Design Thinking For Software Engineers

Lab-2

E-learning platforms fail to keep learners engaged

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1. Context

Students, Teachers and working individuals use E-Learning Platforms for:

- Learning new courses
- Assigning courses
- Upskilling for better work opportunities

2. Target Users

- Students:
    - Age: 13-24
    - Digital Literacy: medium to high
- Instructors:
    - Age: 35-55
    - Digital Literacy: medium to high
- Corporate Learners:
    - Age: 25-45
    - Digital Literacy: medium to high

3. Initial Assumptions

- Lack of proper UI/UX designs.
- Most of the learning contents are long videos and presentations which lack in interactivity to keep the learning platform engaging.
- Few platforms are text-heavy, making it less engaging and people start to divert from the platform.
- Lack of user specific content leading to incompletion rates and frustration.

Output:

Assumption Id	Assumption
A1	The findings strongly represent the needs and pain points of the Student demographic, specifically the 18-24 age group.
A2	The necessity for diverse content (short modules/visuals) is a critical, high-priority requirement for improving platform engagement.
A3	User actions like "Skip sections" or using "AI tools to summarise it" are clear behavioural indicators of high cognitive load and time-sensitivity, not just laziness.
A4	The most effective interactive features are those that provide immediate feedback and active engagement rather than passive consumption.

A5	The stated problems (e.g., repetitive formats, confusing navigation) are assumed to be direct, primary causes of user disengagement and course incompletion.
A6	Respondents possess sufficient technological literacy and access to utilize advanced tools like ChatGPT, which influences their learning behaviours.

4. Interview Questions

1. Tell me about the last online course you started but didn't finish. What made you stop?
2. How do you feel when a course has long videos or heavy text content?
3. What usually goes through your mind when the platform is confusing or hard to navigate?
4. What do you actually do when you see long text sections or repetitive lessons?
5. What frustrates you most about current e-learning platforms?
6. If you could change one thing to make online courses more engaging, what would it be?

5. Interview Notes and Quotes

Name: Santhosh KV

Age: 45

Occupation: Professor

- Interview Notes:
    - He reported that many students skipped course material and focused mainly on receiving the completion certificate.
    - He expressed feelings of anger and frustration, stating that learners did not understand the importance of the assigned courses.
    - He observed that long, text-heavy sections were skipped most often.
    - He mentioned that identifying suitable and engaging courses for assignment was a difficult and time-consuming process.
    - He felt that current e-learning platforms were not effective at sustaining student attention.
    - He believed platforms prioritized quantity of content over quality of learning experience.
- Quote:
    - "The current e-learning platforms are not capable enough to pull the audience."

Name: Shijith M

Age: 28

Occupation: Working IT professional

- Interview Notes:
    - He reported that high-quality courses were often expensive, while free courses tended to lack quality.
    - He felt frustrated that poor UI/UX reduced his interest in learning.

- He stated that long, non-interactive videos were annoying mainly because of technical lag.
        - He admitted to skipping long text sections and suggested boredom might lead to incompletion.
        - He felt animated visuals and more attractive design could improve engagement and reduce dropouts.
        - He rated the need for diverse formats as moderate and tolerated repetition when the topic felt new.
- Quote:
        - "Making the platform more visually attractive would reduce dropout"

Name: Ridit Santhosh

Age: 14

Occupation: Student

- Interview Notes:
        - He stated that the course visuals were appealing but the explanations were unclear.
        - He felt frustrated and discouraged by timed problem-solving activities for complex equations.
        - He reported feeling sad when he was unable to complete problems within the given time.
        - He noted that the lack of interactivity left his doubts unresolved.
        - He linked unresolved doubts to lower grades and eventually quitting the course.
- Quote:

        - "There was no way to ask doubts."
        - "My grades went down, so I stopped the course."

6. Empathy Map

Name: Santhosh KV

Age: 45

Occupation: Professor

Says	**Thinks**
Students rush for certificates	Platforms prioritize volume over quality
Text-heavy lessons are skipped	Engagement tools are missing
Platforms fail to engage	Students don't value learning
Hard to find good courses	

Does	**Feels**
Assigns online courses	Angry
Tries to curate good ones	Disappointed
Monitors completion	Concerned about learning outcomes
Gets frustrated with platforms	

Name: Ridit Santhosh

Age: 14

Occupation: Student

Says	**Thinks**
Explanations are unclear	He isn't fast enough
Timers cause stress	Platform doesn't help
No way to ask doubts	Learning is stressful
Quit after grades fell	

Does	**Feels**
Tries timed problems	Frustrated
Skips course later	Sad
Quits platform	Discouraged
Avoids tasks	Anxious
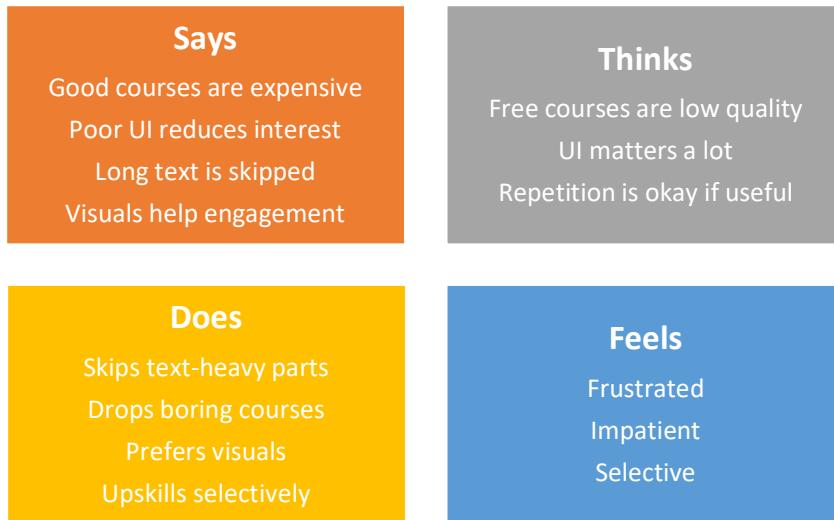
Name: Shijith M

Age: 28

Occupation: Working IT professional

Says

Good courses are expensive

Poor UI reduces interest

Long text is skipped

Visuals help engagement

Thinks

Free courses are low quality

UI matters a lot

Repetition is okay if useful

Does

Skips text-heavy parts

Drops boring courses

Prefers visuals

Upskills selectively

Feels

Frustrated

Impatient

Selective

7. Validation of Assumptions

Assumption	Validated?	Reason from Interviews
Lack of proper UI/UX designs	Yes	Shijith stated poor UI reduced interest. Santhosh felt platforms failed to hold attention, confusing navigation lowered engagement.
Long videos and low interactivity reduce engagement	Yes	Shijith complained about lag and non-interactive videos. the student reported no interactivity to resolve doubts. the professor observed widespread skipping.
Text-heavy content causes disengagement	Yes	Both Santhosh and Shijith noted long text was skipped. Ridit preferred visuals and struggled with explanations.
Lack of user-specific content leads to incompletion and frustration	Partially	Santhosh observed low completion and frustration. Ridit quit due to mismatched pacing and timers. personalization was implied but not explicitly stated by all users.

8. User Insights

- Learners chase certificates when courses fail to keep them engaged.
- Poor UI/UX causes dropout before users even realize they've disengaged.
- Students quit when they cannot ask questions or clear doubts.
- Timed challenges frustrate learners when pressure replaces support.

- Instructors distrust platforms when they cannot find quality courses easily.
- Users abandon courses when visuals look good but explanations are unclear.
- Free courses lose credibility when quality feels low.

9. User Persona

Person 1

Name: Santhosh KV

Age: 45

Occupation: Professor

Device: Laptop
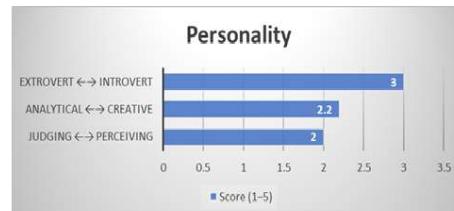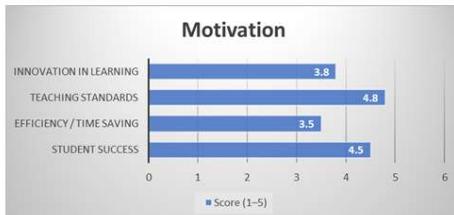
- Quote:
  - "The current e-learning platforms are not capable enough to pull the audience."

- Goals:
  - Ensure students actually learn, not just collect certificates
  - Assign high-quality, engaging courses
  - Track student participation and understanding
- Pain Points:
  - Students skipping content
  - Text-heavy lessons
 - Difficulty finding good courses
  - Low engagement across platforms

Motivation

	Score (1–5)
INNOVATION IN LEARNING	3.8
TEACHING STANDARDS	4.8
EFFICIENCY / TIME SAVING	3.5
STUDENT SUCCESS	4.5

Personality

	Score (1–5)
EXTROVERT ←→ INTROVERT	3
ANALYTICAL ←→ CREATIVE	2.2
JUDGING ←→ PERCEIVING	2

Person 2

Name: Shijith M

Age: 28

Occupation: Working IT Professional

Device: Laptop
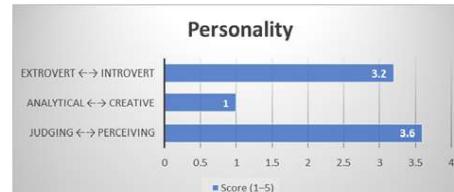
- Quote:
  - "Making the platform more visually attractive would reduce dropout."

- Goals:
  - Upskill efficiently
  - Learn without wasting time
  - Find affordable, quality courses
- Pain Points:
  - Expensive good courses
  - Poor UI/UX
  - Laggy videos
  - Skips long text

Motivation

	Score (1–5)
VISUAL ENGAGEMENT	3.6
TIME EFFICIENCY	4
COST VALUE	4.2
CAREER GROWTH	4.6

Personality

	Score (1–5)
EXTROVERT ←→ INTROVERT	3.2
ANALYTICAL ←→ CREATIVE	1
JUDGING ←→ PERCEIVING	3.6

Person 3

Name: Ridit Santhosh

Age: 14
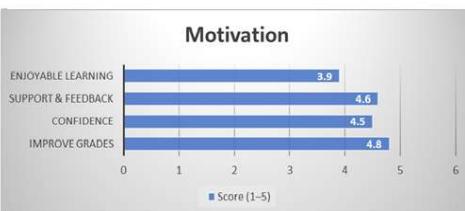
Occupation: School Student

Device: Phone

- Goals:
  - o Understand math concepts clearly
  - o Improve grades
  - o Ask doubts while learning
- Pain Points:
  - o Unclear explanations
  - o Timers causing stress
  - o No interactivity
  - o Quitting courses
- Quote:
  - o "There was no way to ask doubts."
  - o "My grades went down, so I stopped the course."

Motivation

	Score (1–5)
ENJOYABLE LEARNING	3.9
SUPPORT & FEEDBACK	4.6
CONFIDENCE	4.5
IMPROVE GRADES	4.8

Personality

	Score (1–5)
EXTROVERT ←→ INTROVERT	1.2
ANALYTICAL ←→ CREATIVE	3.2
JUDGING ←→ PERCEIVING	3.8

10. Software Requirements

Insight	Software Requirement
Learners drop out when courses feel boring or repetitive	Short modules, varied formats, micro-learning
Poor UI/UX reduces motivation quickly	Clean layouts, intuitive navigation, fast loading
Students quit when doubts remain unresolved	Live chat, doubt-clearing forums, AI tutor
Timed tasks discourage weaker learners	Adjustable timers, practice mode
Instructors struggle to find quality courses	Instructor dashboards, rating filters, preview tools
Users skip long text content	Visual explanations, summaries, collapsible sections
Professionals distrust free courses	Quality badges, reviews, sample lessons
Visual polish raises expectations	Clear instruction design, learning objectives

11. Reflection And Documentation

1. What surprised you?
    a. Learners skipped content even when visuals were good. Instructors also struggled to find quality courses.
2. Which assumption was wrong?
    a. Disengagement wasn't only due to text-heavy content, lack of interactivity, pacing, and stress also mattered.
3. How did empathy change your thinking?
    a. I realized motivation, confidence and emotional experience drive engagement as much as usability.
4. How will this affect design?
    a. Design must focus on interactive, bite-sized content, clear instructions, adaptive pacing, doubt resolution and tools for instructors to assign quality courses.