# Chapter Four : System Implementation

# 4.1 System Architecture

The system architecture of our video conferencing application follows a client-server model, enabling real-time communication and collaboration among users. The architecture is designed to support a scalable and reliable platform for video streaming, chat functionality, and screen sharing.

At its core, the application consists of two main components: the client-side and the server-side. The client-side encompasses the user interfaces and functionalities available to end-users, while the server-side handles the processing, storage, and management of data.

The client-side of the application comprises a mobile interface that provides an intuitive and user-friendly experience. The client-side interfaces facilitate user interaction, allowing users to join meetings, initiate meetings, schedule meetings, send chat messages, and share screens.

On the server-side, a robust infrastructure is established to handle the processing and data management. The server-side architecture consists of several components, including signaling servers, media servers, and database servers. Signaling servers play a vital role in establishing and maintaining real-time connections between clients, facilitating the exchange of session information and handling signaling protocols. Media servers handle audio and video streaming, ensuring smooth and synchronized communication between participants. Database servers are responsible for storing and retrieving user profiles, meeting details, chat logs, and other relevant data.

To ensure efficient data flow and real-time communication, the system architecture employs appropriate networking components. These components include protocols such as WebSockets for establishing persistent connections, as well as TCP/IP and UDP for reliable and efficient data transfer.