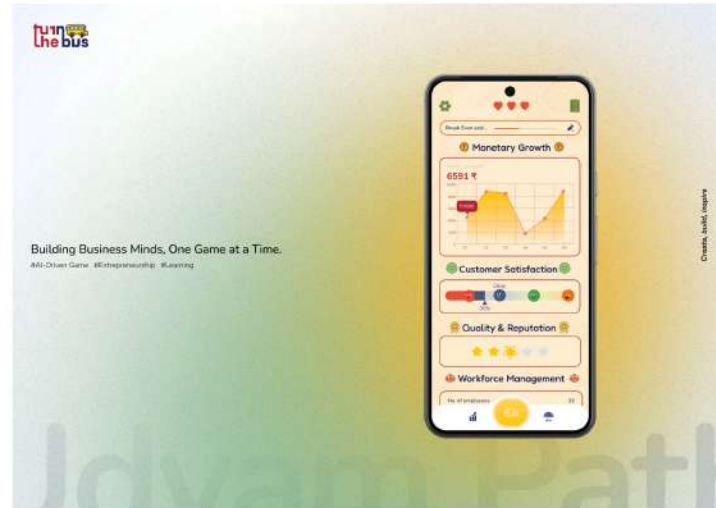


UdyamPath

An AI-driven and gamified entrepreneurial learning app for rural India students to transform interest into motivation, resulting in measurable learning gains.



Client	My Role	Category	Skills	Time
Turn the Bus US-based NGO	End-to-end Product Design Lead (In a team of 5, including 1 developer, 1 product manager, 1 project manager and 1 researcher)	EdTech, Android Mobile APP, AI Game, SaaS	UX/UI Design, Wireframing, Motion Effects, A/B Test	Jan - Aug 2025 7mos

OVERVIEW

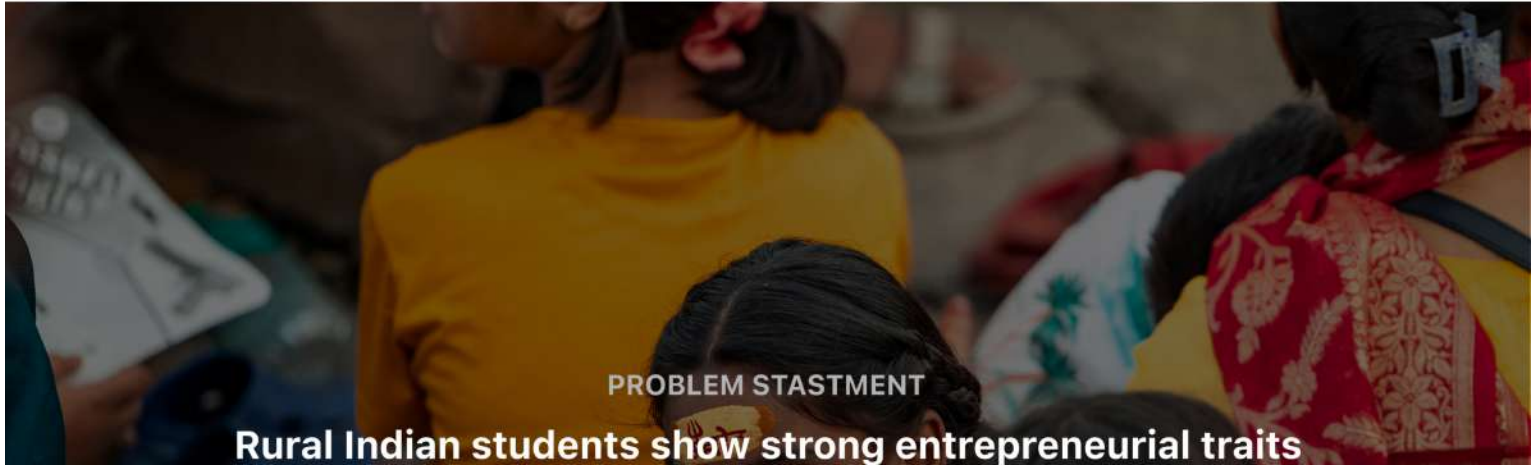
Key impacts based on the Pre-Post Test & Surveys



My Contribution

As the Design Lead, I drove end-to-end UX and instructional design by creating onboarding, goal-setting, feedback, and AI-driven gameplay flows; building a WCAG-compliant design system; and conducting research, testing, and seven rounds of iteration, collaborating with a cross-functional team.

[View More Details About The Process](#) +



such as perseverance and risk-taking, but due to limited resources, social stereotypes, and lack of clear pathways, their willingness to pursue entrepreneurship remains significantly low.

SOLUTION

Designing a scalable mobile business simulation that builds entrepreneurial skills through learning by doing, using AI as a thinking partner to prompt reflection rather than provide answers.

I designed a smartphone-based business simulation game that reduces educational inequality through conceptual understanding and learning by doing. Guided by learning science and engineering principles, the design emphasized cognitive load management, constructive feedback, motivational mechanics, and realistic scenarios.

Over seven months, I owned the entire 0-1 UX/UI design process. The timeline below shows whole design process, click and zoom in to see how I conducted 7 iterations:



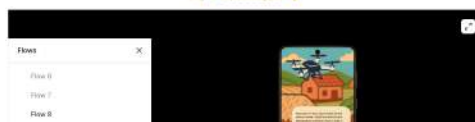
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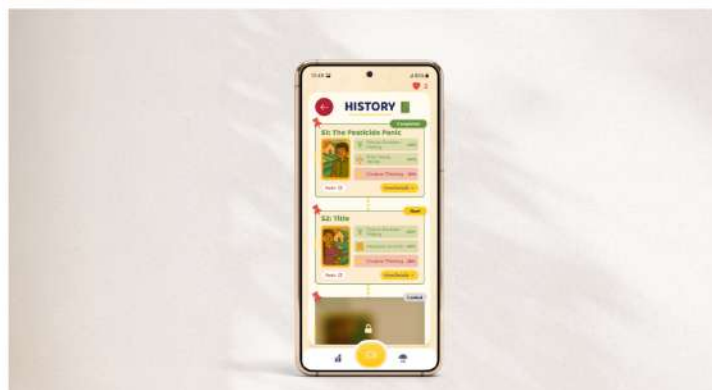
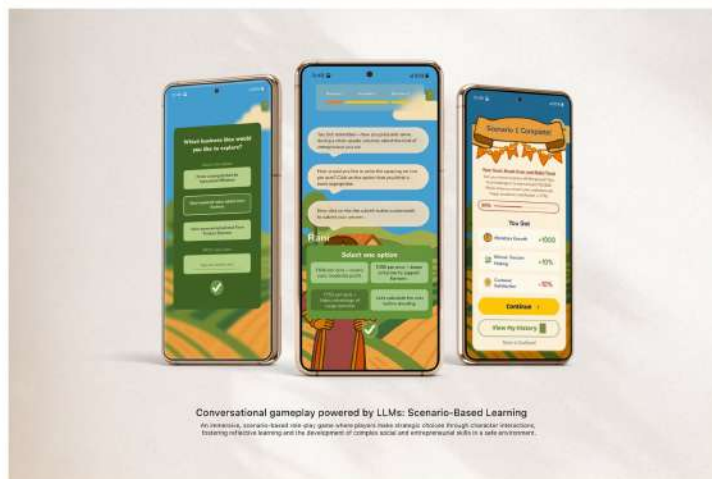
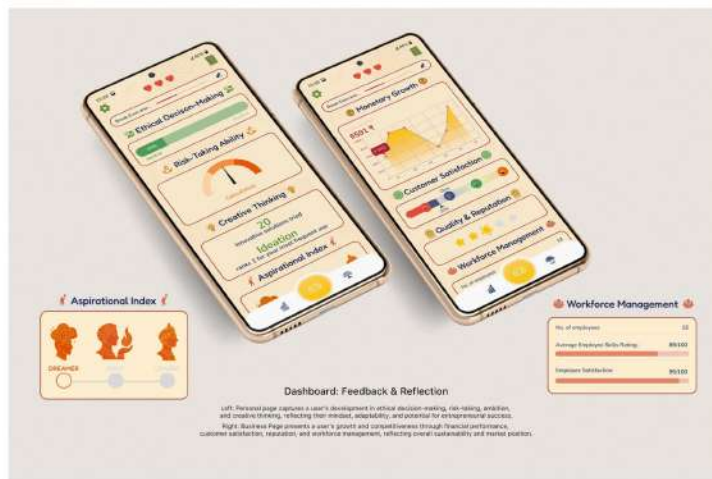
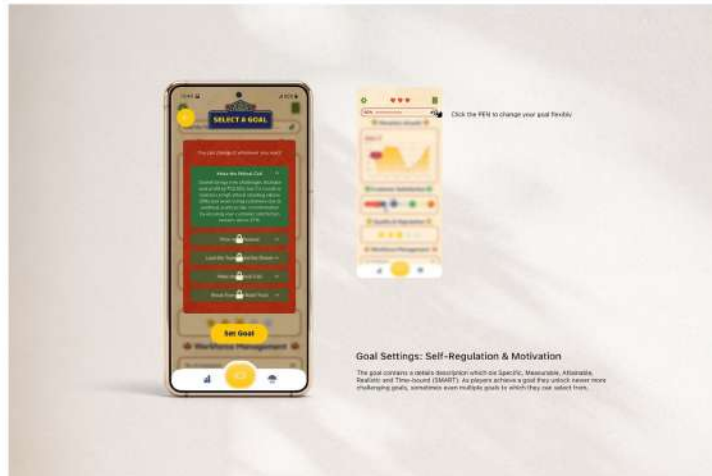
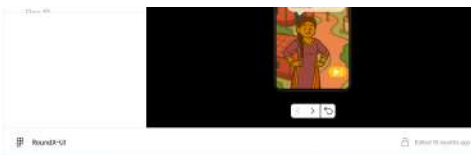
← →

FINAL DESIGN PREVIEW



Try the prototype





History: Self-Reflection & Learning by Doing
Players can see how their past decisions in the game have influenced various metrics—positively or negatively. This allows them to reflect on when business choices were effective and when more caution, testing, and research were needed.

BACKGROUND RESEARCH

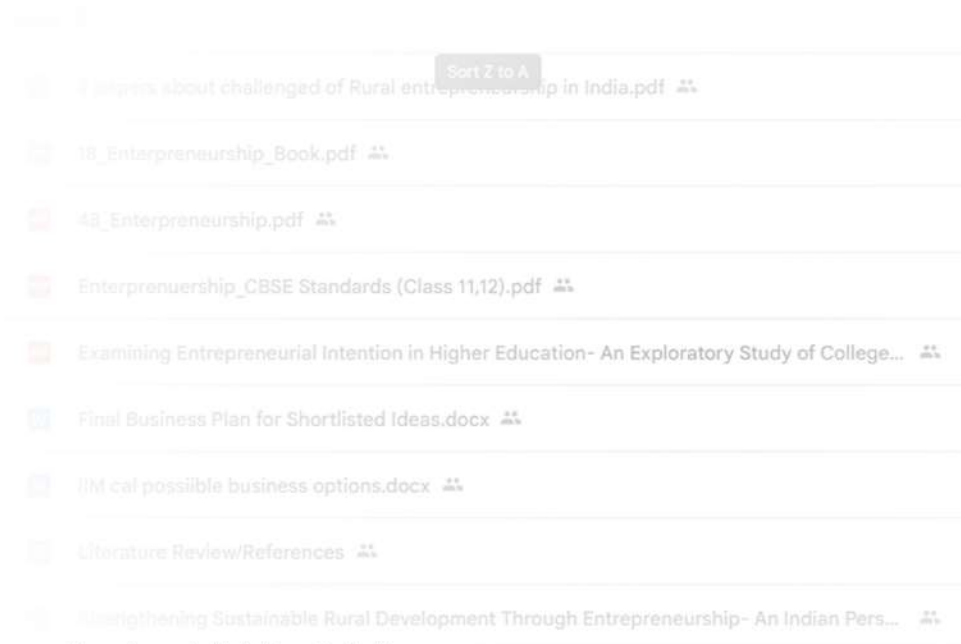
In the fast-paced iterative environment, how can I ensure my UX decisions are reliable when user research resources are limited?

Benchmark existing solutions

Competitive Analysis

Understand diverse user needs

Co-Design with leadership



Benchmark Existing Solutions

I reviewed key literature on entrepreneurship learning and gamified experience design. I conducted a thorough review of Turn the Bus's existing EdTech products. This helped me realize the importance of embedding local technological context and cultural relevance. For instance, building the learning experience around a drone leasing scenario to make it more relatable for rural students.

MAIN RESEARCH INSIGHTS*

1. They have strong entrepreneurial mindset, but weak intention to act.
2. They have limited awareness of technology-based ventures.
3. They need structured guidance to recognize and evaluate opportunities.
4. Current gamified learning products often lack cultural relevance for rural learners.



- *Students scored high on traits like Risk-Taking (M=4.38) and Perseverance, but low on Willingness to Pursue Entrepreneurship (M=3.0).
- *59.4% of students reported having limited or no knowledge about drones, while only 21.4% felt well-informed.
- *Opportunity Exploitation scored lowest (M=4.13), suggesting students lack training in identifying and leveraging business opportunities.
- *38.2% of students selected drone leasing technology as the most interesting business idea, higher than any other option.

Check the [research report](#) to see more details!

PRODUCT DEVELOPMENT

Following LEAN development method to ensure continuous feedback and iteration.

Each cycle will integrate user testing and stakeholder reviews to validate features and refine the user experience.



IDEATION

Set Design Direction

Learners will be able to develop a mindset that values the importance of balancing monetary success with personal growth in-term of risk-taking or ethical values, understand key business concepts needed to run a start-up through the example of a drone leasing venture, and develop a positive attitude towards entrepreneurship to be able to pursue it in the real-world.

DESIGN CHALLENGE 01

In the fast-paced iterative environment, how can I ensure my UX decisions are reliable when user research resources are limited?

Strategy #01

Using small signals, quick experiments, and rollback mechanisms to make errors controllable and minimize costs.

I was responsible for the prototyping, while other teammates quickly turn their idea into wireframes based on my versions. This enabled us to rapidly compare merits in short iteration cycles while enhancing overall design quality. Insights from parallel prototyping informed the design and structure of our Continuous Integration/Continuous Delivery (CI/CD) pipelines, optimizing them for efficiency and robustness.



Strategy #02

Conduct a small scope playtest workshop on 2 mid-fi prototype versions to shape next-step priorities

Seven graduate students joined - five Indians and two from other East-Asian backgrounds.





Key Takeaways and Iteration

Before

After

❌ Lack of Game Transparency & Feedback:
Users noted the absence of a visible progress bar, which made game duration unclear. They also expressed the need for clear performance feedback at the end of the game.

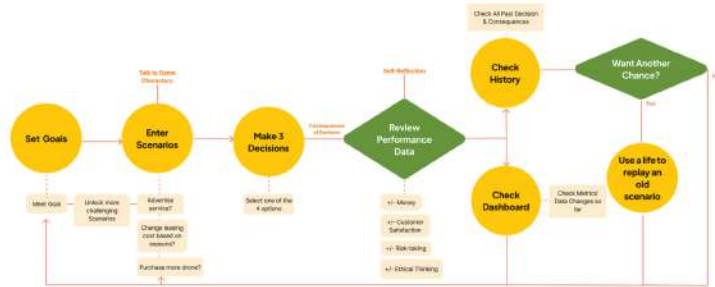
❌ AI's replies appeared less intelligent and did not effectively meet learning needs:
Students interacted with the AI character via typed responses, which was time-consuming and often produced shallow or unreflective answers. (The KC-based learning architecture had not yet been implemented at this stage.)

✅ Preview of the progress:
Users noted the absence of a visible progress bar, which made game duration unclear. They also expressed the need for clear performance feedback at the end of the game.

✅ AI Generated MCQ (Multiple-choices Questions):
To promote structured learning while maintaining consistency in the information being research by learners. This also helped reduce the score of variability induced within AI feedback to the users.

Game User Flow Defined After Playtest

From the play-test, we gain lots of Insights on user experience and user flow, therefore I collaborated with the team to define the game loop to guide our game-play design and development.

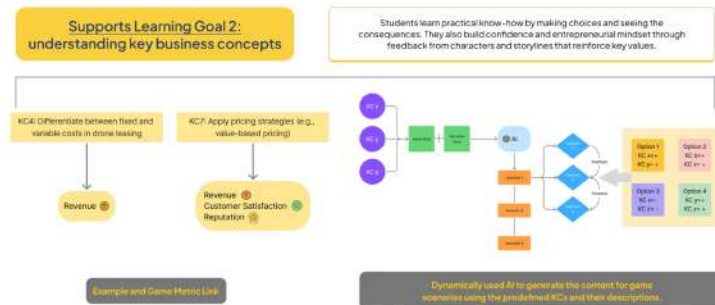


DESIGN CHALLENGE 02

How to create a learning experience that naturally adapts to each student's background knowledge and needs?

Strategy #01

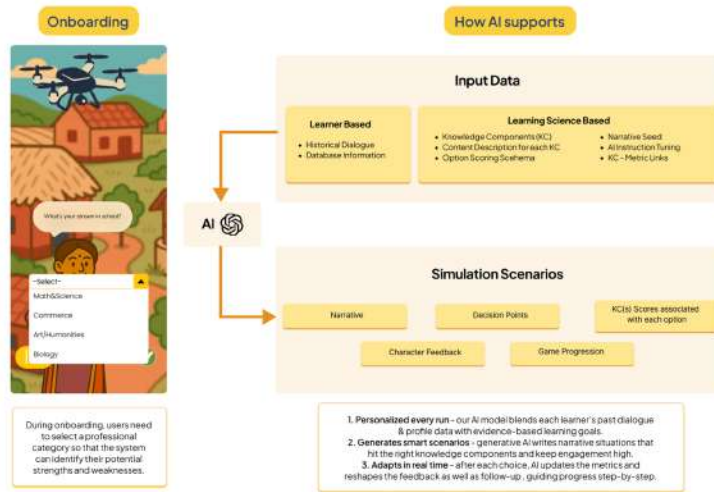
Designed 22 Knowledge Components (KCs), each mapped to in-game metrics and core business concepts, forming the foundation for scenario generation and measurable learning outcomes.



Strategy #02

AI-driven personalization makes every learning journey adaptive, engaging, and unique.

We used AI as a thinking partner rather than an answer engine, which aligned with the goal of building independent decision-making.



USER TESTING & ITERATION

Measurement Metrics



- Usability:** How easily do players navigate the interface and game mechanics?
- Learning Outcomes:** Does the game enhance understanding of entrepreneurial decision-making and encourage an entrepreneurial mindset?
- Engagement:** Do players remain immersed and motivated throughout the scenarios and the game?



Testing Procedure

During Gameplay participants were randomly assigned to play either Goal 1 (Break Even and Built Trust) or Goal 2 (Price with Purpose) in game.



Testing Methodology

Adopted a mixed-methods approach to capture both quantitative and qualitative insights during the whole testing process:

Quantitative	Qualitative
<ul style="list-style-type: none"> Pre- and post-surveys KC understanding: 12 items (2 items for each KC) Mindset: 8 questions (Likert scale 1-5) Engagement: 8 questions (Likert scale 1-5) In-game decision logs to track learning curves and knowledge components proficiency 	<ul style="list-style-type: none"> Think-aloud commentary during gameplay Observer field notes on confusion, engagement, and affective responses Post-session interviews focused on mindset shifts, character perceptions, etc. Followed the affinity diagramming to analyze where quotes



Iteration Case 1

Streamlined the post-game experience to make reflection clearer.

Iteration Context

Following Session 1, we rapidly implemented improvements to the game's front-end design, back-end infrastructure, and testing protocol based on field observations and participant feedback. These refinements informed the design of Session 2, allowing us to iteratively improve both the product and research instruments within a short timeframe.

Challenge

Session 1 revealed that while the game encouraged critical thinking and felt contextually relevant, users struggled with unclear character roles, overly technical language, unintuitive visuals, limited reflection feedback, lack of built-in support, and repetitive decision paths.

Strategy #01

Renamed and restructured the *History Page* to make goals and past decisions easier to review.

Before

I don't like...

- LOG**
 - "Doesn't 'log' mean 'people'?"
 - Users noted that, within their cultural context and knowledge level, the term "LOG" was not clearly understood as referring to "viewing game history."
- "Symbols are easy to learn once told where they are from."
- They also found the icons unclear and recommended pairing each metric with its corresponding label for clarity.
- "If D3 were to change, D3 would be nearly generated (guessing...)? So revealing a Decision-deep dive is not equivalent to providing an answer key. Also, the arrows only give a general idea to explain why or exactly how big the decision's impact was so revealing it does not hurt."
- Users expressed a desire to see more detailed metric changes to better understand where their performance fell short. The tip card design was perceived as insufficiently intuitive.
- "I spend some time looking for where to replay the game because I didn't realize this card is clickable."
- While the image cards were found attractive and the visual of the entire page conveyed the idea of a progression timeline, users did not realize that the scrollable cards were clickable during MVP 3 testing and that they could display the scenarios, which was a design usability feedback so we scrapped this entire design.

After

Sounds good!

- HISTORY**
 - Renamed to History
 - During testing it was noted that, within their cultural context and knowledge level, the term "LOG" was not clearly understood as referring to "viewing game history."
- Scenario Tags**
 - Each scenario features an updated status indicator, allowing users to quickly assess the progress. The enhancement reinforces the sense of achievement and helps sustain users' motivation and engagement throughout the learning experience.
- Collapsible Deep Dive**
 - Clear decision levels and detailed information enable users to review their past performance in the game, supporting deeper reflection and self-assessment.
- Replay Button**
 - Clear visual display of to replay the scenario using the "Replay" feature after reviewing the History.

Strategy #02

Simplified the *Summary Page*, added clearer goal reminders, and made metric updates more transparent.

Before

I don't like...

- "The log is repetitive of the summary page and does not tell what went wrong."
- The information on the page is not clear enough. User feels it redundant with the current Log Page, and the entry point to view it is also not consistent.
- We also found that after completing a scenario, users often forget what their **game goal** (especially numerical targets).

After

Sounds good!

- Scenario Completed**
 - A "Well Done" may lead to **complacency**. In fact, they should reflect on their performance by observing the changes in the metrics displayed on the dashboard.
- Remind the exact goal again**
 - To help them **reorient themselves** with the goal more easily, added a "New Goal" section on the summary page to remind them.
- Enhance the completeness of the metrics change information.**
 - Clearly specify** the names and exact values of the increased or decreased metrics to make it more intuitive.
- Adjust the button types and layout**
 - The prominent yellow "Continue" button is designed to **encourage users to proceed to the next scenario**.
 - Placed the "History" icon from the top right corner to this section and present it as a button to **encourage users to view and reflect on their game performance**.

Strategy #03

Optimized *metric icons and components* for consistency and clearer interpretation of progress.

Keep users' voices centered



FUTURE DIRECTION

Building on insights from our two rounds of testing, we identified some future opportunities to enhance the learning experience:



1. Help-Seeking within the Game

Players frequently expressed confusion during decision-making and express the interest to communicate with game characters. In this case mentor support during game play or guided reflections in history that tells you how you could do better—to scaffold learning without breaking immersion.



2. Restructuring the Learning Content for student motivation

Order of Learning goals/introduction of learning content

- Start with funding (biggest challenge to entrepreneurial mindset reported by students)
- Brief about drones and use cases/benefits
- Talk about general business skills

Breath first vs depth first learning approach to Entrepreneurship

Breath first: starting with broad knowledge about general business skills before going in-depth on a particular idea or allowing to explore/attain knowledge about multiple business ideas

Depth first: start with strong foundation about drone knowledge first, then general business skills

MY REFLECTIONS

As the designer on the team, I went through 7 iterations, more than 100+ screens in total — from early user research to high-fidelity prototyping, with a focus on designing a product that is both meaningful and engaging. This was also my first time designing for embedding learning science into gameplay, which challenged me to rethink what "educational" can look and feel like.



Here are a few reflections I'm taking with me:

- A designer's value often lies in turning ambiguity into clarity, making the abstract visible and communicable.
- Prototyping early, even with uncertainty, is powerful. Under the Lean project method, iteration is what drives clarity and better decisions.
- Designing educational games for adolescents is fundamentally different from the health-related or entertainment-focused games I've worked on before. It requires a deeper understanding of cognitive development, motivational drivers, and the need to balance learning goals with engagement. Creating something that is both meaningful and enjoyable, without feeling overly didactic, was a new and rewarding challenge.
- In small, fast-paced teams, ownership and structure matter as much as creativity. Progress requires initiative, not just instruction.
- Everyone brings different priorities to the table. Empathy, communication, and mutual understanding are key to moving forward together.

Thanks for stopping by, let's chat!