Developer Guide
Software Engineering

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Table 1: Revision History

Date	Developer(s)	Change
Date1	Name(s)	Description of changes
Date2	Name(s)	Description of changes
...	...	...

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1 Introduction

1.1 Project Overview
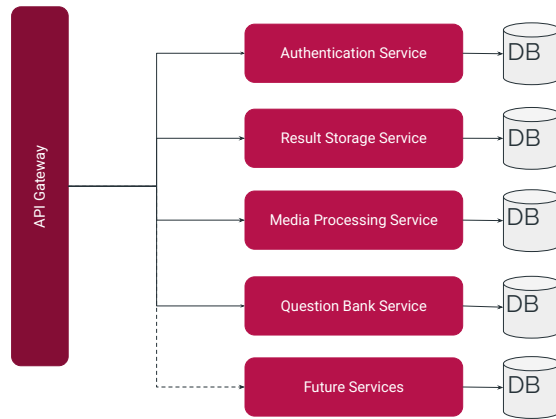
2 Technology Stack

2.1 Frontend

2.2 Backend

Express.js MediaPipe DeepGram

3 Set-Up Information

4 Backend Architecture

TeleHealth Insights backend is built on a microservice architecture allowing the backend to be extendend by adding new services. This sections discusses each of the current services and their various API endpoints.

Figure 1: Microservice architecture of our backend

4.1 Authentication Service

This service is responsible for handling user authentication and account management for different user roles. It is accessible at:
https://telehealth-insights.onrender.com/auth.
Note that the API endpoint will change if you decide to use another deployment platform than then one stated in the tech stack.

4.1.1 Client

Handles creating an initial client account for parents to signup on.

POST /auth/client/add-client

- **Endpoint:** https://telehealth-insights.onrender.com/auth/client/add-client

- **Description:** Creates a new client account and attach client account to clinician

- **Body Parameters (JSON):**

  - `clinicianUsername`: The username of the associated clinician.
  - `firstName`: The client's first name.
  - `lastName`: The client's last name.

- **Example Body:**

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4.1.2 Clinician

Handles routes related to clinician registration and login.

POST /auth/clinician/signup

- **Endpoint:** https://telehealth-insights.onrender.com/auth/clinician/signup
- **Description:** Registers a new clinician account.
- **Body Parameters (JSON):**
  - `firstname`: The clinician's first name.
  - `lastname`: The clinician's last name.
  - `username`: The desired username (unique identifier).
  - `email`: Email for the clinician account.
  - `password`: Password for the clinician account.
- **Example Body:**

POST /auth/clinician/login

- **Endpoint:** https://telehealth-insights.onrender.com/auth/clinician/login
- **Description:** Logs in an existing clinician.
- **Body Parameters (JSON):**
  - `username`: Clinician's username.
  - `password`: Clinician's password.
- **Example Body:**

POST /auth/clinician/logout

- **Endpoint:** https://telehealth-insights.onrender.com/auth/clinician/logout
- **Description:** Logs out the current clinician session.
- **Body Parameters (JSON):** None

4.1.3 Parent

Handles routes related to parent registration, login, logout, and account details.

POST /auth/parent/signup

- **Endpoint:** https://telehealth-insights.onrender.com/auth/parent/signup

- **Description:** Registers a new parent account.

- **Body Parameters (JSON):**

  - `email`: Email address of the parent.
  - `username`: Unique username for the parent.
  - `password`: Password for the parent.
  - `confirmPassword`: Confirmation of the password.
  - `clinicianUsername`: The associated clinician's username.
  - `securityCode`: A code used to validate or secure the signup.

- **Example Body:**

POST /auth/parent/login

- **Endpoint:** https://telehealth-insights.onrender.com/auth/parent/login

- **Description:** Logs in an existing parent account.

- **Body Parameters (JSON):**

  - `username`: Parent's username.
  - `password`: Parent's password.

- **Example Body:**

POST /auth/parent/logout

- **Endpoint:** https://telehealth-insights.onrender.com/auth/parent/logout

- **Description:** Logs out the current parent session.

- **Body Parameters (JSON):** None

GET /auth/parent/account-details/`:username`

- **Endpoint:** https://telehealth-insights.onrender.com/auth/parent/account-details/:username

- **Description:** Retrieves account details for the specified parent username.

- **URL Parameters:**

  - `:username`: The username of the parent.

4.2 Media Processing Service

Handles uploading and processing of media files, as well as retrieving processed media. It is accessible at: https://telehealth-insights.onrender.com/media.

POST /media/

- **Endpoint:** https://telehealth-insights.onrender.com/media/

- **Description:** Uploads and processes a video file and associated audio files.

- **Form Data Parameters (multipart/form-data):**

  - `videoFile`: The main video file to be uploaded.
  - `audioFiles`: Up to 100 audio files.

GET /media/:parentUsername/:folderName/:assessmentId

- **Endpoint:** https://telehealth-insights.onrender.com/media/:parentUsername/:folderName/:assessmentId

- **Description:** Fetches a processed video by the specified filename convention.

- **URL Parameters:**

  - `:parentUsername`: The username of the parent.
  - `:folderName`: The folder where the media is stored.
  - `:assessmentId`: The ID of the assessment.

GET /media/history/:parentUsername

- **Endpoint:** https://telehealth-insights.onrender.com/media/history/:parentUsername

- **Description:** Retrieves the media processing history for the given parent username.

- **URL Parameters:**

  - `:parentUsername`: The username of the parent.

4.3 Question Bank Service

Provides access to a set of questions, including retrieval of all questions for a language/test type or a specific question by ID. It is accessible at: https://telehealth-insights.onrender.com/questions.

GET /questions/:language/:testType

- **Endpoint:** https://telehealth-insights.onrender.com/questions/:language/:testType
- **Description:** Retrieves all questions for a specific language and test type.
- **URL Parameters:**
    - :language: The language of the question. Curently we have English or Mandarin.
    - :testType: The type of test i.e Matching, Repetition.

GET /questions/:language/:testType/:id

- **Endpoint:** https://telehealth-insights.onrender.com/questions/:language/:testType/:id
- **Description:** Retrieves a specific question by ID for the given language and test type.
- **URL Parameters:**
    - :language: The language of the question. Curently we have English or Mandarin.
    - :testType: The type of test i.e Matching, Repetition.
    - :id: The unique ID of the question.

4.4 Result Storage Service

Manages the storage and retrieval of assessment results, including history and specific question results. It is accessible at: https://telehealth-insights.onrender.com/resultstorage.

POST /resultstorage/submit-assessment

- **Endpoint:** https://telehealth-insights.onrender.com/resultstorage/submit-assessment
- **Description:** Submits an assessment result for storage.
- **Body Parameters (JSON):**
    - parentUsername: The parent's username.
    - name: Childs name.
    - assessment_id: Id of assessment to be stored under. This is just an integer
    - questionBankId: Id of the question bank used.
    - results: This is a list of information, such as timestamps collected by the system.

GET /resultstorage/assessment-history/:username

- **Endpoint:** https://telehealth-insights.onrender.com/resultstorage/assessment-history/:username

- **Description:** Retrieves the assessment history for a particular user.

- **URL Parameters:**

  - :username: The username of the account whose assessment history is requested.

GET /resultstorage/results/:parentUsername/:assessmentId

- **Endpoint:** https://telehealth-insights.onrender.com/resultstorage/results/:parentUsername/:assessmentId

- **Description:** Retrieves results for a specific assessment.

- **URL Parameters:**

  - :parentUsername: The parent's username.
  - :assessmentId: The ID of the assessment.

GET /resultstorage/results/:parentUsername/:assessmentId/:question_id

- **Endpoint:** https://telehealth-insights.onrender.com/resultstorage/results/:parentUsername/:assessmentId/:question_id

- **Description:** Retrieves result details for a specific question within an assessment.

- **URL Parameters:**

  - :parentUsername: The parent's username.
  - :assessmentId: The ID of the assessment.
  - :question_id: The unique ID of the question.

POST /resultstorage/results/:parentUsername/:assessmentId/:question_id/bias

- **Endpoint:** https://telehealth-insights.onrender.com/resultstorage/results/:parentUsername/:assessmentId/:question_id/bias

- **Description:** Updates or saves bias modifications for a specific question result.

- **URL Parameters:**

  - :parentUsername: The parent's username.
  - :assessmentId: The assessment ID.

– :question_id: The specific question ID.

- **Body Parameters (JSON):**

  – biasData: Data describing how bias should be modified or stored.

POST /resultstorage/results/:parentUsername/:assessmentId/:question_id/mark

- **Endpoint:** https://telehealth-insights.onrender.com/resultstorage/results/:parentUsername/:assessmentId/:question_id/mark

- **Description:** Updates or saves mark modifications for a specific question result.

- **URL Parameters:**

  – :parentUsername: The parent's username.

  – :assessmentId: The assessment ID.

  – :question_id: The specific question ID.

- **Body Parameters (JSON):**

  – markData: Data that modifies or updates the mark scored for the question.

POST /resultstorage/results/:parentUsername/:assessmentId/:question_id/notes

- **Endpoint:** https://telehealth-insights.onrender.com/resultstorage/results/:parentUsername/:assessmentId/:question_id/notes

- **Description:** Updates or saves notes for a specific question result.

- **URL Parameters:**

  – :parentUsername: The parent's username.

  – :assessmentId: The assessment ID.

  – :question_id: The specific question ID.

- **Body Parameters (JSON):**

  – notes: Any textual notes or comments to be stored with the result.

5 Database

6 Deployment