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MOBILE GAME ADDICTION AMONG CHILDRENS

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Abstract: Long hours spent in playing mobile games can negatively impact the users with symptoms like lower self-esteem, loss of personal hygiene, loss of sleep and lower social interaction and loss of real conversations to name a few. People often play games to forget real-life problems, making them run away from what is real. People have also complained of lost interest in real relationships, where gamers take refuge in fake online relationships. Excessive gaming has resulted in loss of work with a total lack of interest in real life responsibilities. Addictive gaming has also led people to isolate themselves from family and friends.Stress is also one of the other offspring of gaming addiction where people can face getting enslaved by depression in situations wherein they are unable to achieve the goals set within the game. Situations like losing a game life or loss of powers to other players can also become the catalyst of stress for many gamers.Gamers who are constantly playing games are often believed to be in a confused state. After a certain point, the line between the real and virtual world starts blurring, wherein they start enacting the game in the real world.

Keywords: Mobile Addiction, game addiction, mobile game, qualitative research, students

I. INTRODUCTION

Game is one of the most greatets technology industry right now. Developer can get so many advantages, for example Destiny. Destiny has already smashed analysts' expectations for first-week sales with a $500 million launch. From this, we can conclude that game industry is on of the greatest industry. But now, gaming could make parents worry about their child. Game addiction certainly is a bad addict. This condition make anxious for some side.

Is your child playing video games instead of doing schoolwork? Is he avoiding social situations and is his behavior worsening as a result of constant gaming? I've heard the desperation and concern in the voices of many, many parents whose kids seem to spend all their time playing video games, as if possessed by some mysterious outside force.

Stopping video games for any reason has a long-lasting negative impact on child's emotions. He may becomes depressed, moody, angry, aggressive or violent when he is unable to play. Child has stolen video games from stores or friends, or stolen money from others in order to buy video games, more than once. He frequently lies about how much time he spends playing video games. So what can you do to limit video game playing and create healthy boundaries around it?

Gaming addiction is still the mysterious problem, more terrifying than alcohol or drugs addiction. Like the expert from Amsterdam say, they are powerless over their addiction. But these addicts aren't hooked on drugs or alcohol. They are going cold turkey to break their dependence on video games. The lure of a fantasy world is especially pertinent to online role-playing games. These are games in which a player assumes the role of a fictional character and interacts with other players in a virtual world. As Young puts it, an intelligent child who is unpopular at school can "become dominant in the game." The virtual life becomes more appealing than real life. We must respond to this problem seriously.

Different types of Addictions behavior

So far one of the major problem among child is mobile game. No one can find why this problem easily happen and relatively difficult to be solved. It's important to be investigated to know why are computer games addictive, how common is computer game addiction in children, what are the effect, so we can keep off or treat this problem well.

To collect data to support this research, the survey that will be answered by the children that likes playing mobile game,

the parents, and the game developer. Maybe college students and game makers can be the informants to get their opinions and the information about video game. We can use their opinions to underlie the problems and find some solutions that we can use, both for parents and addicts themselves.

Methodology

Research Method

To collect data to support this research, I will make the survey that will be answered by the children that likes playing mobile game, the parents, and the game developer. Maybe college students and game makers can be the informants to get their opinions and the information about video game.

II. METHOD OF THE STUDY

In this research, we use the quantity method based on the result of the surveys. We are probably measuring variables and verifying existing theories or hypotheses or questioning them. The questionnaires which made maybe will be answered by the children that likes playing mobile games and the parents to analyze the symtoms of the gaming addiction, the reason why gaming is addicted, and the effect of the gaming addiction. We also need interviewing the game makers, game developers, or maybe college students to get their opinions and the information about mobile game.

The survey will begin with making questionnaire that be adapted, children or parents to know the reasons of gaming addiction and the parents responses. Some questions for the interview also prepared to explore the information from the experts.

III.DISCUSSION

Computer game addiction generally refers to an excessive, unhealthy amount of playing computer games. Rather than engaging in the real world, an addicted user devotes the majority of his or her time to gaming. The addicted gamer often isolates him/herself from others, ignores more important responsibilities, and is often obsessed with obtaining higher status / rankings / achievements in his/her favorite computer game.

According to the DSM-IV (the current manual for classifying emotional, psychological, and mental disorders), no. Although there have been calls from some mental health professionals (and parents) to recognize computer game addiction as a "real" disorder, it has not been granted official diagnostic status. As more research on the effects of excessive gaming is conducted, many believe that it is only a matter of time before computer game addiction is classified as a compulsive behavior similar to gambling addiction.

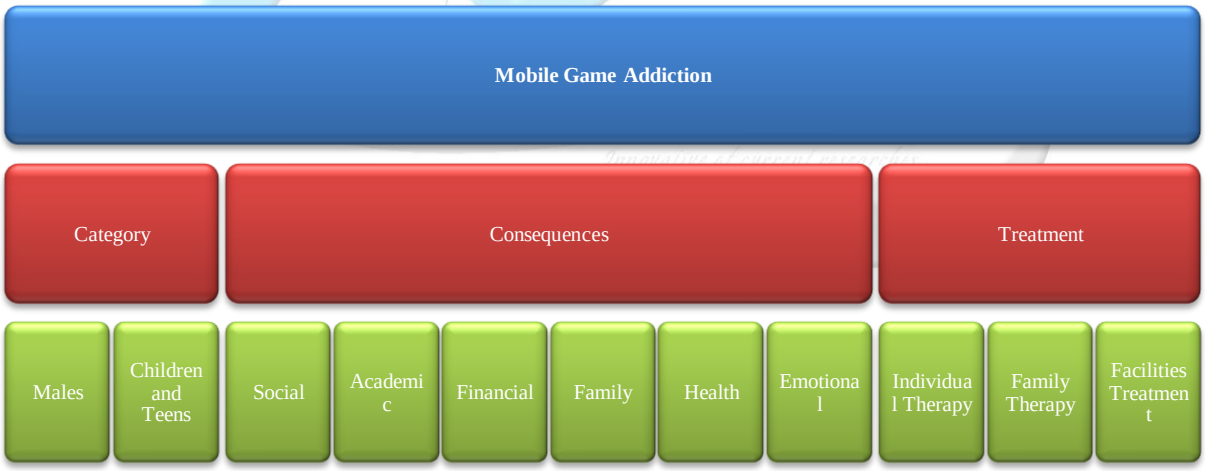


Figure: 1. 2. Framework of mobile game addiction

Algorithm used:

Apriori algorithm is used to find the result of the addiction strategy. It contain two process:

- **Frequent Itemsets:** The itemsets which has minimum help (denoted by 1i for i^{th} -itemsets), Apriori property**:** any subgroup of frequent things must be frequent.
- **Join Operation:** to detect 1k, a group of candidate k-group of things is developed by adding with itself.

Cluster Analysis in R

R has an amazing variety of functions for cluster analysis. In this section, we use three of the many approaches: hierarchical agglomerative, partitioning, and model based.

Data Preparation: Prior to clustering data, you may want to remove or estimate

missing data and rescale variables for comparability.

```
# Prepare Data
        mydata <- na.omit(mydata) # listwise deletion of
        missing
        mydata <- scale(mydata) # standardize variables
```

Partitioning: K-means clustering is the most popular partitioning method. It requires the analyst to specify the number of clusters to extract. A plot of the within groups sum of squares by number of clusters extracted can help determine the appropriate number of clusters. The analyst

looks for a bend in the plot similar to a screen test in factor analysis.

```
# Determine number of clusters
wss <- (nrow(mydata)-1)*sum(apply(mydata,2,var))
for (i in 2:15) wss[i] <- sum(kmeans(mydata,
  centers=i)$withinss)
plot(1:15, wss, type="b", xlab="Number of Clusters",
 ylab="Within groups sum of squares")
# K-Means Cluster Analysis
fit <- kmeans(mydata, 5) # 5 cluster solution
# get cluster means
aggregate(mydata,by=list(fit$cluster),FUN=mean)
# append cluster assignment
mydata <- data.frame(mydata, fit$cluster)
```

A robust version of K-means based on mediods can be invoked by using pam( ) instead of kmeans( ). The function pamk( ) in the fpc package is a wrapper for pam that also prints the suggested number of clusters based on optimum average silhouette width.

Hierarchical Agglomerative: There are a wide range of hierarchical clustering approaches. I have had good luck with Ward's method described below.

```
# Ward Hierarchical Clustering
d <- dist(mydata, method = "euclidean") # distance matrix
fit <- hclust(d, method="ward")
plot(fit) # display dendogram
groups <- cutree(fit, k=5) # cut tree into 5 clusters
# draw dendogram with red borders around the 5 clusters
rect.hclust(fit, k=5, border="red")
```

The **pvclust( )** function in the **pvclust** package provides p-values for hierarchical clustering based on multiscale bootstrap resampling. Clusters that are highly supported by the data will have large p values. Be aware that **pvclust** clusters columns, not rows. Transpose your data before using.

```
# Ward Hierarchical Clustering with Bootstrapped
p values
library(pvclust)
fit <- pvclust(mydata, method.hclust="ward",
  method.dist="euclidean")
plot(fit) # dendogram with p values
# add rectangles around groups highly supported
by the data
pvrect(fit, alpha=.95)
```

Model Based: Model based approaches assume a variety of data models and apply maximum likelihood estimation and Bayes criteria to identify the most likely model and number of clusters. Specifically, the Mclust( ) function in the mclust package selects the optimal model according to BIC for EM initialized by hierarchical clustering for parameterized Gaussian mixture models. One chooses the model and number of clusters with the largest BIC.

```
# Model Based Clustering
library(mclust)
fit <- Mclust(mydata)
plot(fit) # plot results
summary(fit) # display the best model
```

Plotting Cluster Solutions: *It is always a good idea to look at the cluster results.*

```
# K-Means Clustering with 5 clusters
fit <- kmeans(mydata, 5)

# Cluster Plot against 1st 2 principal components

# vary parameters for most readable graph
library(cluster)
clusplot(mydata, fit$cluster, color=TRUE, shade=TRUE,
  labels=2, lines=0)

# Centroid Plot against 1st 2 discriminant functions
library(fpc)
plotcluster(mydata, fit$cluster)
```

Validating cluster solutions: *The function cluster.stats() in the fpc package provides a mechanism for comparing the similarity of two cluster solutions using a variety of validation criteria.*

```
# comparing 2 cluster solutions
library(fpc)
cluster.stats(d, fit1$cluster, fit2$cluster)
```

where **d** is a distance matrix among objects, and **fit1$cluster** and **fit$cluster** are integer vectors containing classification results from two different clustering of the same data.

Analysis of Data

The researcher collects more than 500 responses from samples all over Theni district. She spent nearly 2 months to collect the fresh data from end users. After collecting the information, all the details are fed into the software and checked for outlier. The cleaned data was analyzed using single attribute and multiple attributes. Gender, Qualification of the respondents, Type of the serial they are watching, Total number of serials, Total hours they spend for their serials are considered as single attributes of the study.

To process the data, I have installed the following libraries such as pvclust, mclust, cluster, fpc and NBClust from cloud storage. Then the dataset was inserted into the R tool for processing.

```
temp<- readLines("C:/Users/prakash/Desktop/alagu.csv")
> patterns = random.patterns(nItems = 150);
> summary(patterns);
```

set of 2000 itemsets

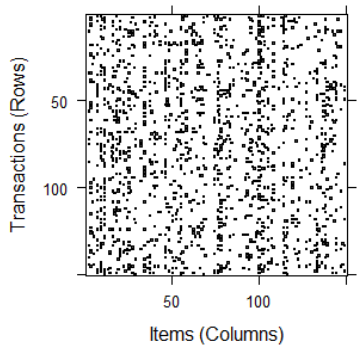
most frequent items:
item100 item46 item11 item34 item16 (Other)
293 199 175 166 163 7033

element (itemset/transaction) length distribution:sizes
1 2 3 4 5 6 7 8 9 10 11 12
108 302 434 431 345 197 113 47 17 3 2 1

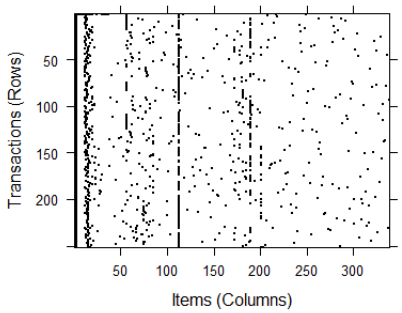
Min. 1st Qu. Median Mean 3rd Qu. Max.
1.000 3.000 4.000 4.014 5.000 12.000

summary of quality measures:
pWeights pCorrupts
Min. :2.200e-08 Min. :0.0000
1st Qu.:1.419e-04 1st Qu.:0.2953
Median :3.527e-04 Median :0.5137
Mean :5.000e-04 Mean :0.5070
3rd Qu.:6.937e-04 3rd Qu.:0.7133
Max. :3.555e-03 Max. :1.0000

includes transaction ID lists: FALSE
> trans = random.transactions(nItems = 150, nTrans = 150, method = "agrawal", patterns = patterns);
> image(trans);

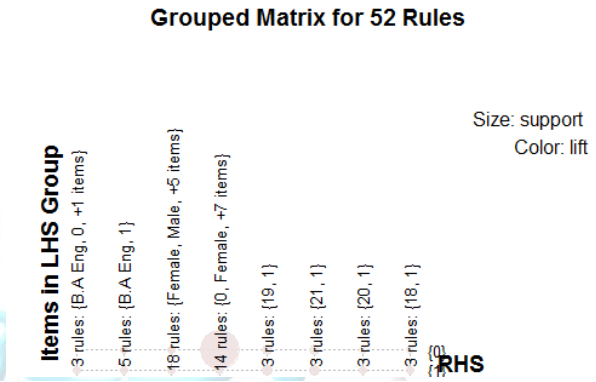


for (i in 1:length(temp))
+ temp[i] <- gsub(",*$", "", temp[i])
> writeLines(temp, "Div.csv")
>
> tr<- read.transactions("Div.csv", format = "basket", sep=',', rm.duplicates=TRUE)
distribution of transactions with duplicates:
23
250
36
> image(tr)

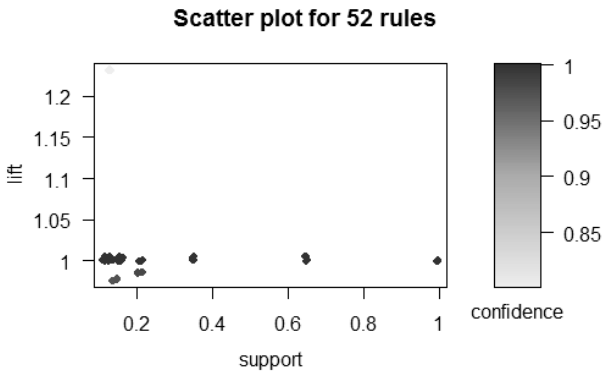


> rules<-apriori(tr)
Apriori

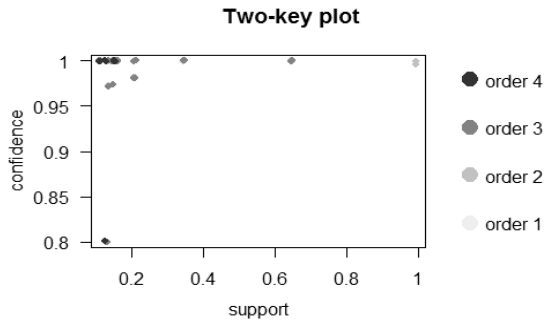
> plot(rulesl, method = "grouped")



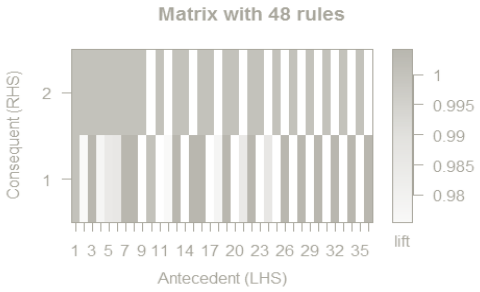
head(quality(rules));
> plot(rules, measure=c("support","lift"), shading="confidence");



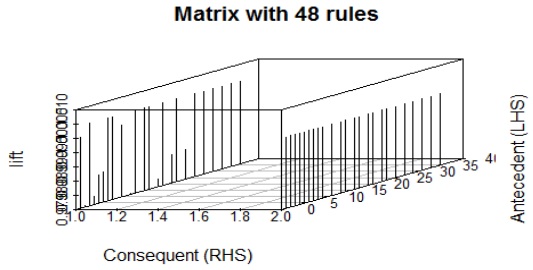
plot(rules, shading="order", control=list(main ="Two-key plot"));



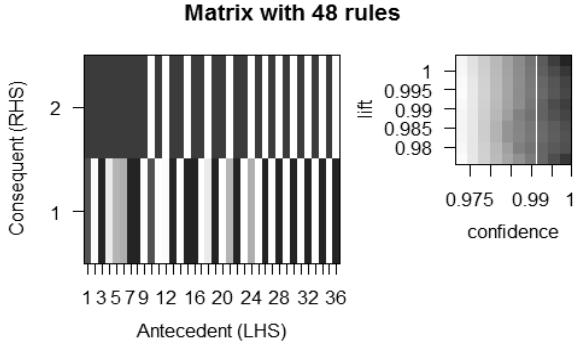
subrules=rules[quality(rules)$confidence>0.8];
> plot(subrules, method="matrix", measure="lift");



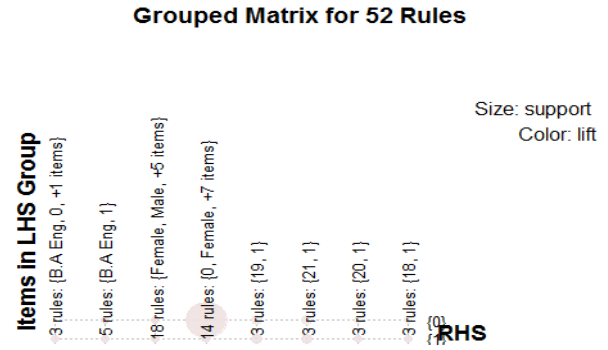
plot(subrules, method="matrix3D", measure="lift");
plot(subrules, method="matrix3D", measure="lift", control = list(reorder=TRUE));



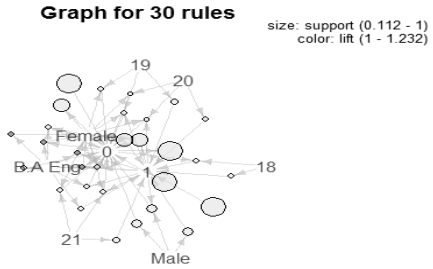
plot(subrules, method="matrix3D", measure="lift", control = list(reorder=TRUE));
plot(subrules, method="matrix", measure=c("lift", "confidence"));



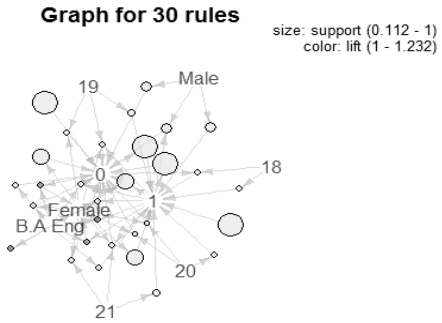
plot(rules, method="grouped", control=list(k=50));



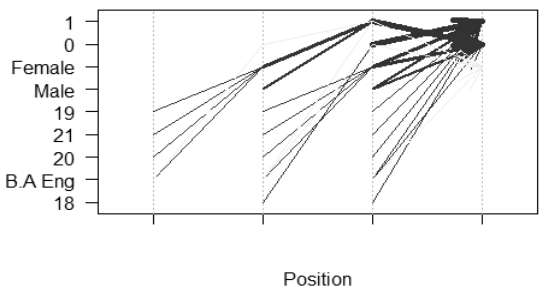
subrules2=head(sort(rules,by="lift"), 30);
> plot(subrules2, method="graph");



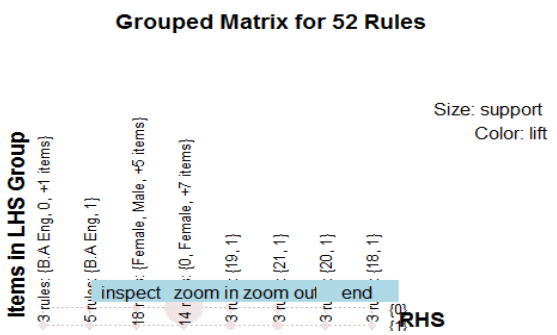
plot(subrules2, method="graph", control=list(type="items"));



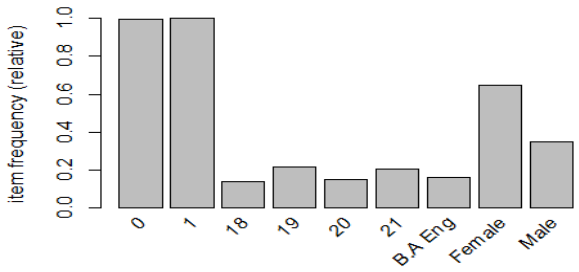
> plot(subrules2, method="paracoord");



sel = plot(rules, method="grouped", interactive=TRUE);




```
itemFrequencyPlot(tr,support=0.1)
```




```
interestMeasure(rules,c("support","chiSquare","confidence"
,"conviction","cosine","coverage","leverage","lift","oddsRa
tio"),tr)
```

IV. FINDINGS, RECOMMENDATIONS AND SUGGESTIONS

Recommendations

From the study conducted we can easily conclude that children today are influenced by mobile gaming in day to day life in more than one way. The impact of gaming on kids fashion is remarkable while we cannot ignore that there are other prominent areas where the influence may be easily noticed. This influence has been acknowledged by most of the brands since they have been offering special clothing lines with mobile gaming characters to attract this huge population of kids which are influenced by them. Family structure also has a vital role to play in the influence as due to the growing small size of families and both parents working, kids are left alone for a longer duration of time which results in indulging in mobile and viewing these mobile game for longer duration of time which influences them even more. The government should take initiatives in this concern.

- Mobile game should convey the message what is good and what is bad. It must practically show to stop the evil and go well.
- Awareness has to be raised among people about the long term impacts of gaming on rural family and social system.
- Players should realize that gaming life and real life is not same. So they should stop following their life style.
- Rural people have to be conscious. They should be aware of their own rights and values. They should not allow such discrimination to take place. They must not be influenced or guided by some other culture.

SUGGESTIONS FOR FURTHER RESEARCH

- Impact of Mobile Game on school students
- Impact of Mobile Game on health
- The study can be implemented for the advantages of this Mobile Game.
- The study can be also implemented for the mental problems.

V.REFERENCES

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