
MEND, LLC

**MENDmate™ Pro
Business Rules**

Version <1.0>

MENDMate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

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MENDMate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

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MENDMate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

Table of Contents

1. Introduction	5
1.1 The Purpose of MENDmate™ Pro	5
1.2 The Purpose of this Document	5
1.3 Document Conventions	5
1.4 References	5
2. Business Rules	6
2.1 Software Interfaces	6
2.2 Communications Interfaces	6
2.3 Quality Attributes	8
Usability	8
Performance	8
Security	9
Safety	9
Availability	10
Robustness	10

MENDmate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

Business Rules

1. Introduction

This section of the Business Rules (BR) document provides an overview of the entire document and MENDmate™ Pro, including its purpose and related references to the software.

1.1 The Purpose of MENDmate™ Pro

For therapists and their patients addressing mental health through assigned therapy homework, the MENDmate™ Pro online homework system is a Web-based application that gives therapists the ability to monitor patient progress, analyze trends, and streamline the user experience for completing their homework with self-monitoring capabilities, engagement reminders, and a convenient means to access educational resources. Unlike a therapist verbally assigning homework to their patients post session or by email, MENDmate™ Pro provides therapists the means to conveniently assign, track, and offer resources for the completion of therapy homework.

1.2 The Purpose of this Document

The purpose of this document is to describe the business rules for software release 1.0 of the progressive web application, MENDmate™ Pro. This document serves as a comprehensive reference for the project's business rules, providing a clear and detailed understanding of what constraints and/or rules the project is expected to adhere to. It is intended to align stakeholders, developers, and testers by defining the business constraints of the system.

1.3 Document Conventions

Standards or typographical conventions followed can be found in MEND, LLC's branding guide. See [here](#).

1.4 References

A list of documents or other resources to which this SRS refers.

1. MEND, LLC's Branding Guide: [URL](#)

MENDmate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

2. Business Rules

BR-1: The system must comply with the regulations imposed by the Health Insurance Portability and Accountability Act (HIPAA). The purpose of this act is to protect patients' sensitive health information from being disclosed without their consent; it sets rules for how providers, insurers, and others handle health data of patients, ensuring privacy and security of Protected Health Information (PHI).

BR-2: The system should comply with Substitutable Medical Applications, Reusable Technologies (SMART). This is a framework for building health apps that lets developers create apps that can work across different Electronic Health Record (EHR) systems.

BR-3: The system should build on Fast Healthcare Interoperability Resources (FHIR). This is a standard for exchanging health data electronically, which makes data easier to access and share across systems.

HIPAA, SMART, and FHIR work together to provide one comprehensive solution to developing an app; FHIR provides the data standard, SMART provides the app framework to use FHIR securely, and HIPAA ensures legal and privacy compliance when handling patient data. In order to comply with these standards and regulations, the app will be developed with the following features:

2.1 Software Interfaces

SI-1: Electronic Health Records (EHR) System

- **SI-1.1:** The system shall integrate with at least one EHR system using **FHIR (Fast Healthcare Interoperability Resources)** standards.
- **SI-1.2:** The system shall support **SMART on FHIR** authentication for secure access to patient records.
- **SI-1.3:** The system shall allow reading patient data (e.g., demographics, diagnosis, treatment history) from the connected EHR.
- **SI-1.4:** The system shall allow writing progress notes and assigned tasks back to the EHR where applicable.

SI-2: Authentication & Security Services

- **SI-2.1:** The system shall use **OAuth 2.0/OpenID Connect (OIDC)** for authentication via external identity providers.
- **SI-2.2:** Multi-Factor Authentication (MFA) shall be enforced for provider logins.
- **SI-2.3:** All data transmissions between software components shall be encrypted using **TLS 1.2+**.

2.2 Communications Interfaces

CI-1: The MENDmate™ Pro system shall send email, SMS and push notifications to users based on their communication preferences for engagement reminders, homework assignments, and system updates.

MENDMate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

CI-2: The system shall use secure SMTP with TLS encryption for all email communications to ensure data privacy and compliance with HIPAA.

CI-3: SMS messages shall be sent through an integrated third-party messaging service (e.g., Twilio) to ensure reliable delivery and logging.

CI-4: The system shall allow users to configure notification preferences, including opting in or out of specific types of messages.

CI-5: MENDmate™ Pro shall implement FHIR-based API communication with EHR systems using OAuth 2.0 and SMART on FHIR authentication for secure data exchange.

CI-6: Web browser communication shall be secured using HTTPS (TLS 1.2 or higher) to protect all data transmitted between clients and the server.

CI-7: The system shall support real-time messaging between patients and providers, including the ability to attach files and share links securely.

CI-8: All communications shall be logged for auditing purposes, ensuring compliance with healthcare regulations while maintaining user privacy.

CI-9: The system shall not allow email attachments containing PHI unless encrypted and authorized by the provider.

MENDMate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

2.3 Quality Attributes

Usability

USE-1: The system shall provide a consistent visual experience across different devices, ensuring that the layout and design are appropriately responsive for desktop, tablet, and mobile interfaces.

USE-2: 90% of new users shall be able to complete their first homework assignment and track their progress without assistance or errors on their first try.

USE-3: The system shall allow users to easily switch between light mode and dark mode, catering to user preferences for visual comfort.

USE-4: The user interface shall be intuitive, with clear labeling, consistent navigation, and logical task flow to reduce the learning curve for first-time users.

USE-5: The MENDmate™ Pro system shall provide a help tooltip on each page, ensuring users can quickly learn about the available features and their functions.

USE-6: The system shall ensure that users can access their personalized dashboard within three seconds of logging in.

USE-7: The system shall provide a user-friendly, step-by-step onboarding process for new users, ensuring that they understand how to use essential features effectively.

USE-8: The system shall allow users to easily edit and update their personal profile and communication preferences with minimal effort.

USE-9: The MENDmate™ Pro system shall support multiple languages, prioritizing U.S. English and Spanish, with easy switching between them.

USE-10: The MENDmate™ Pro system shall allow users to navigate through key features (e.g., homework assignments, progress tracking, and communication) with minimal clicks or interactions.

Performance

Performance Requirements

PER-1: The MENDmate™ Pro system shall scale to accommodate hundreds of thousands of users, leveraging Azure cloud scalability to dynamically adjust resources.

PER-2: 95% of webpages and content generated by the MENDmate™ Pro system shall load completely within 3 seconds from the time the user requests the page, over a 20 Mbps or faster Internet connection.

PER-3: The system shall display confirmation messages to users within an average of 2 seconds and a maximum of 4 seconds after the user submits information to the system.

PER-4: The system shall be able to process user-submitted data (e.g., homework assignments, medical updates) with a latency of no more than 5 seconds.

PER-5: 98% of all user authentication processes shall be completed within 5 seconds from the moment the user submits their credentials.

MENDmate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

PER-6: The system shall be able to support real-time communication, such as notifications or reminders, with a maximum delay of 3 seconds between the triggering event and the user receiving the notification.

PER-7: During system updates or maintenance, the downtime should not exceed 4 hour per month, and any downtime should be scheduled and communicated to users in advance.

Security

SEC-1: All sensitive data, including personally identifiable information (PII), health records, and user communications, shall be encrypted in transit using TLS 1.2 or higher, and at rest using AES-256 encryption.

SEC-2: All users must authenticate via Multi-Factor Authentication (MFA) before accessing the MENDmate™ Pro system, ensuring secure access to user and provider data.

SEC-3: Only authorized healthcare providers and administrators shall have access to patient-specific data, such as medical records, treatment plans, and therapy history.

SEC-4: The system shall restrict access to users' personal data based on their role and permissions. For example, patients shall only be able to view their own progress, assignments, and records, while providers may access their patients' data.

SEC-5: All communication between users (patients, providers) and the system, including messaging, reminders, and updates, shall be securely stored and transmitted to comply with HIPAA regulations.

SEC-6: The system shall maintain audit logs for all user activities, including login attempts, data access, and changes to personal or medical records. Logs shall be retained for a minimum of 7 years to comply with regulatory requirements.

SEC-7: The system shall employ role-based access control (RBAC) to limit user access based on their role (e.g., patient, provider, administrator), ensuring appropriate data segregation and minimizing the risk of unauthorized access.

SEC-8: The MENDmate™ Pro system shall provide secure session management, with automatic logout after 15 minutes of inactivity to protect against unauthorized access.

SEC-9: All API calls that handle sensitive data shall be secured using OAuth 2.0 authentication and authorization to ensure that only valid, authenticated requests are processed.

SEC-10: The system shall conduct vulnerability assessments and penetration testing annually, ensuring that security gaps are identified and addressed proactively.

SEC-11: The system shall comply with HIPAA and any other relevant healthcare regulations to ensure that patient data is handled securely and with respect to privacy.

SEC-12: The system shall allow users to delete or request anonymization of their personal data in compliance with privacy regulations such as HIPAA and the GDPR (General Data Protection Regulation) if applicable.

Safety

SAF-1: The system shall ensure that all medical recommendations or treatment plans provided to patients are assigned or reviewed by a qualified healthcare provider before being shared with the patient to prevent miscommunication or harm.

MENDmate™ Pro	Version: <1.0>
Business Rules	Date: <09/04/2025>
MENDmate-BR	

SAF-2: The system shall include clear warnings or disclaimers to alert users when they are about to access sensitive medical information, ensuring that users understand the potential consequences of accessing or sharing such data.

SAF-3: The system shall provide a confirmation step before allowing users to delete any personal data or medical records, reducing the risk of accidental deletion or irreversible actions.

SAF-4: The system shall employ fail-safe mechanisms to ensure that no critical data (such as treatment history or medication information) is lost during system updates or failures.

SAF-5: The system shall comply with relevant healthcare and data protection safety certifications, including HIPAA (Health Insurance Portability and Accountability Act) for patient data security and safety.

SAF-6: The system shall prevent the ability to perform critical actions, such as altering or deleting medical records, without proper authorization or oversight, reducing the risk of accidental harm or malicious activity.

Availability

AVL-1: The system shall ensure that scheduled maintenance is communicated to users at least 48 hours in advance and performed during low-usage hours, with downtime not exceeding 4 hours per month.

AVL-2: In the event of unexpected downtime or system failures, the MENDmate™ Pro system shall provide real-time status updates and estimated recovery times to users.

AVL-3: The MENDmate™ Pro system shall be available at least 99.5% of the time between 6:00 A.M. and 10:00 P.M. local time and at least 95% of the time between 10:00 P.M. and 6:00 A.M. local time, excluding scheduled maintenance windows.

Robustness

ROB-1: If the connection between the user and the MENDmate™ Pro system is lost during the submission of a new homework assignment, the system shall enable the user to recover the incomplete assignment and continue working on it once the connection is restored.

ROB-2: The MENDmate™ Pro system shall provide clear error messages and guide the user on how to resolve issues if an action fails due to connectivity problems or incomplete data.

ROB-3: If a user's session expires while they are interacting with the system, the MENDmate™ Pro system shall allow the user to log back in without losing progress on current tasks, such as assignments or notes.

ROB-4: The system shall automatically save user progress in real-time to ensure that no data is lost in the event of unexpected interruptions or failures.