Mitchell Kabenda Introduction to Systems Engineering and Analysis Timothy G. Miller, PE/Professor of Practice 02/19/25

Select a system (or an element of a system) of your choice

MindCheck is a digital mental health assessment tool designed by Aetna (CVS Health) to help users track and improve their emotional well-being. The platform provides users with self-assessments, personalized mental health resources, and professional recommendations based on their responses. MindCheck operates at the subsystem level within the larger healthcare ecosystem of Aetna's digital health services.

Develop a design review checklist that you can use for evaluating purposes

- 1. User Interface (UI) and User Experience (UX)
 - Is the platform easy to navigate for all user demographics?
 - Does it provide a mobile-friendly and responsive design?
 - Are accessibility standards implemented to support users with disabilities?

2. Functional Capabilities

- Does the emotional health assessment provide real-time, personalized feedback?
- Are there actionable insights and resources tailored to users' mental health needs?
- Does the platform allow progress tracking over time?
- Are there reminders and alerts for users to check in regularly?

3. Data Security & Privacy

- Does MindCheck comply with HIPAA and other data protection regulations?
- Is user data stored securely where necessary?
- Are there transparent user consent policies regarding data collection and sharing?
- Is multi-factor authentication or encryption applied for data access?

4. Technical Performance

- Does the platform have fast load times and low latency?
- Are downtime and system errors minimized?
- Is it scalable to support a growing number of users without performance loss?
- Are there seamless integrations with EHR systems and external mental health providers?

5. Mental Health Quality & Relevance

- Is the mental health information evidence-based and clinically validated?
- Is the content culturally inclusive and adaptable to diverse populations?
- Does the system provide multi-language support for broader accessibility?

6. User Support & Feedback Mechanism

- Are users able to access real-time support if needed?
- Is there an effective feedback loop for user suggestions and complaints?
- Does the platform allow mental health professionals to intervene when necessary?
- Are AI-driven insights reliable and continuously improving through machine learning?

Suggest taking a technical lane or subject matter expert approach.

Given the complexity of MindCheck a multi-disciplinary approach is recommended for the review of the system. Stakeholders to include:

- 1. UI/UX Designers & Software Engineers UX/UI design, accessibility, and web/mobile development
- 2. Cybersecurity Specialists Oversee data security, compliance with HIPAA, and encryption protocols.
- 3. AI/ML Engineers Enhance AI-driven insights and recommendation algorithms.
- 4. Behavioral Health Experts Validate the accuracy of assessments and mental health resources.
- 5. Cloud & Infrastructure Engineers Optimize system reliability, scalability, and integration with other health services.



