



THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

Autonomous Dyslexia Evaluation System

Under the mentorship of Dr. Prashant Singh Rana

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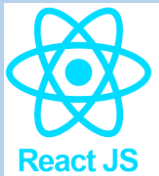
INTRODUCTION

Dyslexia is the most common learning disability. Individuals with this medical condition have difficulty in the areas of language processing.

OBJECTIVES

- Automate the process of Dyslexia evaluation.
- Increase the efficiency of the dyslexic evaluation process and track progress.
- Provide a personalized remote-based.

TOOLS & TECHNOLOGIES



METHODOLOGY

Spelling Orientation

Mediapipe, OpenCV for virtual painter, CNN for handwriting recognition.

Pronunciation Evaluation

Custom-trained RNN with LSTM layers for speech recognition.

Rapid Color Naming

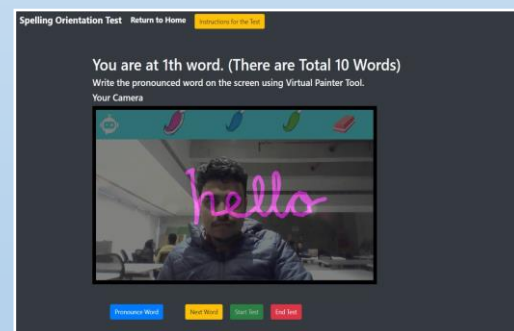
Using inbuilt speech recognition modules & LCS metric.

Object Classification

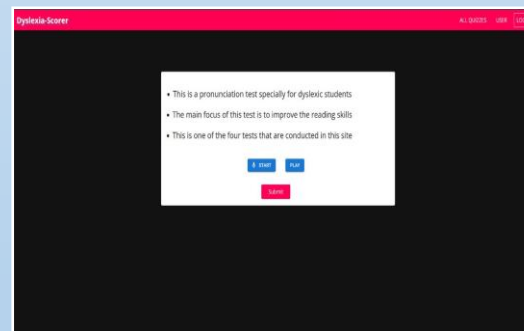
Quiz Assessment based on spelling orientation of word.

SNAPSHOTS OF WORKING PROTOTYPE

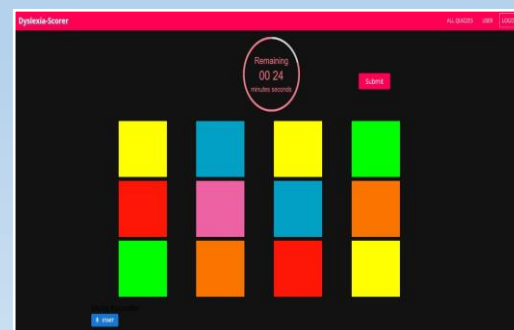
Spelling Orientation Test



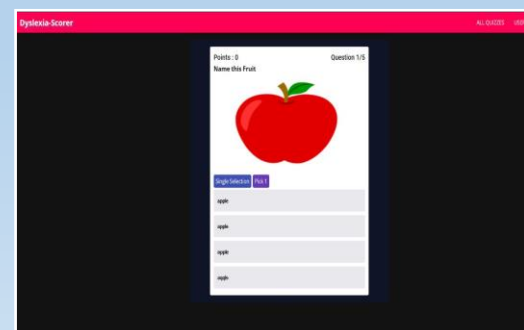
Pronunciation Evaluation



Rapid Color Naming Test



Object Classification Test



PROJECT OUTCOMES

- A Dyslexic subject has been evaluated based on reading, writing, and fluency skills.
- Automate the process of Dyslexia evaluation.
- Track record of the entire test history is maintained.

RESULTS

All the tests are producing accurate results and have been visualized.

Result Outcomes (Histogram)



Result Outcomes (Line Graph)

