

CLIENT REPORT



Questions asked

Skilled Interview Report

Questions Asked

TEAM : 19

**How does the system
detect cognitive load from
online activity?**

**What are challenges in
collecting accurate data?**

**How does the system help
new users with no
history?**

**Will it adapt to changes in
a student's progress?**

**What metrics evaluate
accuracy?**

7. Empathy Map

a. Who is your Customer?

Students and teachers using online learning platforms.

b. Who are we empathizing with?

Learners struggling to maintain focus and comprehension during online lessons.

Key Points:

- **They want timely help when overloaded.**
- **They seek visible progress feedback.**
- **They fear being judged by AI.**

8. Persona of Stakeholders

Stakeholder Name: Anjali, 20

Demographics: College student, uses online classes daily.

Goals: Learn efficiently and retain knowledge with minimal fatigue.

Challenges: Feels lost during fast-paced lessons; hard to self-regulate learning pace.

Aspirations: Improve study habits and focus.

Needs: Real-time feedback on mental effort.

Pain Points: No feedback on when to take breaks or slow down.

9. Look for Common Themes, Behaviors, Needs, and Pain Points

Common Themes: Desire for personalized learning and motivation.

Common Behaviors: Long screen hours, inconsistent focus, multitasking.

Common Needs: Adaptive pacing, clarity, engagement.

Common Pain Points: Overload, boredom, and lack of real-time feedback.

10. Define Needs and Insights of Your Users

User Needs:

- Real-time detection of cognitive load
- Personalized feedback and pacing
- Simple, visual progress tracking
- Data privacy and transparency

User Insights:

- Students overestimate their understanding under stress.
- Most learners fail to take breaks when cognitively overloaded.

- **Teachers need visual indicators to monitor class attention.**

13. POV Statements

V Statement	V Question
Students need real-time awareness of their cognitive load to manage learning stress effectively.	How might we help learners monitor and balance their cognitive load in real time?
Teachers need insights into student mental effort to adapt teaching pace.	How might we provide teachers with intuitive dashboards showing learner load trends?
Learners fear being judged by AI systems.	How might we design transparent, privacy-safe feedback that builds trust?
Students lose focus in monotonous lessons.	How might we increase engagement through adaptive, motivational responses?

14. “How Might We” (HMW) Questions

er Need/Insight

MW Question

Students need feedback when overloaded.

How might we give real-time, friendly alerts when cognitive load is high?

Teachers need to track class engagement remotely.

How might we visualize collective cognitive load trends for teachers?

Learners want privacy.

How might we estimate cognitive load without capturing sensitive visual data?

Students prefer motivation over warnings.

How might we turn cognitive feedback into encouraging messages.

16.Design Challenge

Statement Design

Challenge:

Design a real-time, privacy-conscious, and adaptive Cognitive Load Estimator that monitors student performance, predicts mental effort using AI, and delivers personalized feedback through conversational support to enhance engagement and learning efficiency.

17.Valida

tion Plan

Objective

:

Ensure the Cognitive Load Estimator is accurate, trustworthy, and user-friendly.

Stakeholder/ User	ole	edback on Problem Statement	ggestions
Students	nd Users	Helpful for pacing studies.	Odd visual cues and relaxation prompts.
Teachers	structors	Useful for identifying struggling students.	Class summaries of average load.
Developers	Engineers	Design feasible using ML models.	Optimize model for real- time execution.

18. Ideation

idea No.	Proposed Solution	Key Features/Benefits	Challenges/Concerns
	ML-based Cognitive Load Detection	Real-time estimation via quiz time, accuracy, and	Accuracy under varied conditions



		interaction	
	Adaptive Lesson Recommendation	Adjusts difficulty and pace	Requires continuous data
	ML Conversational Support	Users during high load	Assigning natural responses
	Teacher Dashboard	Displays student engagement trends	Data visualization complexity
	Privacy-First Architecture	Anonymized metrics	Ensuring data security