Software Requirements Specification

Website for Reading & Writing Disability

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Bachelor of Technology
in
Computer Science

Submitted by
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PURPOSE

The project aims to create a comprehensive online platform dedicated to supporting individuals with dyslexia and other Specific Learning Disorders (SLDs).

It will offer accessible assessment tools tailored to different age groups and reading levels, covering aspects like phonological awareness, word recognition, fluency, spelling, and comprehension.

These tools will provide personalized feedback, empowering users to identify strengths and areas for improvement.

The platform will also provide educational resources and practical strategies for educators, parents, and individuals, fostering increased awareness and understanding of dyslexia and SLDs.

Additionally, it will offer guidance on seeking further assessment and support from qualified professionals, ensuring users have access to the resources they need.

With a user-friendly design focusing on accessibility and data privacy, the platform will continuously gather feedback to improve its functionality and effectiveness, reflecting emerging research and best practices in the field.

USERS

SYSTEM REQUIREMENTS

We would need a combination of software tools and frameworks. Here is a suggested set of software requirements:

Machine Learning Libraries and Frameworks:

- TensorFlow: A machine learning framework developed by Google.
- PyTorch: A deep learning framework widely used for research and production.
- Scikit-learn: An efficient tool for data analysis and machine learning in Python.
- Keras: It is an open-source library that provides a Python interface for artificial neural networks

Data Processing and Analysis:

- Pandas: A powerful data manipulation and analysis library for Python.
- NumPy: Fundamental package for scientific computing with Python.
- SMOTE: It is a preprocessing technique used to address a class imbalance in a dataset.
- Power BI: For user analytics and insights

Data Visualization:

- Matplotlib: A 2D plotting library for Python.
- Seaborn: Built on top of Matp.lotlib, Seaborn provides a high-level interface fordrawing attractive and informative statistical graphics.
- mpld3: Matplotlib to D3.js converter

Database Management:

- SQLite, MySQL, or other relational databases for storing and managing historical datasets.

Web Development:

- Flask or Django: Python web frameworks for building web applications if your system requires a web interface.
- JavaScript: Backend development

Version Control:

- Git: For tracking changes in the codebase and collaborating with a team.

Cloud Services:

- Google Cloud Platform: Depending on project requirements, cloud services can be used for scalable and distributed computing.

USE CASE DIAGRAM

Fig.1.1 Use Case Diagram

ARCHITECTURE DIAGRAM

Fig.1.2 Architecture Diagram

DATA FLOW DIAGRAM

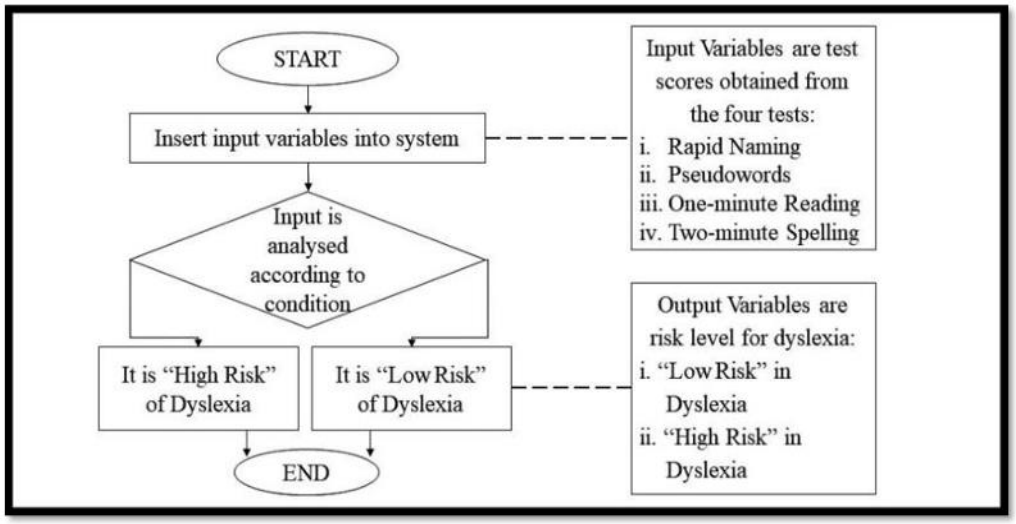

Fig.1.3 Data flow diagram

ER DIAGRAM

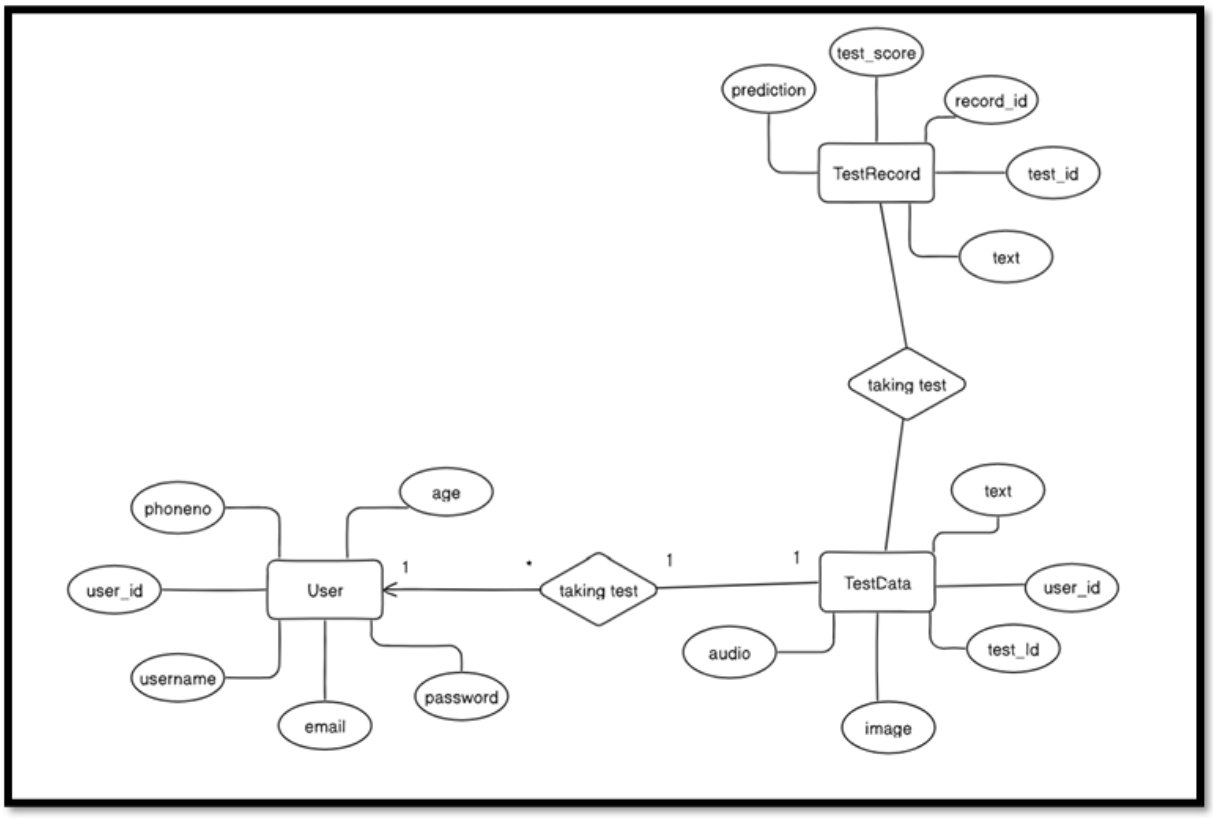

Fig.1.4 ER Diagram

PROCESS FLOW

Fig.1.5 Process Flow

VISUAL DESIGN

Fig.1.6 Visual Design

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