Rigorous methods for Irritation evaluation

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Introduction

Irritation is one of the commonly available means of pleasure for people in the modern world. According to a census conducted in 2009 the act of irritating happens to be in the top 5 methods of pleasure. People have mastered the art of irritation over the years and some of them have have it as their major profession. They are either termed as sadists or masochists depending on their orientation which is a characteristic of each individual. The ability to Irritate is also considered a talent and some shows like America has got talent and 60 minutes to fame have recently started bringing in stand up irritators to the stage. It is hence necessary to devise a scheme to quantify this talent of irritation. This paper introduces one of the pioneering techniques to quantify how talented a person is at irritation using techniques like sentiment analysis.

Previous Works

No documented work has been done in this exact area however, attempts have been made to quantify other talents like funniness, geekiness, nerdiness, IQ and so on by conducting questionnaires. Facebook apps have been developed for many other talents like "How evil are you?", "What Greek god are you?", "what pokemon are you?" which although don't give high accuracy, attempts quantification of physically observable phenomenon. This method however involves a scenario unaware approach to minimize human error. The test subjects are unaware that they are being tested upon to get a value that is bias free. Such approaches are not very common.

Approach

There are many modes of causing irritation. We use one such mode and an irritator chooses his subjects in a set of randomly selected scenario-unaware audience and the process is executed. The visual and audio responses obtained by the subject is then recorded and other observations are also noted. Face recognition softwares are used to process the visual responses and a sentiment analyzer is used on the text obtained by the speech to text conversion of the audio responses from the subject. The two modules return the scores of irritation for the given irritator with the subject as target. The experiment is repeated for a large number of target subjects and finally the average score is obtained. Research has shown that audio responses have been more useful in giving accurate scores and hence we have neglected the visual responses of the audience.

Sentiment Analysis

The sentiment analysis is performed using the bag of words approach with a lexicon that is extracted by label propagation algorithm performed on Wordnet 2.0. We give a sample set of seed words which basically extracts to a huge lexicon score mapping. The seed words include 'witch', 'fish', 'shoot' and so on. The algorithm extracts more related words and even bi-grams and tri-grams like 'what the fish', 'fudge off', 'sand of a beach', 'bull shoot' and so on. We then score a sentence by adding up the scores for each word.

For example with lexicon { Value('what the fish') = -1.23, Value('sand of a beach') = -2.41, Value('fudge') = -0.63 }

Score("What the fish! I will fudge you, you sand of a beach") = -(1.23 + 2.41 + 0.63) = -4.27

Evaluation

We conduct our experiment with the irritator and a few test subjects who are randomly selected. The score of the irritator on all the subjects is recorded and the average is taken. The experiment is repeated in different scenarios and times and an overall average is taken to get the score of talent of irritation.

Value(Irritator) = $\frac{1}{N}\sum_{i=1}^{N}$Score($S_i$)) for statements S_i

Experimental results

Two talented irritators were chosen and an experiment was conducted. The scenario was a well populated beach. One of the irritators was a professional tickler and the other was a drooling kisser. The two irritators performed their acts on unaware people in the nude beach and the reactions where recorded. Sentiment analysis was performed on the text corresponding to the people's reactions. Each person was made to go through both the acts. At the end the victims were asked to compare between the two irritators. The scores of the evaluation scheme and the comparisons were used to get the validity of the evaluation scheme. The following confusion matrix was obtained by the experiment.

	Value(Irritator_1)> Value(Irritator_2)	Value(Irritator_1)< Value(Irritator_2)
DecisionFor = Irritator_1	22%	5%
DecisionFor = Irritator_2	3%	70%

Conclusions

A quantification for irritation ability has been made and experiments suggest that the quantification works well and agrees with human judgement.