**Project title- Eternal Connection through AI**

**Group members**

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**Project Description**

The management of the attendance can be a great burden on the teachers if it is done by hand. To resolve this problem, smart and auto attendance management system is being utilized. By utilizing this framework, the problem of proxies and students being marked present even though they are not physically present can easily be solved. This system marks the attendance using live video stream. The frames are extracted from video using OpenCV. The main implementation steps used in this type of system are face detection and recognizing the detected face, for which dlib is used. After these, the connection of recognized faces ought to be conceivable by comparing with the database containing student's faces. This model will be a successful technique to manage the attendance of students.

**Algorithms to be used-**

**1.Hidden Markov Models (HMMs):** HMMs are a probabilistic model that can be used to model sequential data, such as speech signals. HMMs are commonly used in speech recognition because they can capture the temporal dependencies between speech sounds. In HMM-based speech recognition systems, the speech signal is divided into small frames, and features

**2.Deep Neural Networks (DNNs):** DNNs are a type of artificial neural network that can be used for speech recognition. DNNs are particularly effective at modeling complex relationships between input features and output labels, and can be used to learn high-level representations of speech signals. In DNN-based speech recognition systems, the speech signal is divided into frames and features

**3.Generative Adversarial Networks (GANs) and CNN:** GANs are a type of neural network architecture that is commonly used in deepfake creation. GANs consist of two neural networks, a generator and a discriminator, that work together to create realistic images and videos.

**4.Face detection and alignment algorithms**: Face detection and alignment algorithms are used to detect and align faces in images and videos. These algorithms are often used as a pre-processing step in deepfake creation, to ensure that the faces in the input data are properly aligned and positioned.

**5.Autoencoders:** Autoencoders are a type of neural network that is used to learn a compressed representation of an input data. Autoencoders are often used in deepfake creation to encode the face of a person, and then to manipulate the encoded representation to generate a deepfake.

**6.** **Natural Language Processing (NLP):**The Natural Language Toolkit (NLTK) is a popular Python library for NLP. It includes a variety of tools for tasks such as tokenization, POS tagging, named entity recognition, sentiment analysis, and more. NLTK uses machine learning algorithms such as Naive Bayes, decision trees, and maximum entropy classifiers.

**Input Data** - :

The user will provide an audio input of their beloved one, whom they wish to have a conversation with using AI and animated moving photo of their beloved ones when that person is not physically present.

**Output Data** -:

With the AI-powered animated photo of a loved one, you can have a conversation and create new memories. The output data will be the conversation that will be displayed in the form of a response from the animated photo

