

Discussion Document

A Simplified Braille Code

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The main criterion was to greatly ease the learning of the code while minimising any decrease in space saving and reading speed.

To assess the effect on space saving the code was tested on two corpora - the Gill corpus and the Brown corpus. The Gill corpus consists of 2,561,308 words of English text which has been transcribed into braille. The Brown corpus consists of 1,014,232 words of American text. Since the Gill corpus consists of material used by braille readers, the usage of 'blind' and 'braille' is far higher than in ink print texts.

The proposed code is a subset of existing Grade 2 braille, and all relevant existing rules apply. The only exception is TION which is represented by the single cell sign dots 4, 5, 6. The proposed code does not include any initial or final or double letter contractions. This significantly reduces the number of rules relating to the braille contractions.

The entry in the table marked SPACE refers to the space omitted between certain contractions (e.g. AND THE). The spaces saved by using the TO, INTO and BY contractions are counted under these contractions.

In the Gill corpus, 10000 spaces saved corresponds to 0.35% of the total space saved by using the proposed contraction system. For the Brown corpus, 10000 spaces corresponds to 0.78% of the total space saved. A 90% saving relative to Grade 2 braille means an overall increase in length of less than 3%.

Table of spaces saved by the use of proposed contractions  
in the Gill and Brown corpora.

| Contraction | Spaces saved<br>in Gill corpus | Spaces saved<br>in Brown corpus |
|-------------|--------------------------------|---------------------------------|
| ABOUT       | 12258                          | 5490                            |
| AFTER       | 6918                           | 3315                            |
| AND         | 163526                         | 68048                           |
| ALSO        | 3800                           | 2142                            |
| AR          | 76177                          | 32333                           |
| AS          | 13878                          | 7247                            |
| BE          | 21203                          | 8472                            |
| BECAUSE     | 7095                           | 4410                            |
| BEFORE      | 8600                           | 4072                            |
| BETWEEN     | 7640                           | 3650                            |
| BLE         | 24446                          | 9824                            |
| BLIND       | 10476                          | 228                             |
| BRaille     | 7628                           | 4                               |
| BUT         | 18542                          | 8760                            |
| BY          | 21390                          | 10334                           |
| CAN         | 9764                           | 3858                            |
| CH          | 39197                          | 16193                           |
| CHILD       | 2996                           | 1004                            |
| CHILDREN    | 9738                           | 2310                            |
| COM         | 28590                          | 11234                           |
| CON         | 31180                          | 15508                           |
| COULD       | 11346                          | 5328                            |
| DIS         | 13252                          | 5508                            |
| DO          | 4302                           | 1373                            |
| EA          | 48088                          | 21720                           |
| ED          | 96125                          | 45681                           |
| EN          | 105392                         | 48854                           |
| ENOUGH      | 2475                           | 1695                            |
| ER          | 141146                         | 60949                           |
| EVERY       | 4760                           | 1968                            |
| FIRST       | 7155                           | 4161                            |
| FOR         | 67150                          | 28862                           |
| FROM        | 29475                          | 13071                           |
| GH          | 20864                          | 9730                            |
| GOOD        | 4944                           | 1870                            |

|           |        |        |
|-----------|--------|--------|
| GREAT     | 3114   | 2052   |
| HAVE      | 27939  | 11823  |
| HIM       | 4988   | 2616   |
| HIS       | 20430  | 12936  |
| IN        | 117380 | 56143  |
| ING       | 151780 | 60580  |
| INTO      | 11355  | 5313   |
| IT        | 21310  | 9080   |
| JUST      | 5907   | 2616   |
| KNOWLEDGE | 3000   | 1160   |
| LIKE      | 10782  | 4014   |
| LITTLE    | 8868   | 3400   |
| MORE      | 11130  | 6642   |
| NOT       | 20818  | 9236   |
| OF        | 80243  | 34933  |
| OU        | 49318  | 22024  |
| OUT       | 9360   | 4336   |
| OW        | 33565  | 13216  |
| PEOPLE    | 13205  | 4340   |
| QUITE     | 3384   | 1128   |
| RATHER    | 4080   | 1860   |
| SAID      | 11224  | 3928   |
| SH        | 31403  | 12279  |
| SHALL     | 10340  | 1072   |
| SHOULD    | 16684  | 3644   |
| SO        | 5202   | 2032   |
| ST        | 78992  | 36684  |
| STILL     | 6340   | 3132   |
| SUCH      | 5624   | 2602   |
| TH        | 39247  | 16870  |
| THAT      | 64608  | 32334  |
| THE       | 377164 | 183384 |
| THIS      | 31083  | 15417  |
| TION      | 114651 | 52515  |
| TO        | 118346 | 51948  |
| VERY      | 9141   | 2379   |
| WAS       | 34498  | 19214  |
| WERE      | 15831  | 9621   |
| WH        | 26066  | 11269  |

|                               |         |         |
|-------------------------------|---------|---------|
| WHICH                         | 28420   | 14228   |
| WILL                          | 17598   | 6747    |
| WITH                          | 52704   | 24888   |
| WOULD                         | 17583   | 8547    |
| YOU                           | 38420   | 7244    |
| YOUR                          | 10974   | 1894    |
| (SPACE)                       | 40151   | 19424   |
| <br>                          |         |         |
| Total                         | 2895766 | 1281950 |
| Total for Grade 2             | 3217789 | 1432906 |
| Saving compared<br>to Grade 2 | 90.0%   | 89.5%   |