

AI-Powered Student Assistance Chatbot for Department of Technical Education

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Abstract : The AI-Powered Student Assistance Chatbot presented in this study was created to improve the Department of Technical Education's information delivery. By utilizing Google Cloud Console and Dialogflow, the chatbot offers prompt, precise answers to frequently asked questions by parents and students. Important subjects such academic programs, admissions procedures, rank cutoffs, course availability, and other vital student services are covered. Information accessibility is maximized by an AI-powered system, which also streamlines communication and support for families and potential students.

INTRODUCTION

Overview Of Chatbot :

There are exceptional chances to improve student services in educational institutions due to the quick development of AI technologies. In order to expedite the Department of Technical Education's information delivery, this project presents an AI-Powered Student Assistance Chatbot. The Google Cloud Console-integrated chatbot, which was created with Dialogflow, helps parents and students by promptly responding to frequently asked queries concerning academic programs, admissions processes, rank cutoffs, course availability, and other student services.

Objective :

This chatbot provides users with predictions on cutoff ranks for different academic branches based on their rank and caste category. By inputting rank information, users can quickly see which branches might be available to them, helping to simplify the admissions process and set expectations regarding their eligibility in various departments. The project involves building a user-friendly chatbot interface for college admissions using HTML, CSS, and Dialogflow. The webpage features a sleek design with a gradient background, a centrally aligned chatbot container, and smooth animations for an interactive experience. CSS animations like a glowing border effect and slide-in transitions enhance visual



PROCEDURE

Step-1: Create a Google Cloud Project

- Go to the Google Cloud Console: <https://console.cloud.google.com>
- Sign in: Use your Google account to sign in.
- Create a new project:
 - Click the project dropdown at the top of the page.
 - Select "New Project."
 - Name the project and click "Create."

Step-2: Enable Dialogflow API

- Search for "Dialogflow" in the Google Cloud Console.
- Select Dialogflow API and click Enable.

Step-3: Go to Dialogflow Console

- Visit the Dialogflow Console: <https://dialogflow.cloud.google.com>.
- Sign in with your Google account if prompted

Step-4: Create a New Agent

- On the left menu, click "Create Agent."
- Fill in the required details:
 - Agent Name: Give your agent a name (e.g., "ChatBot").
 - Default Language: Select the default language (e.g., English).
 - Google Project: Select the Google Cloud project you created earlier.

Step-5: Create Intents

Intents define how the bot understands and responds to user queries.

- Go to Intents on the left panel.
- Click "Create Intent."
- Name the intent (e.g., "Get College Info").

Add Training Phrases: Provide example user queries like "What is the cutoff for CSE?" or "How many seats are available in IT?"

- Responses: Add responses for the agent to provide when the intent is matched (e.g., "The CSE cutoff is X rank.").
- Click Save when done.

Step-6: Enable Web Demo:

- Navigate to the Integrations section on the left panel of the Dialogflow console.
- Enable the Web Demo option.
- You will be provided with an embed link (iframe code) that can be used to display the chatbot on any webpage.

Step-7: Embedding the Chatbot into HTML

Once your Dialogflow agent is ready, you can embed it into a webpage using the HTML iframe element. This allows the chatbot to appear directly on the site and handle interactions with users.

ADDITIONAL FEATURES

Later, style the html page in more dynamic way by adding the below features

Background: A full-screen background image is used for visual appeal.

Typography: The heading is large and white for contrast, with a fade-in effect for smooth entrance.

Chatbot Container: The chatbot is in a semi-transparent white box with rounded corners and a shadow for depth. It has a border with a gradient color.

Positioning: The container is slightly moved to the right for better placement.

Animations: Both the heading and container have animations for a polished appearance.

CODE SECTION

This section provides a simplified code for implementing the AI Student Chatbot

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Chatbot</title>

  <style>

    /* Background image */

    body {

      font-family: Arial, sans-serif;

      margin: 0;

      padding: 0;

      background-image: url('file:///C:/Users/user/Downloads/btt.jpg'); /* Background image */

      background-size: cover; /* Cover the entire background */
```

```

background-position: center; /* Center the image */

color: #ffffff;

display: flex;

flex-direction: column;

align-items: center;

justify-content: center;

height: 100vh;
}

h1 {

color: #ffffff;

font-size: 2em;

margin-top: 20px;

margin-left: 75px;

animation: fadeIn 2s ease-out;
}

/* Chatbot container styling */

.chatbot-container {

background-color: rgba(255, 255, 255, 0.9); /* White background with slight transparency */

border: 2px solid #ff7e5f; /* Darker gradient color for border */

border-radius: 10px;

padding: 15px;

margin-top: 20px;

margin-left: 100px;

box-shadow: 0 4px 10px rgba(0, 0, 0, 0.3); /* Shadow effect */

transition: transform 0.3s ease, box-shadow 0.3s ease;

animation: slideIn 1s ease-out;
}

/* Hover effect */

.chatbot-container:hover {

transform: scale(1.05);

box-shadow: 0 6px 12px rgba(0, 0, 0, 0.4);
}

iframe {

```

```

border: none;

width: 350px;

height: 430px;

border-radius: 8px;

transition: box-shadow 0.3s ease;
}

iframe:hover {

    box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);

}

/* Fade-in effect */

@keyframes fadeIn {

    from { opacity: 0; }

    to { opacity: 1; }

}

/* Slide-in effect for chatbot container */

@keyframes slideIn {

    from { transform: translateY(50px); opacity: 0; }

    to { transform: translateY(0); opacity: 1; }

}

</style>

</head>

<body>

    <h1>Chat with our Bot</h1>

    <!-- Chatbot container with dynamic effects -->

    <div class="chatbot-container">

        <iframe

            allow="microphone;"

            src="https://console.dialogflow.com/api-client/demo/embedded/790d6f21-6573-46b2-a6fd-c9bec16b97a1">

        </iframe>

    </div>

</body>

</html>

```

RESULT

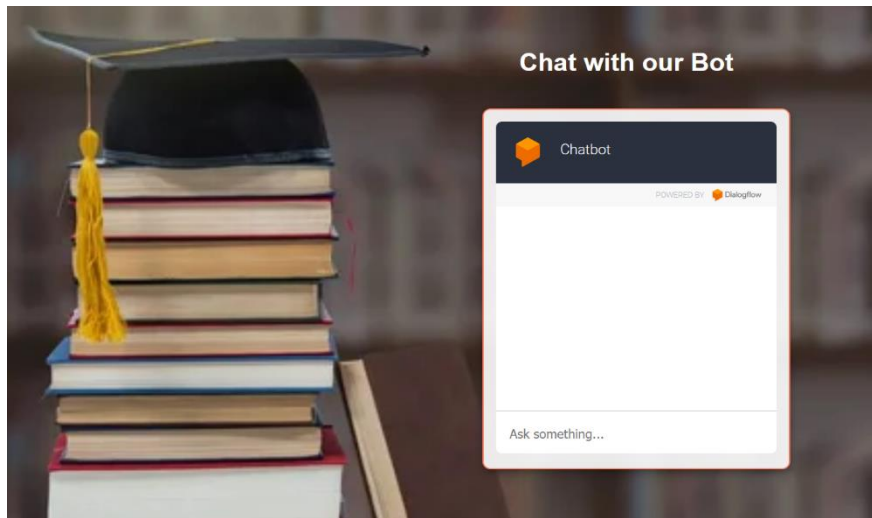


Figure 1 : AI Chatbot display image

CONCLUSION

This study demonstrates how an AI-Powered Student Assistance Chatbot can enhance the way information is delivered in educational settings by offering prompt, precise answers to frequently asked queries. The chatbot, which was developed using Dialogflow and Google Cloud Console, benefits parents and students by improving the efficiency and accessibility of student services.

REFERENCES

- [1] <https://images.app.goo.gl/GCFubxJiY47Adobr5>
- [2] <https://images.app.goo.gl/op3yDypGgZo6XP9n6>

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