

*“The power of education extends beyond the development of skills we need for economic success. It can contribute to nation-building and reconciliation.”*

– Nelson Mandela

# PolyGlotEd

*“Revolutionizing education by making knowledge accessible in every language and for every ability.”*

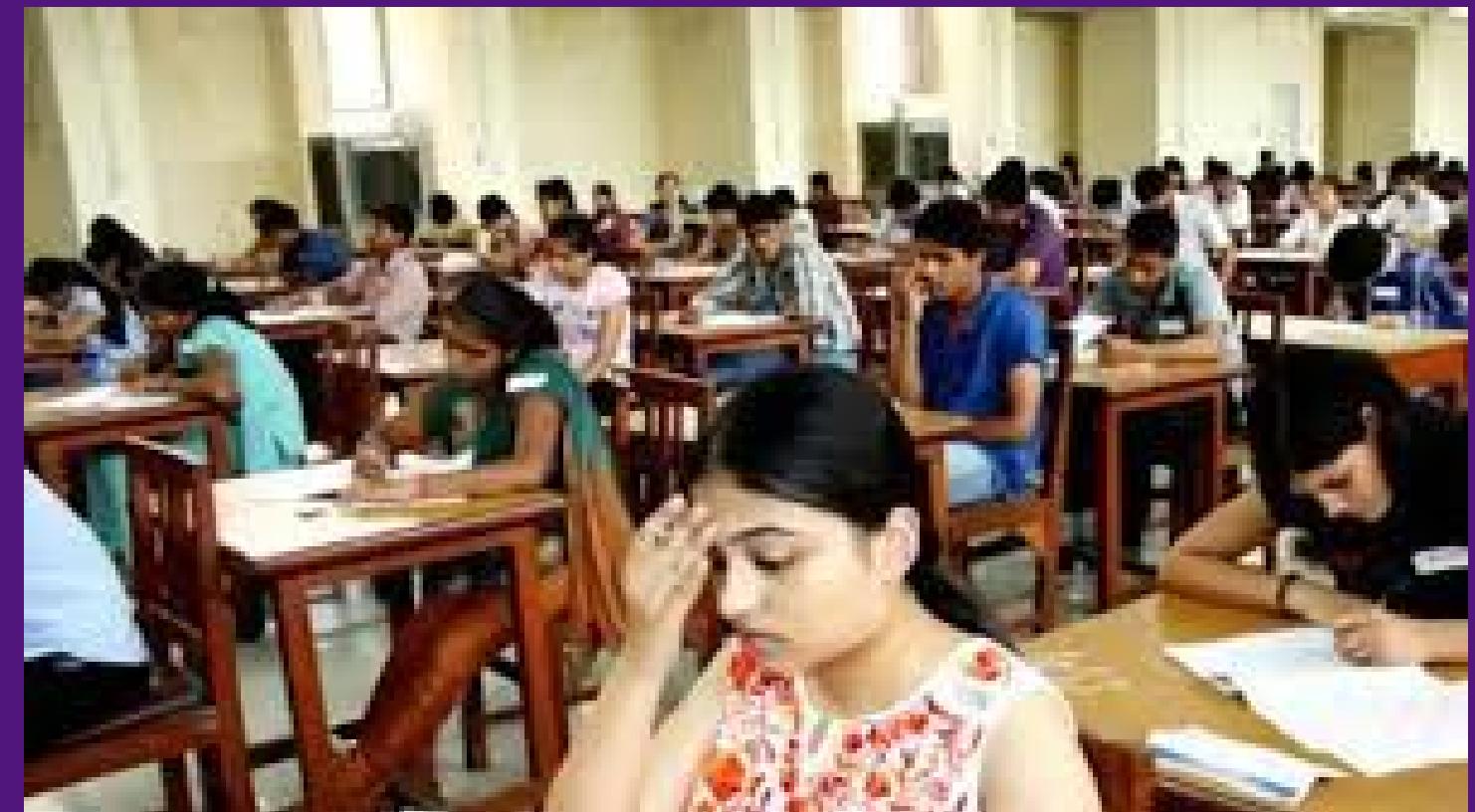
Undefined Pair  
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*“Opening the Door to Inclusive Learning.”*

# Problem Statement



- Linguistic Exclusion:** Only 30% of Indians are proficient in English, leaving 70% of the population unable to access most educational resources. (Source: [Statista](#))
- Limited Regional Support:** Despite 22 official languages and over 19,500 dialects, over 90% of e-learning platforms focus solely on English and Hindi, neglecting non-Hindi-speaking regions. (Source: [Census India](#))
- Inaccessible Education for Disabilities:** With 26.8 million disabled individuals in India, only 61% of schools provide facilities for students with disabilities, leaving many without adequate support. (Source: [UDISE+ 2019-20 Report](#))
- High Dropout Rates:** Students with disabilities are five times more likely to drop out due to the absence of assistive technologies like sign language translators or screen readers. (Source: [UNESCO Report](#))



## Theme

### Education and Inclusivity:

Empowering every student, regardless of their linguistic background or physical ability.



***“Bridging the Gaps: The Need for Change.”***

# Proposed Solution

**PolyGlotEd** is an innovative, AI-driven platform designed to bridge the gap in education by offering:

- Multilingual Video Support:** The platform will automatically transcribe, translate, and generate regional voiceovers for educational videos in real time, catering to a diverse linguistic audience.
- Accessibility Features for Disabilities:** Integrated AI tools will provide sign language translation, speech-to-text for hearing-impaired students, and customizable UI features like high-contrast modes, gesture-based navigation, and screen readers.
- User-Friendly Interface:** The platform will feature an intuitive, easy-to-navigate interface that adapts to diverse learning needs, ensuring that it is both accessible and engaging for all students.

## Architecture

- Multilingual Support:** AI-driven transcription, translation, and regional voiceover generation, enabling seamless content consumption in any language.
- Accessibility Features:** Real-time sign language translations, speech-to-text for hearing-impaired students, and customizable navigation modes, providing an inclusive experience for those with disabilities.



**“PolyGlotEd: Revolutionizing Education for All.”**



# Social/Market Impact

1. **Inclusivity:** Polyglot enhances learning opportunities for non-English speakers, students with disabilities, and those in underserved regions, leveling the educational playing field.
2. **Scalability:** With the potential to reach millions of students across India, the platform can break down barriers in education, making quality learning accessible to all.
  - a. **Potential Reach:** With over 1.3 billion people in India, the potential impact of an inclusive educational platform is immense, providing equal learning opportunities to students from diverse backgrounds.



## Innovation

1. **Real-Time Translation:** The platform will offer live translations of educational content, allowing for dynamic language switches during playback.
2. **Seamless Integration of Assistive Technologies:** AI-driven features like sign language translations and speech-to-text will be integrated into the video content, offering a seamless learning experience for students with disabilities.

***“Transforming Education: Innovation Meets Inclusivity.”***



# Solution Architecture



## FLOW CHART

1. **Content Ingestion:** Educators upload educational videos.
2. **AI Processing:**
  - a. Transcribes video audio.
  - b. Translates into regional languages.
  - c. Generates voiceovers and subtitles.
3. **Accessibility Integration:**
  - a. AI-based sign language translation.
  - b. High-contrast mode and gesture-based navigation.

## TECH STACK

1. **Frontend:** React.js/Vue.js
2. **Backend:** Node.js/Python (Django/Flask)
3. **AI Tools:** Google Translate API, TensorFlow, OpenPose
4. **Database:** PostgreSQL/MongoDB
5. **Cloud:** AWS/Google Cloud

## PROTOTYPE

<https://shorturl.at/QvJHt>



*“The Blueprint: How PolyGlotEd Works.”*



# THANK YOU

***“Bridging linguistic and accessibility gaps, PolyglotEd revolutionizes education by empowering students to learn in their preferred language and at their own pace, fostering true inclusivity and equal opportunities for all.”***

## ABOUT TEAM

Meet Team **Undefined Pair**, a dynamic duo passionate about exploring the frontiers of data science:

- **Alok Gupta**: A second-year Data Science student at IIT Madras, ready to tackle challenges with creativity and determination. Contact: 7752953990, 24f2002281@ds.study.iitm.ac.in.
- **Akanksha P Rath**: A first-year student in the same program, bringing fresh perspectives and boundless enthusiasm. Contact: 7847011413, 24f2008755@ds.study.iitm.ac.in.

Together, we're more than a team—we're a pair undefined by limits, reimagining what's possible in the world of data science!



***“Gratitude & Acknowledge: Meet the Team Behind PolyGlotEd.”***