

Drug Name Translator

User Manual

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1.0 General Information

This user manual provides the information necessary for doctors and nurses to effectively use the Drug Name Translator (hereafter abbreviated as DNT).

1.1 Purpose

This is the user manual for DNT. It is intended to provide all information needed for a user to become completely familiar with the software. It also provides troubleshooting methods and points of contact for any issues encountered by the user.

1.2 Scope

This manual describes the November 2019 release of the DNT software.

1.3 System Overview

Drug Name Translator is a web-based application that aims to effectively translate a given drug's brand name (e.g. Panadol) into its corresponding generic name (e.g. Paracetamol) through the use of Optical Character Recognition (hereafter abbreviated as OCR). DNT receives input via text entered by the user or a picture uploaded of pharmaceutical drug prescriptions clearly displaying the drug's brand name. The input is then processed internally, and a list of possible corresponding generic names is displayed on the screen for the user to navigate.

1.4 Target Users

The target users for this software are primarily doctors and nurses who will be using the application in their day-to-day work, especially for patient appointments. Our secondary target audience are other members of the medical profession (such as chemists and pharmacists) as they will also benefit from the software due to shared interests.

1.5 Organisation of the Manual

This user manual consists of six main sections: General Information, Getting Started, Using the System, Troubleshooting, Appendix, and Credits. Table 1 below gives a summary of the chapters in this manual and what they cover:

Table 1: DNT User Guide Chapters

Chapter	Topics
1	General Information This chapter explains in general terms the system and the purpose for which it is intended.
2	Getting Started This section provides short, fast instructions on how to get started using DNT.
3	Using the System This chapter delves into a more detailed description of the software, explaining each major part of the system in low-level detail.
4	Troubleshooting The Troubleshooting section details all error correction procedures, including error conditions that may be generated and corrective actions that may need to be taken. It also features major points of contact if further action is needed.
5	Appendix Appendix A: Revision Sheet – The revision sheet includes a list of revisions made to this user manual, along with the author and date revised. Appendix B: Acronyms – This appendix features a list of acronyms used throughout the user manual and provides the literal translation for them. Appendix C: Glossary - This section provides definitions for words used in the manual that may not have an immediately obvious meaning. Appendix D: References – This section provides references for the sources used throughout this user manual.
6	Credits Chapter 6 gives credit to all those who contributed to the production of this project.

1.6 Points of Contact

DNT's developer team can be contacted via the following email address:
curtincapstone@gmail.com.

2.0 Getting Started

2.1 Signing Up

To sign up to use DNT the user needs to provide a username and password (of at least 8 characters in length) of their choice, a valid email address, and a phone number. After clicking the 'sign up' button the user will receive an email (shown in Figure 1) to the elected email address requesting that the user verify their account. Clicking the link in this email will redirect the user to the log in page where they can enter their username and password to log into the system.

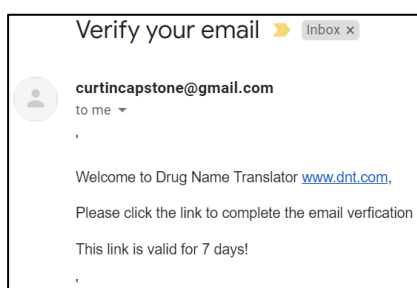


Figure 1: Sign Up Verification Email

2.2 Logging On

To log in to use DNT the user will need to provide the username and password they provided when they signed up.

2.3 Resetting Forgotten Password

To reset a forgotten password, the user must click the 'Forgot password?' link below the 'Sign up' link on the log in screen (highlighted in the red box in Figure 2 below). Once clicked, the user will be redirected to the reset password page (shown in Figure 3 below). On this page, the user must enter the email address associated with the account and their new password. The user will then receive an email (shown in Figure 4 below) to confirm the resetting of their password. To complete the password update, the user needs to click the link in the email which will redirect them to the log in page, where they can log in with the new password.

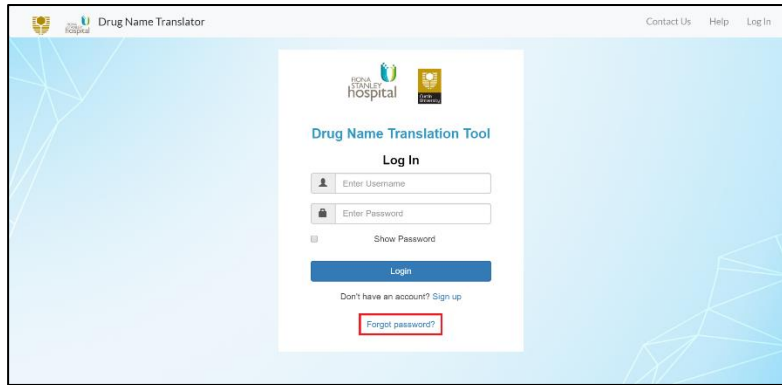


Figure 2: Log In Screen with 'Forgot Password' Link Highlighted

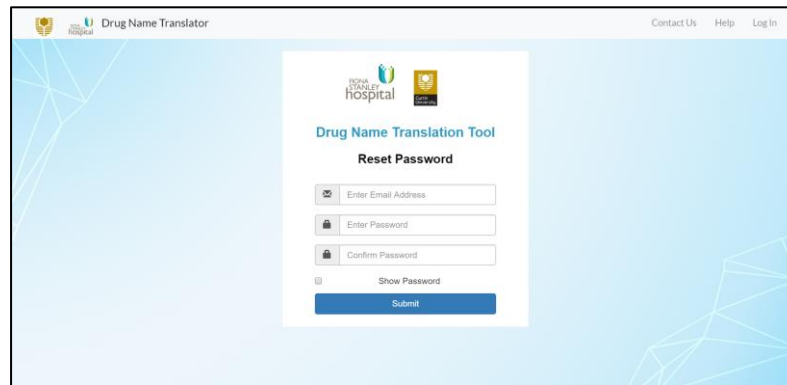


Figure 3: Reset Password Page

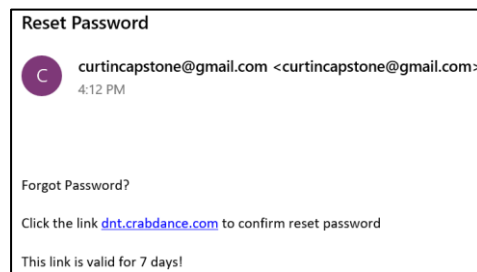


Figure 4: Reset Password Email

2.4 System Menu

If the user is not logged in to the system, they will have access to the following navigation bar at the top of the screen:



Figure 5: Navigation Bar when not Logged in to the System

This navigation bar features a 'Contact Us' button, a 'Help' button, and a 'Log In' button. When clicked, the 'Contact Us' button will display an email address that DNT's developer team can be contacted through. The 'Help' page provides Frequently Asked Questions (FAQs) and answers, instructional video tutorials, and this user manual. The 'Log In' button will redirect the user to the log in screen where they can fill in their username and password to access the full system.

If the user is logged in to the system, they will have access to this navigation bar that includes more features than shown in the navigation bar in Figure 5:

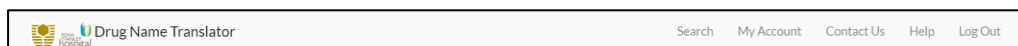


Figure 6: Navigation Bar when Logged in to the System

This navigation bar has exactly the same 'Contact Us' and 'Help' pages as the previous one (Figure 5) however it also features 'Search' and 'My Account' buttons and has a 'Log Out' button instead of a 'Log In' button. The 'Search' button will take the user to the main page where they can search for drug names and have them translated. The 'My Account' button will allow the user to view their current account details and update their details and password. The 'Log Out' button will log the user out of their current session and redirect them to the log in page.

2.5 Updating Account Details and Password

To update the user's account details or password, they must first navigate to the 'My Account' page which can be found by clicking the 'My Account' button in the navigation bar at the top of the screen. Once clicked, they will be redirected to the page shown below (Figure 7). On this page they have the options to view their current account details (left-most panel), update their account details (middle panel), or update their password (right-most panel). Clicking the 'Update Account Details' button in the middle of the screen will allow them to change their username, email address or phone number (shown in Figure 8). Clicking the 'Update Password' button on the right of the screen will allow them to update their password (shown in Figure 9). Once the user has updated their account details or password, they will be redirected to the log in page where they can log in with their new details.

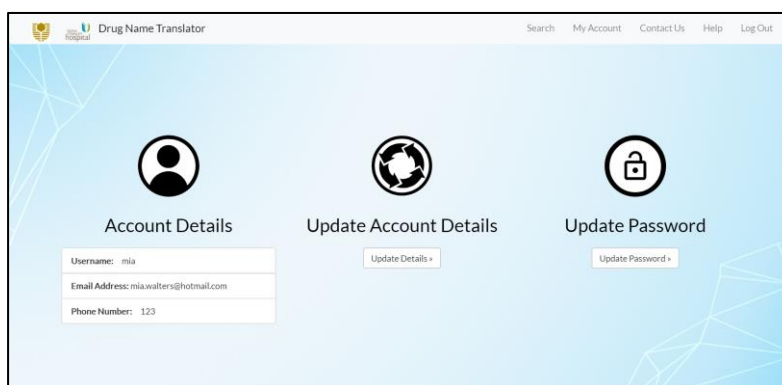


Figure 7: 'My Account' Page

Drug Name Translator

Search My Account Contact Us Help Log Out

Update Account Details

New Username

New Email Address

New Phone Number

Note: only fill in the fields you wish to update. You are required to re-login after updating details.

Update Details

Back to Account Details

Figure 8: 'Update Account Details' Page

Drug Name Translator

Search My Account Contact Us Help Log Out

Update Password

Enter New Password

Confirm Password

Show Password

Update Password

Back to Account Details

Figure 9: 'Update Password' Page

2.6 Exiting the System

To exit the system, the user must click the 'Log Out' button in the top right-hand corner of the screen. They will then be redirected to the log in screen and can now close the window.

Please note that if the user cannot see a 'Log Out' button in the top right-hand corner of the screen, they are already logged out of the system and can close the window.

3.0 Using the System

3.1 User Access Levels

Only users with a verified account can access the whole system. Instructions on how to sign up and verify an account are detailed in section 2.1 of this user manual.

3.2 Searching for a Drug

A drug's brand name can be searched by either typing the name into the search bar or by uploading an image of a prescription where drug names are clearly displayed. Sections 3.1.1 and 3.1.2 detail how exactly to search using each method.

Once a brand name has been searched, the system will display a white box below the search bar with the translations inside. The system may return multiple results for a certain brand name – this occurs when there are multiple descriptions for the same drug (an example of this is shown below in Figure 10 and 11). The two results shown in Figure 10 and Figure 11 below may look exactly the same however on closer inspection it can be seen that the descriptions are slightly different from one another. The first result is for a 20mg tablet while the second result is for a 10mg tablet.

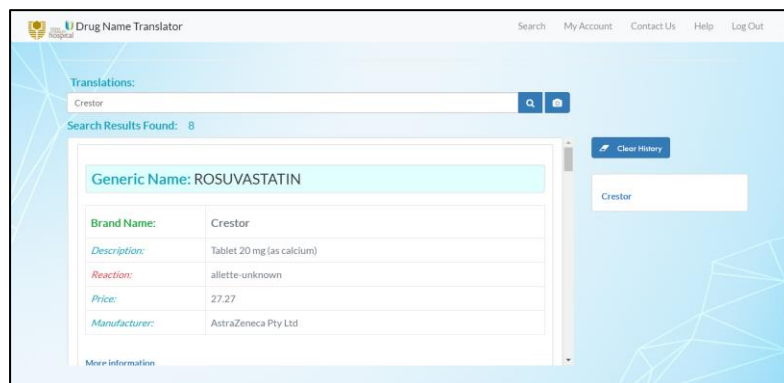


Figure 10: First Result when Crestor is Searched

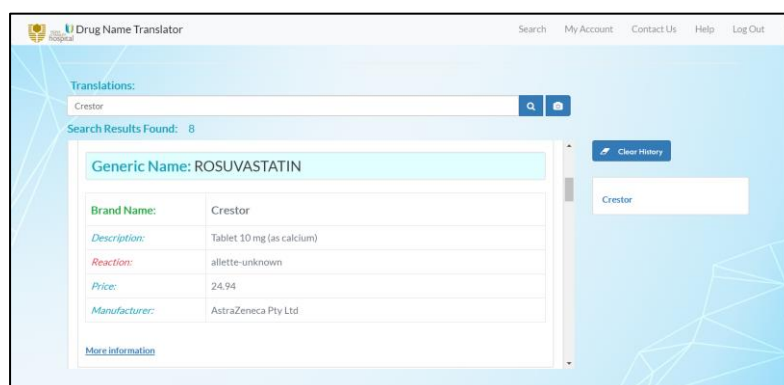


Figure 11: Second Result when Crestor is Searched

3.2.1 Searching for a Drug using Plain Text

To search using plain text, the user must enter the drug's brand name into the search bar and either press the enter button on their keyboard or the magnifying glass on the search bar.

3.2.2 Searching for a Drug using an Image

To search for drug brand names using an image, the user must click the camera button on the right of the search bar. This will display a file chooser pop-up where the user can select the image they'd like to have drug names translated from (shown in Figure 12 below). Once the user selects the image, another window will pop-up, this time allowing the user to crop their image to a specific region (section 3.2.2.1 below details this functionality). After cropping the image, the user will be returned to the search page (Figure 13). At the top of the page the user can view the image they uploaded and cropped. Below this, the drug names recognised in the image are listed as clickable links. The first drug name found in the image is automatically searched (in Figure 13 it can be seen that Amoxil was the first drug name recognised in the image and is therefore the term that is automatically searched), while the rest of the drug names in the image can be clicked to search them.

Please note that only image file formats (e.g. .png and .jpg) can be uploaded to search.

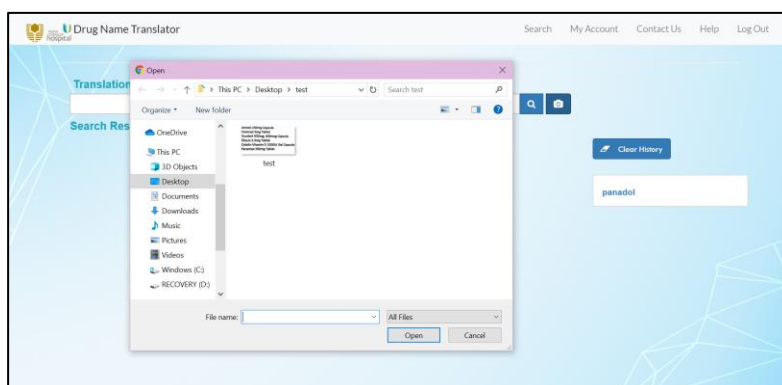


Figure 12: File Chooser Pop-Up when Camera Button Pressed

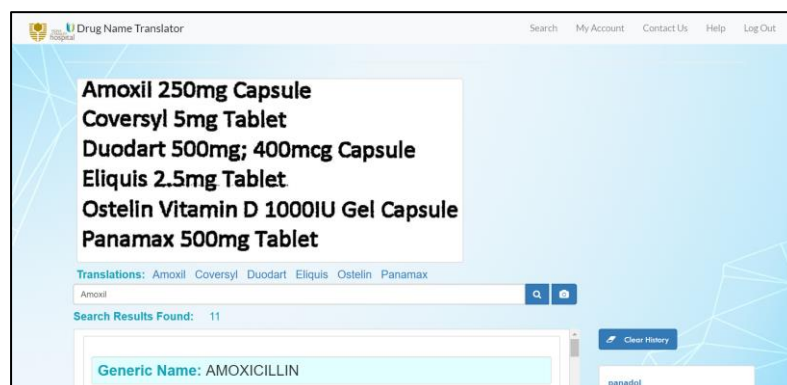


Figure 13: Search Page After Image Cropped

3.2.2.1 Crop Functionality

Once the user has selected the image file they want translated, a pop-up will appear requesting that the user crop the image (shown below in Figure 14). The translations returned will be more accurate if the user crops the image to focus on just the text they want translated. To crop the image, the user can click and drag the blue box to move it to another region, or the user can click and drag the corners of the blue box to make it larger or smaller.

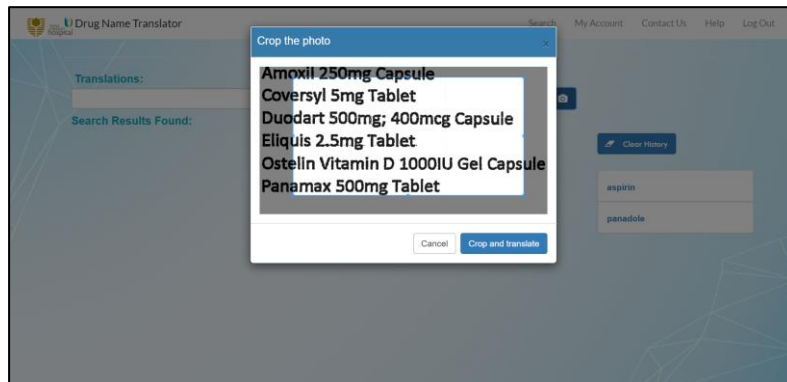


Figure 14: Crop Functionality Pop-Up

3.3 Clearing Search History

To clear the search history the user must simply click the 'Clear History' button on the search page above the history panel (highlighted in the red box in Figure 15 below).

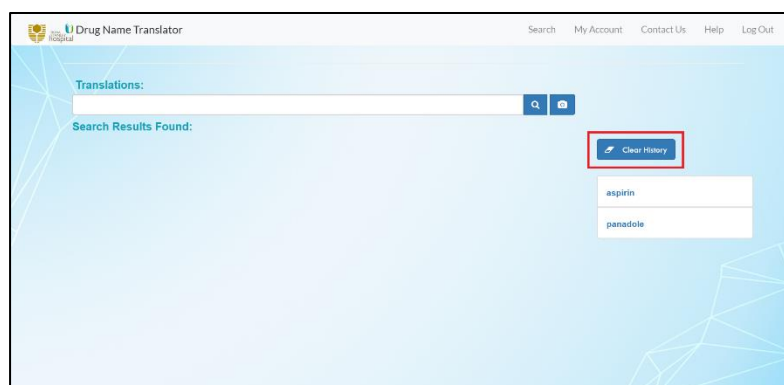


Figure 15: Search Page with 'Clear History' Button Highlighted

3.4 Viewing and Updating Account Details and Password

Viewing and updating account details and password instructions can be found in section 2.5 of this user manual.

5.0 Troubleshooting

5.1 Error Messages

5.1.1 Password Length Error

If the user enters a password that is less than 8 characters in length when signing up, an error message will be displayed (Figure 16 below). To prevent this error from appearing again, the user must enter a password of at least 8 characters in length.

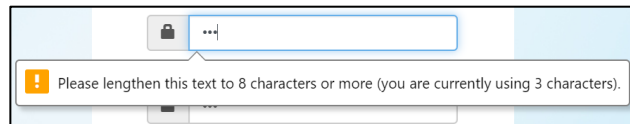


Figure 16: Password Length Error Message

5.1.2 Email Address at Sign Up Error

To sign up to use DNT, the user must enter a valid email address. If the email address entered by the user on the sign up page does not include an '@' character than an error message will appear (shown below in Figure 17). To correct this error, the user needs to enter a valid email address that includes an '@' character.

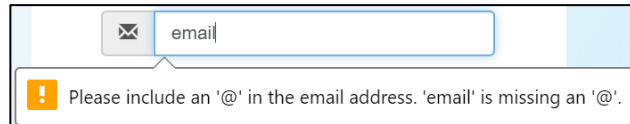


Figure 17: Email Address at Sign Up Error Message

5.1.3 Non-Unique Username at Sign Up Error

If the user enters a username that has already been used by another user, an error message will appear (shown in Figure 18). To correct this error, the user must enter a different username.

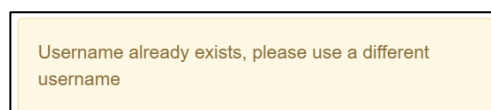
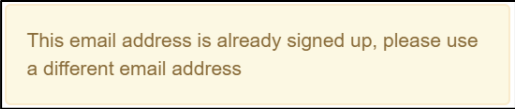


Figure 18: Non-Unique Username Error Message

5.1.4 Non-Unique Email Address at Sign Up Error

If the user enters an email address that has already been used by another user, an error message will appear (shown in Figure 19). To correct this error, the user must enter a different email address.

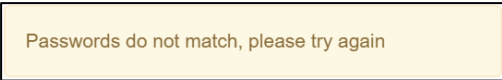
A yellow rectangular box with a thin black border containing the text: "This email address is already signed up, please use a different email address".

This email address is already signed up, please use a different email address

Figure 19: Non-Unique Email Address Error Message

5.1.5 Non-Matching Passwords at Sign Up Error

If the user inputs a different password to the password entered in the 'confirm password' field, an error message will appear (shown below in Figure 20). To fix this error, the user must make sure that the passwords match. This can be done by clicking the 'Show Password' checkbox and comparing the passwords.

A yellow rectangular box with a thin black border containing the text: "Passwords do not match, please try again".

Passwords do not match, please try again

Figure 20: Non-Matching Passwords at Sign Up Error

5.2 Support

Please refer to section 1.6 (Points of Contact) of this user manual to find important contacts.

6.0 Appendix

6.1 Appendix A: Revision Sheet

Table 3: Revision Sheet

Release Number	Date	Author	Revision Description
Rev. 0.1	03/09/19	Mia Walters	Initial draft
Rev. 1	30/10/19	Mia Walters	First Release

6.2 Appendix B: Acronyms

Table 4: Acronyms

Acronym	Literal Translation
DNT	Drug Name Translator
OCR	Optical Character Recognition
URL	Uniform Resource Locator

6.3 Appendix C: Glossary

Table 5: Glossary

Term	Definition
Optical Character Recognition	The use of technology to distinguished printed or handwritten text characters inside digital images of physical documents, such as scanned paper documents. (Rouse, 2019)
Drug Brand Name	The brand name of a medication is the name given by the company that makes the drug and is usually easy to say for sales and marketing purposes. (Labonville, 2017)
Drug Generic Name	A term referring to the chemical makeup of a drug rather than to the advertised brand name under which the drug is sold. (Shiel, 2018)
Web-Based Application	A web-based application is any program that is accessed over a network connection using HTTP, rather than existing within a device's memory. (Technopedia, 2019)

6.4 Appendix D: References

Labonville, S. (2017, April 19). *Generic vs. Brand: What's the Difference?*

Retrieved from IWP: <https://www.iwpharmacy.com/blog/generic-vs.-brand-whats-the-difference>

Rouse, M. (2019, April). *OCR (Optical Character Recognition)*. Retrieved from WhatIs.com:

<https://searchcontentmanagement.techtarget.com/definition/OCR-optical-character-recognition>

Shiel, W. C. (2018, December 27). *Medical Definition of Generic name, drug.*

Retrieved from MedicineNet:

https://www.medicinenet.com/hepatitis_surprising_liver_damage_causes/article.htm

Technopedia. (2019). *Web-Based Application*. Retrieved from Technopedia:
<https://www.techopedia.com/definition/26002/web-based-application>

7.0 Credits

DNT developer team: Jack Downes, Qaiser Mahmood, Jamal Shaheed, Kai Tang, and Mia Walters

OCR developer: Jesse Sieunarine

Project supervisor: Hannes Herrmann (Curtin University)

Project clients: Iain Murray (Curtin University) and Tim McLennan (Fiona Stanley Hospital)