**Build the Real-Time Application Using Streamlit**

1. **Clone the Repository and Install Dependencies**:
   * Clone the CodeTalker repository locally and install all required libraries and dependencies mentioned in the setup guide.
   * Ensure Python 3.8 and OpenGL-related libraries are installed for compatibility.
2. git clone https://github.com/Doubiiu/CodeTalker.git
3. cd CodeTalker
4. pip install -r requirements.txt
5. **Prepare Pretrained Models and Templates**:
   * Download the VOCASET and BIWI pretrained model weights and templates as detailed in the setup guide.

Example:

gdown --id '1RszIMsxcWX7WPlaODqJvax8M\_dnCIzk5' --output vocaset/vocaset\_stage1.pth.tar

1. **Write Functions for Facial Animation**:
   * Write separate functions in a script (e.g., functions.py) for:
     + Loading the pretrained models.
     + Generating 3D facial animations from input audio.
   * Ensure these functions replicate the pipeline for running VOCASET and BIWI demos.
2. **Create a Streamlit App (app.py)**:
   * Build a Streamlit interface to upload an audio file and select animation parameters (dataset, style, subject).
   * Integrate the above functions to process the uploaded audio and render the 3D facial animation.

Example Streamlit components:

import streamlit as st

st.title("3D Facial Animation Generator")

uploaded\_file = st.file\_uploader("Upload Audio File (.wav)", type=["wav"])

if uploaded\_file is not None:

st.write("Processing...")

# Call the function to generate the animation

1. **Run the Streamlit App Locally**:
   * Use the following command to run the Streamlit app locally:
   * streamlit run app.py
2. **Integrate Ngrok with Streamlit for Browser Access**:
   * Since Streamlit doesn’t work directly in Colab, integrate Ngrok to expose the local server to a public URL.
   * Create an Ngrok account and obtain an NGROK\_AUTH\_TOKEN.
3. **Update the Streamlit Code to Use Ngrok**:
   * Modify the Streamlit app to integrate with Ngrok:
   * from pyngrok import ngrok
   * # Start the Streamlit app
   * public\_url = ngrok.connect(port=8501)
   * print("Streamlit app is live at:", public\_url)
4. **Run the Combined App in Colab**:
   * Use Colab to execute the Streamlit app integrated with Ngrok.
   * Ensure the pretrained models and other dependencies are available in the Colab environment.
5. **Access the App via Ngrok URL**:
   * Use the Ngrok-provided URL to access and interact with the Streamlit-based real-time application in a browser.