**Chatbot Neural Network Overview**

This project utilizes **Google Dialogflow CX** to implement the conversational neural network for the chatbot. Below is an overview of the key components and features of the chatbot's natural language understanding (NLU) model:

**Dialogflow CX Flow: Default Start Flow**

The **Default Start Flow** serves as the entry point for all conversations with the chatbot. It is designed to provide a welcoming and interactive experience for users. The flow includes predefined intents and responses to handle various types of user input.

**Key Features and Intents**

1. **Default Welcome Intent**:
   * Triggered when the chatbot is first initiated.
   * Responds with:  
     "Hi! I'm an AI Chatbot made for Briston's final project, Software Design class. I can tell you a joke, tell you about myself, or answer questions. You can also tell me about yourself or give me feedback. What can I help you with today?"
2. **Small Talk Intents**:
   * **Greetings**:
     + Recognizes phrases like "Good morning," "Good evening," or "Hello."
     + Provides tailored responses, e.g.:
       - "Good morning! Hope you are well today."
       - "Hi there, friend!"
   * **Goodbye**:
     + Responds to farewell messages with:
       - "Thanks for chatting with me today. Goodbye!"
   * **Thank You**:
     + Handles appreciation with:
       - "You're welcome! Thanks for chatting with me today."
3. **Additional Route Groups**:
   * The neural network is structured into various **route groups** to handle specific categories of user input:
     + **Greetings**: Manages casual greetings and conversational openers.
     + **Agent**: Focused on responses related to the chatbot itself.
     + **Emotions**: Handles emotionally expressive inputs.
     + **Appraisal**: Deals with user feedback, such as thank-you messages.
     + **Dialog**: Supports deeper conversational exchanges.
     + **Confirmation**: Responds to confirmations or affirmations.
     + **User**: Interacts based on user-provided information.

**Flow Logic**

The flow is structured using **conditions and route groups**, enabling the chatbot to dynamically route conversations based on user input. Conditions like true ensure that fallback intents or default responses are triggered for unmatched inputs.

**Purpose and Future Enhancements**

The current flow is tailored for basic conversations and small talk. Future plans include:

1. Expanding the conversational scope with more complex flows and intents.
2. Integrating advanced response features for deeper, more meaningful interactions.

This neural network design ensures a smooth and engaging user experience while demonstrating core principles of conversational AI development.