New York State Identification and Intelligence System

From Wikipedia, the free encyclopedia

The **New York State Identification and Intelligence System** Phonetic Code, commonly known as NYSIIS, is a phonetic algorithm devised in 1970 as part of the New York State Identification and Intelligence System (now a part of the New York State Division of Criminal Justice Services). It features an accuracy increase of 2.7% over the traditional Soundex algorithm.[1]

Procedure [edit]

The algorithm, as described in *Name Search Techniques*,[2] is:

1. Translate first characters of name: MAC → MCC, KN → N, K → C, PH, PF → FF, SCH → SSS
2. Translate last characters of name: EE → Y, IE → Y, DT, RT, RD, NT, ND → D
3. First character of key = first character of name.
4. Translate remaining characters by following rules, incrementing by one character each time:
    1. EV → AF else A, E, I, O, U → A
    2. Q → G, Z → S, M → N
    3. KN → N else K → C
    4. SCH → SSS, PH → FF
    5. H → If previous or next is non-vowel, previous.
    6. W → If previous is vowel, A.
    7. Add current to key if current is not same as the last key character.
5. If last character is S, remove it.
6. If last characters are AY, replace with Y.
7. If last character is A, remove it.
8. Append translated key to value from step 3 (removed first character)
9. If longer than 6 characters, truncate to first 6 characters. (only needed for true NYSIIS, some versions use the full key)

References [edit]

1. ^ Rajkovic, P.; Jankovic, D. (2007), "Adaptation and Application of Daitch-Mokotoff Soundex Algorithm on Serbian Names" (PDF), *XVII Conference on Applied Mathematics*, Novi Sad, Serbia, archived from the original (PDF) on August 27, 2011
2. ^ Taft, R. L. (1970), "Name Search Techniques", *New York State Identification and Intelligence System*, Albany, New York

External links [edit]

- NIST *Dictionary of Algorithms and Data Structures* entry, including pointers to several implementations: http://www.nist.gov/dads/HTML/nysiis.html
- Sample coder, using a variant of the algorithm: http://www.dropby.com/indexLF.html?content=/NYSIIS.html
- Simple Online NYSIIS Utility with GPL Source: http://www.utilitymill.com/utility/nysiis
- Ruby Implementation: http://coryodaniel.com/index.php/2009/12/30/ruby-nysiis-implementation
- C# Implementation: http://sounditout.codeplex.com/
- NYSIIS and Refined NYSIIS implementations in Scala

Categories: Phonetic algorithms