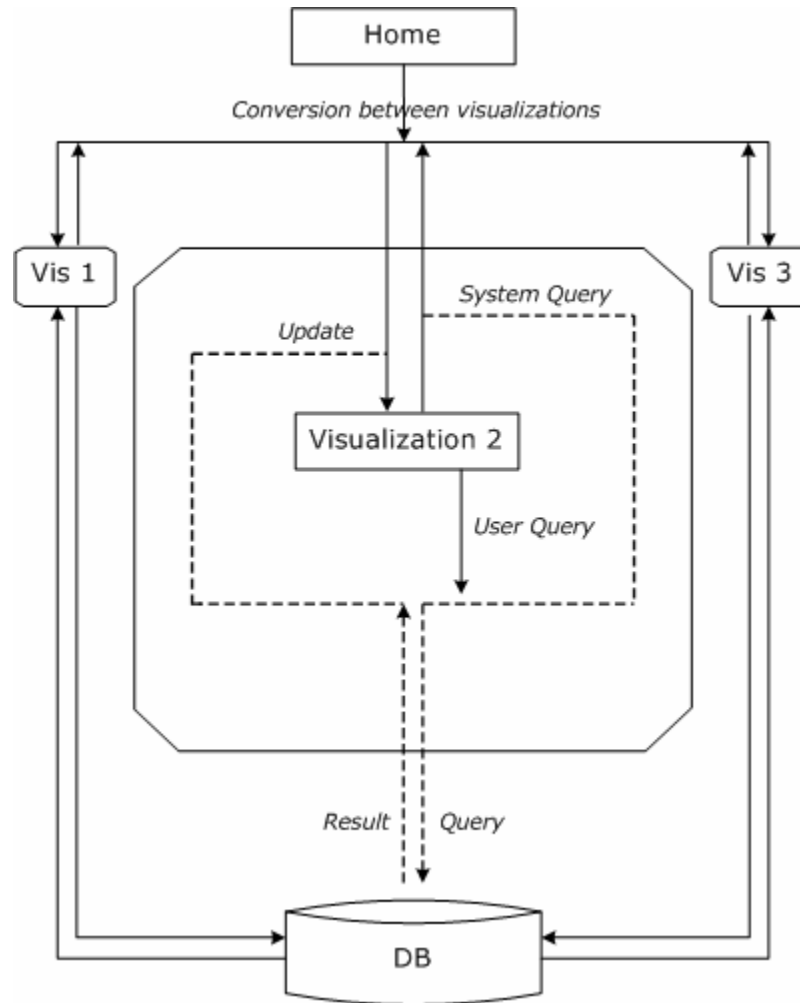
3. Structure

3-1. Diagram# Home



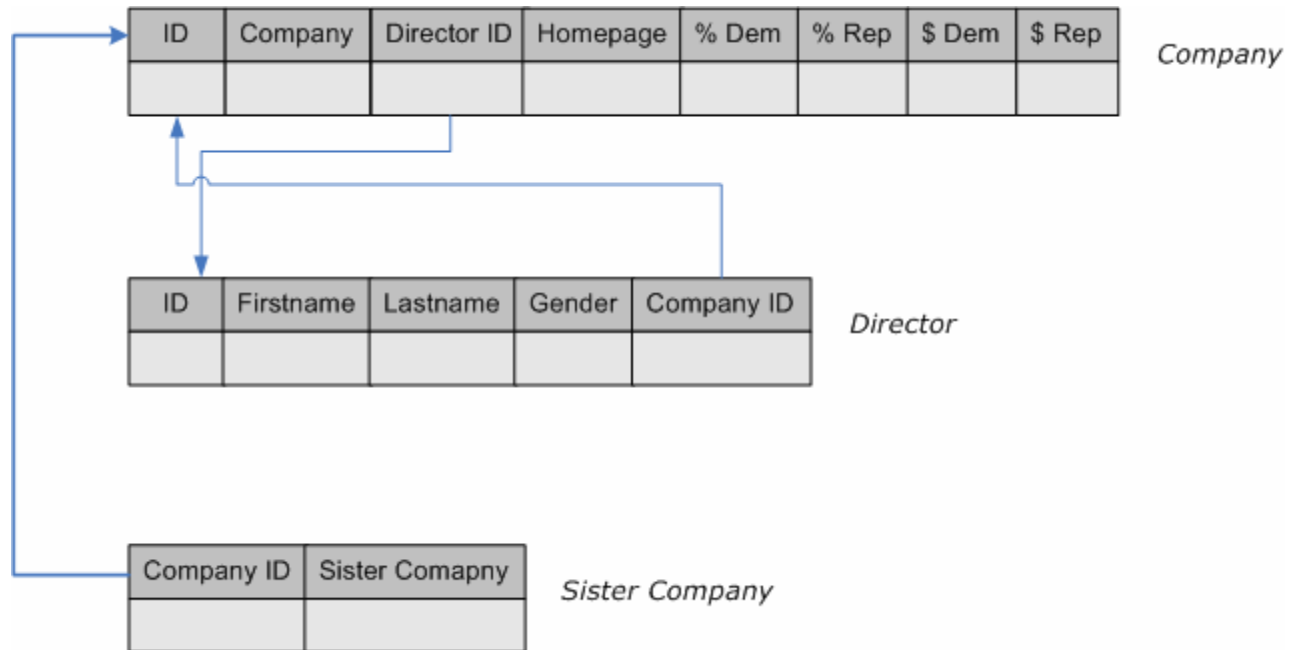
3. Structure

3-2. Diagram# Vis



3. Structure

3-3. Diagram# DB



4. Skeleton

4-1. Home

<Three leaf clover>

Description

This is the first page of the site. The top of page is comprised of menus that will present consistently throughout the site. User can switch three different visualizations (A, B, C) to see the data from multiple point of view. While user switches between visualizations, the selected data will be converted and displayed in other visualizations.

A: Go to visualization 1

B: Go to visualization 2

C: Go to visualization 3

D: Search. User can search data by company name, director name, or both.

E: Print. User can print out the current visualization as a printer-friendly version of image.

F: Help. User can learn how the site works and how to interact with visualization tools.

G: Fact. This sentence will be changed dynamically whenever user visits the site. These facts can be gathered by the data analysis, and it will bring users interests.

User Interaction : A, B, C, D, E, F, G

A: Go to page# Vis.01 B: Go to page# Vis.02

D: Show popup window with search menu

F: Show popup window with help

C: Go to page# Vis03

E: Show popup window with printer-preview image and print button

G: Go to page# Vis01

Page# Home.01



4. Skeleton

4-2. Visualization 1

<Blue & Red Palette>

Description

A: This grid is comprised of dots that represent top 500 companies. The gradient color of each dot is mapped by the percent of contribution for political parties (C). Blue represents percent of contribution for democrats and red for republicans. For example, if a company spent 36% of money for democrats and 64% for republican, the color that represents that specific company will be red mixed with blue (twice red).

B: List of top 500 companies

C: Contribution of selected company
Percent of contribution for democrats/
republicans, the amount of money for
democrats/ republicans

D: List of sister companies related to
selected company

User Interaction : A, B

- If user selects one of dots (A), the related data is displayed accordingly (B, C, D).

- If user select company name form drop

down list (B), the detailed data is displayed accordingly (A, C, D). In this case, user can choose multiple company names at the same time.

- If user mouse over the grid (A), the caption of each dot (company name) is appeared.

Page# Vis.01

Vis 1 Vis 2 Vis 3

Search Print Help

A

B Company:
General Motors ▼

C Contribution:

| % Dem | % Rep |
|-----------|-----------|
| 36% | 64% |
| \$ Dem | \$ Rep |
| \$294.170 | \$522.969 |

D Sister Company:
Hummer, Cadilac, Chevrolet, Saturn, SAAB, Pontiac

4. Skeleton

4-3. Visualization 2

<I can reach you>

Description

A: This grid is comprised of 800 dots that represent top companies and sister companies. The colors of dots have different meaning. Red is a selected top company, green is sister company related to the selected top company, and yellow is other top companies to which directors, who belong to the selected top company, belong. User can see how much a company can reach his power to other companies by the connected relationship.
B: The list of top companies (493).
C: The list of sister companies (308).
D: The list of director (4657).

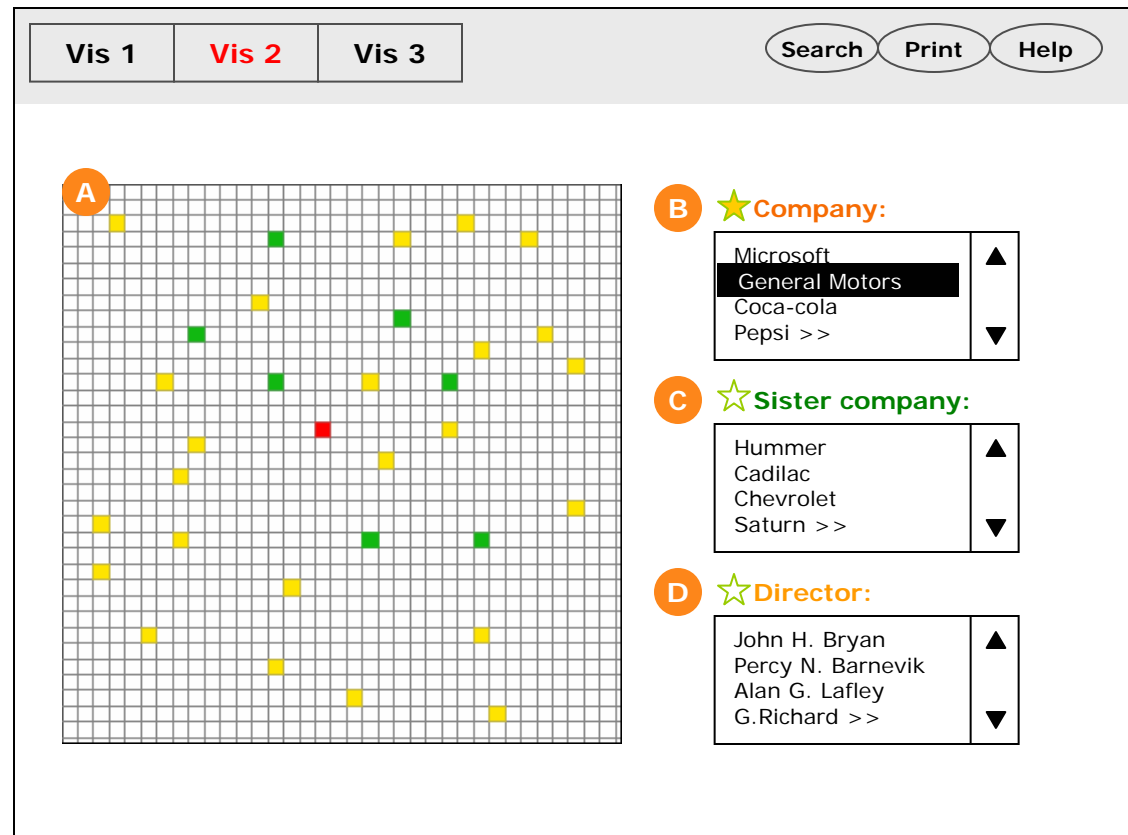
User Interaction : A, B, C, D

- If user selects one of the list (B, C, or D), the selected drop down list is activated. (Filled star mark on the left hand corner)
- Once a list is activated, user can select one of items. Multiple selection is possible.
- If a item in one of lists is selected, it changes the items in the rest of lists.

For example, if user selects the company name in the list B, the related sister company name (C) and director name (D) is listed in drop down list C and D.

- User's selection (B, C, D) also change the colored dots in the grid A.
- If user mouse over a dot in the grid A, the caption of the dot, company name, is appeared on top of the grid.

Page# Vis.02



4. Skeleton

4-4. Visualization 3

<Axis of evil>

Description

This visualization is comprised of three axis, x, y, and z. It will be 2 and half dimension, not the real 3D.

A: X axis represents top 500 companies.

Red dot indicates the company that contributes more for republicans than democrats. Blue is the other way around.

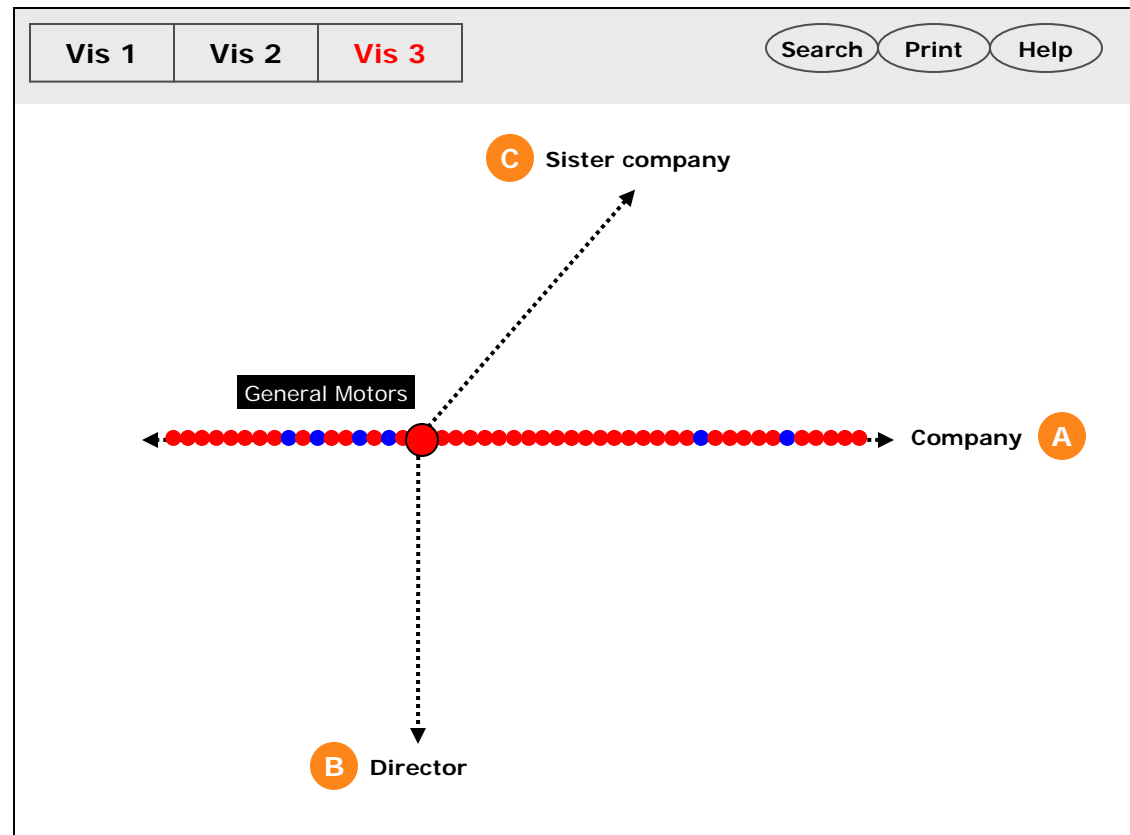
B: Y axis represents directors of the selected company.

C: Z axis represents sister companies of the selected company.

User Interaction : A, B, C

- User can see how many red or blue companies are present along with the axis.
- If user mouse over A axis, he can see the caption of each dot (company name).
- Once user clicks one of dots on A axis, y and z axis are appeared.
- As user does with A axis, he can interact with y and z axis. What user can see on the caption will be director name or sister company name.

Page# Vis.03



5. Surface

5-1. Design Comp

Concept

The main concept of design is a three leaf clover. Each leaf represents one of visualizations (Blue & Red Palette, I can reach you, and Axis of evil). The interface design will be simple because other visualization interface will be relatively complicated.

Color

Blue, Red, Azure, Green, Yellow, Gray, and Black

Typeface

Verdana, Georgia, and Arial

Icons

Icons will be used consistently throughout the site. Also, icons that function throughout the site will be located in a separate place to be distinguished from other buttons of visualization. Symbol won't be used as a primary key. Textual tag will be followed.

Design Comp# Home.01

