

PharmaBraille

Automated Braille Translation for Pharmaceutical Products

Braille is the tactile system used by the blind to read and write. Braille alphabets are similar to visual alphabets, but there is not a one-to-one correspondence between Braille figures and traditional printed characters. Although not as complex as fully contracted Grade II Braille, the Grade I – or Full Text – Braille used on pharmaceutical packages and labels does require a certain amount of translation. PharmaBraille is an email-based service developed to address the needs of pharmaceutical manufacturers, distributors and resellers who need to emboss Braille on product packages in order to comply with European legislation. PharmaBraille produces high-quality visual Braille artwork ready to be placed on the package or label design.

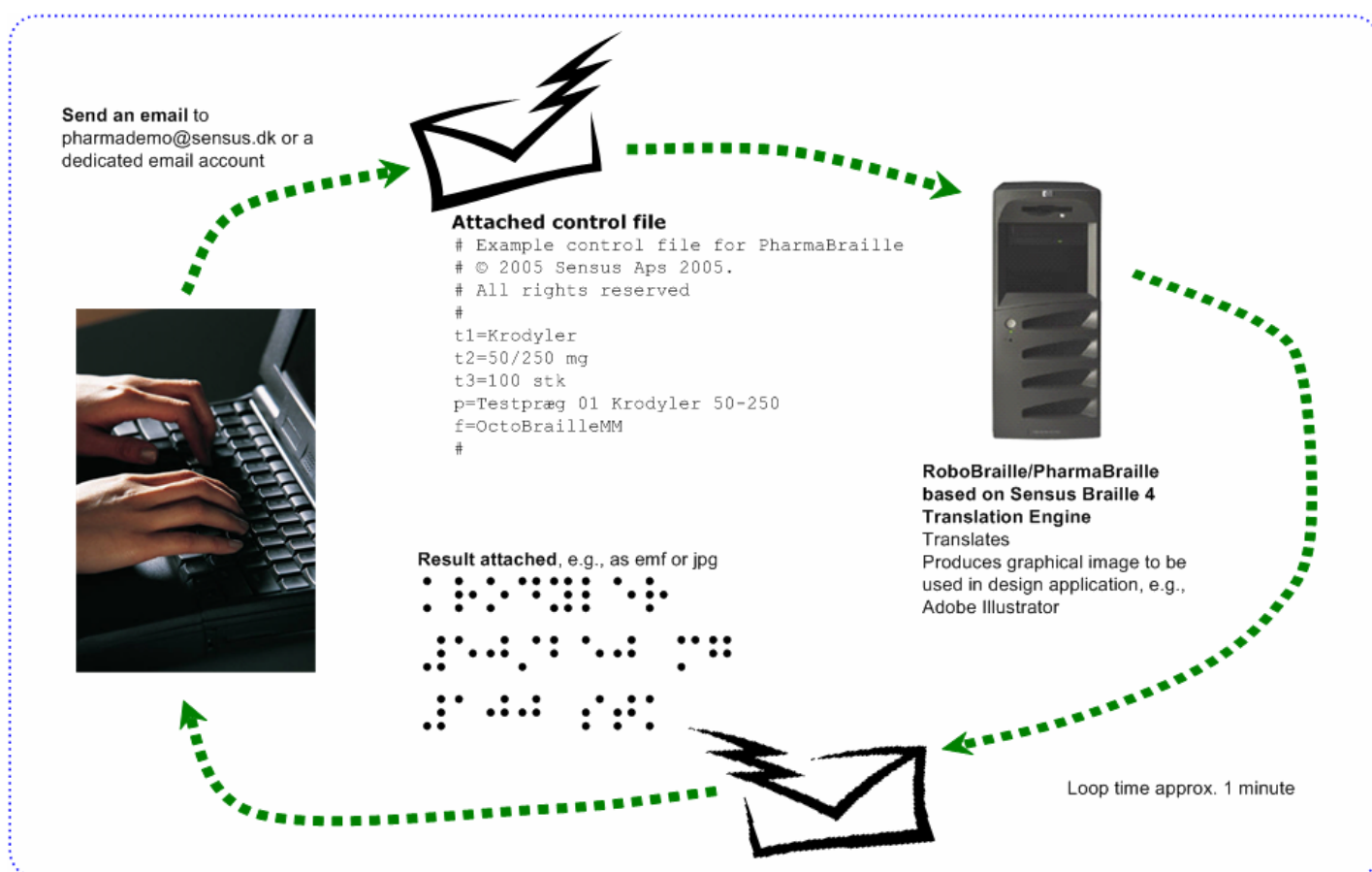
The standard Braille figure is made up of two columns of three dots each. With only $2^6 (= 64)$ different combinations, each Braille character serves several purposes. As a consequence, a printed character may need to be translated into several Braille characters, spaces may need to be added or removed from the text, and a range of escape characters may be required to avoid ambiguity.

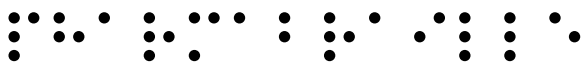
To complicate matters further, few international standards exist for representing special characters such as the percentage sign (%), see text box on next page) – causing each language to

have its own notation.

Braille characters are quite large compared to printed characters. In order to enable Braille readers to identify each dot in the Braille figure, the Braille characters must be clearly embossed and spaced in accordance accepted standards. The Braille characters in this document are presented lifelike in 1:1 as per the physical specifications of Marburg Medium (the illustration below excepted).

In its simplest form, printed letters are merely substituted with their corresponding Braille characters:





PharmaBraille

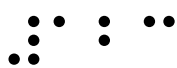
As can be seen from the above example, the Braille system does not distinguish between upper case and lower case letters. Similarly, the first 10 letters of the alphabet are reused to represent the ten digits (a = 1, b = 2, ..., j = 0). To distinguish between letters and digits, the latter are preceded by an escape character, the “number sign.”

The following examples illustrate some of the complexities of the Grade I Braille notation:

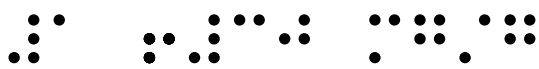
abc



123



1 + 30 mg/g



30%



PharmaBraille

The working principle of PharmaBraille is that the user emails information about the requested Braille text – e.g., product name, strength, position on package, size of package – to the robot. The information is submitted as a control file attached to an email. The control file may be produced automatically by other applications, semi-automatically by macros or similar in Office-applications or manually by editing a text file.

The robot subsequently translates the information into a graphical element and returns it by email. The format of the graphical element could

The % sign across Europe

The examples below illustrate the Braille notation for 35% in several European countries

Denmark	
Sweden	
Norway	
Finland	
Great Britain	
France	
Portugal	
Cyprus/ Greece	
Italy	

The European Commission has urged the national European Braille authorities to standardise notation across Europe. However, standardised Braille notation is not expected in the foreseeable future.

be emf (enhanced meta file) or another graphical format, allowing the element to be imported into Adobe Illustrator or other design application and placed on the package or label design in question. The visual Braille representation is produced in accordance with a particular Braille font specified by the customer (please refer to the Fonts section below).

Depending on network traffic, the graphical element is typically returned within a minute of submitting the request.

PharmaBraille is available to pharmaceutical manufacturers, distributors, resellers and others subject to an annual service fee. Changes to the standard functionality of PharmaBraille can be made to accommodate specific needs. The costs of such changes are based on Time & Material.

RoboBraille

PharmaBraille is an extension to the RoboBraille translation service. Based on the Sensus Braille version 4 translation engine (SB4), RoboBraille is capable of translating to and from contracted Braille in both six-dot and eight-dot Braille format. For synthetic speech, a number of commercial and free text-to-speech engines are used to support the translation of written text into speech.

By implementing the system as an email-based service, users do not have to install anything on their own computers; the system is always up-to-date; the system is available from all platforms capable of sending and receiving emails; and the system is available to everyone irrespective of platform or physical location.

RoboBraille is available free of charge to all non-commercial users and is used to produce a large proportion of the Braille material in Denmark. Sensus Braille 4 is the result of almost 20 years of research and development into automated Braille translation.

In close collaboration with the Syncenter Refsnæs, Sensus is currently exploring how to deploy the RoboBraille service across Europe.

Fonts

In addition to the PharmaBraille translation service, Sensus has developed two Braille fonts: OctoBrailleMM and OctoBrailleVisualMM are two TrueType Braille fonts used to produce Visual Braille. The fonts comply with the Marburg Medium specification, which has been recommended by the European Commission for use on pharmaceutical packages and labels.

The two OctoBraille fonts can be used alone or in combination with PharmaBraille. The fonts are required to ensure the correct physical dimensions of the embossed Braille.

OctoBrailleMM and OctoBrailleVisualMM are available under a license agreement.

Related services

In addition to facilitating the production of visual Braille, Sensus can validate the Braille material. Depending on the actual needs, Sensus offers to validate graphical as well as tactile

Braille renditions. Likewise, Sensus can assist in identifying and implementing automated validation solutions based on Braille scanning and Optical Braille Recognition technology. Finally, Sensus advises on the physical appearance of the Braille cells.

Contact

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