

Software Requirements Specification for Software Engineering: subtitle describing software

Team #22, TeleHealth Insights

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Revision History

Date	Version	Notes
Date 1	1.0	Notes
Date 2	1.1	Notes

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9 Functional Requirements

9.1 Authentication

A1: Description.

Insert formal Specification

Rationale: Insert Rational
Fit criterion: Insert criterion here

9.2 System Setup

SS1: Description.
Insert formal Specification
Rationale: Insert Rational
Fit criterion: Insert criterion here

9.3 User Interactions and Question Handling

UIQH1: Description.
Insert formal Specification
Rationale: Insert Rational
Fit criterion: Insert criterion here

9.4 Data Collection and Storage

DCS1: The database shall store multimedia files including video, audio, and JSON format files for each session.

Insert formal Specification

Rationale: These file types are necessary to capture the full scope of the speech-language assessment, including patient responses and the structured data associated with each session (e.g., flagged occurrences, timestamps).

Fit criterion: The system must successfully store and retrieve at least 1GB of video, audio, and JSON data per session without data corruption.

DCS2: The database shall record the video, audio, flagged occurrences (e.g., errors or critical moments during the assessment), and timestamps for each question asked during the assessment.

Insert formal Specification

Rationale: Storing flagged occurrences and timestamps lets clinicians perform detailed analysis of patient responses and enables them to review specific moments of interest efficiently.

Fit criterion: The database shall include video and audio files for 100 percent of assessment sessions, and each recording must have flagged occurrences and timestamps associated with every question asked, retrievable via query.

DSC3: The system shall not store any personally identifiable textual information (e.g., patient name, address, or medical record number) in the database.

Insert formal Specification

Rationale: To maintain privacy and ensure compliance with data protection regulations such as HIPAA, identifying textual information must be excluded from storage in the database.

Fit criterion: ??.

DSC4: The database shall group all stored data by a unique user identifier to ensure data can be linked to specific users without storing identifiable information.

Insert formal Specification

Rationale: Using a unique user identifier allows for data organization and retrieval by patient without compromising patient privacy, supporting the requirement for anonymized data storage.

Fit criterion: The system must assign a unique identifier to every user and confirm through testing that all session data is properly grouped and retrievable under that identifier, with no misassociated data.

DSC5: Description.

Insert formal Specification

Rationale: Insert Rational

Fit criterion: Insert criterion here

9.5 Video and Audio Data Analysis

VADA1: Description.

Insert formal Specification

Rationale: Insert Rational

Fit criterion: Insert criterion here

VADA2: The analysis model shall have access to the video recordings of each session for the purpose of processing and analyzing patient speech patterns and behavior.

Insert formal Specification

Rationale: The video data contains essential visual and auditory information

that the model needs to analyze in order to assess speech-related disturbances and non-verbal cues.

Fit criterion: Insert criterion here

9.6 Data Processing and Display

DPD1: Description.

Insert formal Specification

Rationale: Insert Rational

Fit criterion: Insert criterion here

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Appendix — Reflection

The information in this section will be used to evaluate the team members on the graduate attribute of Lifelong Learning. Please answer the following questions:

1. What knowledge and skills will the team collectively need to acquire to successfully complete this capstone project? Examples of possible knowledge to acquire include domain specific knowledge from the domain of your application, or software engineering knowledge, mechatronics knowledge or computer science knowledge. Skills may be related to technology, or writing, or presentation, or team management, etc. You should look to identify at least one item for each team member.
2. For each of the knowledge areas and skills identified in the previous question, what are at least two approaches to acquiring the knowledge or mastering the skill? Of the identified approaches, which will each team member pursue, and why did they make this choice?