

ABSTRACT

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Sensor Bridge

The proposed project aims to build a system which can recognize dynamic Sign-based videos and convert the language into text and audio for deaf and dumb learners respectively. Being an academic project scope of this project is made limited to the recognition of few basic sign symbols.

Further complete translations will be managed in the future enhancement. The implementation is done by using dataset of size 100 videos in Sign Language trained using Machine Learning based LSTM model. The proposed users are Administrator, Staff, Parent/ Student.

Website users

Administrator: Admins have full control over the system, including user management, content management, and system settings.

HOD: The Head of Department can play a crucial role managing the academic and administrative affairs of a specific department. They can manage all the functions and activities done by the staff and parent.

Staff: Teachers can interact with students, provide support, access educational materials, and input student progress data.

Parent/Student: Parents or guardians have access to their child's educational information, progress reports, and communication with teachers.

Existing System

As of my last knowledge update in September 2021, several existing systems and organizations have been developed to support individuals who are deaf, dumb (speech-impaired), and blind (visually impaired). These systems vary in terms of their focus, services, and functionalities. But this Support system mainly focuses on the sign language detection for more availability for this impairment people.

Important Modules

Certainly, I can categorize the project into user modules based on the different types of users and their respective functionalities. Here are the user modules:

1. Administrator Module

- * Admins have full control over the system, including user management content management and system settings.
- * This module encompasses all administrative tasks and system-wide management functions.

2. Head of Department (HOD) Module

- * HODs have a specific role in managing the academic and administrative affairs of a specific department.
- * They can manage all the functions and activities done by the staff and parent within their department.

3. Staff Module

- * This module is dedicated to teachers and instructors.
- * Staff members can interact with students, provide support, access educational materials, and input student progress data.

4. Parent/Student Module

- * Parents or Students have their own module.
- * They can access their child's educational information, progress reports, and communicate with teachers through this module.

These are the primary user modules within the project, each tailored to the specific needs and roles of the different user types involved in the educational platform for disabled students.

Functionalities adding on main project:

- User Management
- Parent/Guardian Communication
- Department Management
- System Settings
- Reporting and Analytics
- Student Progress Tracking

- Sign Language Recognition and Translation.
- Edu-Connect Platform
- Social Outreach and Inclusiveness

Project requirements:

Front-End: HTML, CSS, BOOTSTRAP

Back-End: Python-Django Framework

Server: XAMPP

Database: MYSQL