

WORD TRANSFORMERS



OVERVIEW

- App Name: Word Transformers
- **App Description:** The purpose of this app is to effectively and efficiently help English-as-a-second-language (ESL) students, particularly those whose first language is Chinese, understand the rules of word changes in English grammar.
- **Track:** Mixed Team
- **Category:** Education & Research



THEME

In 100 words or less, describe the problem that you chose to address, and why you were interested in solving it. Please note that this portion of your submission will be published if you are selected as a finalist or winner.

Learning English grammar can be challenging for English-as-a-second-language (ESL) students, especially those whose mother tongue is Chinese, due to differences between Chinese and English grammar. Concepts such as verb tenses, noun and adjective transformations can be particularly difficult to understand.

Our app provides a solution to these grammar issues by offering a comparison of sentence structures across tenses and contextualized images, instead of relying on rote memorization. This app is beneficial for all English learners, as it enables them to quickly and easily master English grammar and improve their language skills.



Screen 1: Welcome Page

晚上10.24 分 回 ▲ 에 ▲ 세 욱 대교 Welcome to Word Transformers!			波晨5-24 分 函 해 속 🔹 🔐 옷 📼 Welcome to Word Transformers!	
Word Transformers			Word Transformers	
		3. After clicking, i	TRANS® Formers	
		will darken, and	Superlin made by Zapit Kodwer	4. After clicking
		the text will be changed to		the button, the color will darken,
		"Unmute Music."		and the text will be
2. Click the	1. First, click the	again to restore		Movie". Click it
"Mute Music"	"Get Started"	the animation		again will allow
button to mute	button to play	sound, the	Unmute Music Movie	users to skip the
the animation	the welcome	previous button		animation and
			• • •	open next page.



Step 2





2. In this area, the ImageBot would automatically create a picture of a Transformer. The Transformer will be different each time, adding novelty and fun for the user. The image area is designed as vertical scrollable, making it convenient to display larger images.



Step 3

Screen 3: Noun Page

1. Users could input noun in the а textbox and then "SEND" click the button. The ChatBot will immediately determine whether the noun is countable or not display the and result in the area below.

 At the same time, the ImageBot will create a new image related to the noun.
 (e.g. The ImageBot created a picture of "courage" here.)



3. To click the buttons below the image will allow you to set the key requirements for example sentences.

Τo Click "EXAMPLES" button will display the example sentences user's based on settings. This area is designed as horizontal scrollable, making it convenient display for on different devices. If the noun is countable, a plural example sentence will also be displayed here.





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Step 5

Contacts

Plural Form N/

amma Notes: Your Selection:

5. Clicking on the "List Picker" at the bottom will allow users to select the display of grammar explanations.

6. Clicking the "Contacts" button will display the contact information.

Screen 4: Verb Page

1. Enter a verb in the textbox and click the "SEND" button. The ChatBot will then provide different forms of the verb, including the third-person singular, progressive, past tense, and past participle.

3. Click the "SEND" button. The ChatBot will then generate example sentences based on the sentence settings, including three time frames ("Present," "Past," Future") and four sentence forms ("Simple," "Progressive," "Perfect," "Perfect Progressive"), resulting in a total of 12 possible combinations. If you modify the settings, such as changing an active sentence to a passive sentence, changing the subject from "You" to "She," or changing an affirmative sentence to a negative sentence, new example sentences for all 12 combinations will be displayed immediately.



2. Clicking on the buttons here allows users to set the key elements of the example sentences, which will all affect the verb's variations. These elements include the subject, active/passive voice, affirmative/negative sentence, and the use of modal verbs.

With the help of Word Transformers app. by setting sentence requirements, users can instantly get different forms of the same verb through a comparison of tables and examples.

This is very helpful in assisting students to understand the grammar rules of verb conjugation!

instructions

Screen 5: Adjective Page

1. Enter an adjective in the textbox and click the "SEND" button. The ChatBot will then provide the comparative and superlative forms of that adjective.

3. Clicking the "Sentence Settings" button, followed by clicking the "EXAMPLES" button, the ChatBot will provide example sentences for the base form, comparative form, and superlative form of the adjective based on the sentence settings. This will help students understand the variation in usage.



2. At the same time, the ImageBot will also generate a picture related to that adjective.



Screen 6: Reference Page

1. With the help of the data visualization component, the new List View component, users could find the reference information easily, including the category images, related titles as main text and related websites as the detail text. The interface with such design is more user friendly.

 After picking a list / reference item above, the webpage related would be displayed here for more details needed.

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Reference	
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REFERENCE	
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Verb Tenses Explained, With Exar	nples
Verbs https://www.grammarly.com/blog/v	erb-tenses
English Tense System	mar/verb-tenses-system.php
Verbs https://www.englishclub.com/gram	mar/verb-tenses-basic.php
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Countable and Un	countable
Nouns: Rules and	Examples



<u>Grammarly</u> Updated on September 27, 2022 · Grammar

Countable nouns definition

Countable nouns refer to items that can be counted, even if the number might be



Step 8



Screen 7 × 8 × 9: Gramma Notes Pages



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Nouns: Countable and Uncountable

Nouns can be countable or uncountable. Countable nouns can be counted, e.g. an apple, two apples, three apples, etc. Uncountable nouns cannot be counted, e.g. air, rice, water, etc. When you learn a new noun, you should check if it is countable or uncountable and note how it is used in a sentence.

Countable nouns

For positive/affirmative sentences we can use a/an for singular nouns or some for plurals. There's a man at the door. I have some friends in New York.

For negatives we can use a/an for singular nouns or any for plurals. I don't have a dog. There aren't any seats.

Uncountable nouns

We use some with uncountable nouns in positive/affirmative sentences and any with negatives. There's some milk in the fridge. There isn't any coffee.

Questions

In questions we use a/an, any or how many with countable nouns. Is there an email address to write to? Are there any chairs? How many chairs are there? And we use any or how much with uncountable nouns. Is there any sugars are there? But when we are offering something or asking for something, we normally use some. Not any the some monoth? Can we have some monochairs. Can we have some monochairs. Can we have some monochairs.

Other expressions of quantity

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Verb Tenses

Verb tenses show when an action took place, as well as how long it occurred. The main verb tenses are the past, present, and future.

There are also additional aspects that give extra details, such as the length of time the action occurred, which actions happened first, or whether a past action has an impact on the present. These grammatical aspects are the simple tense, perfect tense, continuous tense, and perfect continuous tense.

For each of the past, present, and future tenses, there are four different aspects that add additional details so that there 12 basic verb tenses.

Past, Present, and Future Tenses

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The past, present, and future are the central divisions of time in English. The present represents actions happening now, while the past represents actions that happened earlier, and the future describes actions that will happen later.

Simple, Continuous, Perfect and Perfect Continuous Tenses

The simple tense is a grammatical aspect that refers to the normal forms of the past, present, and future tenses. Unlike the other aspects, it doesn't add any new information.

The continuous tenses (also known as the progressive tenses) are for ongoing actions or actions that happen a while before completion. The continuous tenses use a conjugation of the auxiliary verb be along with the main verb's present participle, or -ing form.

The perfect tense is used for actions that relate to other points in time, either completed or ongoing. For example, in the sentence I have plaqed soccer since I was a child, the perfect tense indicates that the action occurred continuously in the parts and still happens in the present. By contrast, in the sentence I played soccer when I was a child, the simple past tense indicates that the action occurred only in the past, and has no relation to the present. The perfect tenses use a conjugation of the auxiliary with have with the past parts with thepast parts with the past parts with the pas

The perfect and continuous tense is used just like the perfect tense, except it describes ongoing actions that happen over a period of time. The construction of the perfect continuous tense uses a conjugation of the auxiliary verb have, the auxiliary verb been (the past participle of be),

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Degrees of Adjectives

Adjectives are words that describe or modify nouns. Adjectives come in three forms, known as degrees: absolute, comparative, and superlative.

Absolute Adjectives

Absolute adjectives describe something in its own right.

Example: A cool guy Example: A messy desk Example: A rigid guideline

Comparative Adjectives

Comparative adjectives, unsurprisingly, make a comparison between two or more things.

Example: A cooler guy Example: A messier desk Example: A rigider/more rigid guideline

Superlative Adjectives

Superlative adjectives indicate that something has the highest degree of the quality in question.

Example: The coolest guy Example: The messiest desk Example: The rigidest/most rigid guideline

Forming Regular Comparatives and Superlatives

One Syllable Adjectives

Add er for the comparative and est for the superlative. If the adjective has a consonant + single vowel + consonant spelling, the final consonant must be doubled before adding the ending.

Example: tall-taller-tallest Example: fat-fatter-fattest Example: big-bigger-biggest

Two Syllable Adjectives

Adjectives with two syllables can form the comparative either by adding er or by preceeding the adjective with more. These adjectives form the superlative either by adding set or by preceeding the adjective with

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We have added grammar notes mentioned in the app for users to easily reference and learn from. The text designed areas are scrollable. vertical **as** making it convenient for displaying more content.

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LIMITATIONS

In 100 words or less, describe the limitations of your app and what people should carefully consider when using it.

- The accuracy of AI responses needs improvement, as sometimes the answers provided by the ChatBot are inaccurate, particularly when determining noun countability, noun plural forms, and providing example sentences under specific conditions.
- In cases where the AI response is correct, sometimes it fails to adhere to the requested format or content.
 For example, when asked to provide the plural form of a specified noun or the past tense/past participle of a verb in the form of "a word," the AI may respond with a full sentence, which affects the display and text processing.
- The usage of the AI is limited, and exceeding the quota can happen easily.
- Additionally, the AI response time is relatively long, whether it's providing textual responses or generating images, as it requires some time before they can be displayed.



Please list the names of anyone who helped you with developing your app, and describe what type of help they provided.

- Ms. Congjun Jin: App Inventor instructor, providing assistance in solving programming issues and bugs.
- Ms. Bo Wu: Elementary English teacher, offering advice on grammar learning and the patterns of noun, verb, and adjective variations.
- Ms. Fay Wang: Elementary teacher, providing improvement suggestions for video content and presentations.
- Mr. Changjian Li: Engineer, offering assistance with technical issues related to animation design in the app.



THANK YOU!



