

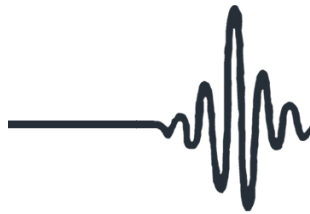


E.T.S.I. de Telecomunicación

Universidad de Valladolid



Stethoscope, a mobile application for auscultation



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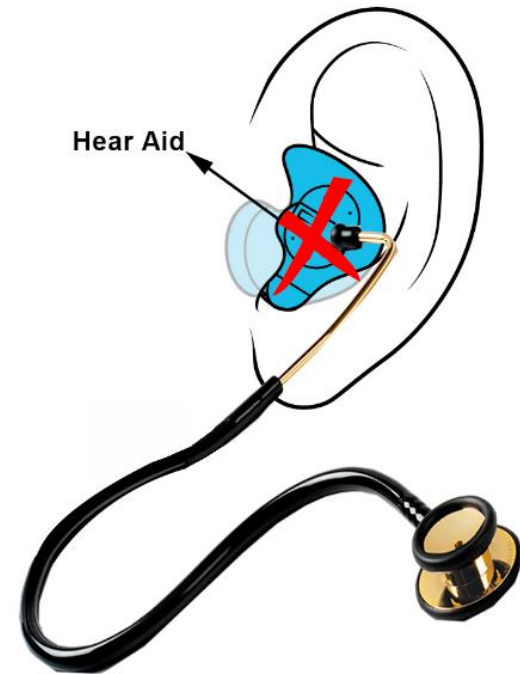
Eduardo, Santamaría Vázquez



Project motivation



- Health professionals with hearing aid have difficulties using custom stethoscopes
- Some actual models of hearing aid can receive audio via Bluetooth
- Smartphones nowadays can fix this problem:
 - Bluetooth Connectivity
 - High definition Audio
 - Compatible high quality microphones

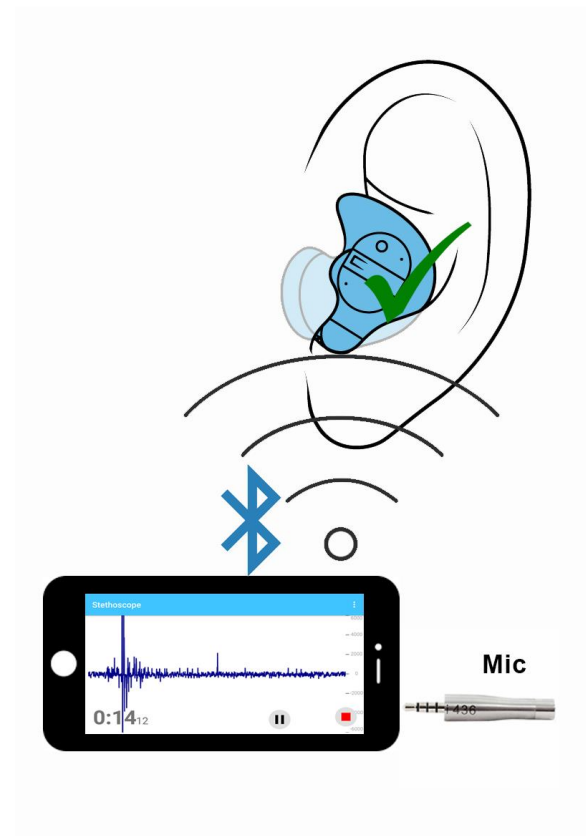




Proposed solution



- Main objective: develop a new mobile application in Android to record the heart audio signal in real time and transmit it to the hearing aid via Bluetooth
- Secondary objectives
 - Represent the real time signal and FFT to help in heart disease diagnosis
 - Store the records in wav files to later analysis





Real time Charting



- All real time charts are developed with SciChart. Scichart is a Realtime, High Performance Charting Library made with Financial, Medical & Scientific Apps in mind. Perfect for Projects that Need Extreme Performance and Slick Interactive Charts.
- SciChart is the only charting library that allows real time and configurable representation of high definition audio with smooth graphic updating and high quality.





Acknowledgments



- This application is being developed with the support of Mutua Madrileña.
- The Biomedical Engineering Group is collaborating in the application development with Dr. Luis Angel Vallejo Valdezate, otolaryngologist in Río Hortega Hospital in Valladolid and principal investigator of the research