# ContentBox.js Al Assistant

An Al Assistant for ContentBox.js, allowing you to build web content by typing or speaking commands.



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# Introduction

The ContentBox.js AI Assistant works in a collaborative manner with designers. Unlike a single prompt generating a full site with predefined styles, the AI Assistant aims to complement the designer's ideas and preferences. During the design process, the assistant can offer suggestions, generate layout ideas or styles, and assist with specific tasks.

Do you see the gray button? Make it a litle darker. Let's redesign the layout. Surprise me with a new idea!

Increase the headline font size

Underline the phrase 'every monday' please.

Change the section background color to light gre

Create a new section with a 300-word article about outdoor activities, including various subtopics. Can you suggest a captivating headline for us and replace the current one?

# **Getting Started**

Note: To quickly get started with trying the AI Assistant, please refer to the next section 'Running the Example'.

To enable the AI Assistant feature in ContentBox.js, follow these steps:

1. Obtain an OpenAI API key from openai.com.

2. Specify the **sendCommandUrl** parameter in your ContentBox initialization:

```
const builder = new ContentBox({
    wrapper: '.is-wrapper',
    sendCommandUrl: 'path/to/sendcommand'
});
```

The **sendCommandUrl** requires a simple server-side handler/endpoint to work with the OpenAI API. You can implement the handler using any server-side environment, such as Node.js, PHP, .NET, etc. Examples using Node.js and PHP are provided below (see the **Server Side Handler** section). The OpenAI Key will be used in this handler.

3. Add a button on the sidebar to open the AI Assistant panel:

```
builder.addButton({
    'pos': 8,
    'title': 'AI Assistant',
    'html': '<svg class="is-icon-flex"><use xlink:href="#icon-microphone"></use></svg>',
    'onClick': (e)=>{
        builder.openAIAssistant();
    }
});
```

### Running the Example

**Note**: To run the example, you need to have NPM installed. (Download & install NPM from <u>https://nodejs.org/en/download/</u>).

To run the example:

1. navigate to the project folder in the terminal and install the dependencies:

#### > npm install

2. Obtain an OpenAI API key from <u>openai.com</u>. Then, update the **.env** file with your OpenAI API Key.

3. Start the project:

> npm start

A browser window will open with the example running.

# **UI & Features**



#### **Command Examples**

The AI Assistant panel includes a 'Command Examples' button that displays a list of example commands, providing a starting point for inspiration. Simply click on a command to try it out, and it will appear in the AI Assistant textbox. You can also modify the command before clicking "send" to execute it.





#### **Assistant Modes**

The AI Assistant has three different modes:

- General (default) Used for designing or editing commands.
- Ask Questions (or request information) Used for commands that are not related to designing and editing.

#### • Edit Selected Block

This mode allows you to specifically target the selected block for editing, providing more precise results.

				AI Assistant			
	G	eneral	A	sk Questions	Edit Selected Block		
-	~	_	<u>^</u>				
<u>{</u> 0}	丞	(Ed	$\sim$		Send		

Examples:

#### General:

"Add a new header section for our web studio. Include a compelling headline and a call-to-action button."

"Can you suggest a captivating headline for us and replace the current one?"

#### Ask Questions:

"Can you explain the process of baking a classic chocolate cake from scratch?"

"Provide me with a 10-hour plan for learning practical data science."

#### Edit Selected Block:

"Increase the space between the title and the paragraph."

"Enhance the content by including introductory paragraphs after the title."

Typically, using the 'General' mode is sufficient for editing and designing. The 'Edit Selected Block' mode commands can also work within the 'General' mode. However, by specifically selecting the block you wish to edit in this mode, the results can be more precise and faster. The 'Ask Questions' mode enables the Al Assistant to focus on the quality of answers. The results will be written in a new section. This feature can help you create blog posts or other informative content. Here are some examples and their sample results.

**command**: Create a section that highlights our Al-powered web solutions. Include an attention-grabbing headline, an engaging paragraph, an image, and a compelling call-to-action button.



Provide well-researched information about Command: the Kangaroo Island, its wildlife, and natural reserves.

This command is unrelated to editing or designing, so we use the Ask Questions mode here for greater specificity. This can enhance the quality of the result.





#### Kangaroo Island

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cangaroo Island is the thirdargest Island in Australia and is acoted at the coast of South Australia. It is known for its diverse wildlife, stunning andiscapies, and natural searces, hiere is some wellesearched information about cangaroo Island and its unique actures:

Witchife Kangaroo Island is home to a wide range of wildlife species, many of which are not found on mainland Australia. Some of paroos, wallables, echidnas, and possumi: The

Kangaroo Island Wildlife Park This park serves as a refuge for injured and orphaned wildlife. Visitors can interact with kangaroos, koalas, and other native animals, and even have

This 61-kilometer hiking trail takes visitors through some of Kangaroo Island's most scenic landscapes, including rugged cliffs, dense forests, and pristine

beaches. The trail offers a unique opportunity to immerse oneself in the island's natural beauty and observe its diverse wildlife.

This national park is one of the main attractions on Kangaroo Island. It covers an area of approximately 326 square kilometers and features diverse ecosystems including rugged coastlines, pristine beaches, and dense forests. Within the park, visitors can explore iconic landmarks like Remarkable Rocks, Admirals Arch, and the Cape du Coudei (lighthouse.

This park is renowned for its colony of Australian sea lions. Visitors can take guided tours to observe these fascinating creatures in their natural habitat. It offers a unique opportunity to get up close to the sea lions and learn about their behavior and conservation efforts.

Flinders Chase National Park's Wilderness Trail

Flinders Chase National Park

Seal Bay Conservation Park

		Ec is
	AI Assistant	×
General A	sk Questions Edit Selected Block	
Apply a gradient t horizontally to the	ext color from red to orange title.	
* * = 2	Send	

# Edit Selected Block mode is selected

#### Dictation

To enable dictation and speak your command, you need to enable the microphone. Click on the Mic button to toggle dictation on or off. By default, the dictation feature is turned off.



There are specific words that you can speak to trigger certain actions:

- To send your command, you can say: 'send', 'okay', 'execute', or 'run'.
- To abort, you can say: 'abort' or 'cancel'.
- To clear your command, you can say: 'clear' or 'erase'.

These trigger words can be configured by setting the **triggerWords** parameter. You can also specify the default language for dictation by setting the **speechRecognitionLang** parameter. The default value is 'en-US'. For more information, please refer to the 'Options' section.



Dictation feature requires the browser's built-in speech recognition. When enabling dictation, you will need to allow the page to access the microphone.

Please be aware that certain browsers may not support speech recognition. If your browser does not support it, you will be unable to use the dictation feature. However, you can still type your command.

For browser compatibility and accuracy, we recommend using Deepgram (<u>deepgram.com</u>) for speech recognition instead of relying on the browser's built-in function.

We have included a working example of using Deepgram in the package. To run the example, navigate to the project folder in the terminal and install the dependencies first by executing this command:

#### > npm install

Update the **.env** file wiht your OpenAI API Key and Deepgram API Key.

Then start the project:

#### > npm start

A browser window will open with the example running.

#### Note:

To run the example, you need to have NPM installed. (Download & install NPM from <u>https://nodejs.org/en/download/</u>).

For more information, please refer to the **readme.txt** file in the package.

#### Settings

The Settings dialog can be opened by clicking the "Settings" button on the AI Assistant panel.

				Al Assistan	+	~
Settings		General	А	sk Questions	Edit Selected Block	^
	© Ŷ	9	٨		Send	

The dialog contains Temperature and Top P settings, which will be used by the AI Assistant to control the creativity and relevance of the generated results. For further information, please refer to the "Options" section in this document.

If you check the "Auto select 'Edit Selected Block' mode" option, then when you click a block, the 'Edit Selected Block' mode will automatically activate. You can then modify the block content using your commands.



#### **Original section**

#### Al Redesign

The AI Toolbar features an AI Redesign button.

# Al Redesign



**Redesigned section** 

Al Redesign functionality allows you to redesign a section with a single click, eliminating the need to write a prompt or command. With this feature, you can generate different layout ideas to consider.

Try redesigning a section multiple times to get many different layouts and styles, then you can choose the one that best suits your preferences

The redesigned section does not overwrite the current one; rather, it creates an entirely new section, allowing you to conveniently compare it with the original.



#### **Redesign Style**

The AI Redesign functionality offers the option to customize its behavior using specific styles.





Within the Settings dialog, you'll find the **Redesign Style** dropdown, which displays the default value of **Random**. This implies that when redesigning a section, the Al will randomly apply one of eleven predefined styles (style 01 to 11) to the section. However, if you prefer to maintain the same style as the current section, you can opt for **None (Same Style)**.

#### **Original section**

You can try choosing a specific style to see its impact on the redesigned result. For example, here is the redesign result when applying the style 10: Oranienbaum & Source Sans Pro.

0

	Settings		×
Temperature: 0.6			
Top P: 0.9			
		Reset	
Redesign Style:			
10: Oranienbau	m & Source Sans Pr	'o 🗸	
	Ok		





If you only seek layout ideas without applying any specific style, choose **None (Same Style)**. The following example showcases the result. 0



#### **Redesigned result**



#### Using Any Section as a Redesign Style

If you find a certain section's design appealing and wish to apply its style to redesign another section, you'll need to save the section's style first.





Then, we can use the saved style to redesign a section.



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#### **Redesigned result**



#### Note

During the section redesign process, the AI Assistant's output may occasionally vary, and certain elements might be missing or the result may not look as expected. In such cases, you can simply try again to regenerate or redesign the section to achieve the desired outcome.

#### **Original section**

#### **AI Rewrite**

The AI Toolbar features an AI Rewrite button.





#### **Rewritten section**

Al Rewrite functionality allows you to rewrite the section's content (headlines, paragraphs, etc.) with alternative ideas. With this feature, you can generate different content writings to consider.

Similar to the redesigned section, the rewritten section does not overwrite the current one; rather, it creates an entirely new section, allowing you to conveniently compare it with the original.



# Short Commands (Optional)

The AI Assistant panel also accepts a quick or short commands:

Short commands are options for quick editing. They are not AI-powered but can provide fast responses since the commands are processed locally without requesting OpenAI.

To try:

- Select text and speak 'bold' to make it bold.
- Select text and speak 'increase' to enlarge the font size.
- You can also speak commands like 'Add a headline', 'Can you add a paragraph?', 'Select the headline', 'Move up', etc.

Currently, short commands only support English.

You can enable or disable short commands using the **enableShortCommands** parameter. If disabled, your command will be considered a normal/descriptive command and will be sent directly to OpenAI. The normal/descriptive command supports multiple languages.

# Options

You can customize the behavior of the AI Assistant feature using the following options:

startAlAssistant: Auto-open the Al Assistant panel on start. The default value is false.

```
const builder = new ContentBox({
    startAIAssistant: false
});
```

**showDisclaimer**: Display or hide the disclaimer popup shown before opening the Al Assistant panel. The default value is true.

#### **Disclaimer popup**

```
const builder = new ContentBox({
    showDisclaimer: true
});
```

disclaimerAI: Customize the text of the disclaimer popup.

```
const builder = new ContentBox({
    disclaimerAI: 'Customize the disclaimer text...'
});
```

```
      Al-Powered Features
      ×

      The feature you're about to use utilizes Al in some of its processes. It's important to understand that Al systems have limitations. There may be instances where the results are not 100% accurate or may provide unexpected responses or information. As a user, it's your responsibility to independently verify any information or results obtained through this Al-powered feature. Our team is dedicated to continuously improving its performance and accuracy to enhance your experience.

      OK
```

**AlToolbar**: Displays the Al toolbar which includes the 'Al Rewrite', 'Al Redesign', and 'More' buttons, when hovering over a box or section. The default value is true.

```
const builder = new ContentBox({
    AIToolbar: true,
});
```

**commandPlaceholderText**: Modify the placeholder text of the command textbox in the AI Assistant panel.

```
const builder = new ContentBox({
    commandPlaceholderText: 'Customize the sample command text...',
});
```

The placeholder text appears only the first time to provide an example command. The default text is: 'Create a section containing a short article with ideas for outdoor activities'.

enableShortCommands: Enable or disable short commands. The default value is true.

```
const builder = new ContentBox({
    enableShortCommands: true
});
```



**speechRecognitionLang**: Set the default language for dictation when using the browser's built-in speech recognition. The default value is 'en-US'.

```
const builder = new ContentBox({
    speechRecognitionLang: 'en-US'
});
```

triggerWords: Specify the words to trigger specific actions.

```
const builder = new ContentBox({
    triggerWords: {
        send: ['send', 'okay', 'execute', 'run'],
        abort: ['abort', 'cancel'],
        clear: ['clear', 'erase']
    },
});
```

With this configuration:

- When you say 'send', 'okay', 'execute', or 'run', your command will be sent for processing.
- While the command is being sent or processed, you can abort it by saying 'abort' or 'cancel'.
- To clear your command, you can say 'clear' or 'erase'.

temperature: Controls the randomness or creativity of the generated result. The default value is 0.6.

```
const builder = new ContentBox({
    temperature: 0.4,
});
```

#### Note:

A higher temperature value, such as 0.8, results in more diverse and creative outputs. A lower temperature value, like 0.2, makes the output more focused and deterministic.

topP: Controls the diversity and relevance of the generated result. The default value is 0.9

```
const builder = new ContentBox({
    topP: 0.6,
});
```

The temperature and topP parameter can also be adjusted in the Settings dialog. Click the 'Settings' button on the Al Assistant panel.





**speechTranscribeUrl**: Speech transcription endpoint URL that is needed if you're using Deepgram. The default value is empty, which means the speech transcription is using the browser's built-in function.

```
const builder = new ContentBox({
    speechTranscribeUrl: 'ws://localhost:3002'
});
```

A working example of using Deepgram is provided in the package. Please refer to the readme.txt file in the package to run the example.

**media**: The media files (images, videos) used in the generated content. For example, when a command requests an image, a random image will be chosen from the media files. Please refer to the 'Media Files' section at the end of this documentation for example usage.

mediaPath: The location of the media files. The default value is 'assets/gallery/'.

# **Server Side Handler**

#### Node.js Example

Here is the server-side handler/endpoint example using Node.js.

```
const express = require('express');
const app = express();
const cors = require('cors');
const axios = require('axios');
require('dotenv').config()
app.use(cors());
app.use(express.urlencoded({ extended: true }));
app.use(express.json());
const OPENAI_API_KEY = process.env.OPENAI_API_KEY; // Your OpenAI API Key
const url = 'https://api.openai.com/v1/chat/completions';
const model = 'gpt-3.5-turbo';
const DEFAULT_TEMPERATURE = 0.6;
const DEFAULT_TOP_P = 0.9;
const DEFAULT_NUM = 1;
app.post('/sendcommand', async (req, res) => {
    const { question, context, system, functs, temperature, topP, num } = req.body;
   if (OPENAI_API_KEY === 'YOUR_API_KEY') {
        return res.json({ error: 'Please configure the API Key' });
    }
```

#### <u>Note</u>:

You will need to specify your OpenAI API key in the **.env** file.

```
const messages = [
    { role: 'system', content: system },
    { role: 'assistant', content: context || '' },
    { role: 'user', content: question }
];
try {
    const response = await axios.post(url, {
        model,
        messages,
        temperature: parseFloat(temperature) || DEFAULT_TEMPERATURE,
        top_p: parseFloat(topP) || DEFAULT_TOP_P,
        n: parseInt(num) || DEFAULT_NUM,
        functions: functs.length === 0 ? undefined : functs
    }, {
        headers: {
        'Content-Type': 'application/json',
        'Authorization': `Bearer ${OPENAI_API_KEY}`,
       },
    });
    let answer = functs.length === 0
        ? response.data
        : (response.data.choices[0].message.function_call ?
            response.data.choices[0].message.function_call.arguments
            : response.data.choices[0].message );
```

```
res.json({ answer });
} catch (error) {
    res.json({ error: error.message });
};
});
app.listen(8081, function() {
    console.log('App running on port 8081');
});
```

Then you can specify the **sendCommandUrl** with your Node.js endpoint.

```
const builder = new ContentBox({
    wrapper: '.is-wrapper',
    sendCommandUrl: 'path/to/sendcommand'
});
```

The Node.js code can be extended to implement Deepgram for speech transcription:

```
// Your Deepgram API Key
const DEEPGRAM_API_KEY = process.env.DG_API_KEY;
const { Deepgram } = require('@deepgram/sdk');
const deepgram = new Deepgram(DEEPGRAM_API_KEY);
const WebSocket = require('ws')
const wss = new WebSocket.Server({ port: 3002 })
wss.on('connection', (ws) => {
   const deepgramLive = deepgram.transcription.live({
        punctuate: true,
       interim_results: true,
       language: 'en-US',
   });
    deepgramLive.addListener('open', () => {
       console.log('Client connected');
       ws.send(JSON.stringify({ event: "can-open-mic" }))
   });
    deepgramLive.addListener('error', (error) => console.log({ error }));
```

<u>Note</u>:

You will need to specify your Deepgram API key in the **.env** file.

```
ws.onmessage = (event) => {
        if (deepgramLive.getReadyState() === WebSocket.OPEN) {
            deepgramLive.send(event.data)
        }
   };
    ws.onclose = () => {
        if (deepgramLive.getReadyState() === WebSocket.OPEN) {
            deepgramLive.finish();
       }
    };
    deepgramLive.addListener('transcriptReceived', (transcription) => {
        const data = JSON.parse(transcription);
        if(data.channel) {
            let tr = data.channel.alternatives[0].transcript;
            if(tr) {
                ws.send(JSON.stringify({ event: "transcript-result", data }));
            }
        }
   });
});
```

#### **PHP Example**

Here is the server-side handler/endpoint example using PHP.

sendcommand.php

```
<?php
header('Content-Type: application/json');
define('OPENAI_API_KEY', 'YOUR_API_KEY_HERE');
$url = 'https://api.openai.com/v1/chat/completions';
$model = 'gpt-3.5-turbo';
define('DEFAULT_TEMPERATURE', 0.6);
define('DEFAULT_TOP_P', 0.9);
define('DEFAULT_NUM', 1);
if ($_SERVER['REQUEST_METHOD'] === 'POST') {
    $body = json_decode(file_get_contents('php://input'), true);
    $question = $body['question'];
   $context = $body['context'];
    $system = $body['system'];
   $functs = $body['functs'];
    $temperature = $body['temperature'];
   $topP = $body['topP'];
    $num = $body['num'];
```

```
if (OPENAI_API_KEY === 'YOUR_API_KEY_HERE') {
    echo json_encode(['error' => 'Please configure the API Key']);
    die();
}
$messages = [
    ['role' => 'system', 'content' => $system],
    ['role' => 'assistant', 'content' => $context ?: ''],
    ['role' => 'user', 'content' => $question]
];
headers = [
    'Content-Type: application/json',
    'Authorization: Bearer ' . OPENAI_API_KEY,
];
$data = [
    'model' => $model,
    'messages' => $messages,
    'temperature' => floatval($temperature) ?: DEFAULT_TEMPERATURE,
    'top_p' => floatval($topP) ?: DEFAULT_TOP_P,
    'n' => intval($num) ?: DEFAULT_NUM,
];
if (!empty($functs)) {
    $data['functions'] = $functs;
}
```

```
options = [
        'http' => [
            'header' => implode("\r\n", $headers),
            'method' => 'POST',
            'content' => json_encode($data),
        ],
    ];
    $context = stream_context_create($options);
    $response = file_get_contents($url, false, $context);
    $responseData = json_decode($response, true);
    $answer = empty($functs)
        ? $responseData
        : $responseData['choices'][0]['message']['function_call']['arguments'];
    echo json_encode(['answer' => $answer]);
}
?>
```

Then you can specify the **sendCommandUrl** with your PHP endpoint.

```
const builder = new ContentBox({
    wrapper: '.is-wrapper',
    sendCommandUrl: 'path/to/sendcommand.php'
});
```

# **Media Files**

When a command requests an image or a video, a random image or video will be chosen from the media files. You can reconfigure the built-in media files by using the **media** parameter.

```
const builder = new ContentBox({
   wrapper: '.is-wrapper',
   mediaPath: 'assets/gallery/',
    media: {
       slider: [
            'slide-01.jpg',
            'slide-02.jpg'
        ],
        blank_video: 'blank.mp4',
        videos: [
            'beach1.mp4',
            'beach2.mp4'
        ٦,
        youtube_videos: [
            'https://www.youtube.com/embed/P5yHEKqx86U?rel=0'
        ],
        maps: [
            'https://www.youtube.com/embed/P5yHEKqx86U?rel=0'
       ],
```

The **mediaPath** parameter specifies the location of the media files. The default value is 'assets/gallery/'.

```
audios: [
    'example.mp3'
],
images: {
    square: [
       'person-01.jpg',
   ]
},
bg_images: {
    box:[
       'person-01.jpg',
      . . .
    ],
    small_box:[
       'person-01.jpg',
    ],
    // These background images are well-matched with the text content on the left
    section_text_left: [
       'header-01.jpg',
    ],
```



Ensure you have these assets available for proper integration and usage of the AI Assistant feature.

# **Examples & Tips**

Explain our galaxy in a beginner-friendly and interesting way.



# Ask Questions mode is selected.

**Sample Result** 

Since the question isn't related to designing or editing the current section or content, the **Ask Questions** mode is used here.



#### Sample Result



General mode is selected.

Given that the question requires the current section's content, you will need to switch back to the standard **General** mode.

The **Ask Questions** mode is not applicable here, as its function is to pose questions unrelated to the present section or content.

#### Tips

#### Use General mode for:

#### Designing & Editing

For creating a new section, editing, or designing the current section.

#### **Content Rewriting**

For rewriting, summarizing, paraphrasing, expanding/enhancing writing, making it shorter, translating, or creating new content from the present content.

#### Use **Ask Questions** mode for:

Any requests or questions not related to the current content.

The **Ask Questions** mode is provided to expand the AI Assistant's capabilities to cover a wide range of tasks, such as getting information or asking questions unrelated to designing and editing. While you can also use the **General** mode— for instance, by instructing 'Create a new section containing an article about our galaxy in a beginner-friendly way'— Using the **Ask Questions** mode through a simple query like 'Explain our galaxy in a beginner-friendly way' can improve the output quality and make the process more efficient and fast.









Add a section that highlights our Al-powered web solutions. Include a compelling headline, a paragraph, and two buttons named 'Our Works' and 'Get in Touch'. Also, add a background image.



Create a new section with 2 boxes. The first box contains a headline with the text 'Learn anytime, anywhere, and grow your skills,' captivating paragraphs, and two buttons named 'Get Started' and 'Browse Courses.' The second box has a background image.





Add a section highlighting the features of our creative arts courses:

- Hands-on projects
- Guidance from experts

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Q,

Add an image for each feature.







Create a section to showcase our wood cabin for rent. The section should have 3 boxes, each featuring a captivating title, a paragraph, and an 'Explore' button. The content alignment is centered. Suggest and specify a good background color for each box.

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#### **Block Editing Examples**





Then, try this command:



#### **More Examples**

Add a new block containing a link button with the text 'Download' that directs to the Visual Studio Code official download page.



Enhance the content by including a short introductory paragraph after the title. Add a space between the title and the paragraph.











Increase the font size and rewrite the title using alternative ideas.





Sample Result



That's it! You can now use the Al Assistant for ContentBox.js to build and design your web content by sending commands.