IS IT REALLY TIME-SAVING USING ACRONYMS?

László Székely

SUMMARY

This paper is about the acronyms. Acronyms are common in science, so we cannot neglect them. But is it really time-saving using acronyms in IT, programming and in education? The short answer is: not! To prove this, I will classify acronyms, and describe the possible problematical relations of each type. Then I will present a short statistical analysis of a book (used in teaching of Java programming language) and of the current valid question list of the comprehensive exam of IT at GDF.

PROBLEMS WITH ACRONYMS

In the science, education, and in the everyday life too, we often use abbreviations and acronyms (nobody likes to write, to type or to say long phrases). Basically these are for our ease on the one hand, but reading and understanding a text containing too many acronyms require much more attention, require much more time on the other hand.

There are even more acronyms in IT, which students have to learn. Is there a short way of teaching acronyms? I think, that there isn't, because of the several additional difficulties, like acronyms with more than one possible explanations, and so on.

HYPOTHESIS

Is it really time-saving using acronyms? The answer is not, according to my hypothesis. It is derived from several reasons. First of all, in the education acronyms must be explained, in Hungarian and in the foreign language too. Aside from problems of explanation we have to give a detailed, verbose description in several cases, when the verbatim explanation do not covers the original meaning of a phrase.

More complication, that there are different phrases of a discipline with the same initialism. These required explaining carefully.

DEFINITIONS

(A) Abbreviation
„276. Instead of the full form of words, proper nouns we often use the shortened form of them. The abbreviations (and signs, codes) mostly used in written, but in verbal communication we use the full form of them." [1].

(B) Acronym
- Initialism
„283. An initialism derived from the initial letters of words of a Hungarian or foreign phrase." [1].
- Mosaic word
„284. The mosaic words derived from short words, small or larger part of words or initial letters of words." [1].

(C) Backronym
A backronym (or bacronym) is a phrase constructed after the fact to make an existing word or words into an acronym. Backronyms may be invented with serious or humorous intent, or may be a type of false or folk etymology. The word is understood as a portmanteau combining "back" and "acronym". A backronym is constructed by taking an existing word already in common usage, and creating a new phrase using the letters in the word as the initial letters of the words in the phrase. [4]

(D) Recursive acronym
A recursive acronym (or occasionally recursive initialism, and sometimes recursive backronym) is an abbreviation that refers to itself in the expression for which it stands. The term was first used in print in April 1986. In computing, an early tradition in the hacker community (especially at MIT) was to choose acronyms and abbreviations that referred humorously to themselves or to other abbreviations. Perhaps one of the earliest examples in this context, Richard Stallman's GNU (GNU's not Unix). Many others also include negatives, such as denials that the thing defined is or resembles something else (which the thing defined does in fact resemble or is even derived from) [5]. Some notable examples could see at the classification chapter.

HISTORICAL INTRODUCTION

Most of modern sciences rooted to the ancient Greek science, so it almost mandatory to start a

publication with a reference to that. Instead of an accurate chronologic overview, I will name just two interesting notable historical examples, to show the dawn of acronyms.

Romans

SPQR (Senatus Populusque Romanus, "The Senate and the People of Rome")

SPQR is an initialism from a Latin phrase, Senatus Populusque Romanus, referring to the government of the ancient Roman Republic, and used as an official signature of the government. It appears on coins, at the end of documents made public by inscription in stone or metal, in dedications of monuments and public works, and was emblazoned on the standards of the Roman legions [6].

Hair

The next example is the rock musical Hair – with a big hop in time –, which also demonstrates, that the usage of acronyms is not recent (the Hair musical debut on Broadway in April 1968). In this musical (lyrics by James Rado and Gerome Ragni, music by Galt MacDermot) there is a song - Initials (L.B.J.) – with lyrics filled almost fully with acronyms [7]:

Initials

	LBJ IRT
LBJ took the IRT	USA LSD
Down to 4th Street USA	LSD LBJ
When he got there	FBI CIA
What did he see?	FBI CIA
The youth of America on LSD	LSD LBJ

CLASSIFICATION OF ACRONYMS (NOT GRAMMATICAL)

Acronyms which could explain just one way

We focus just the English alphabet, because the acronyms in IT mostly constructed from these 26 letters. So the possible count of two-letters acronyms is 26*26=676 (variations with repetitions), possible count of three-letters acronyms is 26*26*26=17576. The last one is a huge number, but the count of phrases exceeds this. So we can find same acronyms derived from different phrases, and I think that there is no variation of three letters without at least one possible explanation.

Acronyms concur words

Short words are frequent in English, so it is not unusual when a 3- or a 4-letter word and an acronym concur. It is could be casual, but sometimes intentional as well, and confusing at all times.

BLOB	– Binary Large OBject (backronym)
BASIC	– Beginner's All-purpose Symbolic Instruction Code (real acronym, not backronym!)
FAT	– File Allocation Table
WAR	– Web ARchive
JAR	– Java ARchive
POP	– Post Office Protocol

A separate category if a short word considered an acronym, but it is not an acronym, often caused by the false capitalization! Examples: HUB, PING (backronym).

Acronyms with more than one possible meanings

Explanations from different domains

The context could give help to decide right in this case, so these acronyms generate fewer problems then the others. Examples:

RSA	– Rivest, Shamir, Adleman, or Republic of South Africa
OMG	– Object Management Group, or Oh My God (chat)
RIP	– Routing Information Protocol, or Rest in Peace

From same discipline

More difficult to differentiate, when at least two of the explanations come from same discipline. More experience necessary in that case, to choose the context-appropriate meaning. Examples (each with two explanations):

TTL	– Transistor-Transistor Logic, or Time To Live
CSS	– Cascading Style Sheets, or Content Scrambling System
MBR	– Master Boot Record, or Memory Buffer Register
FTP	– File Transfer Protocol, or Foiled Twisted Pair
WAP	– Wireless Application Protocol, or Wireless Access Point
DOS	– Disk Operating System, or Denial Of Service
BMP	– Bitmap, or Bean-Managed Persistence

Not English

The most commonly used language in IT is English. So even more difficult to explain an acronym comes from a different language. Here are two of those:

SI — Système International d'Unités (French)
SAP — Systemanalyse und Programmentwicklung (German, original)
SAP — Systeme, Anwendungen und Produkte in der Datenverarbeitung (German, changed)

Confusing

There are groups of acronyms build of same letters (or almost the same letters), but the order of the letters. It is confusing mostly in that case, when the acronyms come from similar territory of IT.

CSV — Comma-separated values
CVS — Concurrent Versions System
WAP — Wireless Application Protocol
WAP — Wireless Access Point
WPA — Wi-Fi Protected Access
WEP — Wired Equivalent Privacy

Recursive acronyms

Examples:

TLA — three-letter acronym (TLA is a TLA) (My personal favourite, because it is a self-definition.)
GNU — GNU's Not Unix
PHP — PHP: Hypertext Preprocessor (originally "Personal Home Page" tools, officially changed)
RPM — RPM Package Manager (originally "Red Hat Package Manager")
Wine — Wine Is Not an Emulator
Bing — BING Is Not Google [10]

Measurement units

Almost every measurement units are abbreviations or acronyms. Some problematical example from IT: kB, kb, KB, kibi (kilo byte, kilo bit). And some example from other disciplines, with additional problem of case sensitivity, and Greek letters: kV, μA, MW, TJ, ly, MHz, K, dB.

Java programming language, Java technologies

To identify Java technologies often used a phrase started with word „Java", so the initialism

of it starts with the letter „J". Just a few examples from a book examined later:
J2EE, J2ME, J2SE, JAAS, JAR, Java EE, Java ME, Java SE, JAXR, JAX-RPC, JAX-WS, JCA, JDBC, JDO, JMS, JMX, JNDI, JPA, JSF, JSP, JSR, JSTL, JTA, JVM, …

Filename extensions

The spread of abbreviations, acronyms, TLD-s probably mainly promoted by the wide and long-term usage of DOS operating system. Applying the DOS's „8.3" file naming convention the filename extensions have at most three characters. The FILExt currently have 26,024 records in the main database; 51,537 registered filetype records; and, 16,344 records in the Program/MIME type database [8]. Most common examples: txt, doc, jpg, gif, arj, zip, exe, com, sys, bat, ppt, pdf.

Common acronyms of IT

The average IT users are not IT experts, but using acronyms is not privilege of experts: How much RAM do you have in your PC? Which type of display do you have CRT, or LCD, or TFT? Everybody can ask questions like these including the common IT acronyms: ROM, HDD, CD, DVD, LCD, WWW, CPU, USB.

Slang, chat

The users of chat services are very ingenious coining acronyms, because of the dislike of typing, less ability of typing, and the need of sudden, and short reactions. So the chat lists are rich sources of acronyms, especially using the slang. Several of these slang and/or chat acronyms became idiomatic.
LOL - laughing out loud (slang, chat), OMG - Oh My God (chat)

Joke

The ACME Corporation or A Company that Makes Everything (backronym) is a fictional corporation that exists in several cartoons. It appeared most prominently in the Road Runner/Wile E. Coyote cartoons, which made Acme famous for outlandish and downright dangerous products that fail catastrophically at the worst possible times. The company name is ironic since the word acme is derived from Greek (ακμή; English transliteration: acmē) meaning the peak, zenith or prime. Generally, products from the fictional Acme Corporation are very generic and tend to fail — though often this

could be attributed to operator error or misapplication of the product [9].

SHORT EXAMINATION OF A BOOK OF JAVA PROGRAMING

Gábor Imre (ed.): Software development on Java EE platform [2]

(This book is used on the lessons of Distributed applications)

In the examination I used just the first three chapters (chapters 1-3. – 165 pages)
1. Introduction
2. Enterprise JavaBeans
3. The basic level web technologies of Java EE (servlets, JavaServer Pages)

The author of that book follows a good practice: highlights the acronyms with capitals, explains them in all of the chapters at the first occurrence. The last chapter of the book is a ten page long index of acronyms.

There are 77 different acronyms in the first 165 pages, the count of all occurrences is 908 (!), and additionally there are 28 pages with no acronyms. 26 of 77 acronyms performed once (see the top ten counts below). The maximum count per page is 31, on the page number 15. And the maximum count of distinct acronyms is 20, on the page number 5.

The top ten abbreviations, acronyms of the first three chapters, ordered by the count of appearance: EJB(205), JSP(117), API(43), Java EE(40), JNDI(36), XML(35), HTTP(34), URL(30), JPA(29), EL(23)

SHORT EXAMINATION OF THE QUESTION LIST OF THE COMPREHENSIVE EXAM OF IT AT GDF

The question list [3] contains 50 items, with six sub questions in each. For example the item number 42.:
- What does API stand for?
- What is the definition of bit, byte, Kbyte, Mbyte, Gbyte?
- Describe the principles of the techniques for preventing deadlocks!
- (Windows) What does mean the Enter key in WordPad? What are the types of alignment of paragraphs in a word processor (4)?
- What does mean the MISD and the MIMD architecture?
- What is the micro-programmed control, and what is the hardwired control?

There are 70 different acronyms in the list, which occurs in all 96 times. Just two of them explained (RC, RTM – in item number 23.). 5 times the answer is directly the explanation of an acronym (AVI, GPF, UPS, Y2K, BSA). There are 8 items without acronyms in it, but in the item number 11 there are 9 of them (this is the maximum).

The top ten abbreviations, acronyms in the question list, ordered by the count of appearance:
I/O(9), DOS(5), CPU(4), RAM(4), CISC(3), DMA(3), BCD(2), POP(2), RISC(2), TLB(2)

CONCLUSION

Finally here is my advice to save time using acronyms:
- Always explain acronyms (at least at the first appearance of it in a context or chapter)
- Write down the phrase explaining the acronym like this:

acronym	MBR
the pronunciation (if it is not Hungarian)	['em b'i 'ɔr]
explanation (in the original language)	Master Boot Record
explanation in Hungarian (verbatim translation)	Mester „Csizma" Rekord (there is no adequate Hungarian pair)
meaning and usage	A master boot record (MBR) is the first sector ("LBA Sector 0") of a partitioned data storage device …
	The origin of „boot" is the bootstrapping technique …

This practice is just one of the options, and perhaps it helps teaching and learning acronyms. (Q.E.D.)

REFERENCES

[1] *A magyar helyesírás szabályai.* (Rules of Hungarian orthography) Akadémiai Kiadó, Budapest 1985
[2] Imre Gábor (szerk.). *Szoftverfejlesztés Java EE platformon* (Software development on Java EE platform). Szak Kiadó, Budapest 2007

[3] Gábor Dénes Főiskola számítástechnika szigorlatának tételei http://www.gdf.hu/html/documentums /szigorlatok/Szamitastechnika /SZT-SZIG.DOC (Question list of the comprehensive exam of IT at GDF)

[4] http://en.wikipedia.org/wiki/Backronym

[5] http://en.wikipedia.org/wiki /Recursive_acronym

[6] http://en.wikipedia.org/wiki/SPQR

[7] http://www.allmusicals.com/lyrics/hair /initials.htm

[8] http://www.filext.com

[9] http://en.wikipedia.org/wiki /Acme_Corporation

[10] http://en.wikipedia.org/wiki /Bing_(search_engine)

[11] http://www.rovidites.hu

[12] http://rövidítések.lap.hu

[13] http://www.abbreviations.com

[14] http://www.acronymdb.com

[15] http://www.acronymfinder.com

[16] http://www.all-acronyms.com

[17] http://www.acronymsearch.com

[18] http://www.acronyma.com

[19] http://www.acronymattic.com

All the listed web references were active at 2010-01-15.