

**Mar Baselios College of Engineering and Technology (Autonomous)**  
**ASSISTIVE TECHNOLOGY GROUP REPORT**

**July 2023 - June 2024**

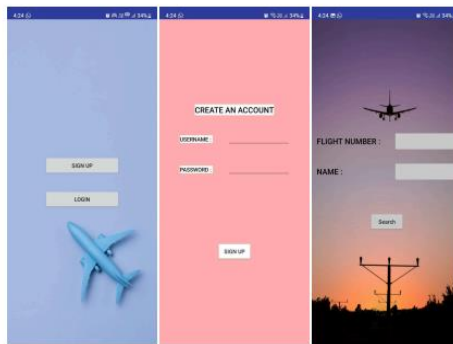
1. Project on 'ALERT SYSTEM USING VIBROTACTILE TECHNOLOGY FOR HEARING IMPAIRED', guided by Dr. M. J. Jayashree, Professor, ECED, March 2024

S8 ECE students Ananya Prasad, Carina Miriam Sedric, Gowri Krishnan L, Parvathy A and Varsha S R were involved in the project. NISH visits/reviews were held on November 29, 2023, March 22, 2024, and 17 April, 2024.

**RESULT OF FINAL PRODUCT**



**RESULT OF FINAL APP**



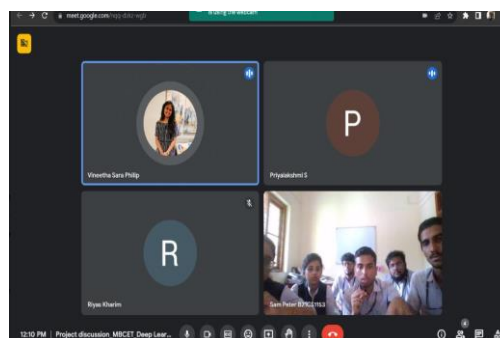
The implementation of vibrotactile technology in airports addresses the critical challenge faced by the hearing impaired in receiving sudden and important announcements. This advanced system utilizes tactile communication through vibrations, offering an effective alternative to auditory information. The vibrations, applied transversely or normally to the skin, provide clear and immediate sensory feedback.

On November 29, 2023, the team made their first visit to the National Institute of Speech and Hearing (NISH) to discuss the initial concept and gather valuable feedback from experts and potential users. This visit marked a significant milestone in ensuring the product was tailored to meet the specific needs of individuals with hearing impairments. Following this, the product was presented to the NISH authorities on March 22, 2024, showcasing its capabilities and the benefits it offers to the hearing impaired and also to ask for more suggestions from them that can be added to the product. Lastly, they visited NISH on 17 April, 2024 with their final product and showed it to 7 potential users and got their feedbacks and made them rate the product on different performance factors out of 5. And the performance factors were user experience, functionality, Reliability in which they received 4.5, 3.9, 3.5 respectively as an average and for accuracy of gate call function, they obtained 50% which was taken by calling out 48 names in which 25 names were accurate and this was affected by spelling and distance.

## **2. FDP on “Recent Trends in Healthcare and Assistive Technology” from Jan 29, 2024 to Feb 2, 2024.**

An FDP on Assistive Technology and Healthcare was organized by the Biomedical Research group, Department of Electronics and Communication Engineering, Mar Baselios College of Engineering and Technology, in association with IEEE EMBS Kerala Chapter. 21 participants attended the FDP coordinated by Dr. M. J. Jayashree and Ms. Amritha B.J. (co-coordinator). Faculty from NISH and SCTIMST were resource persons.

## **3. Discussion on ‘Deep Learning based Text-to-Speech (TTS) Model’ on 28 November 2023:**



A project discussion between a team from NISH (Ms. Vineetha Sara Philip, Mr. Riyas Kharim and Dr. Priyalakshmi S) and students of MBCET S5 CS (Sam Peter, Abijith Renjith Nair, A.P Vibin, Aravind J L, Shwetha J S and Feba) was conducted on 28 November 2023.

#### **4. NSS MBCET Activity on Assistive Technology:**

As a part of International deaf week and international sign language day, NSS MBCET UNIT 230 and UNIT 706 presented an interactive session on international sign language day.

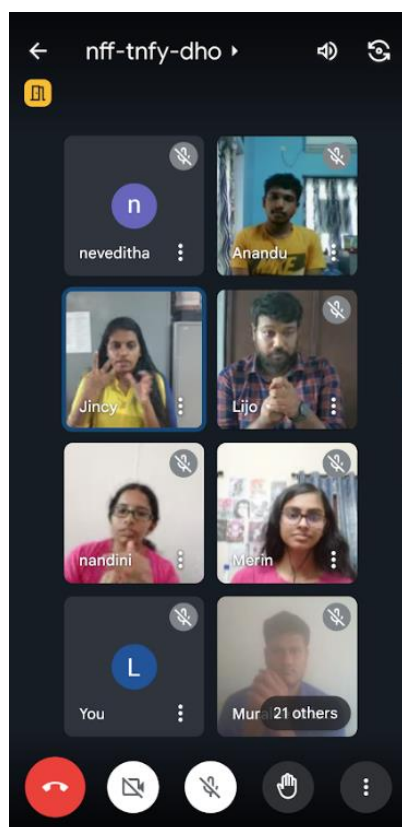
Date : 28/09/2023,

Time : 10am-11am, Google meet

Coordinators:

Anandu : 8547303973

Anand : 81389 83887



#### **5. Student Buddies with NISH-IYWD:**

S7 CS students, Mr. Shravan and Mr. Shibin have helped I-YwD participant Mr. Sravan Vinod build a digital platform which lies at the core of his entrepreneurial venture. Ms. Jisha Jose is the faculty coordinator. (Sep 2023 - Nov 2023)

### Student Buddies for I-YwD Participant

Principal MBCET <principal@mbcet.ac.in>

To: Avaneesh M <avaneesh.c19@nish.ac.in>

Cc: Lani Mathew <lan.mathew@mbcet.ac.in>, Daisy Sebastian <daisy@nish.ac.in>, Innovation by Youth with Disabilities <iywd@nish.ac.in>, Jisha Jose <jisha.jose@mbcet.ac.in>, MBCET HOD CSE <hodcs@mbcet.ac.in>

Fri, Oct 6, 2023 at 1:34 PM

Dear Mr Avaneesh

Greetings from MBCET. I am sorry if I am late in responding to your email

We nominate Ms Jisha Jose, Assistant Professor, CSED as the Guide for our S7CS2 students Shravan and Shubin to help I-YwD participant Sravan Vinod

With regards

Abraham T Mathew  
Principal

On Thu, Sep 21, 2023 at 3:38 PM Avaneesh M <avaneesh.c19@nish.ac.in> wrote:  
Dear Sir,

Let me take this opportunity to thank you for assigning your S7CS2 students Shravan and Shubin to help I-YwD participant Sravan Vinod build a digital platform which lies at the core of his entrepreneurial venture. The students' technical knowledge and support will be crucial in helping Sravan Vinod move forward with his project. We shall reach out to the students at the earliest.

It would be great if you could also assign a faculty member from your esteemed institution to supervise the platform building process in case a need arises.

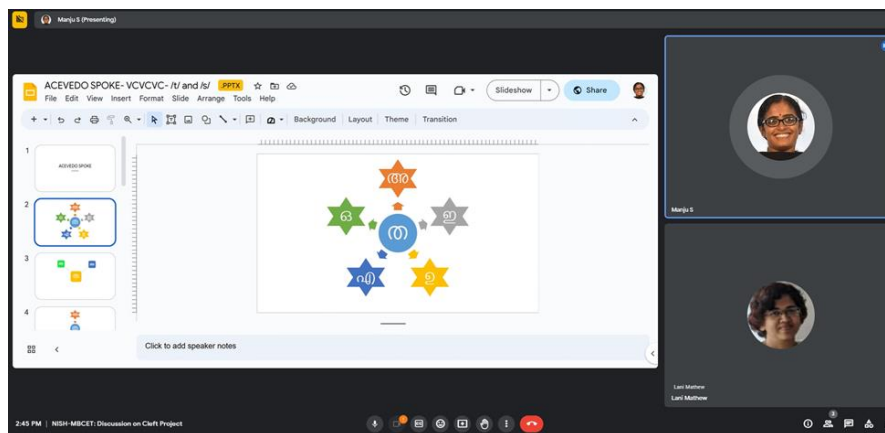
A big thanks to Dr Lani Mathew for facilitating this process quickly and efficiently.

Once again thank you for the support so far and going ahead on behalf of Team I-YwD.

Regards  
Avaneesh  
Project Coordinator, I-YwD  
NISH.

## 6. Discussion with NISH on Cleft related project proposal

Ms. Amritha B.J. and Dr. Lani Rachel Mathew had an online discussion on a joint ICMR project proposal on cleft lip and palate on 26 July 2023 at 2:30 pm.



## 7. Blind swimmer project update

Dr. Lani Rachel Mathew, Asst. Professor, ECED, and Mr. Shyam Haridas (2019-2023 EC2) visited SCTIMST-TIMED, Poojapura, on 14 July 2023 (2:30 - 4:00 pm) to discuss possibilities of further modifications to the final year project titled, 'Development of sensor based swimming aids for the visually impaired'.

