Regression\_analysis\_Tablet

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#device <- list('Laptop', 'Smart\_Phone', 'Desktop\_Computer','Tablet','Smart\_Speaker','Smart\_Watch')  
cur\_file = 'encoded\_Affordance\_November19\_alldata\_'  
file\_name <- paste('C:/Users/sree2/Dropbox/SYR\_GAship/afforadance\_Study/Datasets/Encoded\_files/',cur\_file,'Tablet','\_data.csv',sep="")  
#file\_name  
library(readr)  
cur\_dev\_data <- read\_csv(file\_name)

## Warning: Missing column names filled in: 'X1' [1]

## Parsed with column specification:  
## cols(  
## .default = col\_integer(),  
## ResponseId = col\_character(),  
## device\_use = col\_number(),  
## Q20 = col\_number(),  
## scenario = col\_character(),  
## raw\_scenario = col\_character(),  
## org\_scenaio = col\_character()  
## )

## See spec(...) for full column specifications.

#head(cur\_dev\_data)

library(stringr)  
#Relationship\_3  
#location\_3  
#Q4\_feat3  
headers <- colnames(cur\_dev\_data)  
form\_fin <- ""  
for(var in 1:length(headers))  
{  
 #headers[1]  
 if(str\_detect(headers[var],'\_')) {  
 if(str\_detect(headers[var],'sce') == FALSE) {  
 if(str\_detect(headers[var],'device') == FALSE) {  
 if(str\_detect(headers[var],'actual') == FALSE){  
 if(str\_detect(headers[var],'Q4\_feat3') == FALSE) {  
 if(str\_detect(headers[var],'location\_3') == FALSE) {  
 if(str\_detect(headers[var],'Relationship\_3') == FALSE) {  
 form\_fin <- paste(form\_fin,headers[var],sep="+")  
 }  
 }  
 }  
 }  
 }  
 }  
 }  
}  
   
  
form\_fin <- substring(form\_fin,2)  
form\_fin <- paste("actual\_use",form\_fin,sep="~")  
#form\_fin

glmout <- glm(form\_fin, data=cur\_dev\_data)  
feats <- summary(glmout)#$coefficients[,4]  
feats

##   
## Call:  
## glm(formula = form\_fin, data = cur\_dev\_data)  
##   
## Deviance Residuals:   
## Min 1Q Median 3Q Max   
## -0.29972 -0.09126 -0.03568 0.01906 0.98027   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 0.0318888 0.0572667 0.557 0.57777   
## Q1\_feat1 0.0262048 0.0210720 1.244 0.21399   
## Q1\_feat2 0.0400661 0.0274700 1.459 0.14505   
## Q1\_feat3 0.0243026 0.0246089 0.988 0.32365   
## Q1\_feat4 0.0716498 0.0234886 3.050 0.00235 \*\*   
## Q1\_feat5 -0.0091676 0.0190980 -0.480 0.63133   
## Q1\_feat7 0.0392387 0.0420554 0.933 0.35107   
## Q2\_feat1 -0.1475027 0.0457668 -3.223 0.00132 \*\*   
## Q2\_feat2 -0.0411068 0.0309556 -1.328 0.18455   
## Q2\_feat3 -0.1613397 0.0449481 -3.589 0.00035 \*\*\*  
## Q2\_feat5 -0.1957101 0.0475784 -4.113 4.27e-05 \*\*\*  
## Q3\_feat1 -0.0120350 0.0189721 -0.634 0.52602   
## Q3\_feat2 -0.0205693 0.0174747 -1.177 0.23948   
## Q3\_feat3 0.0020943 0.0186071 0.113 0.91041   
## Q3\_feat4 -0.0182437 0.0284269 -0.642 0.52119   
## Q3\_feat6 0.0179969 0.0423998 0.424 0.67134   
## Q4\_feat1 0.0090773 0.0172868 0.525 0.59965   
## Q5\_feat1 0.0619010 0.0357828 1.730 0.08400 .   
## Q5\_feat2 0.0343101 0.0365958 0.938 0.34874   
## Q5\_feat3 0.0046642 0.0336626 0.139 0.88983   
## Q5\_feat4 -0.0106239 0.0433831 -0.245 0.80660   
## Q5\_feat6 0.0272669 0.0619819 0.440 0.66011   
## Q6\_feat1 0.0338714 0.0292377 1.158 0.24698   
## Q6\_feat2 0.0183386 0.0228053 0.804 0.42154   
## Q6\_feat3 0.0400485 0.0287714 1.392 0.16429   
## Q6\_feat4 0.0526592 0.0390016 1.350 0.17731   
## Q7\_feat1 0.0559887 0.0222042 2.522 0.01186 \*   
## Q7\_feat2 0.0204447 0.0217230 0.941 0.34689   
## Q7\_feat3 0.0106747 0.0216887 0.492 0.62272   
## Q7\_feat5 0.0442229 0.0289933 1.525 0.12755   
## Q8\_feat1 0.1089016 0.0270894 4.020 6.32e-05 \*\*\*  
## Q8\_feat2 0.0568174 0.0283303 2.006 0.04522 \*   
## Q8\_feat3 -0.0156285 0.0212792 -0.734 0.46287   
## Q8\_feat5 0.0451712 0.0342184 1.320 0.18715   
## Q9\_feat1 0.0223364 0.0189300 1.180 0.23834   
## Q9\_feat2 0.0024207 0.0192312 0.126 0.89986   
## Q9\_feat3 0.0217421 0.0239576 0.908 0.36438   
## Q9\_feat4 -0.0124239 0.0304601 -0.408 0.68347   
## Q9\_feat6 0.0088193 0.0345403 0.255 0.79853   
## Q10\_feat1 -0.0077015 0.0203648 -0.378 0.70539   
## Q10\_feat2 0.0063057 0.0190859 0.330 0.74119   
## Q10\_feat3 -0.0580880 0.0233042 -2.493 0.01287 \*   
## Q10\_feat4 0.0074467 0.0237939 0.313 0.75438   
## Q10\_feat6 0.0365171 0.0310734 1.175 0.24024   
## Q10\_feat7 -0.0092211 0.0423491 -0.218 0.82768   
## Q11\_feat1 -0.0175481 0.0190255 -0.922 0.35660   
## Q11\_feat2 0.0943393 0.0359680 2.623 0.00887 \*\*   
## Q11\_feat3 0.0153307 0.0297615 0.515 0.60660   
## Q11\_feat5 0.0977701 0.0522744 1.870 0.06177 .   
## Q12\_feat1 -0.0180945 0.0272906 -0.663 0.50749   
## Q12\_feat2 -0.0052168 0.0224769 -0.232 0.81652   
## Q12\_feat3 -0.0306787 0.0225394 -1.361 0.17383   
## Q12\_feat5 -0.0362621 0.0312380 -1.161 0.24603   
## Q13\_feat1 -0.0357064 0.0260485 -1.371 0.17080   
## Q13\_feat2 -0.0647098 0.0281859 -2.296 0.02192 \*   
## Q13\_feat4 -0.0893083 0.0368513 -2.423 0.01558 \*   
## Tablet\_Q1\_feat1 -0.0075819 0.0512713 -0.148 0.88247   
## Tablet\_Q1\_feat2 -0.0245234 0.0509704 -0.481 0.63055   
## Tablet\_Q1\_feat3 -0.0364447 0.0317401 -1.148 0.25119   
## Tablet\_Q1\_feat4 -0.0449025 0.0657064 -0.683 0.49455   
## Tablet\_Q1\_feat5 0.0139521 0.0449741 0.310 0.75646   
## Tablet\_Q1\_feat7 -0.0001777 0.0873165 -0.002 0.99838   
## Tablet\_Q2\_feat1 -0.0289373 0.1408391 -0.205 0.83726   
## Tablet\_Q2\_feat2 -0.0526416 0.1111870 -0.473 0.63601   
## Tablet\_Q2\_feat3 -0.0809869 0.1423740 -0.569 0.56962   
## Tablet\_Q2\_feat5 -0.0195220 0.1450381 -0.135 0.89296   
## Tablet\_Q3\_feat1 0.0193842 0.0382748 0.506 0.61267   
## Tablet\_Q3\_feat2 -0.0220558 0.0316751 -0.696 0.48642   
## Tablet\_Q3\_feat3 -0.0127637 0.0435433 -0.293 0.76950   
## Tablet\_Q3\_feat4 -0.0653946 0.0647405 -1.010 0.31273   
## Tablet\_Q3\_feat6 -0.0342528 0.0710649 -0.482 0.62993   
## Tablet\_Q4\_feat1 0.0316427 0.0338650 0.934 0.35037   
## Tablet\_Q5\_feat1 0.3538547 0.1227496 2.883 0.00404 \*\*   
## Tablet\_Q5\_feat2 0.2028711 0.1295832 1.566 0.11781   
## Tablet\_Q5\_feat3 -0.0202749 0.1114216 -0.182 0.85565   
## Tablet\_Q5\_feat4 0.0652929 0.1381452 0.473 0.63659   
## Tablet\_Q5\_feat6 0.3666595 0.1602217 2.288 0.02235 \*   
## Tablet\_Q6\_feat1 0.0886511 0.0699792 1.267 0.20556   
## Tablet\_Q6\_feat2 0.0515500 0.0584015 0.883 0.37765   
## Tablet\_Q6\_feat3 0.0314807 0.0716100 0.440 0.66033   
## Tablet\_Q6\_feat4 0.0891127 0.0805342 1.107 0.26881   
## Tablet\_Q7\_feat1 0.0637076 0.0506708 1.257 0.20899   
## Tablet\_Q7\_feat2 0.0249081 0.0507078 0.491 0.62340   
## Tablet\_Q7\_feat3 -0.0169301 0.0552472 -0.306 0.75934   
## Tablet\_Q7\_feat5 0.0355883 0.0630430 0.565 0.57255   
## Tablet\_Q8\_feat1 0.1464447 0.0875039 1.674 0.09457 .   
## Tablet\_Q8\_feat2 0.0973333 0.0909731 1.070 0.28496   
## Tablet\_Q8\_feat3 0.0269633 0.0553690 0.487 0.62640   
## Tablet\_Q8\_feat5 0.1100775 0.0992253 1.109 0.26758   
## Tablet\_Q9\_feat1 0.0170872 0.0361138 0.473 0.63623   
## Tablet\_Q9\_feat2 -0.0020389 0.0401455 -0.051 0.95951   
## Tablet\_Q9\_feat3 0.0127403 0.0540362 0.236 0.81366   
## Tablet\_Q9\_feat4 -0.0020937 0.0907096 -0.023 0.98159   
## Tablet\_Q9\_feat6 0.1001662 0.0908890 1.102 0.27074   
## Tablet\_Q10\_feat1 -0.0281419 0.0837555 -0.336 0.73695   
## Tablet\_Q10\_feat2 -0.0042123 0.0319523 -0.132 0.89515   
## Tablet\_Q10\_feat3 0.1523205 0.0735110 2.072 0.03855 \*   
## Tablet\_Q10\_feat4 -0.2152611 0.1357565 -1.586 0.11318   
## Tablet\_Q10\_feat6 -0.0137175 0.1590765 -0.086 0.93130   
## Tablet\_Q10\_feat7 0.0283081 0.1176772 0.241 0.80995   
## Tablet\_Q11\_feat1 -0.0367181 0.0339022 -1.083 0.27908   
## Tablet\_Q11\_feat2 0.1450528 0.0878378 1.651 0.09902 .   
## Tablet\_Q11\_feat3 -0.1541538 0.0935778 -1.647 0.09985 .   
## Tablet\_Q11\_feat5 0.1114252 0.1053631 1.058 0.29056   
## Tablet\_Q12\_feat1 0.0589380 0.0545358 1.081 0.28012   
## Tablet\_Q12\_feat2 0.0169615 0.0548225 0.309 0.75710   
## Tablet\_Q12\_feat3 -0.0138744 0.0499546 -0.278 0.78128   
## Tablet\_Q12\_feat5 0.0331963 0.0627452 0.529 0.59690   
## Tablet\_Q13\_feat1 0.0709066 0.0595656 1.190 0.23422   
## Tablet\_Q13\_feat2 0.0806079 0.0514216 1.568 0.11734   
## Tablet\_Q13\_feat4 0.0969499 0.0777319 1.247 0.21265   
## location\_1 0.0238894 0.0188856 1.265 0.20623   
## location\_2 0.0084751 0.0182731 0.464 0.64291   
## Relationship\_1 -0.0037535 0.0180612 -0.208 0.83542   
## Relationship\_2 0.0035409 0.0188631 0.188 0.85114   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for gaussian family taken to be 0.04792361)  
##   
## Null deviance: 230.121 on 983 degrees of freedom  
## Residual deviance: 41.646 on 869 degrees of freedom  
## AIC: -87.36  
##   
## Number of Fisher Scoring iterations: 2

#fin\_feats <- feats[feats<=0.05]  
#fin\_feats  
#file\_path = "C:/Users/sree2/Dropbox/SYR\_GAship/afforadance\_Study/ML models/logistic\_Regression\_p\_values/"  
#file\_fin = paste(file\_path,cur\_file,cur\_device,"\_pvalues.csv",sep="")  
#column\_names = c('Features','p\_values')  
#write.csv(fin\_feats,file\_fin,)