

# ACRONYM

by Peter Mork<sup>1</sup>

***Abstract:** ACRONYM Classification: Recursive, Oratable & Novel — Yet Manageable. The ACRONYM system is a way to conveniently organize acronyms (including ACRONYM). We present a convenient and extensible scoring system. This system can be used to answer queries using views, which in turn lends itself to the merging of models.*

## 1. INTRODUCTION

Over the past several years a number of TLAs, ETLAs and other acronyms have found their way into common usage. In fact, hacker Paul Boutin reportedly stated that a shortage of three-letter acronyms would be the biggest problem in computing in the 90s.<sup>2</sup> Whereas we have survived that decade intact, there is a definite shortage of available acronyms.

### 1.1 Problem Definition

There is currently no metric available<sup>3</sup> for determining the value of a given acronym. As a result, it is not possible to determine which acronyms should be preserved and which should be recycled. It is our vision that useless acronyms should, over time, gradually be replaced by more valuable acronyms.

The problem solved by this paper is to construct a classification scheme for acronyms that is both extensible and personalized. More formally, let  $A$  be an acronym made up of the individual characters  $a_1, a_2, \dots, a_k$  (thus  $A$  consists of  $k$  letters). Now, let  $A^+$  represent the sequence of words that results from expanding  $A$ . (It should be obvious to even an idiot that  $A^+$  is not uniquely defined by  $A$ .) We define  $I(A)$  to be the interpretation of  $A$ , where  $A$  can be either  $A$  or  $A^+$ .

The goal of this paper is to construct a function (ACRONYM or  $\mathfrak{A}$ )<sup>4</sup> from  $A \times A^+ \times I(A) \times I(A^+)$  to the real numbers ( $\mathbb{R}$ ). We present a specific formulation of  $\mathfrak{A}(A, A^+, I(A), I(A^+)) \rightarrow \mathbb{R}$  and then demonstrate how this function can be extended and personalized.

### 1.2 Contributions, Reiterated

In case you (the reviewer) are having trouble keeping up, the contributions of this paper are:

- We invent a new word (oratable) without formally defining it.
- We present a classification or function ( $\mathfrak{A}$ ) that maps acronyms to the real numbers.
- We demonstrate how to extend and personalize ACRONYM.
- We mention several buzzwords in the abstract.
- We use the royal ‘we’.

### 1.3 Overview

The remainder of this paper may or may not be structured. We never read this section, so we consider it a waste of space. If you are reading this, you are frittering away valuable time.

## 2. BASIC<sup>5</sup> ACRONYM

In this section we present the simplest form of the ACRONYM system. In later sections we will discuss how to extend and personalize the scoring system.

### 2.1 Types of Acronyms

Dictionary.com defines acronym as:

*A word formed from the initial letters of a name, such as WAC for Women's Army Corps, or by combining initial*

letters or parts of a series of words, such as radar for radio detecting and ranging.<sup>6</sup>

This definition serves as the basis for the first distinction between good acronyms and bad acronyms: they should be words. That is, it is desirable for an acronym to be oratable (written  $O(A)=TRUE$ ). For example, SIGMOD is a better acronym than VLDB; OIL is better than SQL.

Secondly, we prefer acronyms that can be interpreted as real words. Continuing the preceding example, OIL is a better acronym than SIGMOD because even though SIGMOD is oratable, it has no interpretation. This leads us to a more formal definition: An acronym A is better than another acronym B if  $\exists I(A)$  and  $\nexists I(B)$ . (We do not consider the degenerate case when  $\nexists I(A^+)$ .)

Ideally, an acronym is descriptive. Examples are rare, but one acronym that is suitably homological is SPOOL. Formally, A is better than B if  $I(A)=I(A^+)$  and  $I(B)\neq I(B^+)$ .

This leads to the following classification:

$\mathfrak{A}(A, A^+, I(A), I(A^+))$	Requirement	English Description
0	none	Pathetic
1	$O(A)=TRUE$	Oratable
2	$\exists I(A)$	Clear
3	$I(A)=I(A^+)$	Self-descriptive
4	$A=ACRONYM$	Completely Isomorphic

Note that the requirements are cumulative. Thus, a nonsensical acronym (like ZRD where  $ZRD^+ = Zsdfg Rsdtdlolkf$ ) has a value of 0 and not 3 (which might seem reasonable given that  $I(ZRD) = I(ZRD^+) = NULL$ ).

## 2.2 Examples

There are numerous examples of bad acronyms: XML, NLM, TTFN, etc. Oratable acronyms include KIF<sup>7</sup>, LOL as well as many acronyms that have entered the vernacular like SCUBA and LASER.

Acronyms that constitute real words are rarer; it is this scarcity that makes them more desirable. Examples include OIL, COD, PINE, AIDS etc. Even rarer are the self-descriptive acronyms. The only example we can think of is SPOOL. (If you can think of others, you should find something more productive to do.)

The only accepted example of category 4 is ACRONYM: ACRONYM Classification: Recursive, Oratable & Novel — Yet Manageable.

## 3. EXTENSIONS

In this section we discuss extensions to the basic ACRONYM system. These include an extensible tagging mechanism and a means to personalize  $\mathfrak{A}$ .

### 3.1 Tagging

There are several additional features of acronyms that affect their value. A preliminary set of such features include:

1. Recursion — The acronym mentions itself ( $A \in A^+$ ).
2. UsesX — One of the component letters is 'X' ( $\exists a_j, (a_j = 'X')$ ).
3. Backronym — The acronym's expansion was constructed to produce the acronym ( $A^+$  was derived from A and not vice versa).

Each additional feature modifies the value of the acronym. We have chosen base values for these tags as follows:

Feature	Value
Recursion	$\pi / 3$
UsesX <sup>8</sup>	$e^{i\pi} + 1$
Backronym <sup>9</sup>	$-\sqrt{2}$

When tagging is used, the value of an acronym is the sum of  $\mathfrak{A}$  and all valid tags. For example, GNU receives a score of  $2 + \pi / 3$ .

### 3.2 Personalization<sup>10</sup>

Whereas all reasonable persons agree on the basic classification system, the values chosen for tags are controversial. Thus, the values associated with each tag are not fixed, but depend on the user. When personalization is incorporated into ACRONYM, the value of an acronym is the sum of  $\mathfrak{A}$  and the user-defined value of all valid tags.

### 3.3 Scaling

Since the result of personalization is that an acronym might receive two scores that differ widely, the final result must be scaled back to the range  $(-\infty, 4]$ . This is accomplished by dividing the final result by the maximum possible score (4 + all positive tag values) and multiplying by 4. The final ACRONYM value is:

$$\frac{4 \times (\mathfrak{A} + \sum I_t \times V_t)}{4 + \sum (V_t > 0 ? V_t : 0)}$$

where  $I_t$  is an indicator whose value is 1 if the tag is valid and 0 otherwise and  $V_t$  is the personal value assigned to a given tag. This is the FAV, an oratable acronym for Final Adjusted Value.

## 4. CONCLUSIONS

This classification scheme delivers that which was promised. The value of any acronym can easily be determined. The scheme is extensible and can be personalized. In short, we anticipate a Turing award any day now.

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<sup>1</sup> This paper was inspired by comments made by Phil Bernstein. He attributed his comments to some third party. Whoever you are, we've stolen your ideas and made them better. Nyah, nyah!

<sup>2</sup> The source of this comment is <http://www.dictionary.com/search?q=TLA>.

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<sup>3</sup> As evidenced by running the search: <http://www.google.com/search?hl=en&lr=&ie=UTF-8&q=%22acronym+value+metric%22&btnG=Google+Search>.

<sup>4</sup> This symbol is brought to you by the number 4 and the letter V. Well, not really, it's actually a Zapf Dingbat. It looks like something TAFKAP (The Artist Formerly Known As Prince) might adopt as his name. Note that the basic ACRONYM score of TAFKAP is 1.

<sup>5</sup> BASIC is probably a trademark (® or ™) of Microsoft Corporation. To which we respond, "Too bad. Bring it on Billy Boy..."

<sup>6</sup> <http://www.dictionary.com/search?q=acronym>.

<sup>7</sup> We leave for future work consideration of acronyms that are 'clear' in other languages (for example French).

<sup>8</sup> Unless the reader is as clever as we are, he/she might think that this value is not a real number. It is.

<sup>9</sup> It is worth noting that every proposed acronym whose acronym is ACRONYM is actually a backronym.

<sup>10</sup> This seemed like a good place to thank Rachel Pottinger for her useful comments. Thanks, Rachel.