

# LEXINET

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## **1. Description**

The aim of this project is to create an application titled Lexinet which will be able to import words in English from the Wordnet database, translate them automatically into Romanian. Throughout this process, the application will ensure the preservation of the contextual meaning of the word, as well as the relations which connect it to other words. Afterwards, the application will store the resulting word and relations into its own database of Romanian words. The regular user has the option of looking up words in the database, while the administrator can also modify the data. This way, corrections can be made, since the automated import system is not infallible.

This application is useful to a wide variety of people, ranging from students to professional translators, thanks to the complete and detailed information it provides. Therefore, regardless of whether you are studying Romanian or if your job requires constant work with either a dictionary or a thesaurus, the Lexinet application will surely prove to be a very handy tool for you to use as you need.

## **2. Domain**

The use case specifications will provide information regarding both the ways in which different users can interact with the application and a brief description of what the application will do in order to complete the task it was given.

### 3. People Involved/Interests

**The user:** Is the one that benefits from the functionalities of the application, regardless of whether we are talking about the regular user that needs to look up something or the logged in user that can also benefit from the application's advanced functionalities as import/edit.

**The application provider:** Is the one that wants to bring something unique and needed in Romania, by means of a powerful and reliable application.

### 4. Actors/Goals

**The application provider:** offers a useful application, free for anyone to use.

**Wordnet API:** is a free API provided by Princeton, which makes it possible for our application to access the Wordnet database.

**Translation API:** the application uses this API to translate the English glossae into Romanian.

**The application:** it enables the user to lookup words, modify the existing words and relations as well as import words into the application's own database.

**The database:** it is used to store the resulted Romanian words and fetch them when the user hits the 'search' button.

**The user:** is the the one who directly interacts with the application's interface and functionalities.

## **5. Use Case Specifications**

### **5.1 The user doesn't have an account and wishes to create one**

1. The user accesses the web page
2. The user clicks on the register button
3. The user is taken to the register page
4. The user proceeds to fill in the 'Username', 'E-mail' and 'Password' fields with the corresponding data
  - 4.1. The username/e-mail are already taken
    - 4.1.1. An error message is displayed, letting the user know that either the username or the e-mail that they filled in is already being used
  - 4.2. The username and e-mail are available
    - 4.2.1. The application creates a new entry in the database with the new username, e-mail and password
    - 4.2.2. The application displays a message letting the user know that a new account has been successfully created

### **5.2 The user already has an account and wishes to log in**

1. The user accesses the web page
2. The user fills in the 'Username' and 'Password' fields, then clicks the 'Login' button
  - 2.1. The 'Username' and/or 'Password' is spelt wrong/has not been added into the database/the password does not match the username etc.

2.1.1. The application displays a corresponding error message, letting the user know the username and/or password do not exist or do not correspond to the information in the database

2.2. The data in the username and password fields is correct/the password matches the username

2.2.1. The 'Import', 'Edit' and 'Log Out' buttons are displayed

### **5.3 The user has logged into their account**

#### **5.3.1. The user wishes to import a word**

1. The user clicks the 'Import' button  
2. The user is taken to the import page, where an import field is available  
3. The user types in the English word that they wish to import into the application's database

4. The application uses the Wordnet API to lookup the word given by the user inside the Princeton Wordnet database

4.1. The word is not found in the database

4.1.2. The application displays a corresponding error message, letting the user know that the word was not found and asking them to check if the spelling of the word is correct

4.2. The word is found

4.2.1. The application takes the word's synset, glossa and relations

4.2.2. The glossa is translated into Romanian using the translation API

4.2.3. The resulting Romanian word along with its relations is inserted into the application's database

4.2.4. The application displays a message, letting the user know that the import action was successful

**5.3.2. The user found that there is data in the database that needs improvement or correction and wishes to modify a certain word's attributes**

1. The user clicks the 'Edit' button
2. The user is taken to the edit page
3. The user fills in the word which they wish to edit as well as the modifications/corrections that they found must be done
  - 3.1. The application does not find the word in its database
    - 3.1.1. The application displays an error message, letting the user know that the word does not exist in the database
  - 3.2. The application finds the word in the database
    - 3.1.2. The application takes the new data that the user inserted and updates the corresponding data in the database
    - 3.1.3. The application displays a message, letting the user know that the edit action was successful

**5.3.3. The user has found a word in Romanian that they are not too familiar with/want to refresh their memory and wish to view its synset**

1. The user accesses the main page
2. The user types in the Romanian word which they want to lookup and presses the 'Search' button
3. The application searches for the inserted word in its database
  - 3.1. The application doesn't find the word in the database
    - 3.1.1. The application displays an error message, letting the user know that the word does not exist in the database
  - 3.2. The application finds the word in the database
    - 3.2.1. The application fetches the word's synset from the database
    - 3.2.1. The application displays the synset on the main page of the website

**5.3.4. The user wishes to logout of their account**

1. The user presses the 'Log Out' button

2. The user is taken back to the main page and the ‘Edit’ and ‘Import’ are no longer displayed

#### **5.4 The user wishes only to lookup a word which they are curious to learn more about**

1. The user accesses the main page
2. The user types in the Romanian word which they want to lookup and presses the ‘Search’ button
3. The application searches for the inserted word in its database
  - 3.1. The application doesn’t find the word in the database
    - 3.1.1. The application displays an error message, letting the user know that the word does not exist in the database
  - 3.2. The application finds the word in the database
    - 3.2.1. The application fetches the word’s synset from the database
    - 3.2.1. The application displays the synset on the main page of the website