

## REFERENCES

- [1] Prodigy, "25 Best Virtual Learning Platforms for Students & Educators of the Digital Era," Prodigy Education, 11 06 2021. [Online]. Available: <https://www.prodigygame.com/main-en/blog/online-learning-platforms/>. [Accessed 02 01 2022].
- [2] Deng Z., and Chen Q., "What is suitable social distancing for people wearing face masks during the COVID-19 pandemic?," *Indoor air*, vol. 32, no. 1, 2022.
- [3] Giovanelli E., Valzolgher C., Gessa E., Todeschini M., and Pavani F., "Unmasking the Difficulty of Listening to Talkers With Masks: lessons from the COVID-19 pandemic," *i-Perception* 12, no. 2, 2021.
- [4] Pinarer O., and Turhan S., "Pandemic Effect: Degradation of Speech Reception Due to Medical Masks.," *IEEE International Conference on Big Data*, pp. pp. 1-7, 2020.
- [5] Harkins J., and Tucker P., "An internet survey of individuals with hearing loss regarding assistive listening devices," *Trends in Amplification*, pp. 91-100, 2007.
- [6] Lopez E., Costa O., and Ferrari D., "Development and Technical Validation of the Mobile Based Assistive Listening System: A Smartphone-Based Remote Microphone," *American Journal of Audiology*, vol. 25, pp. 288-294, 2016.
- [7] Lin Y., Lai Y., Chang H., Tsao Y., Chang Y., and Chang R., "SmartHear: A Smartphone-Based Remote Microphone Hearing Assistive System Using Wireless Technologies," *IEEE Systems Journal*, 2015.
- [8] Warick R., Clark C., Dancer J., and Sinclair S., "Assistive listening devices," *Journal of Visual Impairment and Blindness* 90, no. 5, 1997.
- [9] Rekkedal A., "Teachers' use of assistive listening devices in inclusive schools," *Scandinavian journal of disability research* 16, no. 4, pp. 297-315, 2014.
- [10] Odelius J., and Johansson O., "Self-assessment of classroom assistive listening devices," *International journal of audiology* 49, no. 7, pp. 508-517, 2010.
- [11] Boothroyd A., "Hearing aid accessories for adults: The remote FM microphone," *Ear Hear*, pp. 25, 22-33, 2004.
- [12] Zanin J., and Rance G., "Functional hearing in the classroom: assistive listening devices for students with hearing impairment in a mainstream school setting," *International journal of audiology* 55, no. 12, pp. 723-729, 2016.

- [13] Kochkin S. , "Consumers rate improvements sought in hearing instruments," *Marketrak VI: The Hearing Review*, pp. 9: 18-22, 11 2002.
- [14] Kim J. and Kim C., "A review of assistive listening device and digital wireless technology for hearing instruments.," *Korean Journal of Audiology* 18, no. 3, p. 105, 2004.
- [15] Dujovne D., and Turletti T., "Multicast in 802.11 WLANs: an experimental study," in *9th ACM International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems*, Torremolinos, Spain, 2006 October.
- [16] Chern A., Lai Y., Chang Y., Tsao Y., Chang R., and Chang H., "A Smartphone-Based Multi-Functional Hearing Assistive System to Facilitate Speech Recognition in the Classroom," *IEEE*, 2017.
- [17] Gernsbacher M., "Video captions benefit everyone," *Policy Insights from the Behavioral and Brain Sciences*, vol. 2, no. 1, p. 195–202, Oct 2015.
- [18] Stinson M., "Current and future technologies in the education of deaf students," *The Oxford Handbook of Deaf Studies, Language, and Education*, vol. 2, p. 93–100, 2010.
- [19] Kates J., and Arehart K., "The hearing-aid speech perception index (HASPI)," *Speech Communication*, vol. 65, p. 75–93, Nov./Dec. 2014.
- [20] Kates J., and Arehart K., "The hearing-aid speech quality index (HASQI)," *Journal of the Audio Engineering Society*, vol. 62, no. 3, p. 99–117, Mar 2010.
- [21] Huang X., Zhiwen Y., Zhu W., and Hongbo N., "SmartMic: a smartphone-based meeting support system," *The Journal of Supercomputing*, no. 70, pp. 1318-1330, 2014.
- [22] Public Technical Identifiers, an affiliate of ICANN, "IPv4 Multicast Address Space Registry," 19 05 2023. [Online]. Available: <https://www.iana.org/assignments/multicast-addresses/multicast-addresses.xhtml>. [Accessed 01 04 2023].
- [23] Kozierok C., "The TCP/ IP Guide," 20 09 2005. [Online]. Available: [http://www.tcpipguide.com/free/t\\_IPMulticastAddressing.htm](http://www.tcpipguide.com/free/t_IPMulticastAddressing.htm). [Accessed 01 04 2023].
- [24] Wikipedia, "Broadcast address," Wikimedia project, 25 12 2022. [Online]. Available: [https://en.wikipedia.org/wiki/Broadcast\\_address](https://en.wikipedia.org/wiki/Broadcast_address). [Accessed 10 02 2023].

- [25] Sharma P., and Singh G., "Comparison of Wi-Fi IEEE 802.11 standards relating to media access control protocols," *International Journal of Computer Science and Information Security*, no. 14.10, p. 856, 2016.
- [26] Gartner, Inc, "Gartner Says Worldwide Smartphone Sales Grew 26% in First Quarter of 2021," Gartner, Inc, 2021. [Online]. Available: <https://www.gartner.com/en/newsroom/press-releases/2021-06-07-1q21-smartphone-market-share>. [Accessed 30 08 2021].
- [27] Google, "AudioRecord Android Documentation," Google, [Online]. Available: <https://developer.android.com/reference/android/media/AudioRecord>. [Accessed 02 02 2023].
- [28] Google, "AudioTrack Android Documentation," Google, [Online]. Available: <https://developer.android.com/reference/android/media/AudioTrack>. [Accessed 02 02 2023].
- [29] Lee C., and Helal S., "Protocols for service discovery in dynamic and mobile networks," *International Journal of Computer Research*, vol. 11, no. 1, pp. 1-12, 2002.
- [30] Stolikj M., Cuijpers P., Lukkien J., and Buchina N., "Context based service discovery in unmanaged networks using mDNS/DNS-SD," *IEEE international conference on consumer electronics (ICCE)*, pp. 163-165, 2016.
- [31] Schulzrinne H., Casner S., Frederick R., and Jacobson V., "RTP: A transport protocol for real-time applications," 07 2003. [Online]. Available: <https://www.rfc-editor.org/rfc/rfc3550>. [Accessed 10 04 2023].
- [32] Rhinow F., Veloso P., Puyelo C., Barrett S., and Nuallain E., "P2P live video streaming in WebRTC," *World Congress on Computer Applications and Information Systems (WCCAIS)*, pp. 1-6, 2014.
- [33] "Jacoti Lola Classroom," Jacoti BV, 2021. [Online]. Available: <https://jacoti.com/solutions/apps/>. [Accessed 15 08 2021].
- [34] Bhattacharya A., Sehgal A., and Kehtarnavaz N., "Low-latency smartphone app for real-time noise reduction of noisy speech signals," *IEEE 26th International Symposium on Industrial Electronics (ISIE)*, pp. 1280-1284, 2017.
- [35] Panahi I., Kehtarnavaz N., and Thibodeau L., "Smartphone-based noise adaptive speech enhancement for hearing aid applications," *38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 85-88, 2016.
- [36] Reddy C., Shankar N., Bhat G., Charan R., and Panahi I., "An individualized super-Gaussian single microphone speech enhancement for hearing aid users

with smartphone as an assistive device," *IEEE signal processing letters* 24, no. 11, pp. 1601-1605, 2017.

- [37] Rao Y., Hao Y., Panahi I., and Kehtarnavaz N., "Smartphone-based real-time speech enhancement for improving hearing aids speech perception," *38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 5885-5888, 2016.
- [38] Qian H., and Andresen D., "Jade: Reducing Energy Consumption of Android App," *Int. J. Networked Distributed Comput.* 3, no. 3, pp. 150-158, 2015.
- [39] Datta S., Bonnet C., and Nikaein N., "Android power management: Current and future trends," *The First IEEE Workshop on Enabling Technologies for Smartphone and Internet of Things (ETSIoT)*, pp. 48-53, 2012.
- [40] Lamport L., "A Fast Mutual Exclusion Algorithm," in *ACM Transactions on Computer Systems*, Vol. 5, No. 1, 1987.