

B) Loudness matching: Similar to that of the pitch matching, the app would guide to match the loudness for the perceived pitch by selecting the options as similar or dissimilar.

Once the individual is able to match the pitch and loudness that is perceived as tinnitus the app moves on to the selection of candidacy for sound therapy for tinnitus.

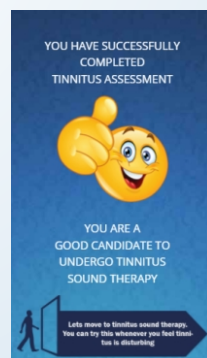
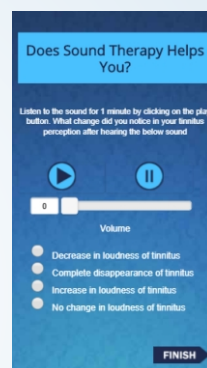
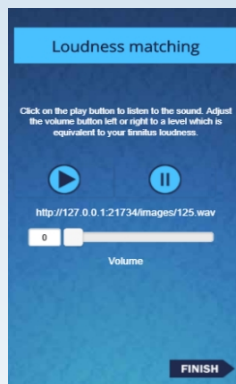
Application 2:

Candidacy for sound therapy:

This would follow the procedure on residual inhibition where a white noise would be presented at the intensity higher to that of the loudness of the perceived tinnitus for a period of time.

5. Scoring of responses for residual inhibition: This would enable the individual to know if suitable candidate for sound therapy based on the reduction or increase in the perception of tinnitus after hearing the white noise.
6. Comprehensive report on the assessment would be provided to the individual.
7. Other sounds that can be used by the individual to distract from perceiving tinnitus are also added in the developed app.
8. Further need for the referral to the professionals.

Thus, the developed smartphone or the i-phone tinnius app can be used to assess the sound what is being perceived by an individual and provide realistic expectation from sound therapy. However, the benefit with the use of this app would be more in support with professionals.



TELE-CENTRE FOR PERSONS WITH COMMUNICATION DISORDERS

TINNITUS APP

CHECK YOUR RINGING EARS



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WHAT IS TINNITUS?

Tinnitus is the sensation of hearing ringing, buzzing, hissing, chirping, whistling, or any other sounds when there is no such sound in the environment.

There are several treatment and management options available, however prior to recommending or beginning any treatment for tinnitus, there is a need to test the perceived tinnitus. The assessment of tinnitus involves comprehensive case history (hearing evaluation), tinnitus pitch matching and tinnitus loudness matching. However, professionals can include additional audiological test that can be used for diagnosis and counseling of individual with tinnitus. These evaluations can provide reassurance to individual that their tinnitus is real.

Currently, there are many apps available for tinnitus assessment and few for management. However, not all the apps are compatible with all operating systems. Some of the apps require additional devices along with smart phones, which limit their use. There is no one comprehensive app meant for assessment of different aspects of tinnitus (pitch matching, loudness matching, residual inhibition) and its management. Hence, a simple and quick means of measuring tinnitus was developed which can overcome all the above limitations and also can recommend the candidacy for whom sound therapy can be beneficial.



CONTENT IN THE TINNITUS APP

The following are the contents which are available in the developed app

1. Description of tinnitus



2. Demographic details of the individual who hears ringing sound (tinnitus)

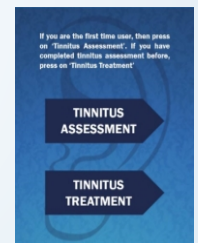
A screenshot of a form titled "Please fill the personal details to undergo tinnitus assessment". It includes fields for name, age, gender, email ID, profession, and workplace, with a "Next" button at the bottom.

3. Simple questionnaire on the characteristics of the tinnitus to be filled by an individual perceiving the sound including time of onset, course of progression, nature of tinnitus, location (ear specific information), extent to which an individual is bothered, history of noise exposure, medications, familial history of hearing loss or tinnitus, sleep disturbances, or any effect on personal/ social/ occupational relationships.

A screenshot of a questionnaire titled "QUESTIONNAIRE". It lists instructions for use and asks the user to select the start of tinnitus from a list of options: Fever, Surgery, Accident, Medication, and Other.

4. Applications

1. Tinnitus assessment
2. Selection of Candidacy for sound therapy



Application 1:

Tinnitus assessment: The individual perceiving tinnitus would be directed for self assessing the characteristics of the sound that is perceived in terms of matching the pitch and loudness of the sound.

A) Pitch matching - The individual would be provided with sample of tone and noise which is more similar to that of tinnitus. Then the individual can choose the different frequencies and match to the pitch of the sound that is heard indicating as similar or dissimilar.

