Data Visualization

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Load data

```
load("Awards.Data.RData")

#View(data.awards)
```

```
library(tidyr)
library(dplyr)
library(ggplot2)
library(knitr)
#library(grid)
library(gridExtra)
```

Table 1. Number of times a Best Picture winner was nominated or won another category.

```r
# Create BP, a dataframe showing only Best Picture Winners
BP <- filter(data.awards, category_name == "BEST PICTURE", won == 1)

# Create BP.AlsoNom, a dataframe showing what other categories the Best Picture Winners were NOMINATED for
BP.AlsoNom <- left_join(BP, data.awards, by = "movie_name")
BP.AlsoNom <- filter(BP.AlsoNom, category_name.y != "BEST PICTURE")
BP.AlsoNom <- select(BP.AlsoNom, category_name.y)
BP.AlsoNom <- count(BP.AlsoNom, category_name.y)
BP.AlsoNom <- arrange(BP.AlsoNom, desc(n))

# Create BP.AlsoWon, a dataframe showing what other categories the Best Picture winners WON
data.awards.won <- filter(data.awards, won == 1)

BP.AlsoWon <- left_join(BP, data.awards.won, by = "movie_name")
BP.AlsoWon <- filter(BP.AlsoWon, category_name.y != "BEST PICTURE")
BP.AlsoWon <- select(BP.AlsoWon, category_name.y)
BP.AlsoWon <- count(BP.AlsoWon, category_name.y)
BP.AlsoWon <- arrange(BP.AlsoWon, desc(n))

kable(cbind(BP.AlsoNom, BP.AlsoWon),
      col.names = c("Category Nominations", "Count", "Category Winners", "Count"))
```

Category Nominations	Count	Category Winners	Count
WRITING	80	DIRECTING	61
DIRECTING	78	WRITING	56
FILM EDITING	69	FILM EDITING	33
ACTOR – LEADING ROLE	59	ART DIRECTION	27
ACTOR – SUPPORTING ROLE	55	ACTOR – LEADING ROLE	26
CINEMATOGRAPHY	54	CINEMATOGRAPHY	25
MUSIC (SCORING)	50	MUSIC (SCORING)	24
ART DIRECTION	48	SOUND	23
SOUND	45	COSTUME DESIGN	19
ACTRESS – SUPPORTING ROLE	36	ACTOR – SUPPORTING ROLE	15
COSTUME DESIGN	34	ACTRESS – SUPPORTING ROLE	12
ACTRESS – LEADING ROLE	28	ACTRESS – LEADING ROLE	11
MAKEUP	10	MUSIC (SONG)	5
MUSIC (SONG)	10	MAKEUP	4
SOUND EDITING	7	VISUAL EFFECTS	4

Figure 1. Barchart showing the number of times a Best Picture winner was nominated or won another category.

```
nom <- ggplot(data = BP.AlsoNom, aes(x = reorder(category_name.y, n), y=n)) + geom_bar(stat="identit
y") + coord_flip() + labs(x = "Category", y = "Nominations")

win <- ggplot(data = BP.AlsoWon, aes(x = reorder(category_name.y, n), y=n)) + geom_bar(stat="identit
y") + coord_flip() + labs(x = "Category", y = "Wins") + ylim(0, 80)

grid.arrange(nom, win, ncol=1)
```
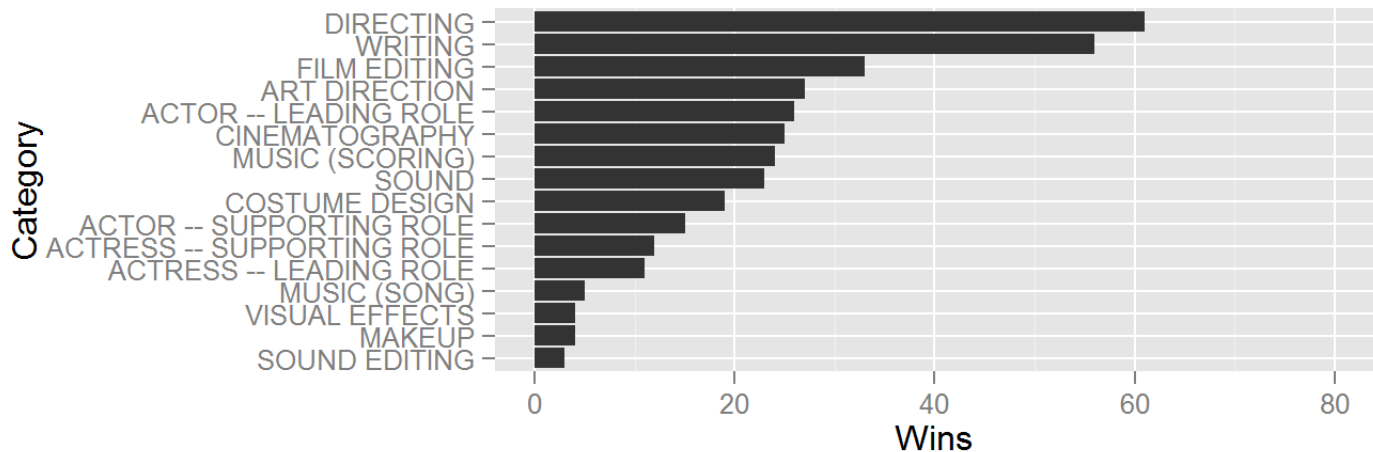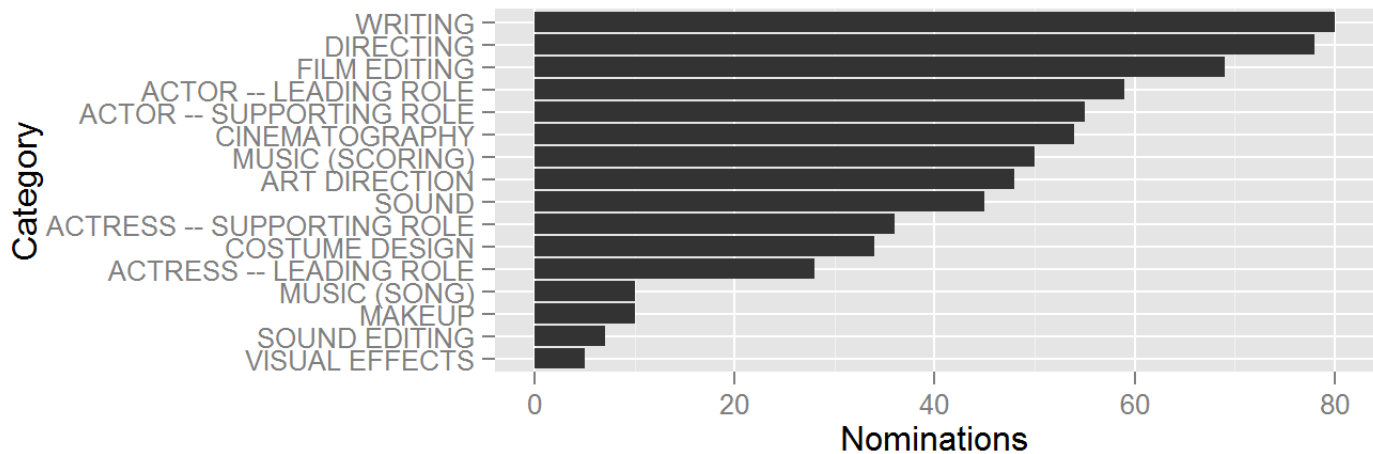

Correlation Matrices

Use Sekhar's method to create award and category matrices

```
library(dplyr)
library(tidyr)

awards_df <- read.csv("Awards_File.csv",stringsAsFactors=F)
awards_modified <- awards_df[,c(1,3,4,6)]
head(awards_modified)
```

```
##   movie_id year category_id won
## 1        1 2010           1   0
## 2        2 2010           1   0
## 3        2 2010           4   0
## 4        2 2010           6   0
## 5        2 2010           7   0
## 6        2 2010           8   0
```

```
awards_modified <- awards_modified %>%
  group_by(movie_id,year,category_id) %>%
  summarise(won=max(won))
awards_re_modified <- spread((awards_modified),category_id,won)
head(awards_re_modified)
```

```
## Source: local data frame [6 x 25]
##
##   movie_id year  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19
## 1        1 2010  0 NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 2        2 2010  0 NA NA  0 NA  0  0  0  0 NA NA NA NA NA NA  0 NA NA  0
## 3        3 2010  0 NA NA NA NA NA  0 NA  0 NA NA  1 NA  1 NA  0 NA NA  0
## 4        4 2010  1  0 NA  0 NA  0  0  0  1 NA NA  0 NA  0 NA  1 NA NA  0
## 5        5 2010  0 NA NA NA NA NA NA NA NA NA  0 NA  0  0  0 NA NA NA
## 6        6 2010 NA  1 NA  1 NA NA NA NA  0 NA NA  0 NA NA NA  0 NA NA NA
## Variables not shown: 20 (int), 21 (int), 22 (int), 23 (int)
```

```
award_categories <- unique(data.frame(category_id=awards_df$category_id,category_name=awards_df$categ
ory_name))
rownames(award_categories) <- NULL
names(awards_re_modified) <- c("movie_id", "year",  "c1",  "c2",  "c3",  "c4", "c5", "c6",  "c7",
 "c8",  "c9", "c10", "c11", "c12", "c13", "c14", "c15","c16", "c17", "c18", "c19", "c20", "c21", "c2
2", "c23")
```

Modify awards matrix to set NA = 0

```
####
names(awards_re_modified) <- c("movie_id", "year","ACTOR -- LEADING ROLE","ACTOR -- SUPPORTING ROL
E","ACTRESS
LEADING ROLE","ACTRESS SUPPORTING ROLE","ANIMATED FEATURE FILM","ART DIRECTION","CINEMATOGRAPHY","COS
TUME
DESIGN","DIRECTING","DOCUMENTARY FEATURE","DOCUMENTARY SHORT SUBJECT","FILM EDITING","MAKEUP","MUSIC
SCORING","MUSIC SONG","BEST PICTURE","SHORT FILM ANIMATED","SHORT FILM LIVE ACTION","SOUND","SOUND
EDITING","VISUAL EFFECTS","WRITING","DOCUMENTARY OTHER")
awards_mod <- awards_re_modified #create new var to preserve original
awards_mod[is.na(awards_mod)] <- 0 #set NA = 0
```

Figure 2. Correlation matrix, display circles

```
library(corrplot)
```

```
## Warning: package 'corrplot' was built under R version 3.1.3
```

```
W <- cor(awards_mod[3:25]) #correlate c1:c23
corrplot(W, method = "circle", tl.cex = 0.5)
```

Figure 3. Correlation matrix, display ellipses

```
corrplot(W, method = "ellipse", tl.cex = 0.5)
```
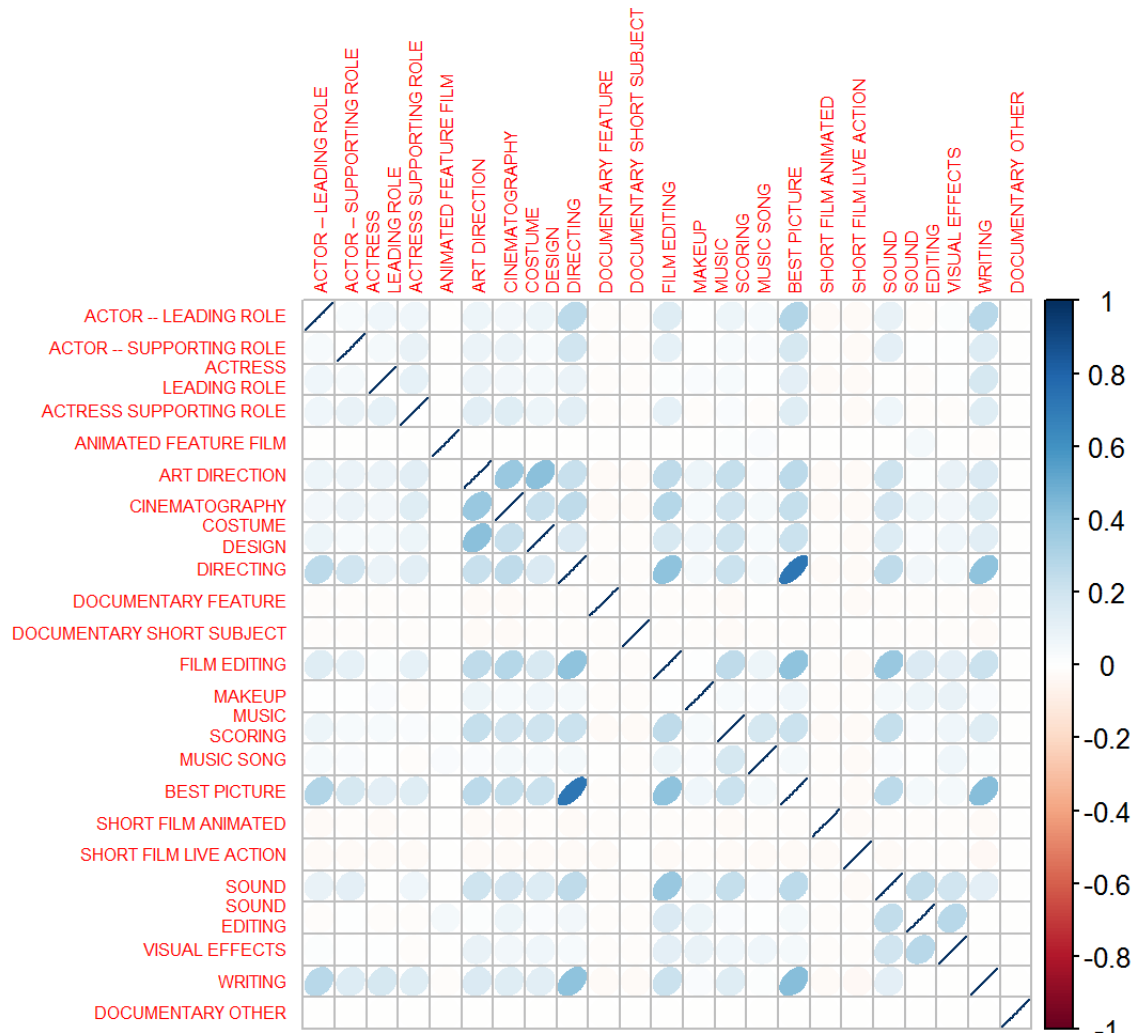

Figure 4. Correlation matrix, display squares

```
corrplot(W, method = "square", tl.cex = 0.5)
```
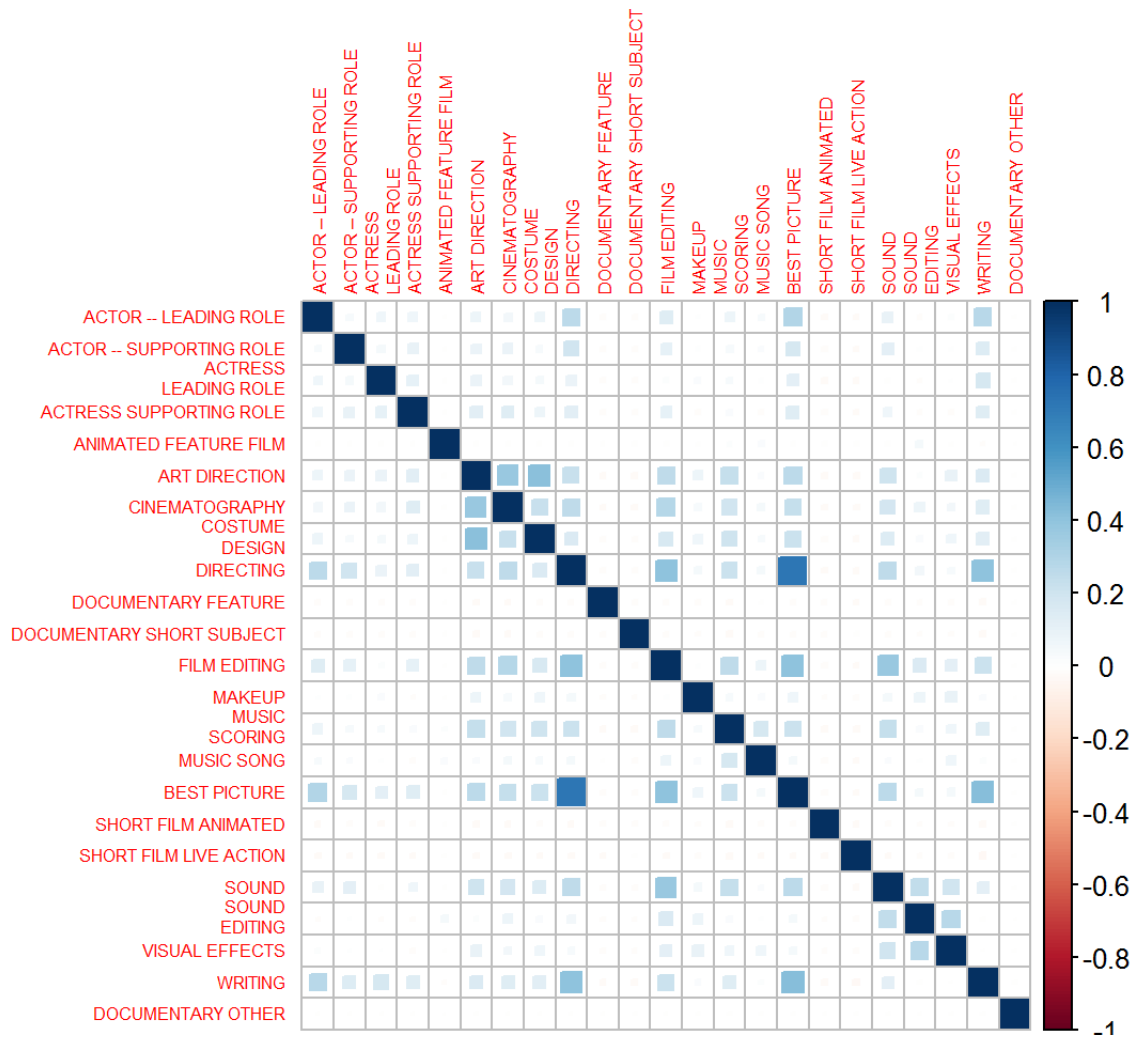
Figure 5. Correlation matrix, using ggplot2

```
library(ggplot2)
library(reshape2)
```

```
## Warning: package 'reshape2' was built under R version 3.1.3
```

```
cm <- qplot(x=Var1, y=Var2, data=melt(cor(awards_mod[3:25])), fill=value, geom="tile")
cm + theme(axis.text=element_text(size=8))
```
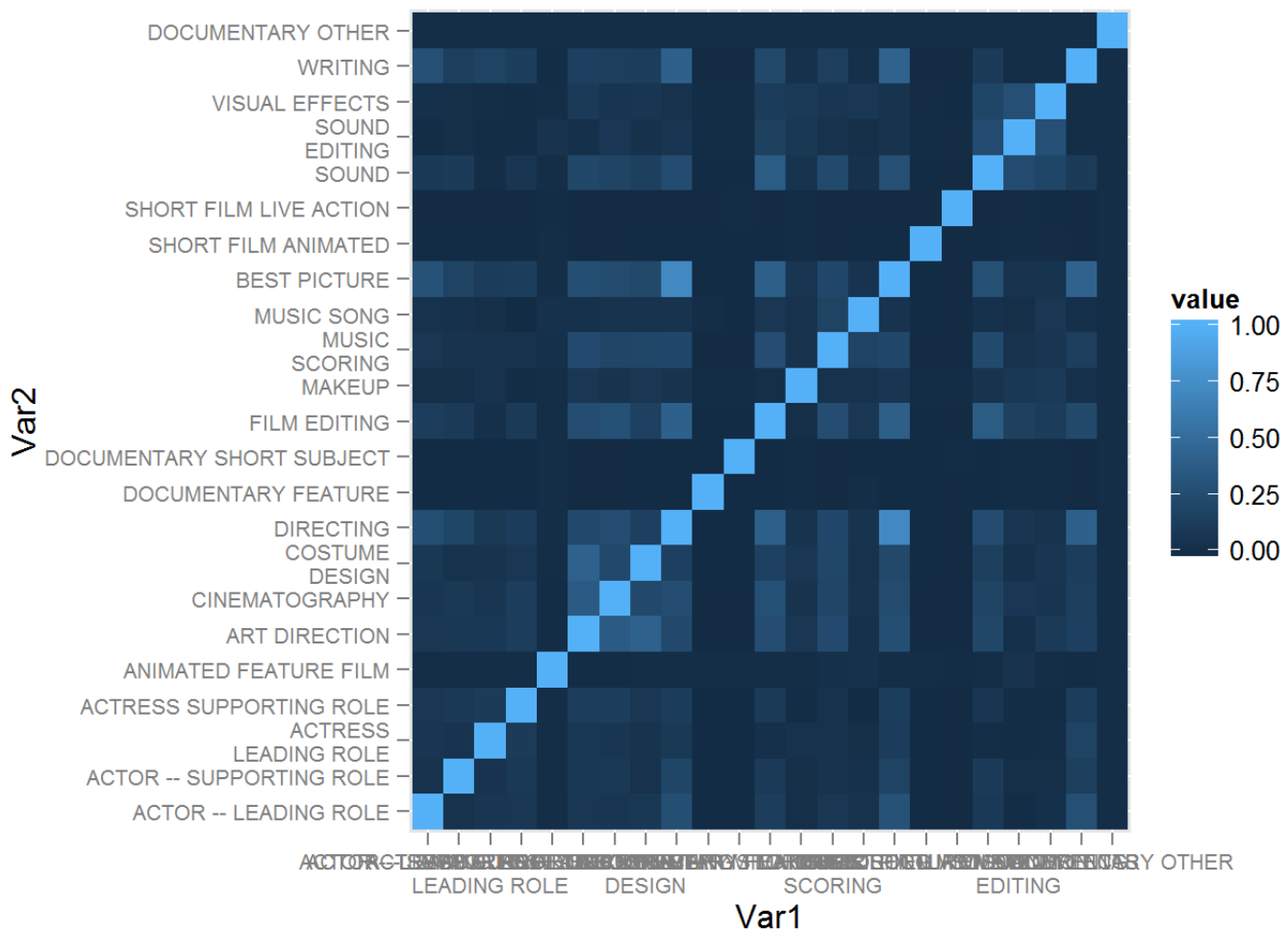
Table 2. Correlation Matrix, numerical values

```
x <- awards_mod[3:25]
y <- awards_mod[3:25]
cor(x, y)
```

```
##                              ACTOR -- LEADING ROLE ACTOR -- SUPPORTING ROLE
## ACTOR -- LEADING ROLE                 1.000000000               0.031442183
## ACTOR -- SUPPORTING ROLE              0.031442183               1.000000000
## ACTRESS\nLEADING ROLE                 0.063755763               0.044702504
## ACTRESS SUPPORTING ROLE               0.069755123               0.090204750
## ANIMATED FEATURE FILM                -0.007796584              -0.007314613
## ART DIRECTION                         0.072506810               0.080054937
## CINEMATOGRAPHY                        0.058936153               0.087843420
## COSTUME\nDESIGN                       0.078686034               0.033580145
## DIRECTING                             0.267328311               0.197464921
## DOCUMENTARY FEATURE                  -0.018964075              -0.017791749
## DOCUMENTARY SHORT SUBJECT            -0.018825820              -0.017662041
## FILM EDITING                          0.131378762               0.101967154
## MAKEUP                                0.007197662               0.009224239
## MUSIC\nSCORING                        0.074022300               0.039563592
```

```
## MUSIC SONG                        0.030521724           0.021538257
## BEST PICTURE                      0.295265477           0.174406734
## SHORT FILM ANIMATED              -0.020168626          -0.018921837
## SHORT FILM LIVE ACTION          -0.023553485          -0.022097450
## SOUND                            0.091877626           0.113451180
## SOUND\nEDITING                  -0.013917970           0.005933184
## VISUAL EFFECTS                   0.016160545           0.002224411
## WRITING                          0.272537746           0.141419198
## DOCUMENTARY OTHER               -0.004497010          -0.004219012
##                      ACTRESS\nLEADING ROLE ACTRESS SUPPORTING ROLE
## ACTOR -- LEADING ROLE            0.0637557625           0.069755123
## ACTOR -- SUPPORTING ROLE         0.0447025037           0.090204750
## ACTRESS\nLEADING ROLE            1.0000000000           0.108928458
## ACTRESS SUPPORTING ROLE          0.1089284579           1.000000000
## ANIMATED FEATURE FILM           -0.0077496318          -0.007314613
## ART DIRECTION                    0.0839561720           0.125503007
## CINEMATOGRAPHY                   0.0595665577           0.132112232
## COSTUME\nDESIGN                  0.0420486161           0.073047923
## DIRECTING                        0.0879173749           0.120839042
## DOCUMENTARY FEATURE             -0.0188498701          -0.017791749
## DOCUMENTARY SHORT SUBJECT       -0.0187124480          -0.017662041
## FILM EDITING                     0.0182542530           0.101967154
## MAKEUP                           0.0272607454          -0.011783712
## MUSIC\nSCORING                   0.0347082404           0.028980108
## MUSIC SONG                       0.0055738644          -0.018676191
## BEST PICTURE                     0.1138887590           0.135644487
## SHORT FILM ANIMATED             -0.0200471669          -0.018921837
## SHORT FILM LIVE ACTION          -0.0234116423          -0.022097450
## SOUND                           -0.0075252400           0.060501973
## SOUND\nEDITING                  -0.0138341537          -0.013057585
## VISUAL EFFECTS                   0.0004362834          -0.014693358
## WRITING                          0.1728635223           0.132467112
## DOCUMENTARY OTHER               -0.0044699280          -0.004219012
##                      ANIMATED FEATURE FILM ART DIRECTION
## ACTOR -- LEADING ROLE           -0.007796584   0.072506810
## ACTOR -- SUPPORTING ROLE        -0.007314613   0.080054937
## ACTRESS\nLEADING ROLE           -0.007749632   0.083956172
## ACTRESS SUPPORTING ROLE         -0.007314613   0.125503007
## ANIMATED FEATURE FILM            1.000000000  -0.008813338
## ART DIRECTION                   -0.008813338   1.000000000
## CINEMATOGRAPHY                  -0.009061580   0.370686282
## COSTUME\nDESIGN                 -0.007559144   0.417374104
## DIRECTING                       -0.007796584   0.222109306
## DOCUMENTARY FEATURE             -0.007062251  -0.021437183
## DOCUMENTARY SHORT SUBJECT       -0.007010764  -0.021280899
## FILM EDITING                    -0.007413321   0.257903256
## MAKEUP                          -0.004677423   0.073692036
```

```
## MUSIC\nSCORING                 0.016754610    0.236824382
## MUSIC SONG                      0.025842324    0.022362133
## BEST PICTURE                   -0.007702417    0.268522271
## SHORT FILM ANIMATED            -0.007510827   -0.022798820
## SHORT FILM LIVE ACTION         -0.008771354   -0.026625099
## SOUND                          -0.007510827    0.209798842
## SOUND\nEDITING                  0.041930610    0.016047368
## VISUAL EFFECTS                 -0.005832377    0.095541216
## WRITING                        -0.011380431    0.152717654
## DOCUMENTARY OTHER              -0.001674693   -0.005083466
##                         CINEMATOGRAPHY COSTUME\nDESIGN   DIRECTING
## ACTOR -- LEADING ROLE        0.05893615     0.078686034  0.267328311
## ACTOR -- SUPPORTING ROLE     0.08784342     0.033580145  0.197464921
## ACTRESS\nLEADING ROLE        0.05956656     0.042048616  0.087917375
## ACTRESS SUPPORTING ROLE      0.13211223     0.073047923  0.120839042
## ANIMATED FEATURE FILM       -0.00906158    -0.007559144 -0.007796584
## ART DIRECTION                0.37068628     0.417374104  0.222109306
## CINEMATOGRAPHY               1.00000000     0.223022531  0.256699968
## COSTUME\nDESIGN              0.22302253     1.000000000  0.152924338
## DIRECTING                    0.25669997     0.152924338  1.000000000
## DOCUMENTARY FEATURE         -0.02204100    -0.018386537 -0.018964075
## DOCUMENTARY SHORT SUBJECT   -0.02188031    -0.018252492 -0.018825820
## FILM EDITING                 0.28276926     0.162519375  0.408735615
## MAKEUP                       0.03676774     0.069235822  0.046713306
## MUSIC\nSCORING               0.19461560     0.200844175  0.213373931
## MUSIC SONG                   0.04241460     0.032648003  0.043128854
## BEST PICTURE                 0.23922825     0.217791704  0.720580863
## SHORT FILM ANIMATED         -0.02344099    -0.019554404 -0.020168626
## SHORT FILM LIVE ACTION      -0.02737504    -0.022836180 -0.023553485
## SOUND                        0.18154401     0.147168546  0.253722211
## SOUND\nEDITING               0.07669114     0.023303969  0.057524736
## VISUAL EFFECTS               0.05073911     0.066768589  0.032071581
## WRITING                      0.13958953     0.126487780  0.407247664
## DOCUMENTARY OTHER           -0.00522665    -0.004360056 -0.004497010
##                         DOCUMENTARY FEATURE DOCUMENTARY SHORT SUBJECT
## ACTOR -- LEADING ROLE           -0.018964075             -0.018825820
## ACTOR -- SUPPORTING ROLE        -0.017791749             -0.017662041
## ACTRESS\nLEADING ROLE           -0.018849870             -0.018712448
## ACTRESS SUPPORTING ROLE         -0.017791749             -0.017662041
## ANIMATED FEATURE FILM           -0.007062251             -0.007010764
## ART DIRECTION                   -0.021437183             -0.021280899
## CINEMATOGRAPHY                  -0.022040997             -0.021880311
## COSTUME\nDESIGN                 -0.018386537             -0.018252492
## DIRECTING                       -0.018964075             -0.018825820
## DOCUMENTARY FEATURE              1.000000000             -0.017052681
## DOCUMENTARY SHORT SUBJECT       -0.017052681              1.000000000
## FILM EDITING                    -0.018031842             -0.017900384
```

```
## MAKEUP                             -0.011377161             -0.011294218
## MUSIC\nSCORING                     -0.023111450             -0.022942959
## MUSIC SONG                         -0.004165055             -0.017900384
## BEST PICTURE                       -0.018735026             -0.018598441
## SHORT FILM ANIMATED                -0.018269012             -0.018135825
## SHORT FILM LIVE ACTION             -0.021335064             -0.009288812
## SOUND                              -0.018269012             -0.018135825
## SOUND\nEDITING                     -0.012607084             -0.012515174
## VISUAL EFFECTS                     -0.014186421             -0.014082997
## WRITING                            -0.027681270             -0.027479464
## DOCUMENTARY OTHER                  -0.004073452             -0.004043755
##                            FILM EDITING      MAKEUP MUSIC\nSCORING
## ACTOR -- LEADING ROLE       0.131378762  0.007197662      0.07402230
## ACTOR -- SUPPORTING ROLE    0.101967154  0.009224239      0.03956359
## ACTRESS\nLEADING ROLE       0.018254253  0.027260745      0.03470824
## ACTRESS SUPPORTING ROLE     0.101967154 -0.011783712      0.02898011
## ANIMATED FEATURE FILM      -0.007413321 -0.004677423      0.01675461
## ART DIRECTION               0.257903256  0.073692036      0.23682438
## CINEMATOGRAPHY              0.282769264  0.036767744      0.19461560
## COSTUME\nDESIGN             0.162519375  0.069235822      0.20084417
## DIRECTING                   0.408735615  0.046713306      0.21337393
## DOCUMENTARY FEATURE        -0.018031842 -0.011377161     -0.02311145
## DOCUMENTARY SHORT SUBJECT  -0.017900384 -0.011294218     -0.02294296
## FILM EDITING                1.000000000  0.008795693      0.25782754
## MAKEUP                      0.008795693  1.000000000      0.03381370
## MUSIC\nSCORING              0.257827544  0.033813704      1.00000000
## MUSIC SONG                  0.073701618  0.029534115      0.17424595
## BEST PICTURE                0.401247896  0.067549655      0.21648362
## SHORT FILM ANIMATED        -0.019177180 -0.012099810     -0.02457943
## SHORT FILM LIVE ACTION     -0.022395647 -0.014130497     -0.02870455
## SOUND                       0.372846880  0.049337977      0.23334904
## SOUND\nEDITING              0.155490284  0.079791297      0.02744237
## VISUAL EFFECTS              0.118714091  0.095297214      0.06002750
## WRITING                     0.218385155  0.023215303      0.13718831
## DOCUMENTARY OTHER          -0.004275947 -0.002697901     -0.00548049
##                            MUSIC SONG BEST PICTURE SHORT FILM ANIMATED
## ACTOR -- LEADING ROLE       0.030521724  0.295265477         -0.020168626
## ACTOR -- SUPPORTING ROLE    0.021538257  0.174406734         -0.018921837
## ACTRESS\nLEADING ROLE       0.005573864  0.113888759         -0.020047167
## ACTRESS SUPPORTING ROLE    -0.018676191  0.135644487         -0.018921837
## ANIMATED FEATURE FILM       0.025842324 -0.007702417         -0.007510827
## ART DIRECTION               0.022362133  0.268522271         -0.022798820
## CINEMATOGRAPHY              0.042414599  0.239228246         -0.023440987
## COSTUME\nDESIGN             0.032648003  0.217791704         -0.019554404
## DIRECTING                   0.043128854  0.720580863         -0.020168626
## DOCUMENTARY FEATURE        -0.004165055 -0.018735026         -0.018269012
## DOCUMENTARY SHORT SUBJECT  -0.017900384 -0.018598441         -0.018135825
```

```
## FILM EDITING                 0.073701618  0.401247896      -0.019177180
## MAKEUP                        0.029534115  0.067549655      -0.012099810
## MUSIC\nSCORING                0.174245949  0.216483617      -0.024579432
## MUSIC SONG                    1.000000000  0.044108527      -0.019177180
## BEST PICTURE                  0.044108527  1.000000000      -0.019925028
## SHORT FILM ANIMATED          -0.019177180 -0.019925028       1.000000000
## SHORT FILM LIVE ACTION       -0.022395647 -0.023269005      -0.022690214
## SOUND                         0.020025226  0.269773396      -0.019429415
## SOUND\nEDITING                0.005513327  0.040460535      -0.013407855
## VISUAL EFFECTS                0.068611942  0.048918152      -0.015087507
## WRITING                       0.015128829  0.429787279      -0.029439516
## DOCUMENTARY OTHER            -0.004275947 -0.004442695      -0.004332187
##                          SHORT FILM LIVE ACTION       SOUND
## ACTOR -- LEADING ROLE             -0.023553485  0.091877626
## ACTOR -- SUPPORTING ROLE          -0.022097450  0.113451180
## ACTRESS\nLEADING ROLE             -0.023411642 -0.007525240
## ACTRESS SUPPORTING ROLE           -0.022097450  0.060501973
## ANIMATED FEATURE FILM             -0.008771354 -0.007510827
## ART DIRECTION                     -0.026625099  0.209798842
## CINEMATOGRAPHY                    -0.027375040  0.181544012
## COSTUME\nDESIGN                   -0.022836180  0.147168546
## DIRECTING                         -0.023553485  0.253722211
## DOCUMENTARY FEATURE               -0.021335064 -0.018269012
## DOCUMENTARY SHORT SUBJECT         -0.009288812 -0.018135825
## FILM EDITING                      -0.022395647  0.372846880
## MAKEUP                            -0.014130497  0.049337977
## MUSIC\nSCORING                    -0.028704548  0.233349036
## MUSIC SONG                        -0.022395647  0.020025226
## BEST PICTURE                      -0.023269005  0.269773396
## SHORT FILM ANIMATED               -0.022690214 -0.019429415
## SHORT FILM LIVE ACTION             1.000000000 -0.022690214
## SOUND                             -0.022690214  1.000000000
## SOUND\nEDITING                    -0.015658068  0.245771967
## VISUAL EFFECTS                    -0.017619613  0.199308678
## WRITING                           -0.034380290  0.110189225
## DOCUMENTARY OTHER                 -0.005059250 -0.004332187
##                          SOUND\nEDITING VISUAL EFFECTS     WRITING
## ACTOR -- LEADING ROLE      -0.013917970   0.0161605455  0.2725377457
## ACTOR -- SUPPORTING ROLE    0.005933184   0.0022244112  0.1414191978
## ACTRESS\nLEADING ROLE      -0.013834154   0.0004362834  0.1728635223
## ACTRESS SUPPORTING ROLE    -0.013057585  -0.0146933581  0.1324671121
## ANIMATED FEATURE FILM       0.041930610  -0.0058323766 -0.0113804313
## ART DIRECTION               0.016047368   0.0955412164  0.1527176545
## CINEMATOGRAPHY              0.076691137   0.0507391100  0.1395895318
## COSTUME\nDESIGN             0.023303969   0.0667685886  0.1264877804
## DIRECTING                   0.057524736   0.0320715813  0.4072476641
## DOCUMENTARY FEATURE        -0.012607084  -0.0141864212 -0.0276812702
```

```
## DOCUMENTARY SHORT SUBJECT     -0.012515174  -0.0140829972 -0.0274794641
## FILM EDITING                   0.155490284   0.1187140907  0.2183851548
## MAKEUP                         0.079791297   0.0952972142  0.0232153029
## MUSIC\nSCORING                 0.027442375   0.0600275014  0.1371883115
## MUSIC SONG                     0.005513327   0.0686119417  0.0151288288
## BEST PICTURE                   0.040460535   0.0489181524  0.4297872785
## SHORT FILM ANIMATED           -0.013407855  -0.0150875074 -0.0294395156
## SHORT FILM LIVE ACTION        -0.015658068  -0.0176196131 -0.0343802898
## SOUND                          0.245771967   0.1993086779  0.1101892247
## SOUND\nEDITING                 1.000000000   0.2735097458 -0.0077958126
## VISUAL EFFECTS                 0.273509746   1.0000000000 -0.0005542952
## WRITING                       -0.007795813  -0.0005542952  1.0000000000
## DOCUMENTARY OTHER             -0.002989557  -0.0033640699 -0.0065641452
##                            DOCUMENTARY OTHER
## ACTOR -- LEADING ROLE            -0.004497010
## ACTOR -- SUPPORTING ROLE         -0.004219012
## ACTRESS\nLEADING ROLE            -0.004469928
## ACTRESS SUPPORTING ROLE          -0.004219012
## ANIMATED FEATURE FILM            -0.001674693
## ART DIRECTION                    -0.005083466
## CINEMATOGRAPHY                   -0.005226650
## COSTUME\nDESIGN                  -0.004360056
## DIRECTING                        -0.004497010
## DOCUMENTARY FEATURE              -0.004073452
## DOCUMENTARY SHORT SUBJECT        -0.004043755
## FILM EDITING                     -0.004275947
## MAKEUP                           -0.002697901
## MUSIC\nSCORING                   -0.005480490
## MUSIC SONG                       -0.004275947
## BEST PICTURE                     -0.004442695
## SHORT FILM ANIMATED              -0.004332187
## SHORT FILM LIVE ACTION           -0.005059250
## SOUND                            -0.004332187
## SOUND\nEDITING                   -0.002989557
## VISUAL EFFECTS                   -0.003364070
## WRITING                          -0.006564145
## DOCUMENTARY OTHER                 1.000000000
```

An analysis of the various correlation matrix visualizations and table of numerical values shows the primary determining factor is DIRECTING, followed by WRITING and then FILM EDITING.

Note: There was an issue with NA values; we could not get them to be ignored, so instead had to set them equal to 0, which may have resulted in some skewing of the results.

```
require(ggplot2)
library(ggplot2)
library(plot3D)
```

```
## Warning: package 'plot3D' was built under R version 3.1.3
```

```
library(scatterplot3d)
```

```
## Warning: package 'scatterplot3d' was built under R version 3.1.3
```

I took the summary table that Honey, Vuthy, James, and Sonya had created and added few graphics as well

Please note that i only took the summary with the below following columns: Category.Nominations, Count, Category.Winners, Count

Also, I loaded and shared the table as csv using dropconvas website as per below

```
data1<- read.table(file= "http://dropcanvas.com/dcm0h/1", header = TRUE, sep=",")
str(data1)
```

```
## 'data.frame':    16 obs. of  4 variables:
##  $ Category.Nominations: Factor w/ 16 levels "ACTOR  LEADING ROLE",..: 16 8 9 1 2 6 11 5 13 4 ...
##  $ Count               : int  80 78 69 59 55 54 50 48 45 36 ...
##  $ Category.Winners    : Factor w/ 16 levels "ACTOR  LEADING ROLE",..: 8 16 9 5 1 6 11 13 7 2 ...
##  $ Count.1             : int  61 56 33 27 26 25 24 23 19 15 ...
```

```
head(data1)
```

```
##      Category.Nominations Count      Category.Winners Count.1
## 1                 WRITING    80             DIRECTING      61
## 2               DIRECTING    78               WRITING      56
## 3             FILM EDITING    69          FILM EDITING      33
## 4      ACTOR  LEADING ROLE    59         ART DIRECTION      27
## 5 ACTOR  SUPPORTING ROLE    55 ACTOR  LEADING ROLE      26
## 6           CINEMATOGRAPHY    54        CINEMATOGRAPHY      25
```
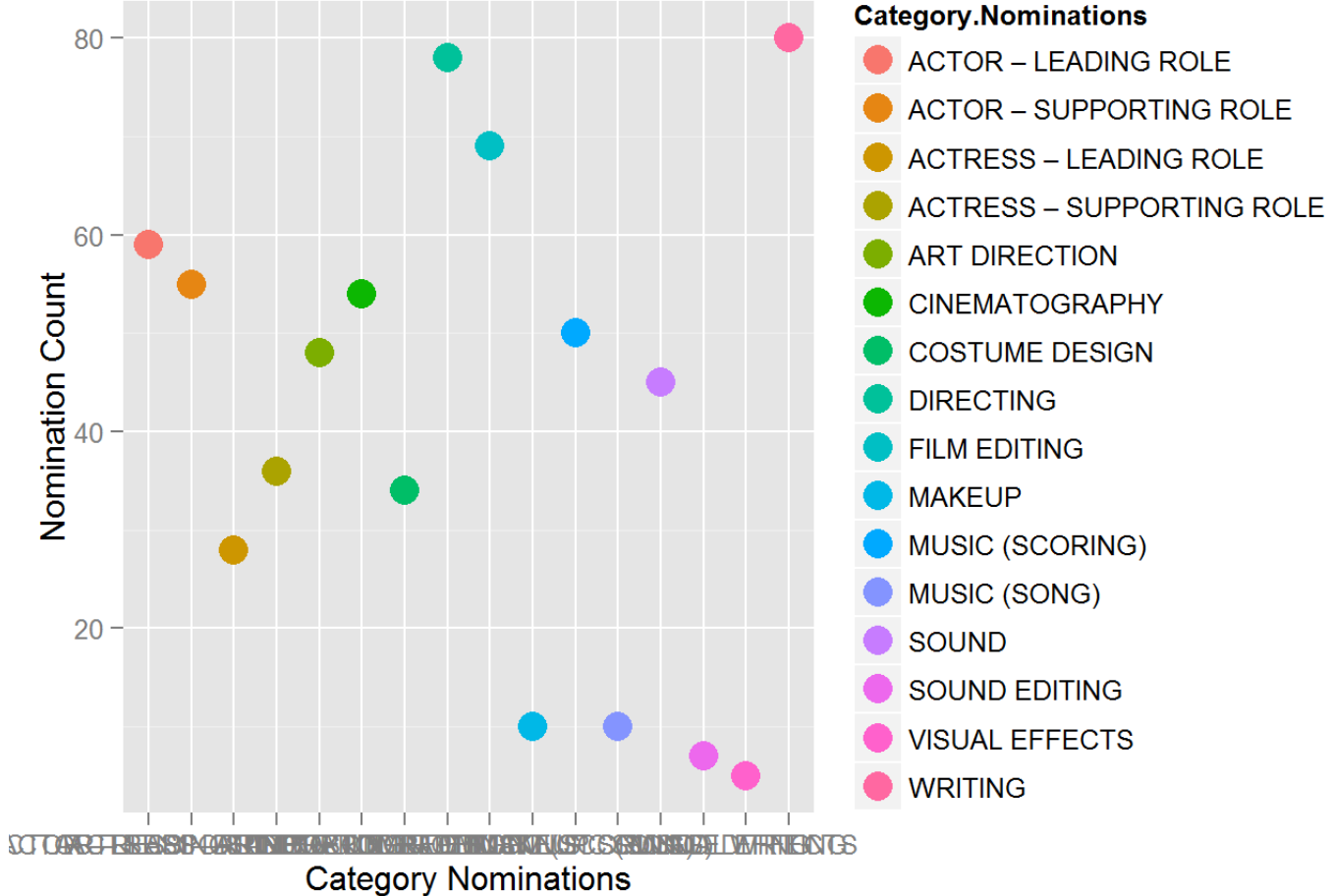
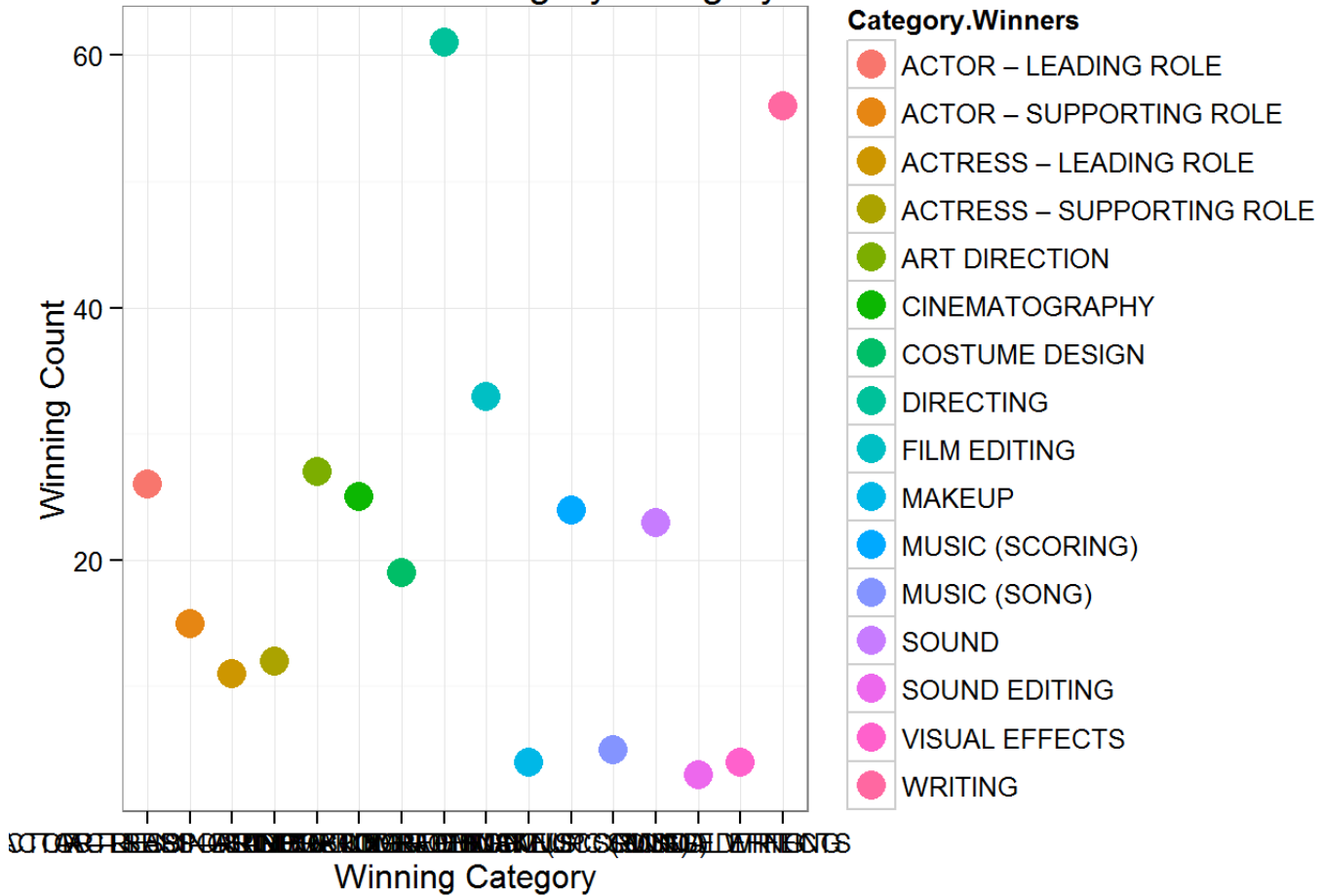# Distribution Nominations By Category

Distribution Nominations By Category
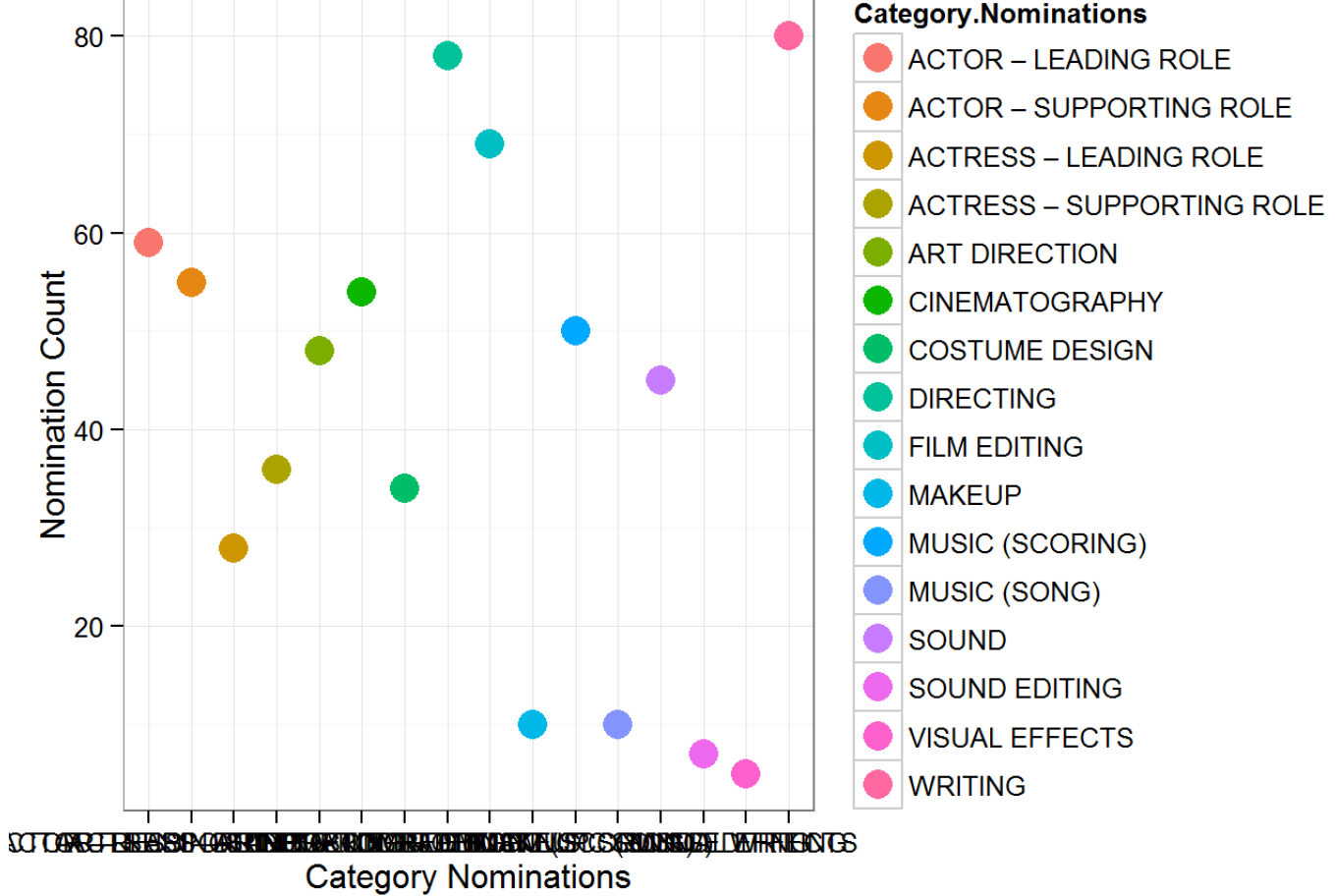
Category.Nominations
- ACTOR – LEADING ROLE
- ACTOR – SUPPORTING ROLE
- ACTRESS – LEADING ROLE
- ACTRESS – SUPPORTING ROLE
- ART DIRECTION
- CINEMATOGRAPHY
- COSTUME DESIGN
- DIRECTING
- FILM EDITING
- MAKEUP
- MUSIC (SCORING)
- MUSIC (SONG)
- SOUND
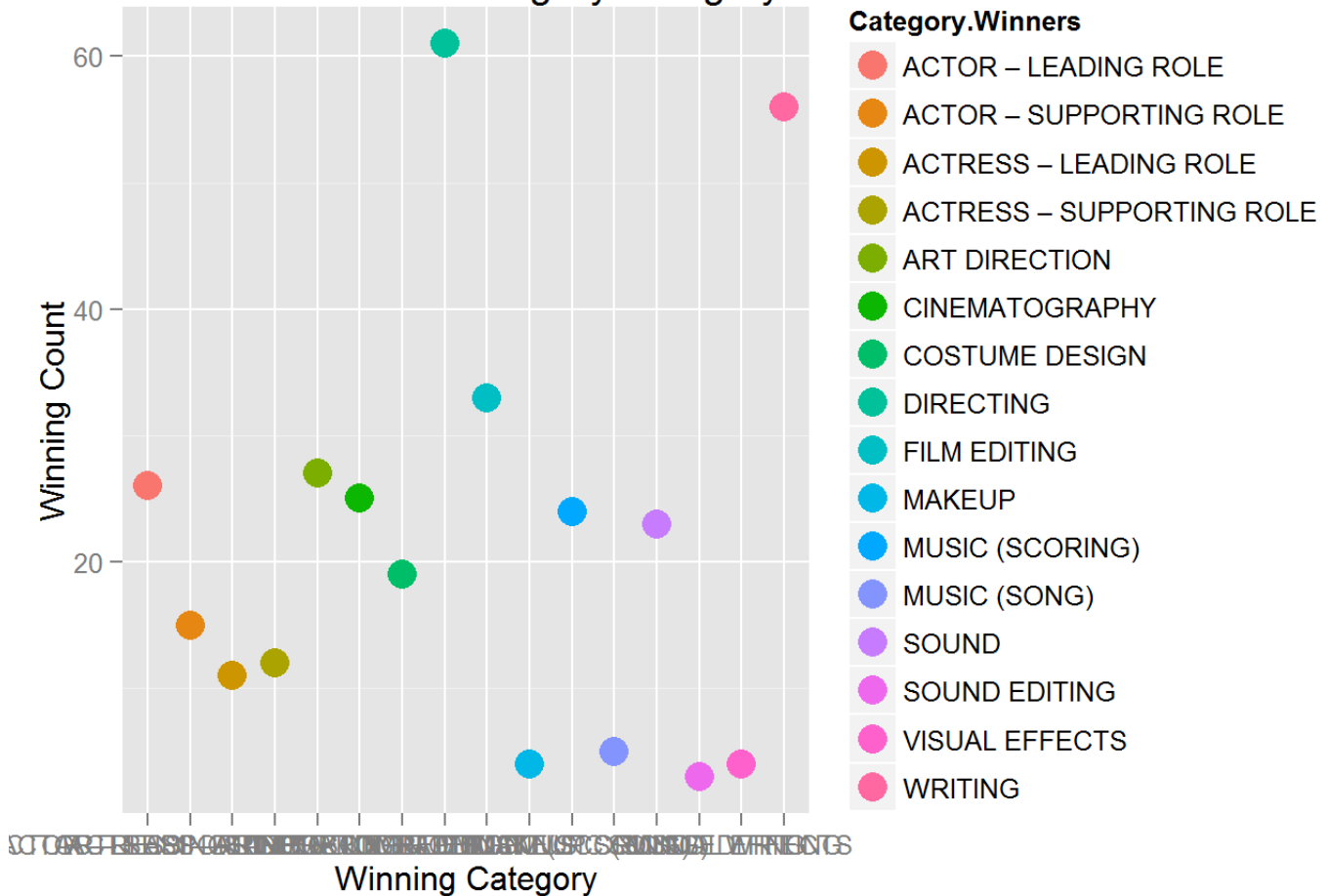- SOUND EDITING
- VISUAL EFFECTS
- WRITING

Distribution of Winning By Category

Distribution of Winning By Category

Distribution of Winning By Category

Distribution of Wins over Winning by Nominations Category

```
attach(data1)
scatterplot3d(Category.Nominations, Category.Winners, Count.1, pch=16, highlight.3d=TRUE,
            type="h", main="Distribution of Wins over Winning by Nominations Category",
            xlab = "Category.Nominations", ylab = "Winning Category", zlab = " Winners")
```


Distribution of Wins over Winning by Nominations Category