

## Mental Health System Use Cases

Use Case ID:	UC-1.0.0
Use Case Name:	Interact with Mental Health Support System
Actors:	<b>Primary Actor: User</b>  <b>Secondary Actors:</b> <ul style="list-style-type: none"><li>- Authentication Service</li><li>- AI Therapist System</li><li>- Human Therapist</li><li>- System Administrator</li></ul>
Preconditions:	<ol style="list-style-type: none"><li>1. System is operational and accessible</li><li>2. Authentication service is available</li><li>3. User has internet connection</li><li>4. AI Therapist system is operational</li><li>5. Database system is functional</li></ol>
Postconditions:	<ol style="list-style-type: none"><li>1. User profile is created/updated</li><li>2. Session data is recorded</li><li>3. Treatment plan is established or updated</li><li>4. Progress metrics are stored</li><li>5. Critical cases are properly escalated if necessary</li></ol>
Normal Flow:	<ol style="list-style-type: none"><li>1. User initiates login/registration process</li><li>2. System validates user credentials</li><li>3. System sets up/loads user profile</li><li>4. User engages with AI Therapist chatbot</li><li>5. System analyzes user responses</li><li>6. System performs mental health condition diagnosis</li><li>7. System generates personalized treatment plan</li><li>8. System provides guided self-care programs</li><li>9. System tracks user progress</li><li>10. System generates progress report</li><li>11. User session is saved and closed</li></ol>
Alternative Flows:	<b>Alternative Flow 1 - Critical Case Detection</b> 6a. During diagnosis, if system detects critical case: <ol style="list-style-type: none"><li>1. System flags case as critical</li><li>2. System notifies human therapist</li><li>3. System provides immediate resources to user</li><li>4. Case is escalated to human therapist</li><li>5. Resume at step 7 with human therapist oversight</li></ol> <b>Alternative Flow 2 - Authentication Failure</b> 2a. If credential validation fails:

	<ol style="list-style-type: none"> <li>1. System displays error message</li> <li>2. User is prompted to retry or reset credentials</li> <li>3. If successful, resume at step 3</li> <li>4. If unsuccessful after 3 attempts, account is locked</li> </ol>
Exceptions:	<p><b>Exception 1 - System Failure</b></p> <ol style="list-style-type: none"> <li>1. During any step, if system experiences technical failure: <ul style="list-style-type: none"> <li>- Session data is auto-saved</li> <li>- User is notified of technical issues</li> <li>- Administrator is alerted</li> <li>- User is provided emergency contact information</li> </ul> </li> </ol> <p><b>Exception 2 - Data Security Breach</b></p> <ol style="list-style-type: none"> <li>1. If security breach is detected: <ul style="list-style-type: none"> <li>- Administrator is immediately notified</li> <li>- Affected sessions are suspended</li> <li>- Security protocols are activated</li> <li>- Users are notified of potential data exposure</li> </ul> </li> </ol> <p><b>Exception 3 – Overwhelmed system</b></p> <ol style="list-style-type: none"> <li>1. if system is overwhelmed: <ul style="list-style-type: none"> <li>- Administrator is immediately notified</li> <li>- Administrator tries to load off the system</li> <li>- Users are notified of potential slow responses</li> </ul> </li> </ol>

### Use Case: User initiates login/registration process

Use Case ID:	UC-1.0.1
Use Case Name:	User initiates login/registration process
Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: Authentication Service</b>
Preconditions:	User has access to the login page. Authentication Service is available.
Postconditions:	User is logged into the system. User profile is created or updated.
Normal Flow:	1. [User initiates login/registration process]
Alternative Flows:	<b>Alternative Flow 1 - Authentication Failure</b> [Action]a. If credential validation fails: <ol style="list-style-type: none"> <li>1. System displays error message</li> <li>2. User is prompted to retry or reset credentials</li> <li>3. If successful, resume.</li> <li>4. If unsuccessful after 3 attempts, account is locked</li> </ol>

	temporary.
Exceptions:	<b>Exception 1 - System Failure</b> 1. During any step, if system experiences technical failure: <ul style="list-style-type: none"> <li>- Session data is auto-saved</li> <li>- User is notified of technical issues</li> <li>- Administrator is alerted</li> <li>- User is provided emergency contact information</li> </ul> <b>Exception 2 - Data Security Breach</b> 1. If security breach is detected: <ul style="list-style-type: none"> <li>- Administrator is immediately notified</li> <li>- Security protocols are activated</li> </ul>

### Use Case: System validates user credentials

Use Case ID:	UC-1.0.2
Use Case Name:	System validates user credentials
Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: Authentication Service</b>
Preconditions:	User entered his data
Postconditions:	User profile data exists.
Normal Flow:	1. [System validates user credentials]
Alternative Flows:	-
Exceptions:	<b>Exception 1 - System Failure</b> 1. During any step, if system experiences technical failure: <ul style="list-style-type: none"> <li>- Session data is auto-saved</li> <li>- User is notified of technical issues</li> <li>- Administrator is alerted</li> <li>- User is provided emergency contact information</li> </ul>

### Use Case: System sets up/loads user profile

Use Case ID:	UC-1.0.3
Use Case Name:	System sets up/loads user profile
Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: Authentication Service</b>
Preconditions:	Authenticated user AI-Therapist is available. User profile exists.
Postconditions:	User data loaded User free to interact
Normal Flow:	1. [System sets up/loads user profile]

Alternative Flows:	-
Exceptions:	<p><b>Exception 1 - System Failure</b></p> <p>1. During any step, if system experiences technical failure:</p> <ul style="list-style-type: none"> <li>- Session data is auto-saved</li> <li>- User is notified of technical issues</li> <li>- Administrator is alerted</li> <li>- User is provided emergency contact information</li> </ul> <p><b>Exception 2 – Loading Failure</b></p> <p>[Action]a. If Loading failed:</p> <ol style="list-style-type: none"> <li>1. System displays error message</li> <li>2. System attempts fixing</li> <li>3. System suggests try log in other time</li> </ol>

### Use Case: User engages with AI Therapist chatbot

Use Case ID:	UC-1.0.4
Use Case Name:	User engages with AI Therapist chatbot
Actors:	<p><b>Primary Actor: User</b></p> <p><b>Secondary Actors: AI Therapist</b></p>
Preconditions:	<p>User data loaded</p> <p>User have access to Interact</p>
Postconditions:	<p>User has interacted with AI-Therapist.</p> <p>User data is collected and analyzed.</p>
Normal Flow:	1. [User engages with AI Therapist chatbot]
Alternative Flows:	
Exceptions:	<p><b>Exception 1 - System Failure</b></p> <p>1. During any step, if system experiences technical failure:</p> <ul style="list-style-type: none"> <li>- Session data is auto-saved</li> <li>- User is notified of technical issues</li> <li>- Administrator is alerted</li> <li>- User is provided emergency contact information</li> </ul> <p><b>Exception 3 – Overwhelmed system</b></p> <p>1. if system is overwhelmed:</p> <ul style="list-style-type: none"> <li>- Administrator is immediately notified</li> <li>- Administrator tries to load off the system</li> <li>- Users are notified of potential slow responses</li> </ul>

### Use Case: System analyzes user responses

Use Case ID:	UC-1.0.5
Use Case Name:	System analyzes user responses

Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: AI Therapist</b>
Preconditions:	<b>User data collected and validated</b>
Postconditions:	<b>System produces responses based on it</b>
Normal Flow:	<b>1. [System analyzes user responses]</b>
Alternative Flows:	-
Exceptions:	<b>Exception 1 - System Failure</b> <b>1. During any step, if system experiences technical failure:</b> - Session data is auto-saved - User is notified of technical issues - Administrator is alerted - User is provided emergency contact information  <b>Exception 2 – Invalid data</b> - System tries to generate another data

#### Use Case: System performs mental health condition diagnosis

Use Case ID:	<b>UC-1.0.6</b>
Use Case Name:	<b>System performs mental health condition diagnosis</b>
Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: AI Therapist</b>
Preconditions:	<b>User has records of treatment</b> <b>User data is valid</b> <b>User profile exists</b>
Postconditions:	<b>Provide detailed log of diagnosis and recommendations</b>
Normal Flow:	<b>1. [System performs mental health condition diagnosis]</b>
Alternative Flows:	-
Exceptions:	<b>Exception 1 - System Failure</b> <b>1. During any step, if system experiences technical failure:</b> - Session data is auto-saved - User is notified of technical issues - Administrator is alerted - User is provided emergency contact information  <b>Exception 2 – Invalid data</b> - System tries to generate another data

#### Use Case: System generates personalized treatment plan

Use Case ID:	<b>UC-1.0.7</b>
Use Case Name:	<b>System generates personalized treatment plan</b>

Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: AI Therapist</b>
Preconditions:	<b>All user data has been validated</b> <b>User accepted to receive the personalized treatment plan.</b>
Postconditions:	<b>System sets another schedule for user</b>
Normal Flow:	<b>1. [System generates personalized treatment plan]</b>
Alternative Flows:	-
Exceptions:	<b>Exception 1 - System Failure</b> <b>1. During any step, if system experiences technical failure:</b> <ul style="list-style-type: none"> <li>- Session data is auto-saved</li> <li>- User is notified of technical issues</li> <li>- Administrator is alerted</li> <li>- User is provided emergency contact information</li> </ul> <b>Exception 2 - Data Security Breach</b> <b>1. If security breach is detected:</b> <ul style="list-style-type: none"> <li>- Administrator is immediately notified</li> <li>- Affected sessions are suspended</li> <li>- Security protocols are activated</li> <li>- Users are notified of potential data exposure</li> </ul>

### **Use Case: System provides guided self-care programs**

Use Case ID:	<b>UC-1.0.8</b>
Use Case Name:	<b>System provides guided self-care programs</b>
Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: AI Therapist</b>
Preconditions:	<b>System has enough data to guide user</b>
Postconditions:	<b>System annotate user to ask the human therapist for critical situations.</b>
Normal Flow:	<b>1. [System provides guided self-care programs]</b>
Alternative Flows:	-
Exceptions:	<b>Exception 1 - System Failure</b> <b>1. During any step, if system experiences technical failure:</b> <ul style="list-style-type: none"> <li>- Session data is auto-saved</li> <li>- User is notified of technical issues</li> <li>- Administrator is alerted</li> <li>- User is provided emergency contact information</li> </ul>

### **Use Case: System tracks user progress**

Use Case ID:	<b>UC-1.0.9</b>
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Use Case Name:	<b>System tracks user progress</b>
Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: System Administrator</b>
Preconditions:	<b>User profile exist</b> <b>Not new comer</b>
Postconditions:	<b>System reports to user every session about the progress</b>
Normal Flow:	<b>1. [System tracks user progress]</b>
Alternative Flows:	-
Exceptions:	<b>Exception 1 - System Failure</b> <b>1. During any step, if system experiences technical failure:</b> - Session data is auto-saved - User is notified of technical issues - Administrator is alerted - User is provided emergency contact information

#### **Use Case: System generates progress report**

Use Case ID:	<b>UC-1.0.10</b>
Use Case Name:	<b>System generates progress report</b>
Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: AI Therapist</b>
Preconditions:	<b>System generated data to identify user progress</b>
Postconditions:	<b>System motivates the user to keep working!</b>
Normal Flow:	<b>1. [System generates progress report]</b>
Alternative Flows:	-
Exceptions:	<b>Exception 1 - System Failure</b> <b>1. During any step, if system experiences technical failure:</b> - Session data is auto-saved - User is notified of technical issues - Administrator is alerted - User is provided emergency contact information  <b>Exception 2 - Data Security Breach</b> <b>1. If security breach is detected:</b> - Administrator is immediately notified - Affected sessions are suspended - Security protocols are activated - Users are notified of potential data exposure

#### **Use Case: User session is saved and closed**

Use Case ID:	<b>UC-1.0.11</b>
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Use Case Name:	<b>User session is saved and closed</b>
Actors:	<b>Primary Actor: User</b> <b>Secondary Actors: AI Therapist</b>
Preconditions:	<b>User has made modification or interactions</b>
Postconditions:	<b>System saves session and close.</b>
Normal Flow:	<b>1. [User session is saved and closed]</b>
Alternative Flows:	-
Exceptions:	<b>Exception 1 -Saving Failure</b> - Notify user of unable to save data - Show possible reasons - Warn user of close the session before saving the data