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Rise of Online Communication during COVID-19

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Abstract: ***With the rise in the use for social media and online communication applications has increased over the last year as a result of the pandemic, especially office work and education shifting to online mode, apps like these have gained extensive popularity and have turned out to be a savior for the world. Our innovation, Adept, is a platform used by people for work related communication and aims for college students too. It has many benefits over other messaging platforms in the market.***
Thus, Adept is a web messaging app that resembles its major features as the outcome of this project. This project is a challenging project for us, giving us the opportunity to work on a full stack idea that can easily find itself a place in the real world and the industry as a viable and useful product.
Keywords: Professional Communication, Web messaging, Student platform, Online communication

I. INTRODUCTION

There are a lot of web applications that allow us to communicate online via text, audio and call, some being casual and used on a daily basis while some are used widely for professional purposes only. People found themselves struggling with them over the last year, with some being easy to access and use while some were not as accessible. However, there has always been some scope of improvement and bridging the gaps between something or the other.
Adept has taken its inspiration and shape from platforms like Slack, Discord and MS Teams. The project uses a full stack of technology to come to life. It is based on intermediate to advanced concepts of development. It is based on React-Redux and foundational basic knowledge of Firebase databases. The tech stack we are using is easy to use, to understand and up to date with the technical advancements over time.
Our web app, Adept allows people, both professionals, students and everyone in general to create a private space of their own to use and communicate over. It allows them to create channels, communicate in groups and also have private access to each other.

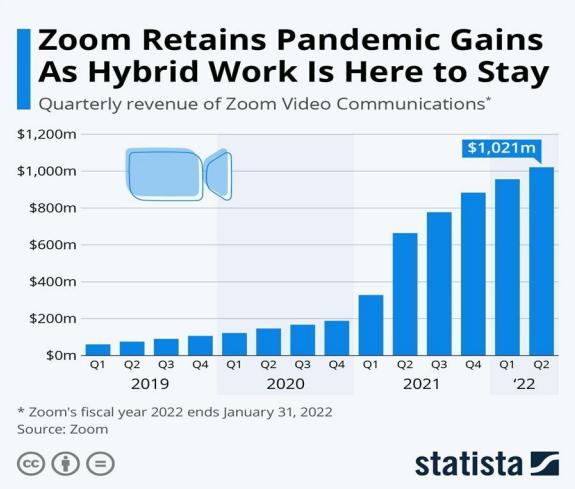
A. Need for Real-Time Communication

Business or Team communication organizer, allows team to communicate efficiently and avoid hassle, create their own workspace, allowing increase in productivity making it a one stop solution for text based messaging, meetings and sharing files over a personal community or channel.
WebRTC is a technology which enables the consumer to conduct peer-to-peer communication in real time, over the internet inside a web site or an app.. It is a technology minimal in nature and is supported by most web browsers in today's time. It's an open source piece of work supported and backed by industry tycoons like Apple, Microsoft, and Google. It is very upfront and basic in its implementation and in majority of the cases, it hardly takes 10-20 lines of code to establish a video and voice communication setup amidst different browsers. Hence, WebRTC is very commonly used for online communication in video and calling modes.
Infact, it is expected that more complicated applications, gaming industries, education etc will develop a dependency on WebRTC. While we need to manage multiple applications, single sign-on (SSO) authentication technology is an efficient way to verify any user's identity. SSO is implicitly useful as it comes to use of video and online communication. Be it signing on to your mobile devices or joining in via laptop or a PC, SSO makes sure easy accessibility.

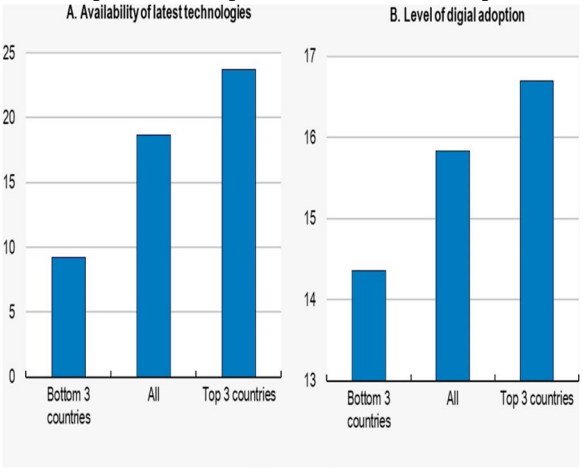
B. COVID-19 and Online Dependency

According to recent studies, the market for online communication is expected to reach $11.56 billion in market cap by 2027. COVID-19 has highlighted the sheer importance of effective means of online video communication by keeping strict constraints on event hosts and business owners. Teams have become obligated to adopt a digitally prioritized approach to plan any event and remote communication. As a result, Zoom has reported approximately 1 billion dollars of revenue in the financial year of 2020-21.

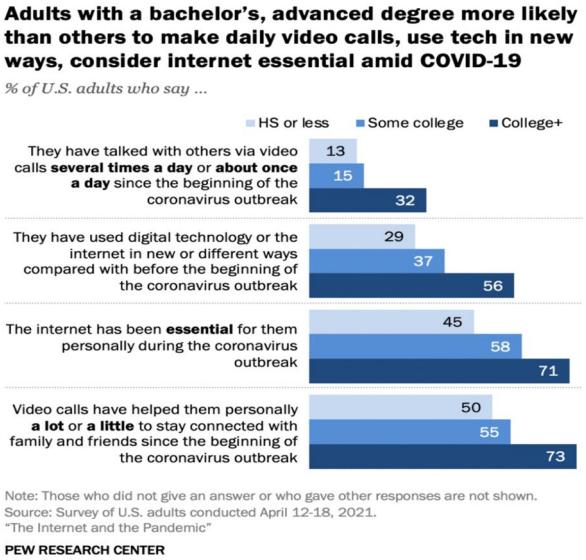
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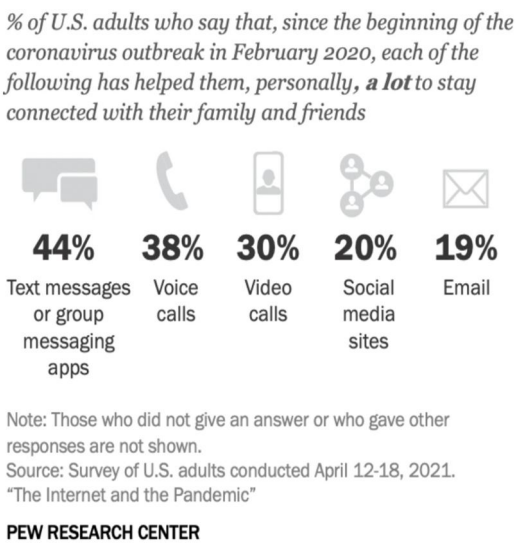


Leaders of online and video communication industries are differentiating their products by adding advanced features to their particular applications. Recently in the years, some of these have introduced real-time audio technology in spatial and transcription aspects , as well as other powerful features to top the user experience over their competitors.



II. COMMUNICATION IN DIFFERENT SCENARIOS





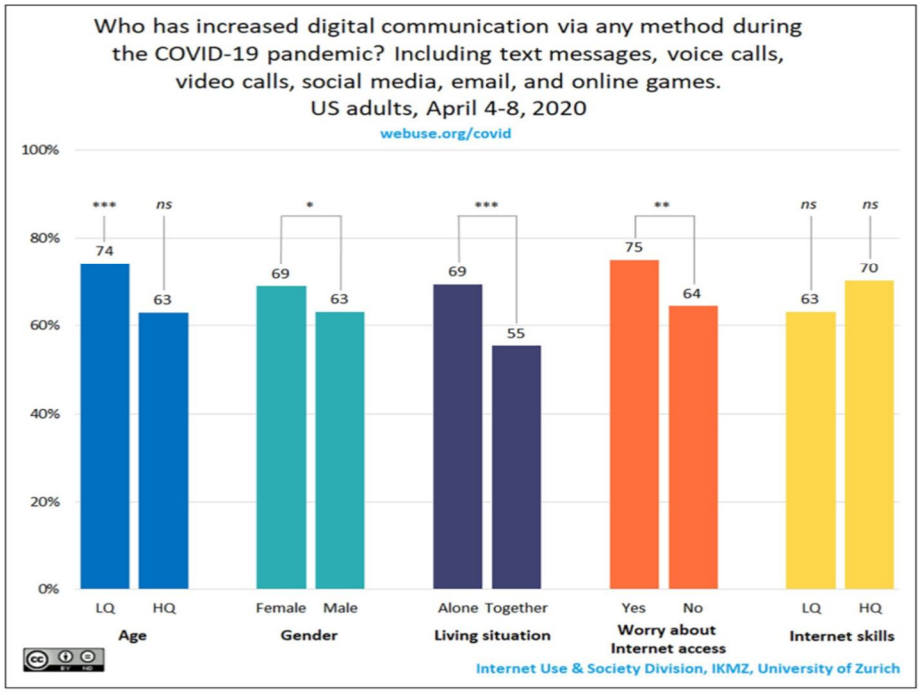


Figure 2. Increase in digital communication behaviors during the Coronavirus pandemic. Based on data from 1,374 US adults, 4–8 April 2020. Differences between groups are tested with Chi-square tests. For age and Internet skills, the lowest (LQ) and highest (HQ) quartiles were compared with the rest of the sample.
Note. ns = non-significant.
* $p < .05$. ** $p < .01$. *** $p < .001$.

As most of the working class is working via work from home mode by virtue of this pandemic (COVID 19), there has been an exorbitant demand for different tools of communication coming from companies including Zoom,Slack and Microsoft.

A. Educational Institutes

During the pandemic schools were forced to shut down and teachers and students were forced to shift to online platforms for teaching and learning purposes. Millions of students were affected due to this onset of closures. In India, around 25 crore students were highly affected by school closures. Several challenges in public and private schools were found like a sudden rise in dropouts, learning losses and a division caused by the unavailability of digital means. However, COVID-19 eventually became a catalyst for institutes to adopt digital modes for sustaining education.

B. Offices/Workplace

The Technologies used previously ranged 11% to 22% of the time and are now at 85% or 100% and no one expects that kind of growth. As multiple sectors have sent their employees home, the education sector has gone online and people are finding new methods to connect socially, the volume for these services has boomed and reached new limits.

The pandemic accelerated the use of new technologies by the masses,people are willing to change the way they think about the technology.According to recent reports Zoom has seen the most spike in terms of active users. Slack, Microsoft Teams and Google Meet are the tech giants which indirectly got benefit from the pandemic.

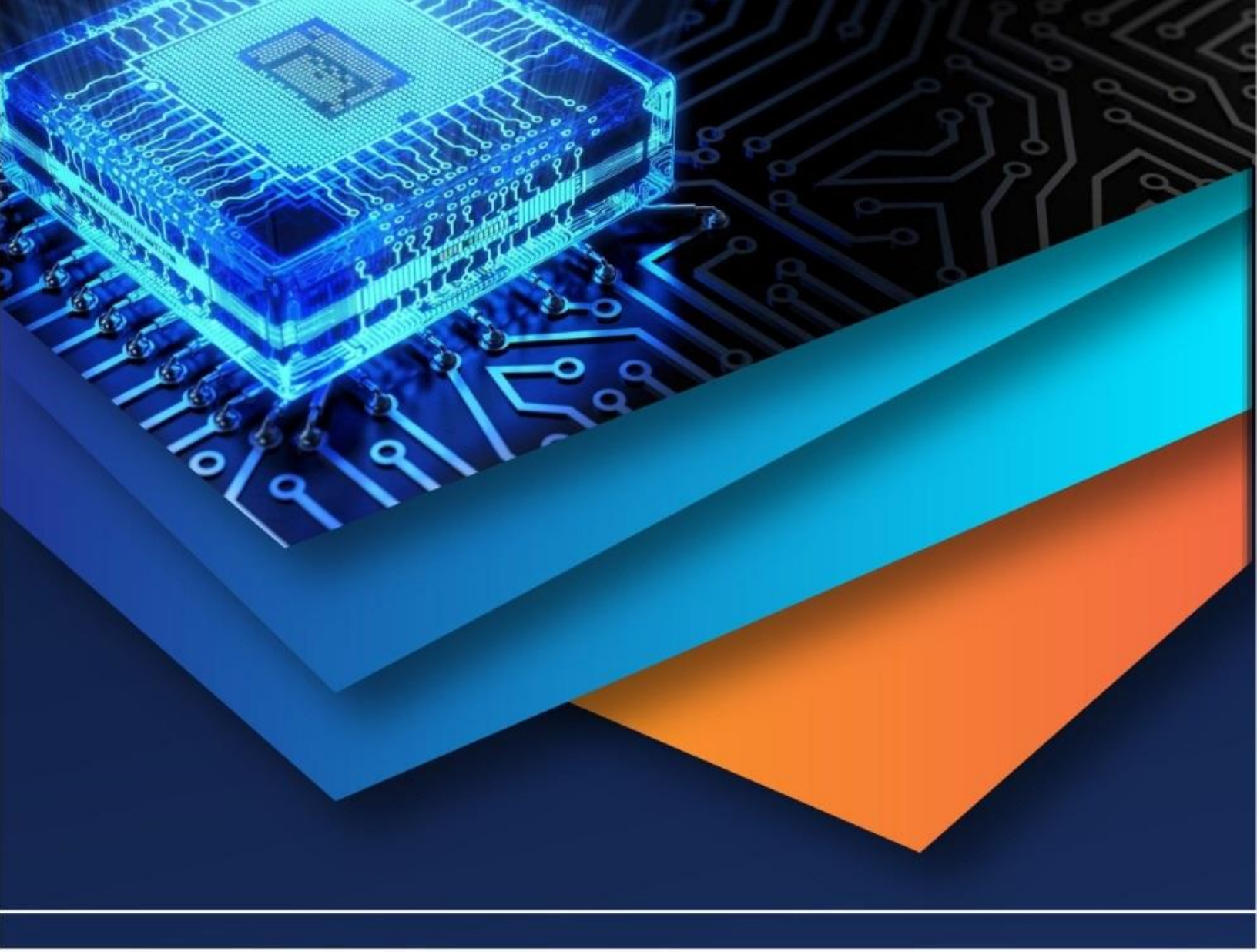
III. CONCLUSION

Given the exorbitant rise of internet and digital media use, expanded ways of communication over the last few years, COVID-19 adding to it, the need was sufficed by the pre-existing or recently developed applications, catering to the demand for effective and easy communication specifically in workplaces and educational institutions. Adept too, solves the same problem over, with only as much as is required without complicating further. It will keep on evolving, improvising and addressing the needs of its users.

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