



HACKERWAR 4.0

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
FACULTY OF ENGINEERING AND TECHNOLOGY (ITER) SIKSHA 'O'
ANUSANDHAN (DEEMED TO BE) UNIVERSITY, BHUBANESWAR,
ODISHA



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Basic Details of the Team and Problem Statement



Ministry/Organization Name/Student Innovation:

Ministry of Social Justice and Empowerment

PS Code: SIH1405

Problem Statement Title: Develop therapy materials in Hindi for misarticulation children

Team Name: Kimura Techies

Team Leader Name: Sudiksha Sharma

Institute Code (AISHE): C-42709

Institute Name: Institute of Technical Education and Research

Theme Name: MedTech / BioTech / HealthTech



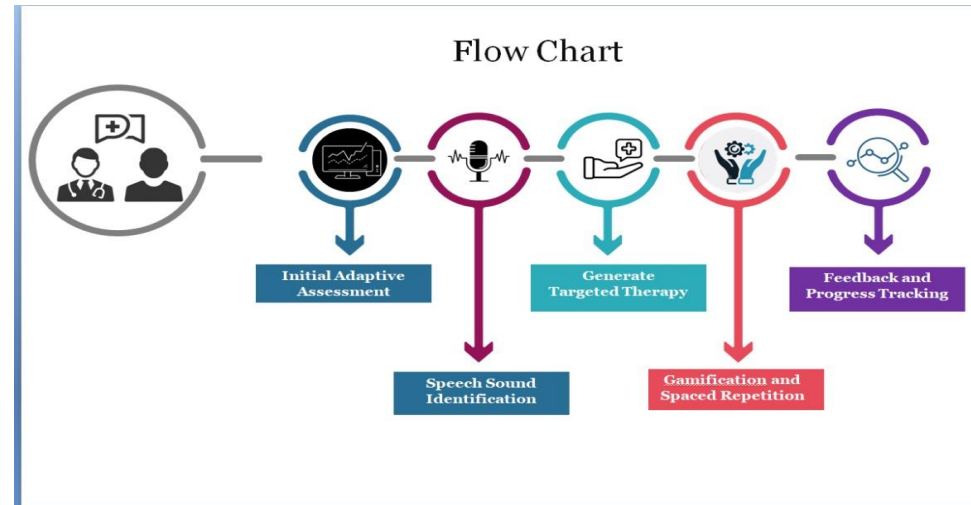
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Idea/Approach Details

Idea/Solution/Prototype :

Our solution is an advanced web application designed to address the issue of misarticulation in children by providing therapy materials in Hindi. We leverage cutting-edge AI and ML techniques to create a dynamic and adaptive assessment platform. Our prototype offers the following key features:

- **Adaptive Assessment:** Using AI and ML, our platform tailors assessments based on a user's previous responses, optimizing the learning experience.
- **Speech Sound Identification:** Our system identifies specific speech sounds and phonemes that individuals are misarticulating, allowing for targeted therapy.
- **Gamification:** To keep therapy engaging, we incorporate gamification elements, making learning fun, especially for children.
- **Spaced Repetition:** We implement spaced repetition techniques, allowing users to practice speech sounds over longer intervals for more effective learning.
- **Visual and Audio Feedback:** Users receive visual and audio feedback to help them understand and correct their articulation.
- **Interactive Exercises:** Our platform includes interactive exercises that challenge users to identify and correct misarticulated speech sounds.
- **Integration of AI and ML:** We employ AI and ML to continuously adapt therapy plans based on user progress.



Technology stack :



Idea/Approach Details

Use Cases:

Our platform serves various use cases, including:

- **Children with Misarticulation:** Our primary users are children with misarticulation issues who can benefit from personalized therapy.
- **Speech Therapists:** Speech therapists can use our platform as a tool to assist their therapy sessions and track progress.
- **Parents:** Parents can actively engage in their child's therapy process and monitor their development.
- **Educational Institutions:** Schools and educational institutions can integrate our platform into their curricula to aid students with speech issues.

Dependencies / Show stopper :

Our project relies on key dependencies and technologies to achieve its goals:

- **AI and ML Techniques:** Our adaptive assessment, speech recognition, and feedback generation heavily depend on AI and ML models' accuracy and performance.
- **Speech Recognition API:** Integration with Google's Speech Recognition API is crucial for accurate pronunciation assessment.
- **Web3 Integration:** Exploring and integrating web3 technologies may pose a learning curve and potential challenges but also presents an opportunity for innovation.
- **Data Security:** Ensuring data security and privacy is paramount, and compliance with data protection regulations is essential.
- **User Engagement:** Success depends on engaging children and maintaining their interest throughout the therapy process.
- **Collaboration:** Collaboration with speech therapists and experts in articulation therapy is essential to align our platform with established therapy practices.

Team Member Details

Team Leader Name: Sudiksha Sharma

Branch - B Tech Stream - CSE Year - III

Team Member 1 Name: Sumit Dash

Branch - B Tech Stream - CSE Year - III

Team Member 2 Name: Ujwal Kumar

Branch - B Tech Stream - CSE Year - III:

Team Member 3 Name: Om Tanmaya Pati

Branch - B Tech Stream - CSE Year- III:

Team Member 4 Name: Smriti

Branch - B Tech Stream CSE Year - III:

Team Member 5 Name: Chanchal Anand

Branch - B Tech Stream - CSE Year - III

Team Mentor 1 Name:

Category	Expertise	Domain Experience
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