



## VIDEO CALLING APPLICATION

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**Abstract**—Video calling applications have become indispensable tools for remote communication, connecting individuals across distances with real-time audiovisual interactions. This abstract introduces a novel approach to video calling applications, integrating advanced analytics and metabolic biomarkers to enhance user experience and well-being.

Traditional video calling applications focus primarily on facilitating communication through audio and video channels. However, this project proposes to extend the capabilities of video calling applications by incorporating insights from biomedical research. Specifically, the project explores the integration of metabolic biomarkers, measurable indicators of physiological processes, into the video calling experience.

By leveraging metabolic biomarkers, the proposed video calling application aims to provide personalized recommendations and interventions to improve user well-being during video calls. These recommendations may include suggestions for stress reduction techniques, physical activity breaks, or dietary adjustments tailored to the user's unique physiological state.

The project employs a multidisciplinary approach that combines principles from telecommunications, data science, and healthcare technology. Data analytics techniques are utilized to analyze user behavior patterns and metabolic biomarker data collected during video calls. Machine learning algorithms are then employed to generate personalized recommendations based on this analysis.

**Keywords:** *HTML, CSS, JavaScript*

### I. INTRODUCTION

EVER SINCE THE PANDEMIC HIT THE WORLD, WORKING REMOTELY BECAME A NORMAL THING, AND ONE OF THE THINGS THAT HELPED THE COMPANIES REMAIN CONNECTED TO THEIR EMPLOYEES, DESPITE THE PLACE WAS VIDEO CALLS. NOT JUST THE COMPANIES, BUT EVEN FOR FAMILIES STAYING APART, VIDEO CHAT APPS WORK AS A BOON. VIDEO CHAT CAN BE DEFINED AS THE MODE OF COMMUNICATING VISUALLY WITH ANOTHER PERSON VIA COMPUTER OR MOBILE PHONE. IT MAY ALSO BE REFERRED TO AS VIDEO CALLING OR VIDEO MESSAGING. VIDEO CONFERENCING TECHNOLOGY HAS BEEN ABLE TO CONNECT LEARNERS AND EDUCATORS FROM ALL ACROSS THE WORLD. IT HAS NOT ONLY TRANSFORMED THE WAY WE COMMUNICATE WITH EACH OTHER BUT ALSO RESHAPED THE EDUCATION SYSTEM. PERHAPS THE BIGGEST BENEFIT OF VIDEO CONFERENCING IN EDUCATION IS THE FACT THAT IT ENCOURAGES INTERACTION AND COLLABORATION BETWEEN STUDENTS AND TEACHERS AS COMPARED TO THE TRADITIONAL METHOD OF TEACHING. IN TURN, THIS COULD MAKE STUDENTS MORE MOTIVATED AND ENGAGED IN THEIR LEARNING EXPERIENCE. THIS PROJECT ALSO PROVIDES SCREEN SHARING, AS SCREEN SHARING INVOLVES SHARING ACCESS TO A GIVEN COMPUTER SCREEN. SCREEN-SHARING SOFTWARE USES MANY DIFFERENT METHODS TO ALLOW SHARING A SCREEN REMOTELY WITH A SECOND USER FOR COLLABORATION PURPOSES OR OTHER OBJECTIVES. IT ALSO HAS THE BEST PART OF SCREEN RECORDING WITH VIDEO AND VOICE RECORDING. A SCREEN RECORDER IS ONE OF THE MOST VERSATILE, PRACTICAL TOOLS YOU CAN HAVE FOR YOUR BUSINESS. IT CAN BE USED ACROSS YOUR ENTERPRISE IN MANY VITAL APPLICATIONS. IN A HIGH-TECH WORLD, IT PROVIDES DATA THAT CONTRIBUTE TO SUPERIOR PERFORMANCE YET SIMULTANEOUSLY CREATES A CULTURE OF HUMAN CONNECTION. WE MUST BECOME ACCUSTOMED TO THE FACT THAT TECHNOLOGY HAS CHANGED HOW WE DO BUSINESS,



AND THIS MEANS WE MUST GET CREATIVE ABOUT NOT BEING ABLE TO INTERACT WITH PEOPLE FACE-TO-FACE. SCREEN RECORDING SOFTWARE CAN BRIDGE THAT GAP IN MORE WAYS THAN YOU THINK. ALSO IF YOU ARE CONCERNED ABOUT YOUR SECURITY, THIS APP ALSO PROVIDES THE ENCRYPTION OF PASSWORDS THROUGH WHICH YOUR CONCERN OF SECURITY WILL BE AT BAY. PASSWORD ENCRYPTION IS ESSENTIAL TO STORE USER CREDENTIALS STORED IN A DATABASE SECURELY.

## II. LITERATURE REVIEW

AS WE KNOW THE USE OF INTERNET HAS INCREASED GREATLY AND INTERNET HAS BECOME ONE OF THE EASIEST AND CHEAPEST SOURCES OF COMMUNICATION THERE ARE MANY MESSAGING AND CHATTING APPLICATIONS COMING UP. THERE ARE ALREADY MANY APPLICATIONS AVAILABLE FOR COMMUNICATION. THE OLDEST ONE WE USE IS ELECTRONIC MAILS. OTHER APPLICATIONS AVAILABLE ARE THE VARIOUS SOCIAL WEBSITES, SMS, MOBILE CHATTING APPLICATIONS AND MUCH MORE. WEB CONFERENCING SYSTEMS ARE INTERNET-BASED TOOL OFFERING A VIRTUAL ENVIRONMENT FOR REMOTE MEETING AND COLLABORATIVE WORK AMONG GEOGRAPHICALLY DISPERSED PARTICIPANTS. REMOTE CONFERENCING CAN AVOID TRAVEL EXPENSES AND TIME FOR FACE-TO-FACE MEETINGS THIS EXPLAINS THE WORLDWIDE SPREADING OF WEB-BASED CONFERENCING TOOLS. ONLINE MEETING TOOLS ALLOW REMOTE MEETING AND COLLABORATIVE WORK. POOR INTERNET SERVICE HOWEVER MAKES MOST WEB CONFERENCING SOLUTIONS UNRELIABLE FOR DEVELOPING COUNTRIES IN GENERAL. IN PAST SURVEYS AND REVIEW PAPERS THE MOST IMPORTANT POINT IS THE IMPROVEMENT IN THE USER EXPERIENCE WITH LOW BANDWIDTH AND UNSTABLE INTERNET CONDITIONS FOR VIDEO CONFERENCING. A SPECIAL FOCUS IS PUT ON AUDIO/VIDEO STREAM OPTIMIZATION, WHICH IS THE MOST AFFECTED FEATURE OF A WEB CONFERENCING SYSTEM. THE ONGOING RESEARCH IN THIS AREA CAN BE GROUPED INTO THREE MAIN DOMAINS. FIRSTLY, IS RESEARCH ON RATE ADAPTATION SCHEMES THAT AIMS TO PROVIDE THE BEST QUALITY MULTIMEDIA STREAM TO SEVERAL RECEIVERS WITH OPTIMAL USE OF AVAILABLE BANDWIDTH. SECONDLY, IS RESEARCH ON COMPRESSION WITH ATTEMPTS TO REDUCE BANDWIDTH REQUIREMENTS WITH ACCEPTABLE CONTENT QUALITY. THE LAST RESEARCH DOMAIN STUDIES HOW TO WEAKEN THE INFLUENCE OF TRANSMISSION ERRORS AND PROBLEMS OVER THE CONTENT PROVIDED.

## METHODOLOGY

Establishing connection between Server and Client using Wi-Fi. Wi-Fi is a wireless networking technology, by which we can access networks or connect with other computers or mobile using a wireless medium. In Wi-Fi, data are transferred over radio frequencies in a circular range. Database management and Database connectivity. A database connection is a facility in computer science that allows client software to talk to database server software, whether on the same machine or not. A connection is required to send commands and receive answers, usually in the form of a result set. Parsing the Messages in the server and updating the database. The parsing stage involves separating the pieces of a SQL statement into a data structure that other routines can process. The database parses a statement when instructed by the application, which means that only the application, and not the database itself, can reduce the number of parses.

## III. SYSTEM DESIGN

The design phase translates user requirements and system analysis findings into architectural blueprints, user interface designs, and data models. Architectural design focuses on defining the application's structure, components, and interactions to ensure scalability, flexibility, and maintainability. A microservices architecture deployed on cloud infrastructure is often favored for its agility, fault tolerance, and scalability.

User interface design emphasizes creating intuitive, visually appealing interfaces that enhance user engagement and ease of use. Wireframes, mockups, and prototypes are developed iteratively to solicit feedback from stakeholders and validate design decisions. Attention is paid to consistency, responsiveness, and accessibility across various devices and screen sizes.

#### IV. IMPLEMENTATION

The implementation phase involves coding, testing, and deployment of the social media application according to the specifications defined in the design phase. Agile methodologies, such as Scrum or Kanban, are commonly employed to facilitate iterative development and continuous improvement. Development teams collaborate closely to build frontend and backend components, integrating feedback from stakeholders and quality assurance teams.

#### V. RESULTS

VIDEOCHAT CONFERENCING HAS INARGUABLY REACHED ITS PEAK BY EXPANDING SERVICES TO THE BUSINESS HEALTHCARE, AND EDUCATION SECTORS. THE APPLICATION HAS BECOME THE FIRST CHOICE FOR EVERY SMALL AND HIGHLY REPUTED ORGANIZATION BECAUSE OF ITS EXPANDABLE AND FLEXIBLE SERVICE. ALTHOUGH IT SEEMS A PERFECT SOLUTION FOR YOUR BUSINESS NEEDS, A FEW LIMITATIONS SEEMED TO HAVE EMERGED OUT AS THE CONCERNING DISADVANTAGES OF VIDEOCHAT APP. IN A RECENTLY PUBLISHED REVIEW, A USER HAS REPORTED BAD SERVICE BY THE CUSTOMER SERVICE DEPARTMENT. A SERVICE REPRESENTATIVE MAY TAKE 2 TO 3 DAYS TO REACH YOU WITH A SUGGESTIVE SOLUTION. THIS LIMITATION IS ACKNOWLEDGEABLE AT TIMES WHEN YOU HAVE NO OTHER OPTIONS TO CARRY OUT YOUR WORK WITH RISING DEMAND FOR VIDEO CONFERENCING METHODS. EVERY SECTOR RELIES ON THE VIDEOCHAT APPLICATION AND IT'S QUITE ACCEPTABLE WHY THERE IS A DELAY IN SERVICE. VIDEOCHAT CONFERENCE SECURITY RISKS ARE NOT TAKEN CARE OF ON TIME, THE DEVELOPING COMPANY MAY FACE AN ECONOMIC BACKLASH BY LOSING A HUGE AMOUNT OF USERS SIMULTANEOUSLY. INDIAN HOME MINISTRY AND STANDARD CHARTERED BANK HAVE ALREADY INSTRUCTED EMPLOYEES TO BAN THE USE OF VIDEOCHAT APP FOR OFFICIAL USE WE HAVE LEFT ALL THE OPTIONS OPEN SO THAT IS THERE IS ANY OTHER FUTURE REQUIREMENT IN THE SYSTEM BY THE USER FOR THE ENHANCEMENT OF THE SYSTEM THEN IT IS POSSIBLE TO IMPLEMENT THEM IN THE LAST WE WOULD LIKE TO THANKS ALL THE PERSON INVOLVED IN THE DEVELOPMENT OF THE SYSTEM DIRECTLY OR INDIRECTLY. WE HOPE THAT THE PROJECT WILL SERVE ITS PURPOSE FOR WHICH IT IS DEVELOP THERE BY UNDERLINING SUCCESS OF PROCESS.

##### A. Figures

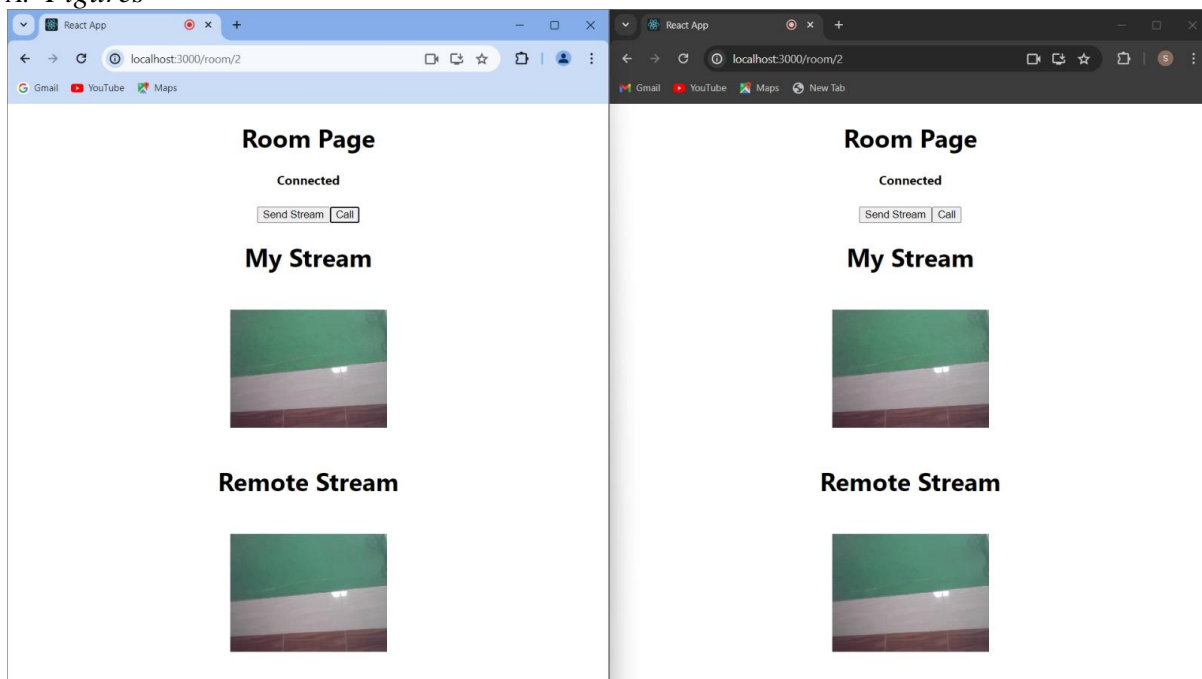


Fig. 1 User Interface to select visualization period



## VI. CONCLUSION

OUR PROJECT IS ONLY A HUMBLE VENTURE TO SATISFY THE NEEDS TO MANAGE THEIR PROJECT WORK. SEVERAL USER FRIENDLY CODING HAVE ALSO ADOPTED. THIS PACKAGE SHALL PROVE TO BE A POWERFUL PACKAGE IN SATISFYING ALL THE REQUIREMENTS OF THE SCHOOL. THE OBJECTIVE OF SOFTWARE PLANNING IS TO PROVIDE A FRAME WORK THAT ENABLES THE MANAGER TO MAKE REASONABLE ESTIMATE MADE WITHIN A LIMITED TIME FRAME AT THE BEGINNING OF THE SOFTWARE PROJECT AND SHOULD BE UPDATED REGULARLY AS THE PROJECT PROGRESSES. A DESCRIPTION OF THE BACKGROUND AND CONTEXT OF THE PROJECT AND ITS RELATION TO WORK ALREADY DONE IN THE AREA FOLLOWED BY THE STATEMENTS OF THE AIMS AND OBJECTIVE OF THE PROJECT. THE DESCRIPTION OF PURPOSE, SCOPE AND APPLICABILITY IS DONE. WE DEFINED THE PROBLEM ON WHICH WE ARE WORKING IN THE PROJECT. WE DESCRIBE THE REQUIREMENT SPECIFICATION OF THE SYSTEM AND THE ACTIONS THAT CAN BE DONE ON THESE THINGS. WE UNDERSTAND THE PROBLEM DOMAIN AND PRODUCE A MODEL OF THE SYSTEM, WHICH DESCRIBES OPERATIONS THAT CAN BE PERFORMED ON THE SYSTEM. WE INCLUDED FEATURES AND OPERATIONS IN DETAIL, INCLUDING SCREEN LAYOUTS. WE DESIGNED USER INTERFACE AND SECURITY ISSUES RELATED TO SYSTEM. FINALLY , THE SYSTEM IS IMPLEMENTED AND TESTED ACCORDING TO TEST CASES.

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