R Notebook

Code

Finalized visualization:

Hide

```
library(knitr)
library(tidyverse)
library(tsibble)
library(lubridate)
library(dplyr)
library("ggplot2")
library("ggraph")
library("gridExtra")
library("networkD3")
library("tidygraph")
theme_set(theme_graph())
data <- read_csv('insit_data.csv')
```

```
indexing insit_data.csv [=========================----------------------] 56.95GB/s, eta:  0s
indexing insit_data.csv [=============================================] 108.52MB/s, eta:  0s
```

```
New names: [1mRows:  [22m [34m15971 [39m  [1mColumns:  [22m [34m6 [39m [36m─── [39m  [1mColumn specification [22m  [36m
──────────────────────────────────────────────────────────────────────── [39m
 [1mDelimiter: [22m ","
 [31mchr [39m (2): Ticker, Fund
 [32mdbl [39m (4): ...1, Date, ReportPeriod, Change
 [36mi [39m Use `spec()` to retrieve the full column specification for this data.
 [36mi [39m Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

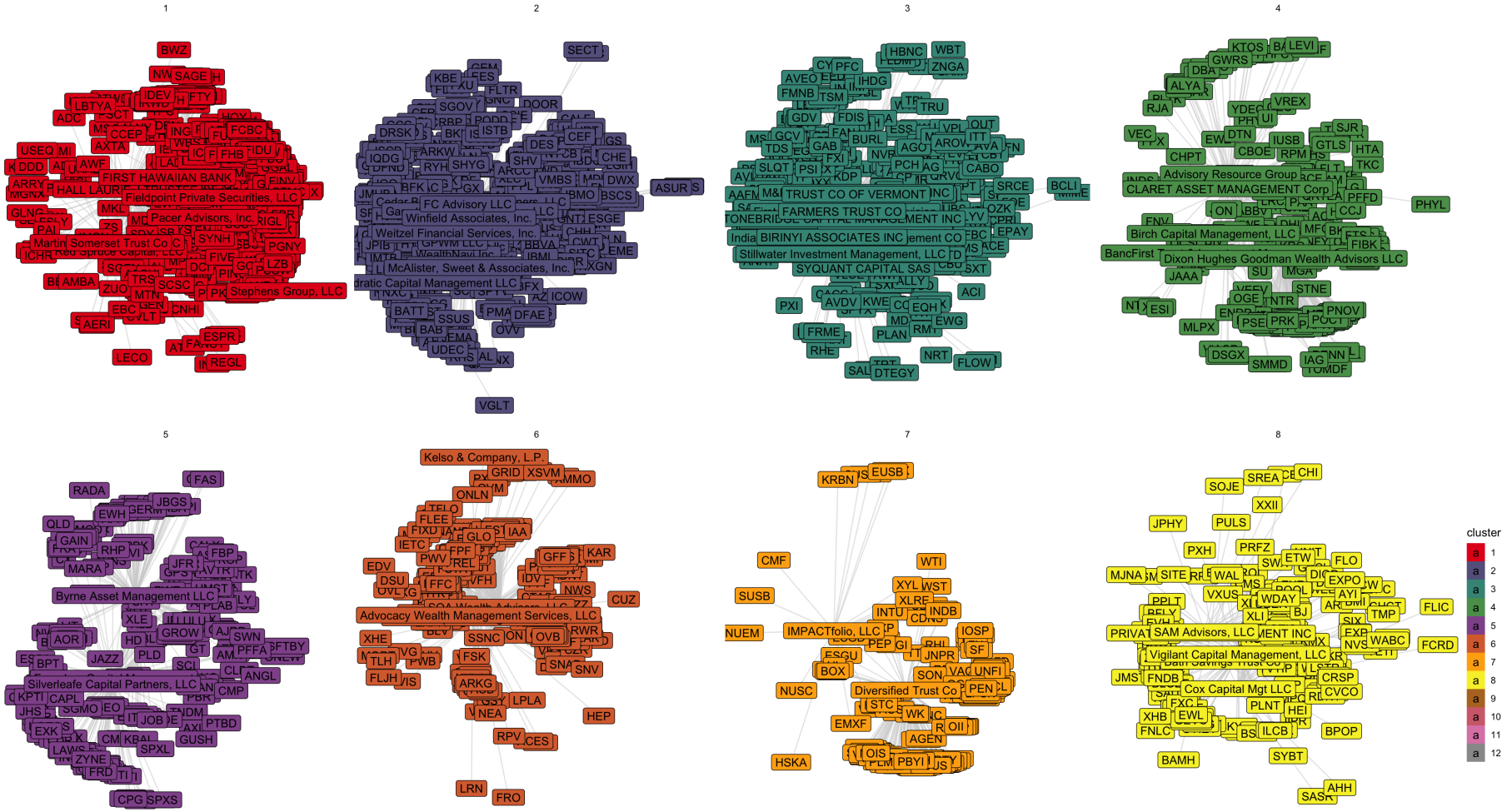
Hide

```
E <- data.frame(
  source = data$Ticker,
  target =  data$Fund,
  value = data$Change/max(data$Change)
)
G <- as_tbl_graph(E, directed = FALSE) %>% activate(edges) %>%
  mutate(value = factor(value) )%>%  activate(nodes) %>% mutate(cluster = as.factor(group_louvain())) %>% activat
e(edges) %>% mutate(value = factor(value))
G
```

```
[38;5;246m# A tbl_graph: 3572 nodes and 15971 edges
[39m[38;5;246m#
[39m[38;5;246m# An undirected simple graph with 1 component
[39m[38;5;246m#
[39m[38;5;246m# Edge Data: 15,971 × 3 (active)[39m
   from    to value
  [3m[38;5;246m<int>[39m[23m  [3m[38;5;246m<int>[39m[23m  [3m[38;5;246m<fct>[39m[23m
[38;5;250m1[39m     1   [4m3[24m500 0.00054480189141772
[38;5;250m2[39m     2   [4m3[24m500 0.0393995217537472
[38;5;250m3[39m     3   [4m3[24m500 0.15794159827129
[38;5;250m4[39m     4   [4m3[24m500 0.003545849001652
[38;5;250m5[39m     5   [4m3[24m500 0.00484186425384303
[38;5;250m6[39m     6   [4m3[24m500 0.0525379945162138
[38;5;246m# … with 15,965 more rows[39m
[38;5;246m#
[39m[38;5;246m# Node Data: 3,572 × 2[39m
  name  cluster
  [3m[38;5;246m<chr>[39m[23m  [3m[38;5;246m<fct>[39m[23m
[38;5;250m1[39m LSCC  1
[38;5;250m2[39m LSI   1
[38;5;250m3[39m LUMN  4
[38;5;246m# … with 3,569 more rows[39m
```

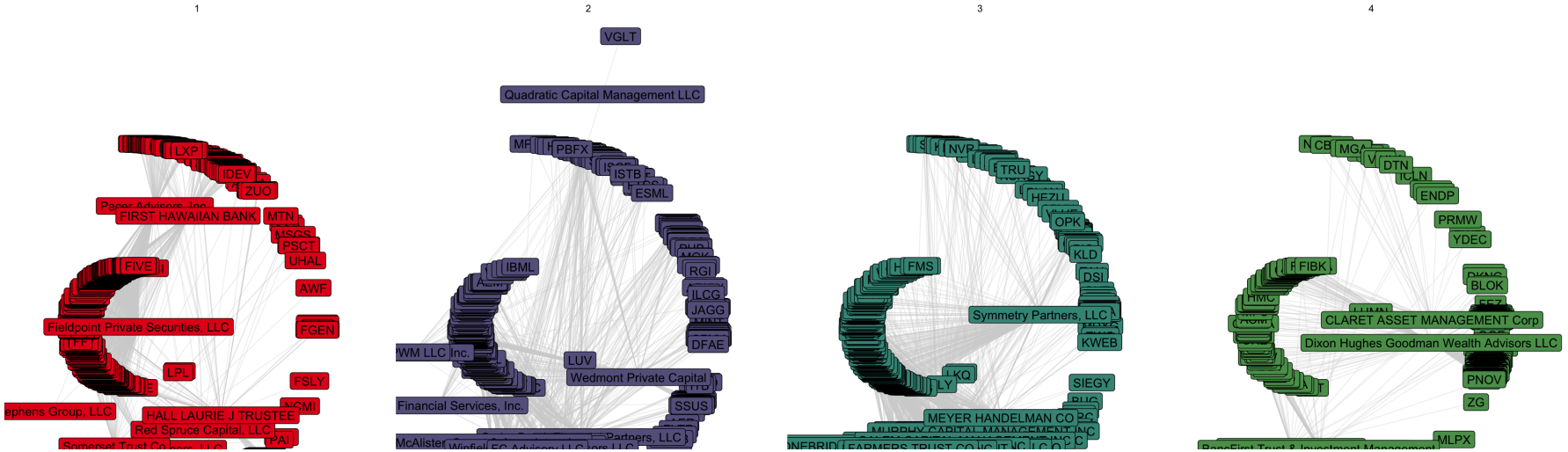
Hide

```
library(RColorBrewer)
getPalette = colorRampPalette(brewer.pal(9, "Set1"))
ggraph(G, layout = 'kk') +
  geom_edge_link(colour = "#d3d3d3", width = 0.5, alpha = 0.55) +
  geom_node_label(aes(label = name, fill = cluster)) +
  scale_fill_manual(values =  getPalette(12)) +
 coord_fixed() +
  theme_void() + facet_nodes(~ cluster) #   facet_wrap(~ cluster)
```



Hide

```
ggraph(G, 'tree', circular = TRUE) +
  geom_edge_link(colour = "#d3d3d3", width = 0.3, alpha = 0.4) +
  geom_node_label(aes(label = name, fill = cluster)) + scale_fill_manual(values =  getPalette(12)) + theme_void()
+ facet_nodes(~ cluster)
```




ESPR
LECO
LBTYA
5
IPAC
FTA
SECT
UDEC
6
FLDM
IHF
DTE
FMNB
TDS
7
JAAA
INDS
HPI
LEVI
8
CMP
ORAN
ANGL
FHLC
CMRE
JAZZ
AOR
GUSH
SPXL
Byrne Asset Management LLC
Founders Capital Management
Silverleafe Capital Partners, LLC
ZYNE
FAS
9
KAR
SOA Wealth Advisors, LLC
Kelso & Comp
FPF
NEA
RPV
PWV
Advocacy Wealth Management Services, LLC
NUV
IXG
FLJH
10
WK
PBYI
Diversified Trust Co
PEN
XLRE
PEP
NUSC
IMPACTfolio, LLC
HSKA
CMF
SUSB
11
VXH
WAL
XXII
SKYW
NJR
RPG
EXPO
BPOP
OTIS
ILCB
PULS
Vigilant Capital Management, LLC
SAM Advisors, LLC
ZYXI
DSM
FNLC
12
cluster
a 1
a 2
a 3
a 4
a 5
a 6
a 7
a 8
a 9
a 10
a 11
a 12
GNR
HDV
PNQI
AOA
PCG
SPYG
KNSA
TELEMUS CAPITAL, LLC
Vigilare Wealth Management
Spence Asset Management
EZM
ERX
IPAY
PAHC
CNNE
RHHBY
OFS
FWRD
AOUT
CLR
BIDU
EXPD
AA
WGO
TECK
CLB
GSBD
LZAGY
GSM
FLEX
FLXS
FIRST COMMUNITY TRUST NA
VNQI
HTGC
GOOD
First National Bank of Mount Dora, Trust Investment Services
IGPK
NWL
SPR
BE
FRPT
VTHR
JKS
FNDC
FLGT
AXON
TTWO
ADIRONDACK TRUST CO