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System And Method To Provide Recommendation Of The Appropriate Composition Mostly Align To The Audience/Spectators Aesthetic Senses For Any Forthcoming Concert.

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I. Background: What Is The Problem Solved By Your Invention?

Every time we attend any live concert our liking or disliking of the concert depends on many factors. The aesthetics always fluctuate due to the overall composition of the concert, in a concert some compositions we like and some we don't as they don't align to our aesthetic sense. Now if we classify those composition factors broadly which works as external stimuli to us at any time then we can categorize them as overall **stage setup**, **performance and performing factors of the performers and most importantly olfactory and taste sensation.** Currently there is no such system which collectively considers all the above mentioned factors to recommend the appropriate composition for the forthcoming concert which will be mostly align to the audience/spectators aesthetic senses.

In this disclosure we have proposed a system which captures all the external stimuli such as **stage setup** (E.g - stage lighting, 2D/3D effects, movement of the focus lights on performers as well as audience, bass ,pitch and loudness of sound etc.), **performance and performing factors of the performers** (E.g- body movement, pitch, tone, excitement level etc.), **the olfactory**(smell of the surrounding environment in a concert and broadly categorize it into basic smell categories), **Taste sensation** (the tastes of food served in a concert into basic categories of taste) and also captures the responses(like body language, excitement level etc.) of the audience/spectators during the concert. The system will then analyze by correlating the external stimuli with users response to that stimuli. Based on the correlation factors the system recommends the appropriate composition for the forthcoming concert which will be mostly align to the audience/spectators aesthetic senses. Also the system takes feedback through the social media responses on those compositions and learns from that.

II. Related Work/Prior Art: Please List And Briefly Describe The Products, Publications, Patents, And Other Works That Are Most Closely Related To Your Invention. If Any Of These Works Solve Or Address The Same Problem, What Are The Drawbacks Of The Known Solution(S)?

1. Watson Analytics : http://www.ibm.com/smarterplanet/us/en/ibmwatson/developercloud/services-catalog.html
2. http://www.google.com/patents/US9137295
3. https://books.google.co.in/books?id=qTdwTP9OHLMC&pg=PA96&lpg=PA96&dq=live+emotion+of+audience+in+a+concert+patent&source=bl&ots=8Uk0ttyecF&sig=mylq1L3I29FwMPmMBEHYAyjuo60&hl=en&sa=X&ved=0ahUKEwjK6fKMoZDTAhUOUI8KHcqmDa8Q6AEIKzAE#v=onepage&q=live%20emotion%20of%20audience%20in%20a%20concert%20patent&f=false
4. https://en.wikipedia.org/wiki/Electronic_nose
5. https://en.wikipedia.org/wiki/Electronic_tongue
6. http://www.medicaldaily.com/10-different-smells-are-detectable-your-nose-how-did-popcorn-make-list-257395
7. https://en.wikipedia.org/wiki/Taste
8. http://www.dailymail.co.uk/sciencetech/article-3062909/Microsoft-glasses-tell-people-FEEL-Patent-reveals-emo-specs-use-sensors-cameras-read-emotions-you.html
9. IN8-2016-0436: System and method to capture all communications made during project execution via verbal, written and body language and analyzes the same to build a comprehensive Psycholinguistic – Ecosystem for an enterprise and recommend user about better communication approach for any forth coming discussion.

10. https://en.wikipedia.org/wiki/Correlation_and_dependence
11. http://www.analyticsvidhya.com/blog/2015/08/comprehensive-guide-regression/
12. https://en.wikipedia.org/wiki/Regression_analysis

None of the above prior art, either solely or cumulatively describes any of the below claims of this disclosure :

1) Our proposed system has considered stage setup, performance and performing factors of the performers, the olfactory, and Taste sensation altogether to recommends the appropriate composition for the forthcoming concert which will be mostly align to the audience/spectators aesthetic senses.
2) Our system is proposing an optimization model which can address the optimized excitement level subject to the different stimuli constraints.

III. Summary Of Invention: Briefly Describe The Core Idea Of Your Invention (Saving The Details For Question #3 Below). Describe The Advantage(S) Of Using Your Invention Instead Of The Known Solutions Described Above.

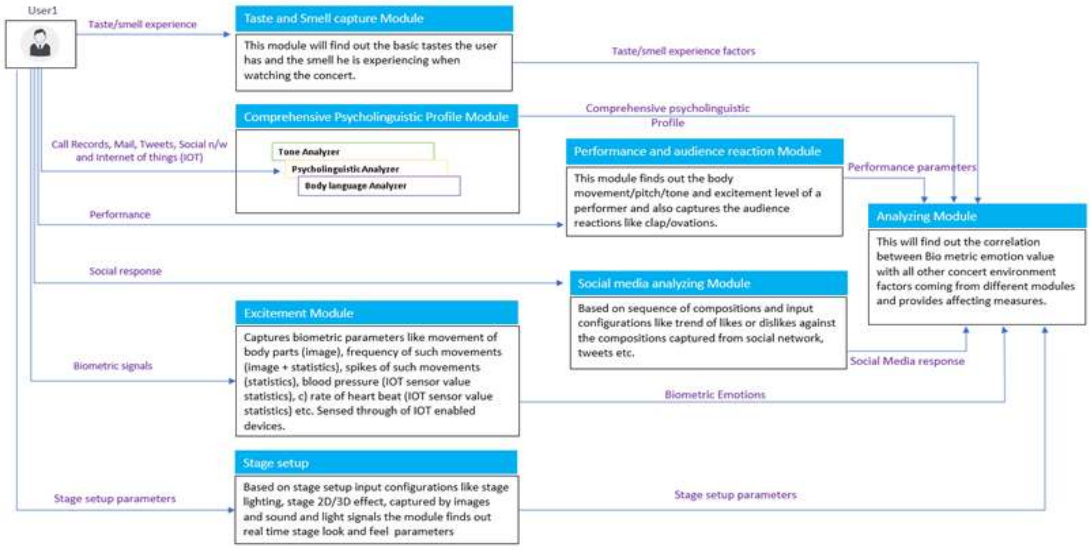
In this disclosure we have proposed a system which captures all the external stimuli such as **stage setup** (E.g - stage lighting, 2D/3D effects, movement of the focus lights on performers as well as audience, bass ,pitch and loudness of sound etc.), **performance and performing factors of the performers** (E.g- body movement, pitch, tone, excitement level etc.), **the olfactory**(smell of the surrounding environment in a concert and broadly categorize it into basic smell categories), **Taste sensation** (the tastes of food served in a concert into basic categories of taste) and also captures the responses(like body language, excitement level etc.) of the audience/spectators during the concert. The system will then analyze by correlating the external stimuli with users response to that stimuli. Based on the correlation factors the system recommends the appropriate composition for the forthcoming concert which will be mostly align to the audience/spectators aesthetic senses. Also the system takes feedback through the social media responses on those compositions and learns from that.

Advantage:

Our proposed system has considered stage setup, performance and performing factors of the performers, the olfactory, and Taste sensation altogether to recommends the appropriate composition for the forthcoming concert which will be mostly align to the audience/spectators aesthetic senses. This will help the organizer of any concert to priory select the composition which can bring profits to his business. We are confident that this will bring a great profit margin to the entertainment and media industry.

IV. Description: Describe How Your Invention Works, And How It Could Be Implemented, Using Text, Diagrams And Flow Charts As Appropriate.

Diagram 1:



The steps to implement the invention:

1) System and method creates a comprehensive psycholinguistic profile of each individual user from his past and present written and verbal communications. The comprehensive psycholinguistic profile is already defined in our previous published disclosure [Ref: 8]
2) System and method captures the biometric signals of each user when he is attending the concert through various wearable devices.
3) System and method captures and categorize the tastes of food served in a concert into basic categories of taste. System will capture the smell of the surrounding environment in a concert and broadly categorize it into basic smell categories. These can be captured through various electronic devices.[Ref :4,5]
4) System and method captures the stage setup details like stage lighting, 2D/3D effects, movement of the focus lights on performers as well as audience, bass, pitch and loudness of the sound from device controllers.
5) System and method captures the body movement, pitch, tone, excitement level of the performers through various devices like e-textile, fitbits etc.
6) System and method also captures the sequence of compositions of the concert.
7) System and method captures social media responses for various composition of that concert.
8) The system then correlates the external stimuli (defined in above steps 3 onwards) with comprehensive psycholinguistic profile and excitements of the users (defined in above steps 1 and 2). Based on the correlation factors the system recommends the appropriate composition for the forthcoming concert which will be mostly align to the audience/spectators aesthetic senses. Also the system takes feedback through the social media responses (captured in step 7) on those compositions and learns from that.
9) We will run a survey to understand the Excitement Score of individuals. It will have a structured questionnaire with people demographic information and his/her excitement level for a particular concert. This respondent should be taken randomly from the set of individuals from whom we have got the external stimuli data. The reliability of the Excitement Level score would be done by checking Cronbach's Alpha Reliability Score as it will check multiple questions leading to same excitement score through rephrasing the question multiple times.

In order to get the optimized excitement value we can use Prescriptive Analytics where we can optimize the function

Excitement Value (EV) = $f(x_1, x_2, \ldots x_n)$, where $x_1, x_2, \ldots x_n$ are the external stimuli variables.

Precisely our optimizing equation would be maximizing

$EV = \sum W_i X_i$

Subject to $m_i(x) = c_i$, for i = 1,2,….,n : Equality Constraints

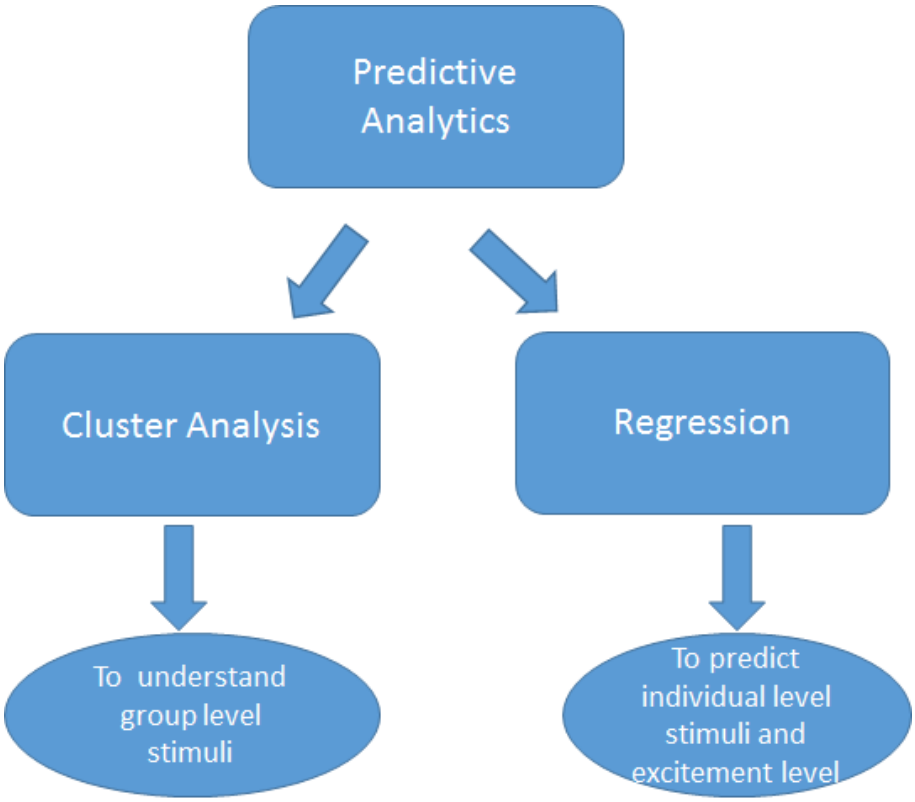
And $n_j(x) = d_j$, for j = 1,2,….,n : Inquality Constraints

We propose the below predictive analytics approach/model to build our system through which we are trying to come up with the ideal excitement level of groups for any concert with respect to the various stimuli identified.

However, as with time and usage, the constraints would evolve and become clearer, we will switch to the above described optimization or prescriptive analytics that will yield better optimized composition.

Cluster Analysis need to be run in order find the homogeneous group of audience who have similar tastes, similar choices and some similarity in demographics as well.

Number of clusters can be narrowed down using Silhouette Coefficient.
From the final clusters, whatever be the number 8,9 etc. we can get an idea how many different groups, on an average, that may exist and what is the average level stimuli that would be required to satisfy those kind of audience.



However, in order to arrive at individual level prediction one need to execute the below analysis above and beyond the above described approach:

The system will calculate the concert parameters/factors like taste, smell, sound loudness, sound pitch, light intensity, light focus, performer body movement etc. for a set of individuals (panel) and store it in a table T1. We will have a database of individuals for whom we will have the stimuli information along with an ID of that person and the concert ID map to a particular concert, so that we can eventually map or aggregate the stimuli information for a particular concert.

We will have the survey data where we will get the excitement score. This survey data would also have the user/respondent ID which would be in same format as the Stimuli data. We can combine these two sets where we can join these two tables using the common key User ID. So the combined dataset would have User ID, Concert ID, Excitement Score and the various External Stimuli variables (**stage setup** (E.g - stage lighting, 2D/3D effects, movement of the focus lights on performers as well as audience, bass ,pitch and loudness of sound etc.), **performance and performing factors of the performers** (E.g- body movement, pitch, tone, excitement level etc.), **the olfactory**(smell of the surrounding environment in a concert and broadly categorize it into basic smell categories), **Taste sensation** (the tastes of food served in a concert into basic categories of taste) and also captures the responses(like body language, excitement level etc.)).

We can then set up regression where the dependent variable (Y) would be the excitement level and independent variables are the stimuli variables (X_i's) and we get an equation like

$Y = a + b_1x_1 + b_2x_2 + \ldots + b_nx_n$

The excitement levels of audience can be measured against a threshold to conclude the success/failure of the concert.

This predictive model would predict the external stimuli values in order to achieve a certain numeric value (or range) of excitement level.

Another way to do this is grouping the excitement values as high, medium, low etc. So the dependent becomes categorical variable/data type. Similarly X's also can be made categorical or can be kept as continuous datatype and then we can have a classification model developed like a Decision tree (CHAID) or Logistic Regression.

Both the cases system can predict the excitement level from external stimuli or vice-versa.

Concert	Taste Sensation	Smell Sensation	Lighting Intensity	Sound Loudness	Sound Pitch	Emotional Range	Predicted Outcome (Excitement level)
C1	0.7	0.6	0.7	0.4	0.8	0.3	0.6
C2	0.5	0.4	0.6	0.6	0.7	0.8	0.8

Table : T1

[Disclaimer] : We are considering that there will be no conflict in personal/professional subject matter. In case of conflict the system will be able to recommend best approach of communication that can yield mutually agreeable work around.