

# Moodie Tales

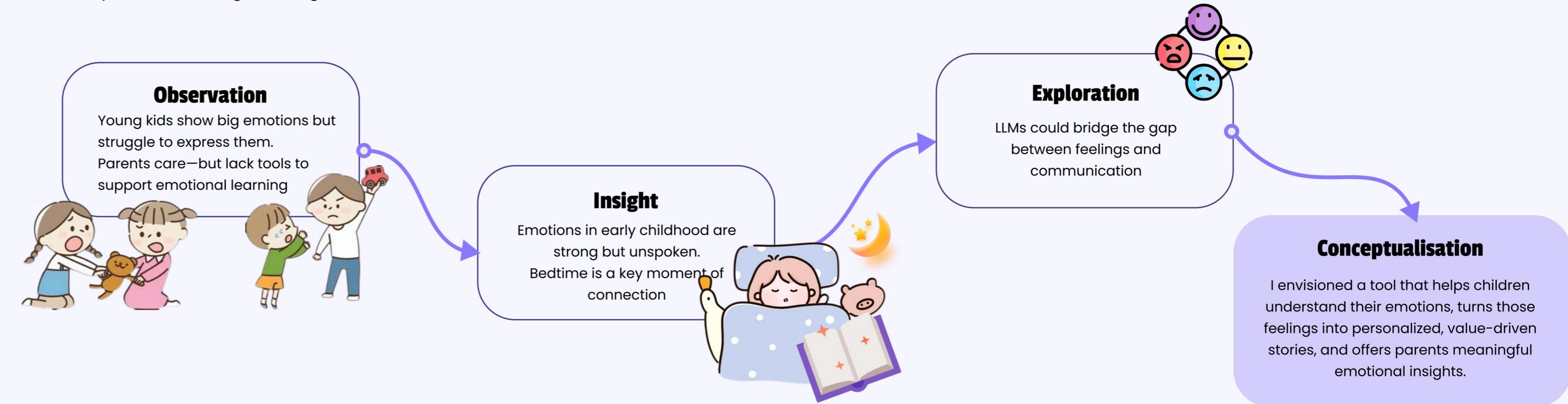
A story-based app that helps children understand emotions and grow through personalized bedtime tales

Personal Project  
#EdTech #Interactive Design  
Role: UX Researcher & Designer  
Duration: 3 months  
Tools: Figma & Miro



## INSPIRATION

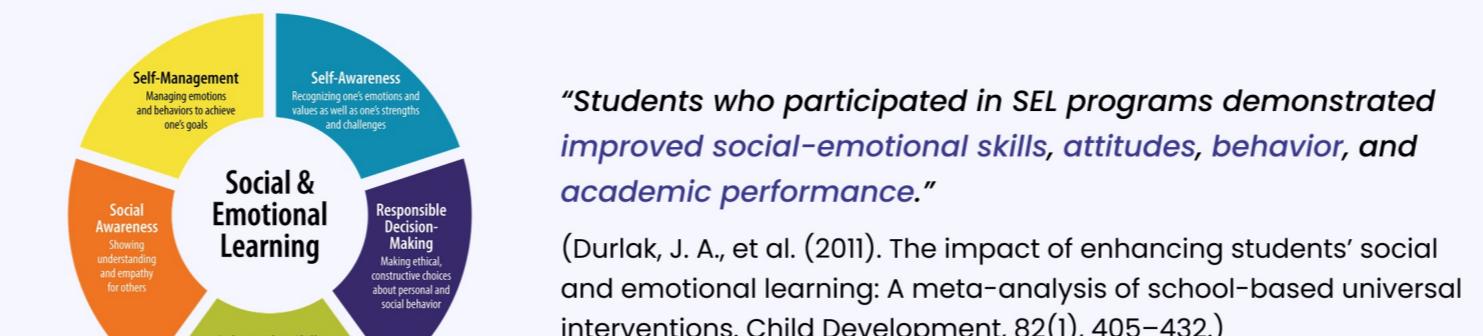
While spending time with young children, I noticed that their emotions are intense but often underexpressed—tantrums, silence, and sudden mood shifts reveal a rich inner world they're still learning to navigate.



## RESEARCH

### Theoretical Framework

#### Social-Emotional Learning (SEL) in Early Childhood



- 3–8 is a formative period for SEL development.
- **Bedtime routines** and **short stories** are natural, effective channels for strengthening emotional literacy.
- **Interactive** and **guided** storytelling reliably enhance emotional expression and regulation.

### KEYWORDS

Early childhood    Bedtime routines    Storytelling    Emotion Awareness  
Self- Regulation    Social Emotional Learning (SEL)

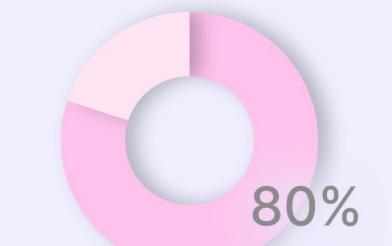
## SURVEY INSIGHT

A user survey of 15 parents with children aged 3–8 revealed strong support for an emotionally intelligent, story-based educational tool. Parents of young children see strong value in a tool that combines emotion tracking with personalised storytelling.

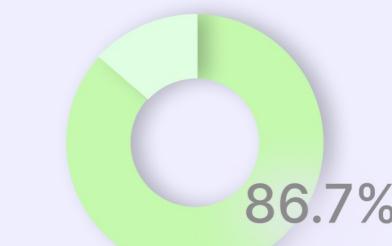
80% of parents regularly follow children's emotional development topics



66.7% agree that daily emotion tracking helps children understand and express feelings.



86.7% are interested in an app that generates bedtime stories based on emotional keywords.



## PERSONA

The project focuses on two key users:

- Parents:** simple, time-saving tools that allow them to support their child's emotional growth without adding extra stress to their busy routines.
- Children:** playful, story-driven ways to express and understand their emotions, making abstract feelings easier to recognize and reflect upon.



**Zoe**  
FULL-TIME WORKING MOM  
Ages: 32

- Values her 5-year-old daughter's emotional growth
- Struggles to find time for structured emotional education

**GOALS**

I want to help Mia grow emotionally, but after a long day, I just need something simple that works.

**ACTIONS**

Overloaded  
Connected  
Guided  
Intentional  
Open-minded



**Mia**  
DEPENDENT EXPLORER  
Ages: 5

- Expressive but has difficulty managing frustration and sadness

**FEELINGS**

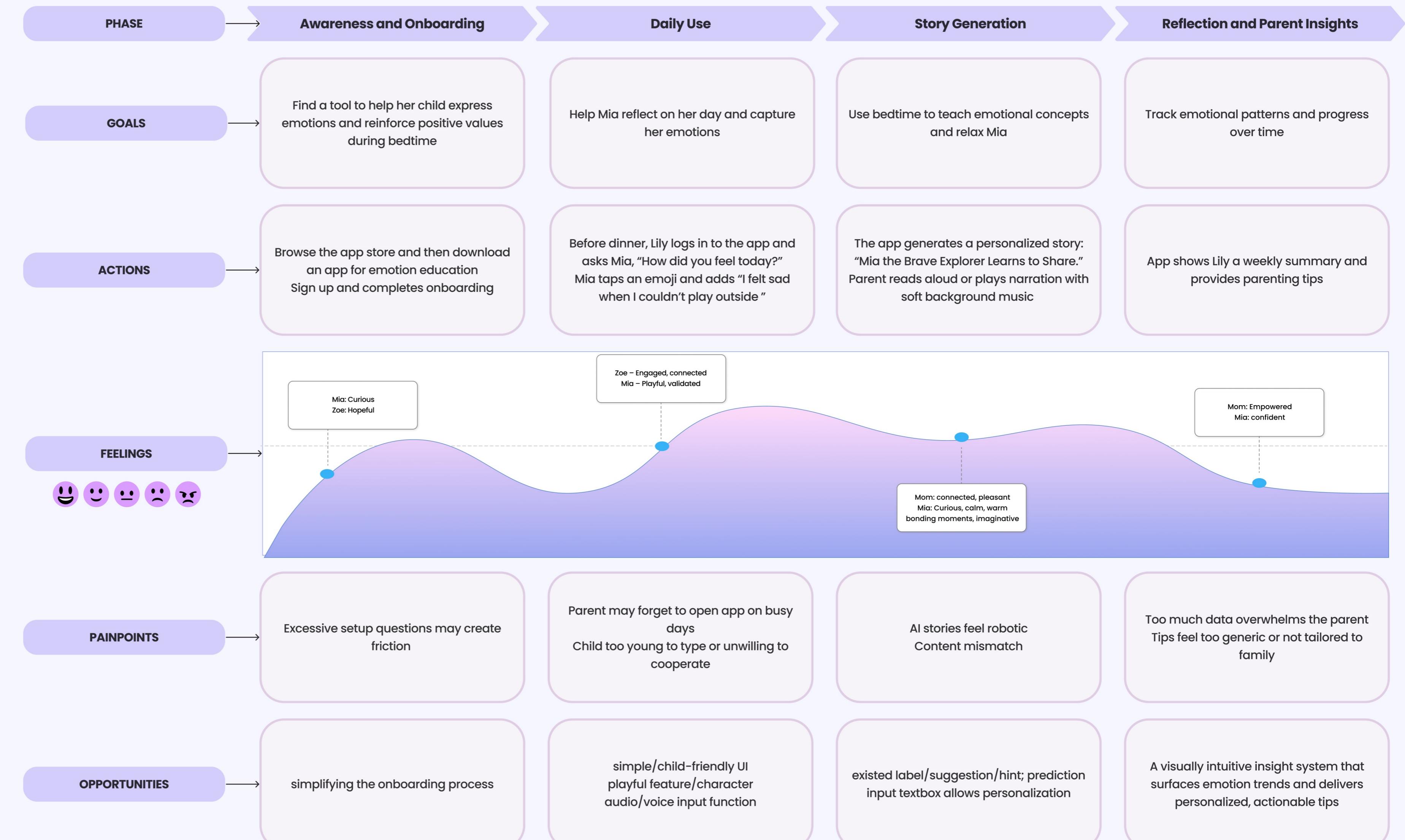
I don't know why I feel this way... can we just tell a story?

**PAINPOINTS**

Sensitive  
Curious  
Playful  
Connected  
Imaginative

## JOURNEYMAP

I create a journey map to visualize the end-to-end experience of parents and children using Moodie Tales, helping to identify goals, emotions, and pain points at each stage so that design opportunities could be uncovered and prioritized.



# HMW

HMW help young children **express emotions naturally** through daily interactions?



By designing playful, age-appropriate rituals that turn emotions into stories, not lessons.

HMW turn everyday emotions into **personalized, emotionally resonant stories**?

By using AI to craft warm, human-feeling narratives that reflect the child's real emotional world.



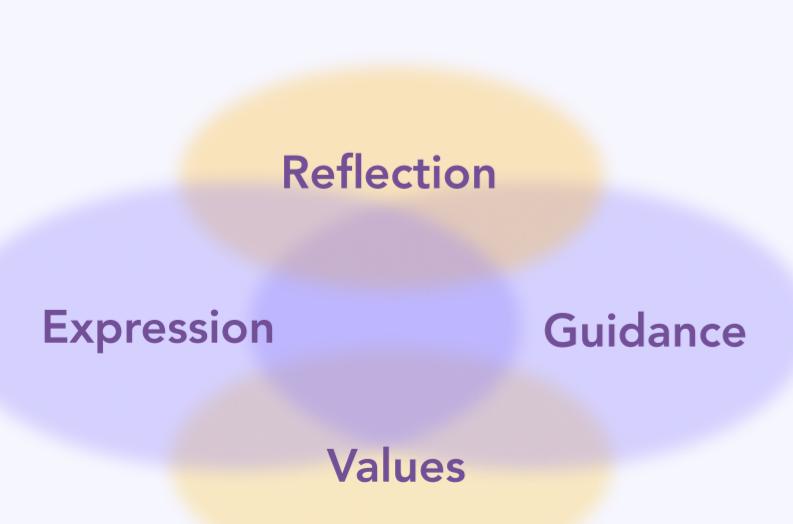
HMW support parents in emotional learning **without adding cognitive load**?



By offering co-creation tools and automated insights that feel intuitive, not instructional.

HMW empower families to **reinforce shared values** through storytelling?

By embedding universal themes like kindness or bravery naturally into personalized stories, so families can reflect on values together without needing explicit tagging.



## Emotional Expression

### Story as Reflection

### Light-touch Parenting

### Values & Connection

## FURTHER RESEARCH

### AI Storytelling & Early Learning

A 2024 systematic review<sup>[2]</sup> concluded that **AI-driven storytelling tools** significantly improve early childhood language acquisition, literacy, and cognitive-emotional development. Features like **Interactivity**, **Personalization**, and **Adaptability** were identified as key educational enhancers across diverse learning environments.

## COMPETITIVE ANALYSIS

	Story Spark	Moshi Kids	StoryTime AI
Interface			
Usability	Create unique & personalized stories with custom characters, magical plots	A sleep-focused app that uses calming audio stories and meditations to help children relax	a personalized literacy platform, inspires a love of reading by bringing your child's unique stories to life
Pros	Emphasizes imagination and creativity for children, supporting co-creation	Large content library: 400+ audio tracks	Supports multiple languages, increasing accessibility
Cons	Focuses mainly on creative storytelling, less on emotional development or SEL	Doesn't capture the child's daily emotional experience	Doesn't provide feedback, progress tracking, or emotional reflection
Design Opportunity	<i>Create an emotionally intelligent storytelling app that helps children aged 3-8 recognize and reflect on their daily feelings—while empowering parents with insights and reinforcing shared values through personalized bedtime stories</i>		

## DESIGN GOALS

Primary User:  
Children aged 3-8

Goal: Help children recognize, express, and reflect on emotions through imaginative, age-appropriate storytelling rituals.

### Objective

### Emotion Recognition

### Imaginative Learning

### Description

Enable children to identify and label basic emotions using visual, audio, or character-based input

Use narrative as a medium for children to understand emotional experiences and values

### Theoretical Support

Social Emotional Learning (SEL) & Vygotsky's Sociocultural Theory (learning through storytelling, pretend play)

Secondary User:  
Parents/Caregivers

Goal: Support caregivers in understanding and guiding their child's emotional development—without increasing cognitive or emotional burden.

### Objective

### Emotional Trend Awareness

### Description

Visualize mood trends and emotional "spikes" over time through a clear dashboard

### Theoretical Support

Parental Scaffolding & Reflective Parenting Models

### Key Features

Emotion Input System

LLM-generated bedtime stories

Parent Dashboard

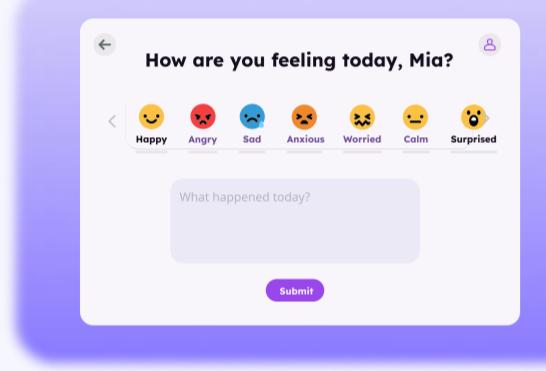
# DESIGN ITERATION

This is an emotional learning app for children aged 3–8. Through daily mood check-ins, personalized bedtime stories, and parenting tips, it helps families support children's emotional growth and shared values.

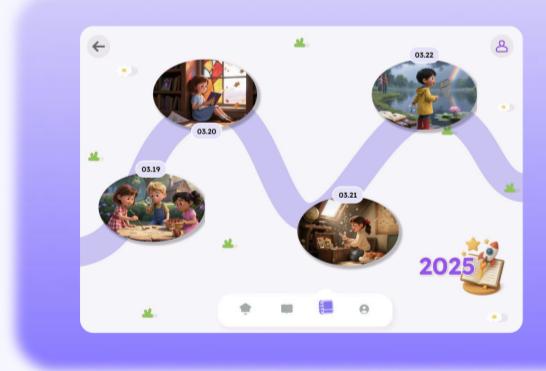
## Highlight Functionality



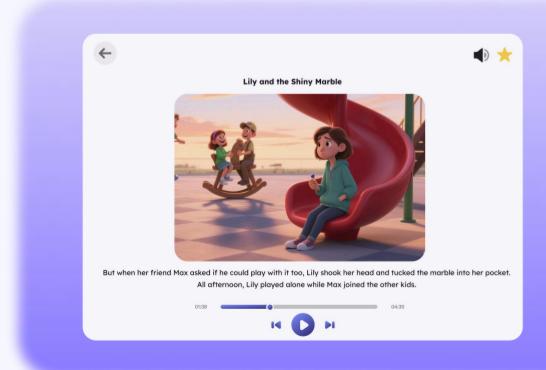
The Parent Dashboard gives parents a clear view of their child's emotional journey by turning daily moods and story interactions into easy-to-understand insights.



The Feeling screen allows children to record how they feel each day through simple emoji choices and short notes, making emotional expression easy and age-appropriate.



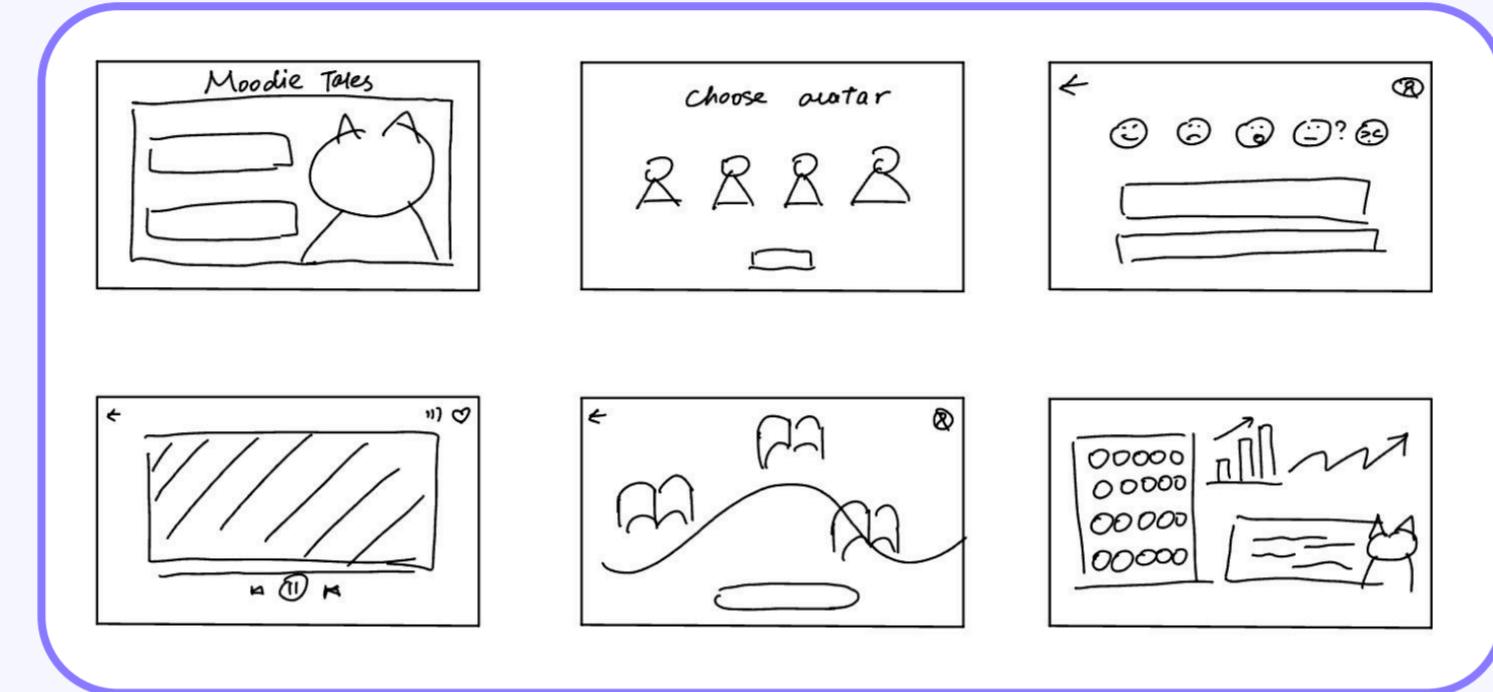
The Story Library organizes past stories along a playful journey map, helping families revisit previous experiences and track the child's emotional growth over time.



The Story Time screen transforms daily moods into engaging, illustrated narratives with narration, giving children a safe space to reflect and learn through storytelling.

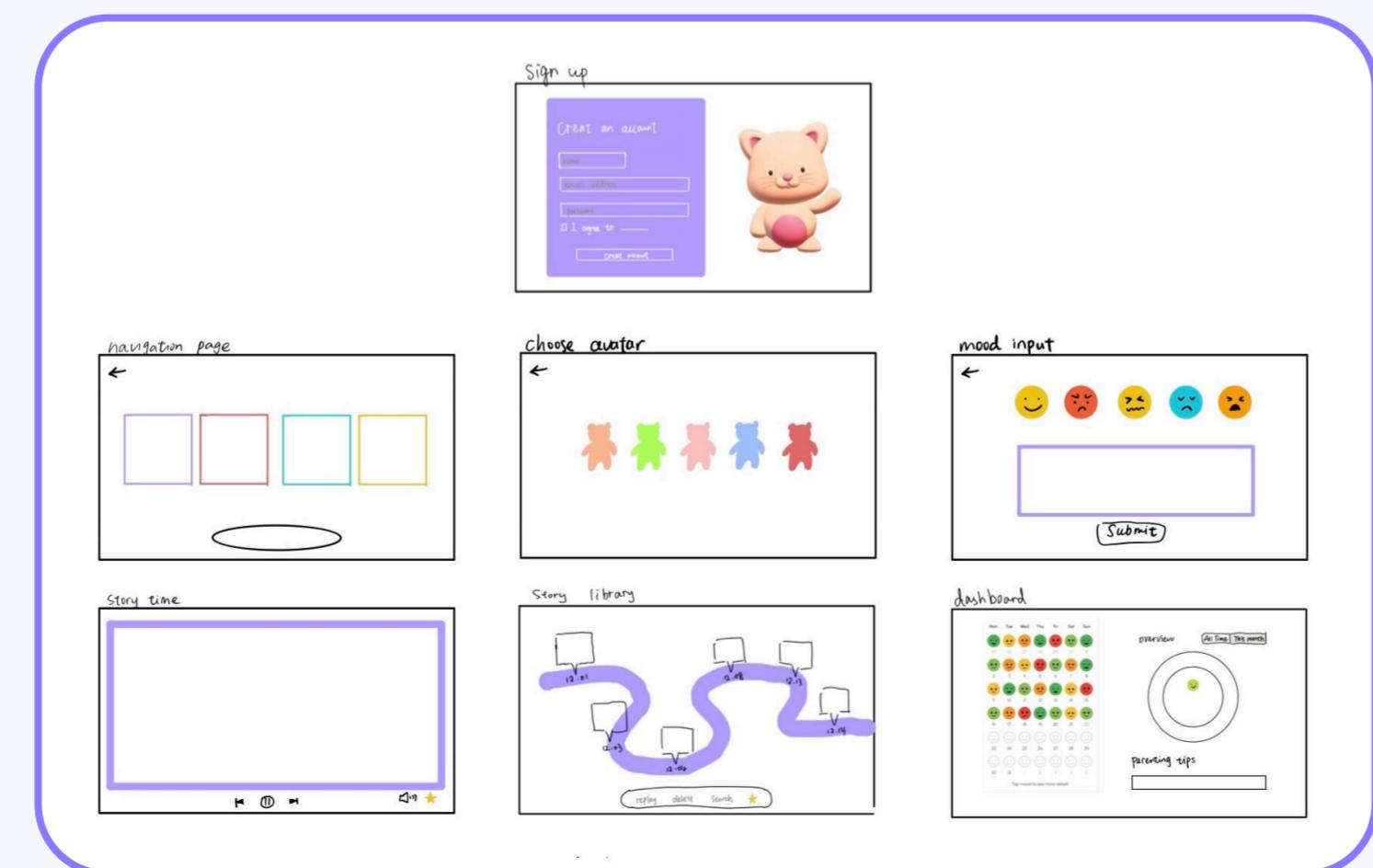
## Sketches

Early sketches explored different layouts and flows for mood check-ins, character selection, story reading, and parent insights



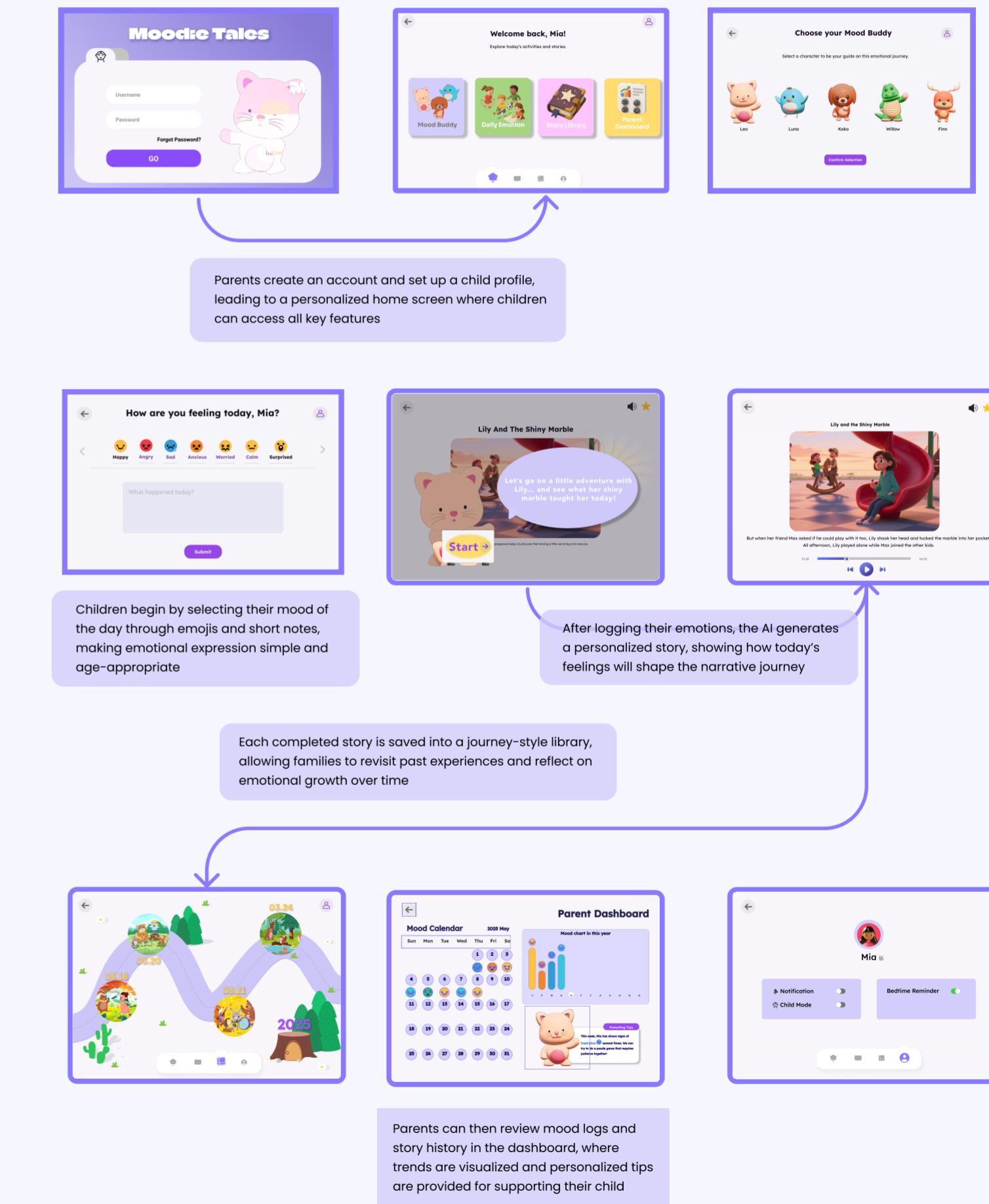
## Wireframes

Wireframes translated these ideas into low-fidelity screens, defining navigation, interaction patterns, and key functions before visual design



## First design

I translated initial wireframes into high-fidelity designs, focusing on child-friendly visuals, intuitive flows, and a balanced experience for both children and parents.



## USABILITY TEST

Usability testing with parents and children was conducted to evaluate how easily they could navigate Moodie Tales and to gather insights for improving clarity, engagement, and overall user experience.

### What worked

- Cute and easy-to-read mood calendar design
- Engaging story flow with illustrations and narration
- Parents appreciated the clear structure of onboarding and navigation
- Children enjoyed interacting with Mood Buddy and selecting emotions

### Need to improve

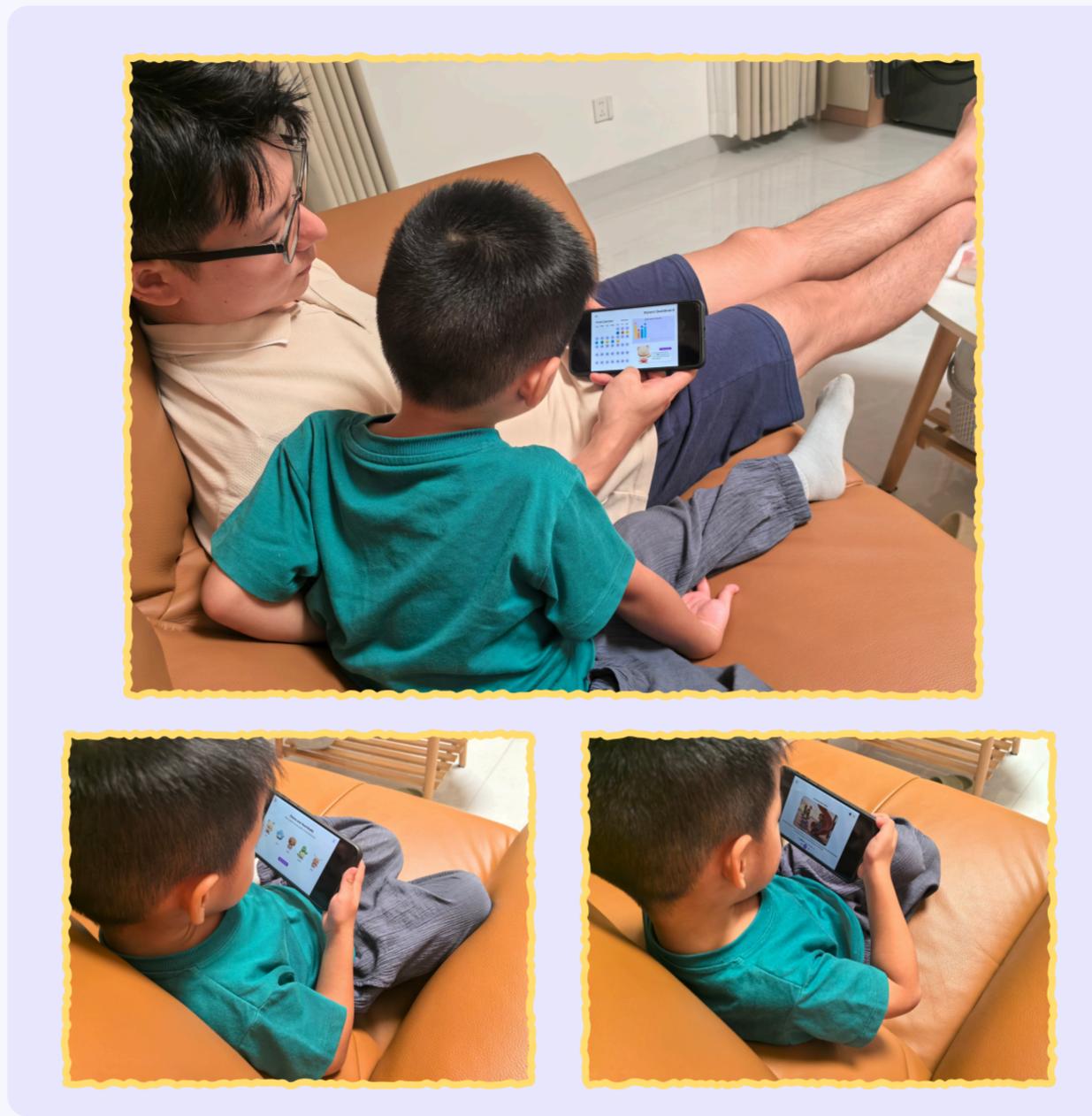
- Story timeline felt disconnected because nodes used generic drawings
- Parent dashboard felt overloaded with data, making it harder to spot trends quickly
- Parents wanted a more practical way to share data
- Younger children occasionally found it unclear what to do after mood selection

### Questions

- Can stories be saved or shared with teachers/family in an easy way?
- How can children be guided if they don't recognize a complex emotion?
- Could parents adjust how much data/insight they see on the dashboard?

### Ideas

- Replace generic icons in story progress map with real story thumbnails for clarity
- Provide monthly exportable reports (PDF) for parents to share with educators
- Simplify dashboard with clearer hierarchy and optional detail toggles



## FEEDBACK

### Parents

"The mood calendar is cute and easy to read, but I'd like a monthly PDF summary I can save or share with a teacher."



### Children

"I like the drawings, but I wish the story timeline showed the real stories I've read, so it feels more connected to my days."



**Parents value exportable data for broader emotional tracking**



**Using recognizable story thumbnails for clarity and relevance**

## FEATURE UPDATE

### Before & After

#### Case 1: Story Progress Map



- What:** Progress nodes updated to display thumbnails from the real stories.
- How:** Each checkpoint now uses the first illustration of the corresponding story, with simplified path visuals and lighter background bubbles.
- Why:** Helps children and parents easily recognize "which story was read on which day," while reducing visual clutter and improving usability.

#### Case 2: Parent Dashboard



- What:** Layout adjusted for clearer separation of mood calendar, mood chart, and parenting tips.

- How:** Increased spacing and hierarchy, with chart emphasized visually; parenting tip card anchored in the bottom-right corner.

- Why:** Makes emotional trends easier to interpret at a glance, lowers cognitive load, and helps parents focus on key insights without feeling overwhelmed.

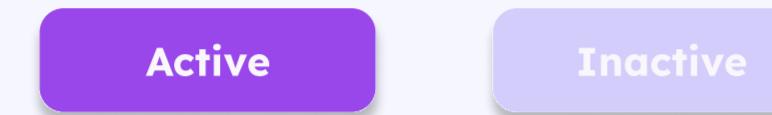
# FINAL DESIGN

## UI Elements

### Color Palette



### Primary Buttons



### Secondary Buttons



### Typography

H1, Climate Crisis, 150px regular

H2, Climate Crisis, 100px regular

H3, Lexend, 74px bold

H4, Lexend, 70px bold

H5, Lexend, 52px medium

Body, Lexend, 30px regular

### Main Characters

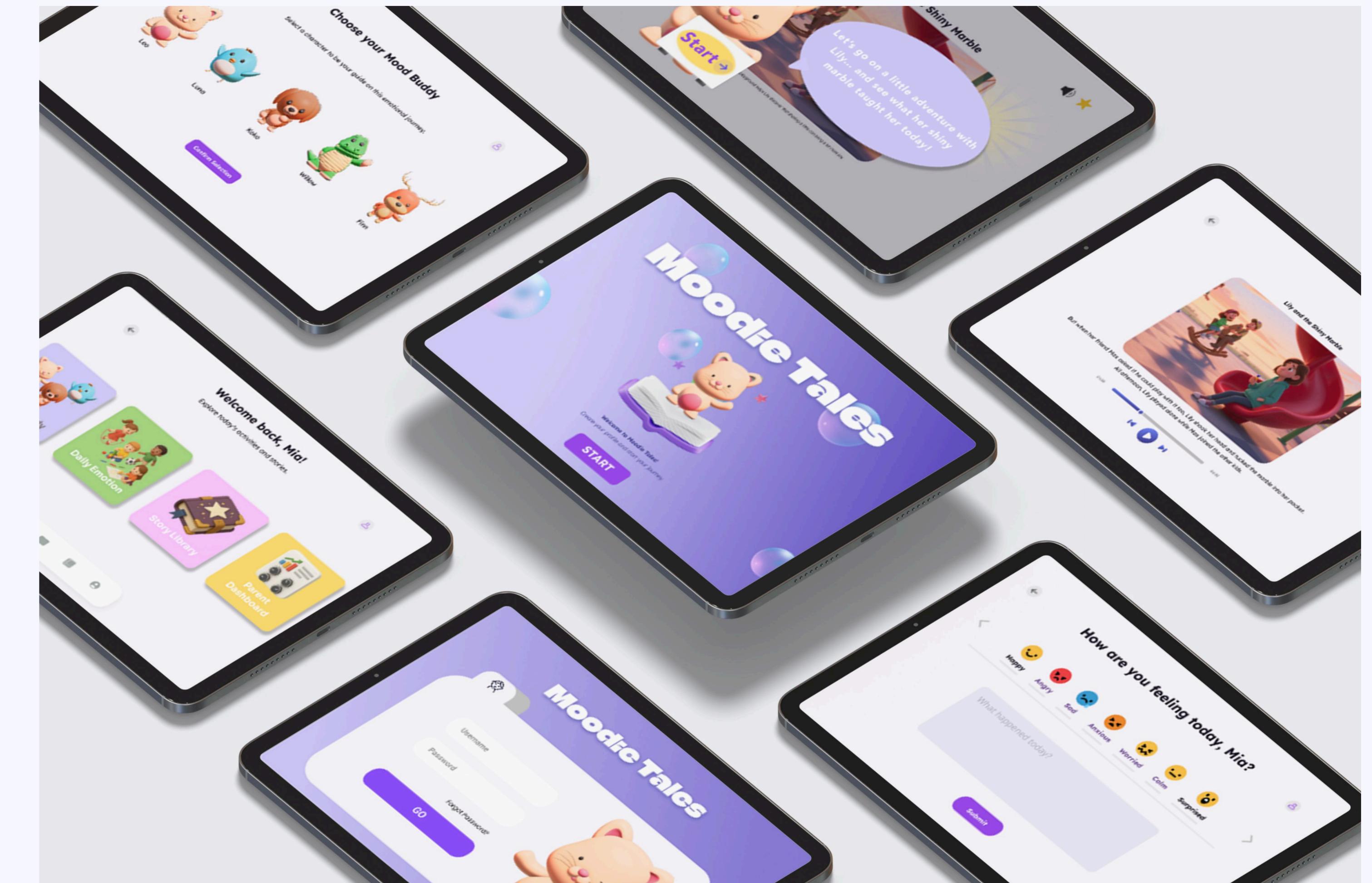


Friendly mood buddies designed to guide children through emotional learning with warmth, playfulness, and trust



## REFLECTION

Designing Moodie Tales highlighted the need to balance playful engagement for children with simplicity and clarity for parents. A key challenge was delivering meaningful emotional insights without overwhelming users, which shaped iterations in visual hierarchy and interaction design. Future improvements could include more interactive storytelling, a more adaptable parent dashboard, and potential integration with educators.





# Quantum Adventure

— Gamifying Quantum Concepts for High School Learners

This project translates five core quantum concepts—qubit, quantum state, superposition, entanglement, and measurement—into a board game format. By combining familiar mechanics with educational design, the game aims to enable high school students to intuitively grasp abstract phenomena through play, strategy, and interaction.

# Q-JAM SUMMER CAMP

TIME: 2025.5-2025.8

## A quantum-themed interdisciplinary summer camp: bridging science, design, and education.

I participated in the Q-JAM Camp as a content contributor, responsible for organizing quantum knowledge, summarizing core concepts (superposition, measurement, entanglement), and developing a structured mind map to support idea generation for quantum game design.

Category  
Education Program

Role  
Content Contributor  
Mind Map Designer

Project Status  
Completed and Documented



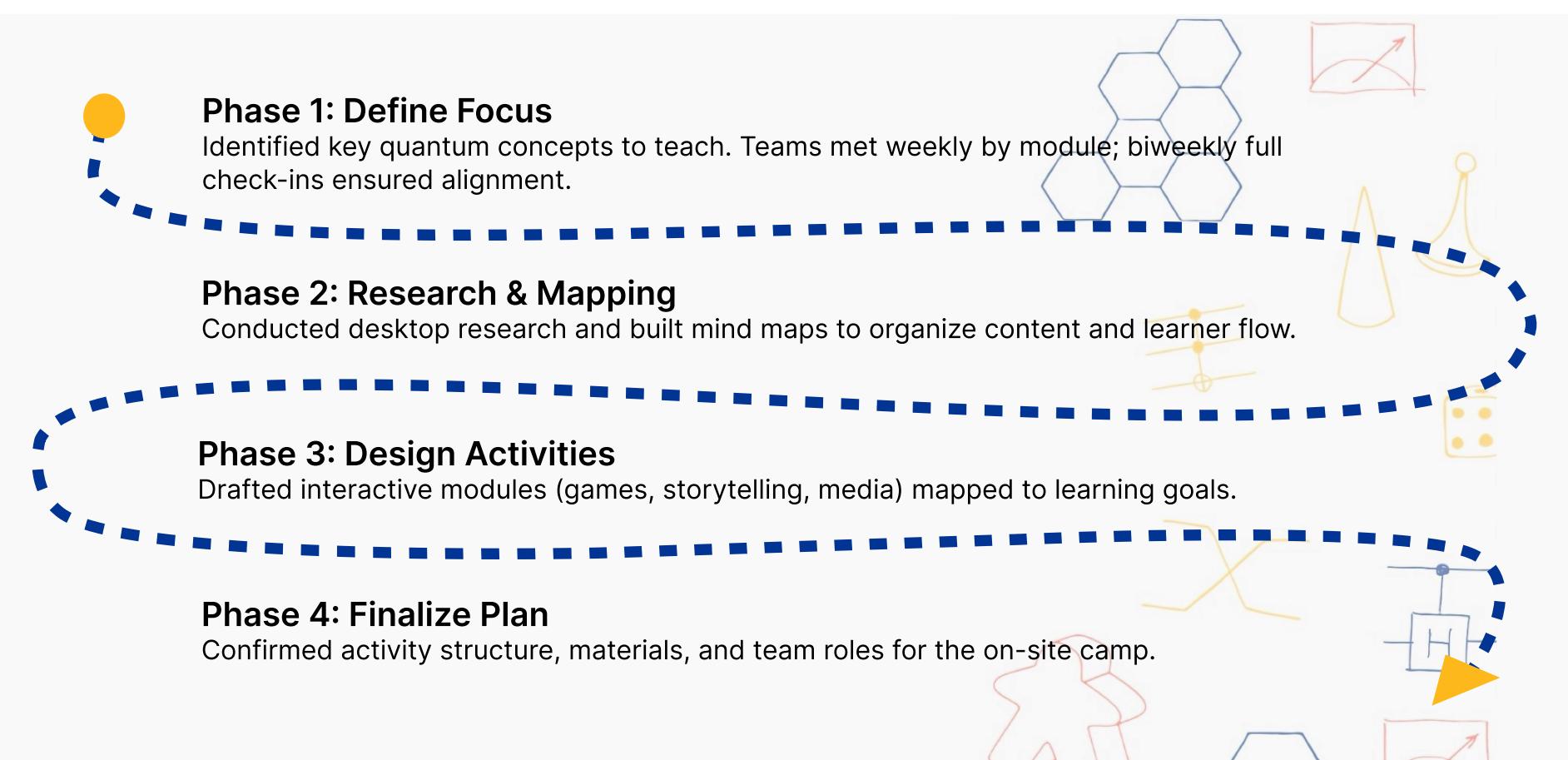
**Yuying (Sofie) Wang**

Undergraduate Student in BSc Psychology with Education at University College London (UCL)

Content Contributor at Q-JAM Summer Program



## Milestones



## Personal Reflection

How to make quantum concepts tangible through play?



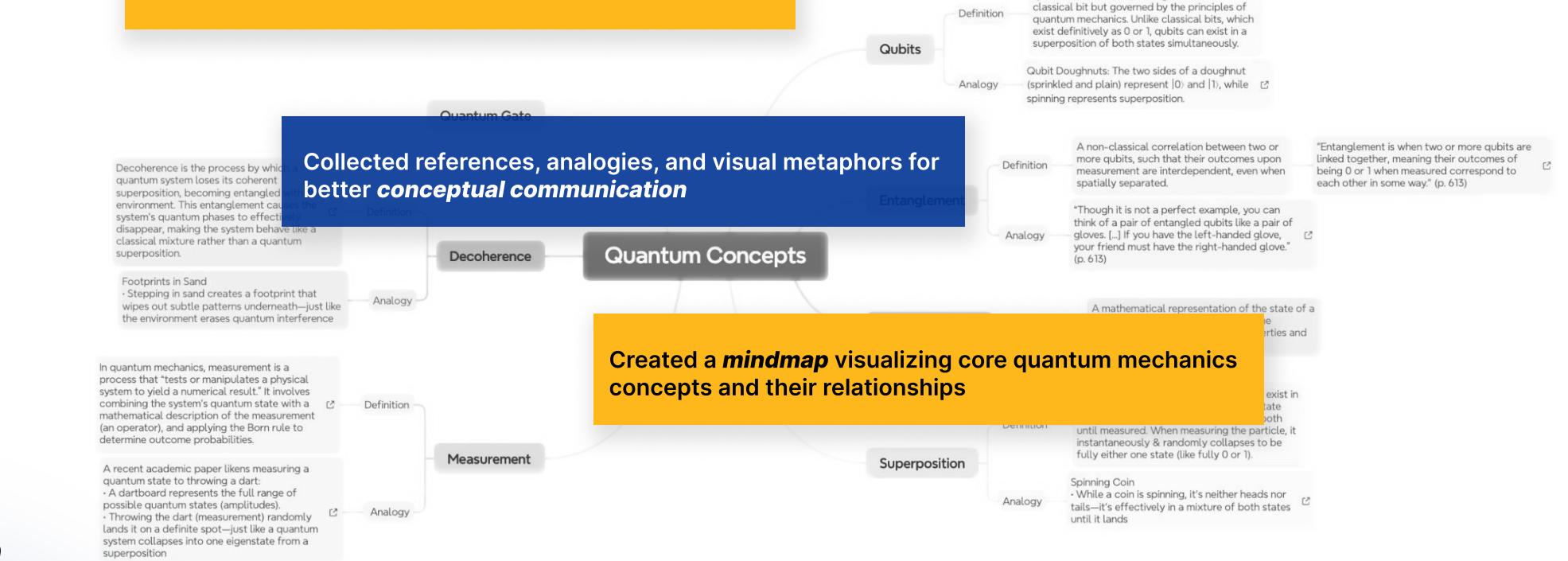
**“** Analyzed quantum concepts and created structured mind maps during Q-JAM

**“** Identified the challenge: key ideas like superposition and entanglement remain abstract for learners

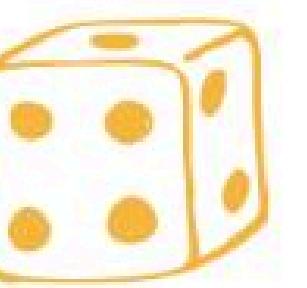
**“** Decided to design a gamified learning tool to help high-schooler intuitively grasp quantum mechanics

## Preparation

Conducted **background research** on quantum concepts



# RESEARCH



## Understanding the Learner: What Quantum Concepts Are Teachable to Teens?

While quantum physics is often seen as advanced science, many foundational concepts—like superposition, entanglement, and measurement—can be introduced to high school students without math. These ideas are not only intellectually exciting, but also challenge students to think in new ways about uncertainty, information, and reality.

## Why Games? The Pedagogical Value of Playful Learning

Quantum physics is abstract and invisible. Through game rules and mechanics, players experience core ideas like uncertainty and measurement. Learning becomes active, intuitive, and memorable—rather than passive or purely symbolic.

Constructivism

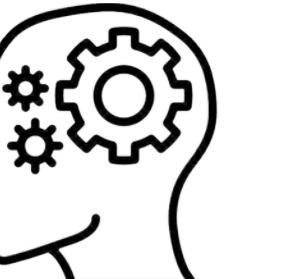
Experiential Learning

Situated Learning

Learners build understanding through interaction—games provide a space to explore complex ideas like superposition or entanglement.

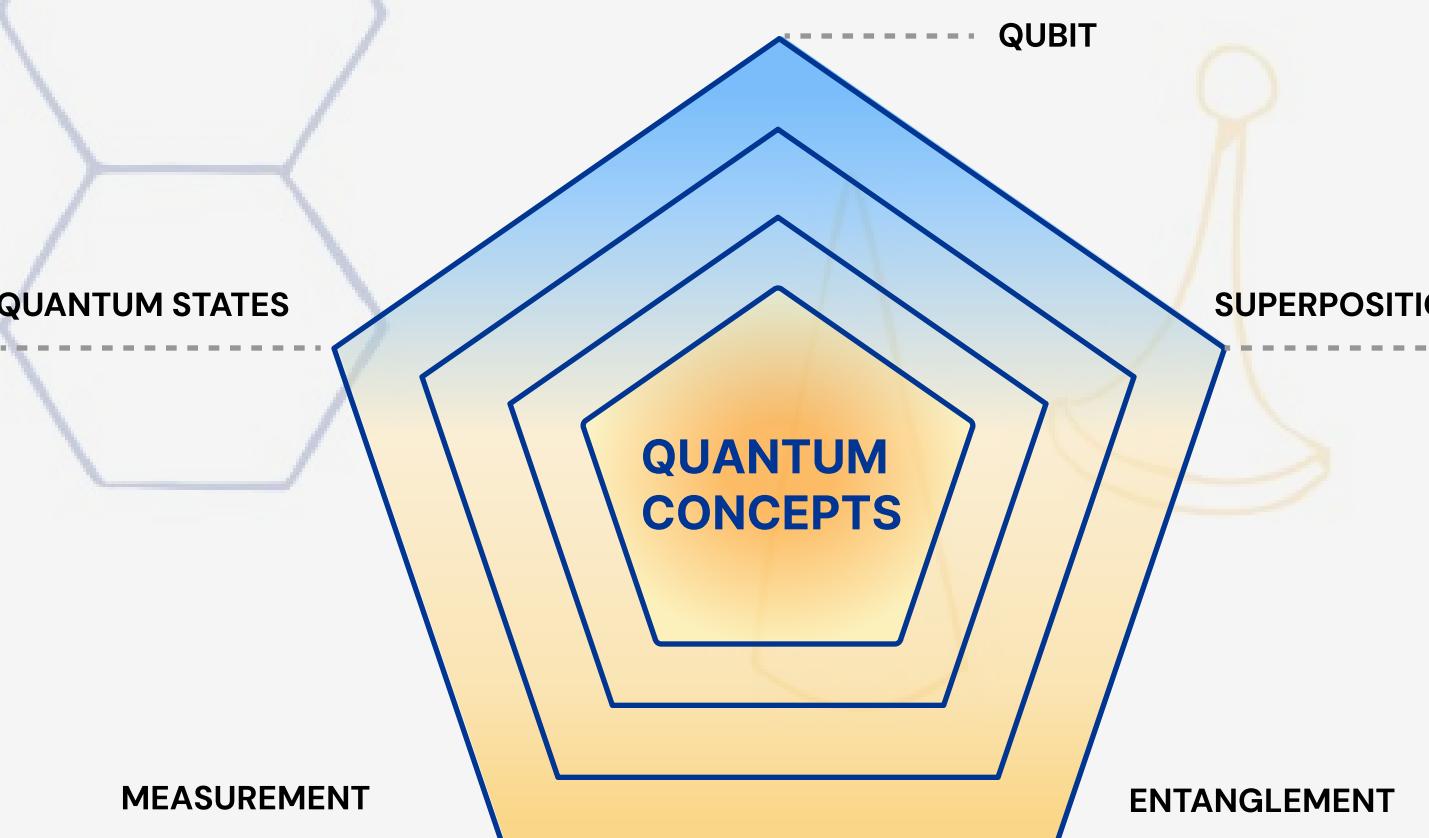
Games naturally follow a cycle of doing, reflecting, and adjusting, making abstract concepts feel real.

Board games create a structured context where learners apply knowledge, not just receive it.



## Theoretical Support

## Five Core Quantum Concepts



**QUBIT** is the basic unit of quantum information, like a bit in a regular (classical) computer, but it can be in a state of 0, 1, or both at the same time.

**QUANTUM STATE** describes everything we know about a quantum system, like the exact way a qubit behaves. It can include being in multiple possible states at once.

**SUPERPOSITION** means a qubit can be in a mix of both 0 and 1 at the same time, instead of just one or the other.

**ENTANGLEMENT** is a connection between two or more qubits where the state of one instantly affects the state of the other, no matter how far apart they are.

**MEASUREMENT** is when you check a qubit's state, and it "chooses" one definite value—either 0 or 1. Before measurement, the qubit can be in a mix of both, but measurement forces a single outcome.

# INTERVIEW

To understand how teens perceive quantum physics, I conducted interviews with high school students to explore their acceptability with quantum concepts and their interest in learning them through games.

## Key Questions

- Have you heard of quantum physics before?
- Can you describe what superposition, entanglement, or measurement means to you?
- Do these topics seem interesting or too difficult?
- Would you enjoy learning quantum ideas through games?
- What type of games do you usually play?



**Leo Zhang**

Age 17

STEM Student

"Superposition sounds cool, I get the 'multiple state' idea."  
"Games could make this stuff way less scary."



Interested  
Confident



**Emily Chen**

Age 15

Visual Art Student

Finds science class hard to follow  
Likes board games

Curious  
Needs Accessibility

Enjoys board games

"Measurement collapse feels like rolling a die in a strategy game."  
"If the game is fun, I'd give it a try."



**Jason Lee**

Age 16

Robotics Club Member

Enjoys puzzle game [e.g. The Witness, Minecraft Redstone]

Enthusiastic  
Concept-Driven

"Entanglement as a rule between players could be super fun."  
"It sounds like a game mechanic already!"



**Sara Kim**

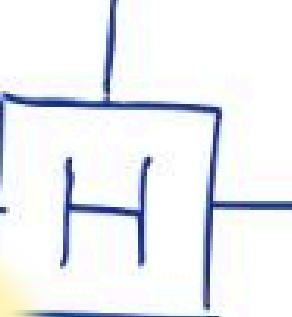
Age 15

Science Club Member

Confused by physics jargon  
Enjoys educational puzzles

Open  
Confused

"I don't know how it works, but I'd play if it explains stuff."  
"Can we win or lose based on the quantum stuff?"

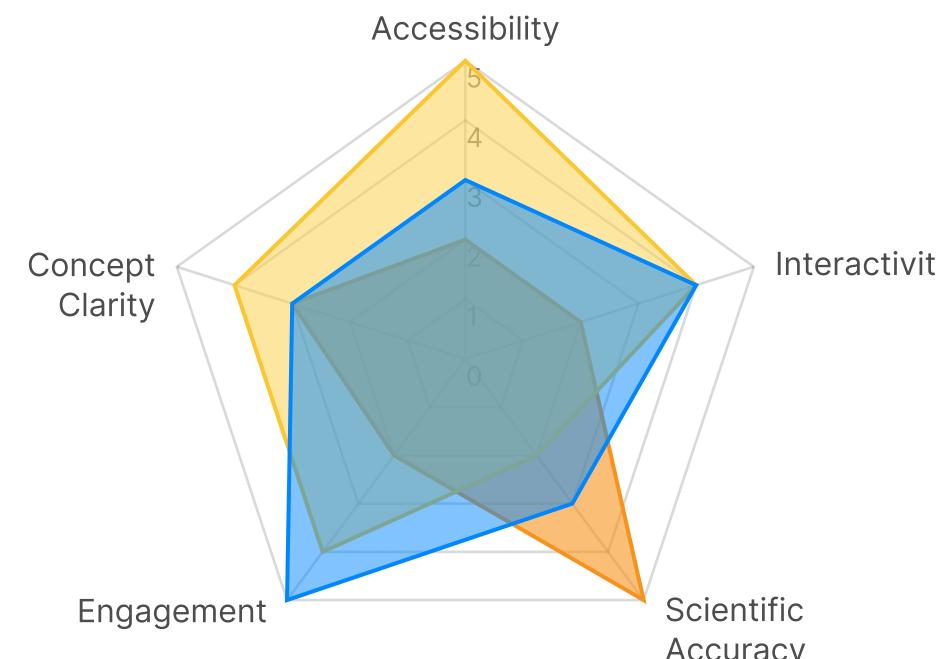


# COMPETITIVE ANALYSIS

To identify design gaps and opportunities, existing quantum educational tools and games are analyzed.

	quEDU	Quander Games	Quantum
Interface			
Features	Typically teacher-led, limited student interaction	Visual, symbolic, drag-and-drop interface; no math required	A fast-paced strategy game where dice represent ships with variable powers depending on their value
Pros	Offers real experimental results, not just simulation	Highly visual and metaphor-driven; reduces abstractness	Strong graphic design, good physical components, well-balanced rules
Cons	High cost and complexity, limited accessibility	Very metaphorical—limited direct connection to scientific terms or formalism	May be overwhelming for students under 13 or unfamiliar with modern board games

## Conclusion



## Design Opportunity

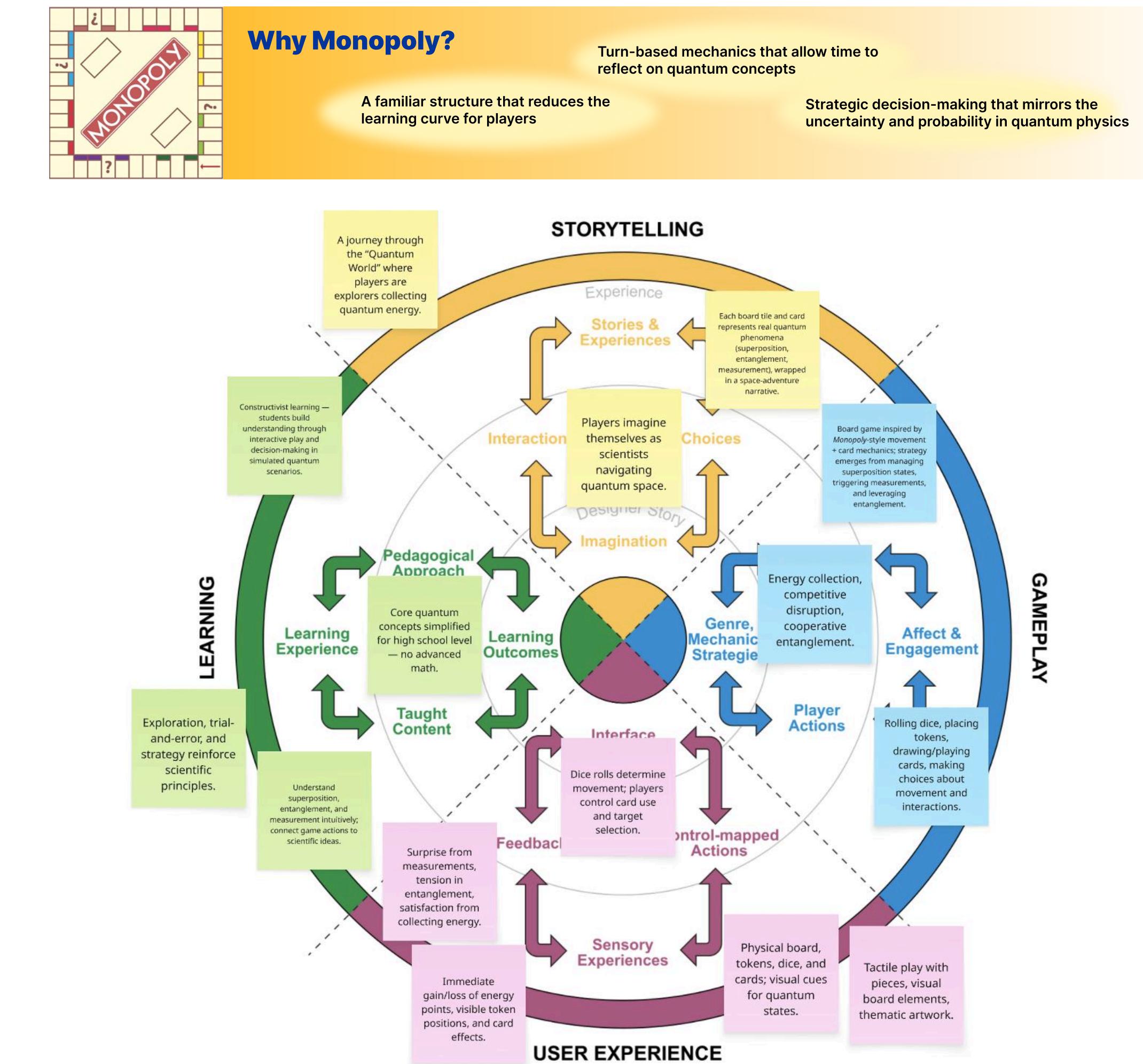


Integrating familiar board game structures with core quantum ideas opens up a playful, hands-on way to explore abstract quantum concepts through visible, interactive game mechanics.

● quEDU ● Quander Games ● Quantum

# IDEATION

To make complex quantum concepts approachable, the game adopts a grid-based progression system inspired by *Monopoly*.



Brainstorming By Serious Game Design Methodology

# CONCEPT

## An Educational Board Game Designed To Help High School Students Explore Quantum Concepts

### Brainstorming Conclusion

**Game Type**



A strategy-based serious game that merges classic board game mechanics with quantum physics concepts for playful STEM learning.

**Game Aims**



Help high school students intuitively grasp five core quantum concepts through interactive play, fostering curiosity and confidence in science.

**Scenarios**



Set in a fictional "Quantum World" where players explore, collect energy, and interact with quantum phenomena represented by board spaces and cards.

**Target User**



High school students aged 15–18 with an interest in science, games, and problem-solving, but no prior physics background.



**Card Layout:** Text-heavy design reduced readability

Simplify with larger icons and concise keywords

**Energy Tracking:** Players often lost track of collected energy

Introduce energy tokens on a personal tracker board

**Token Design:** Tokens were perceived as plain and lacking appeal

Redesign with custom pieces reflecting quantum superposition

# ITERATION

the game evolved from concept sketches to a playable system that links quantum ideas with strategy

## Thinking Process

Mapped **core quantum ideas** onto **concrete board actions**.

Focused on **balancing scientific** meaning with **strategic gameplay value**.

Simplified card text into icons + keywords while keeping **conceptual clarity**.

Refined board layout to maintain rhythm and variety across 40 spaces.

**Unified visual language** across tokens, cards, and tiles for accessibility.

Used **playtesting as feedback** loops, observing both confusion and excitement.

Iteration shaped a system where **learning goals** and **fun mechanics** reinforce each other.

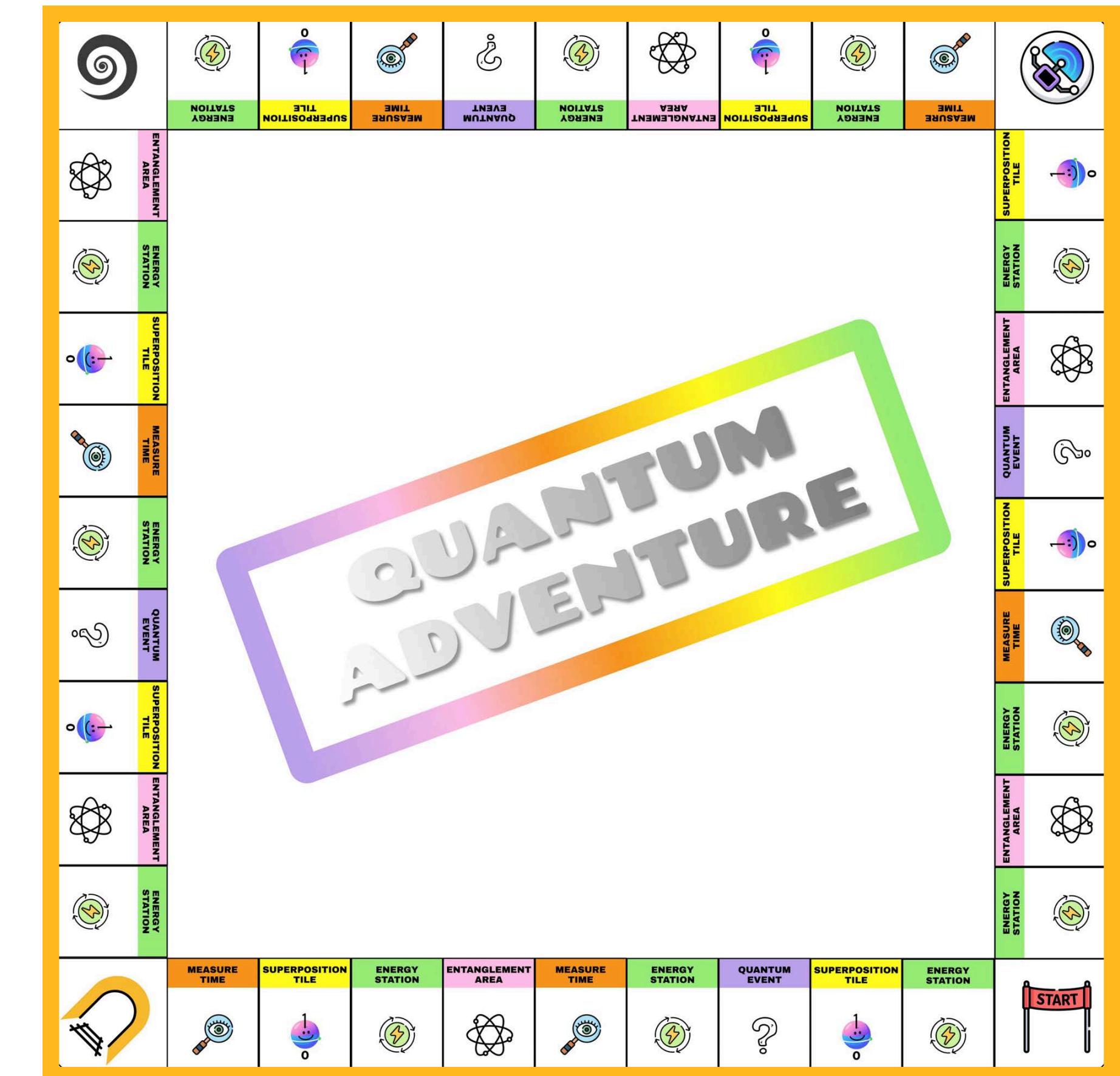


## Card System

**6 types** of cards guide strategy and surprise.

Each card **connects directly to a quantum concept** (superposition, entanglement, measurement, etc.).

Designed with **icons + colors** for fast recognition.



## Game Board

**40 squares** combining energy, superposition, entanglement, and measurement spaces.

Each tile **translates a quantum idea into gameplay mechanics**.

Balanced layout ensures progression, strategy, and unpredictability.

# Comparison with Early Prototype

## Prototype Issue

The concept of superposition was hard to visualize when using identical tokens

Players often forgot progress because there was no way to track loops



Added a round counter, making the game easier to follow



## Reaction while testing the final version

- “Entanglement added a fun twist – I liked how I sometimes benefited from another player’s move, but also had to deal with their risks.”



- “The Quantum Event cards were my favorite part – unpredictable but still balanced, like real quantum uncertainty.”



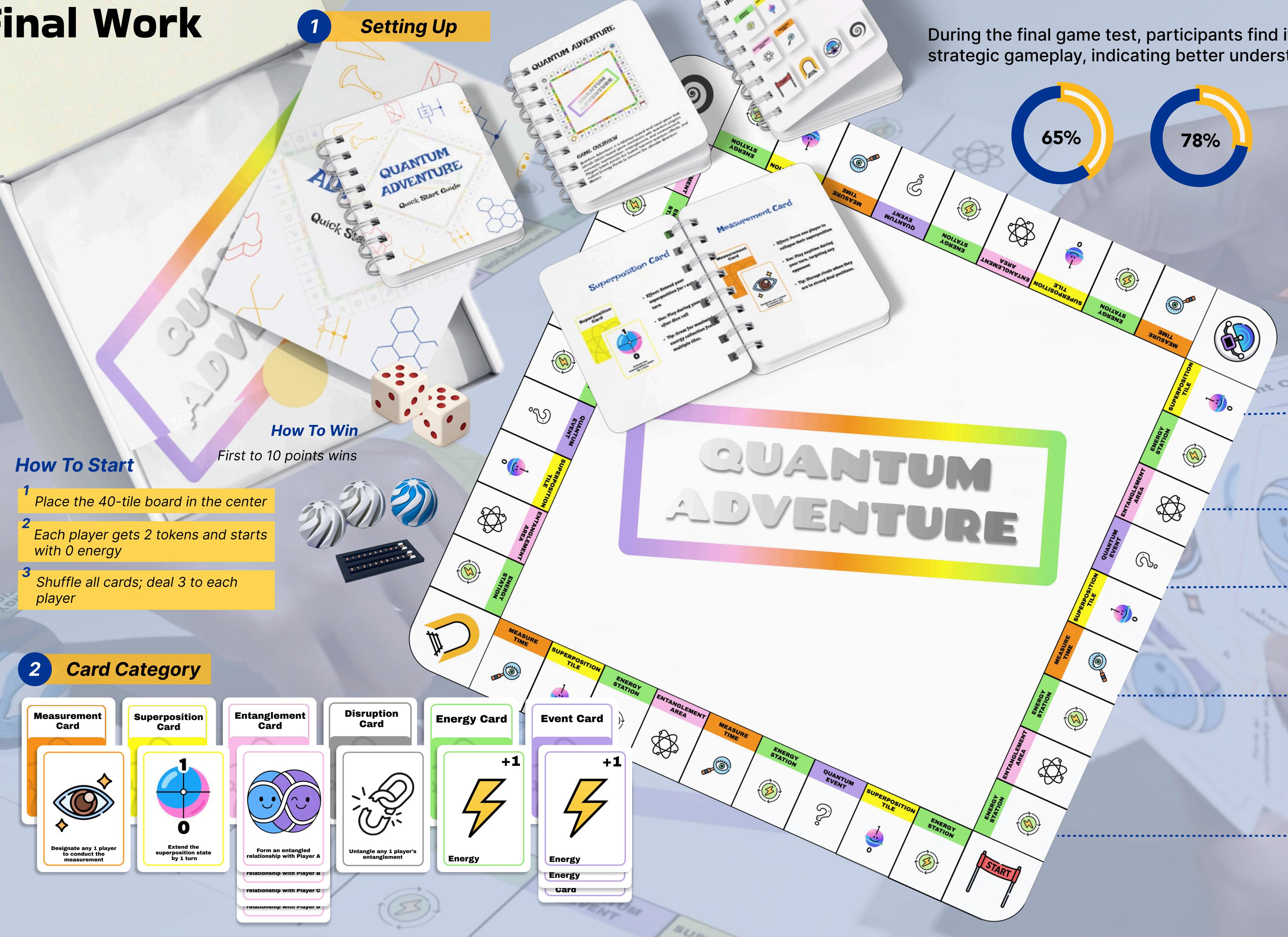
- “The combination of cards and board effects gave me multiple ways to play – I felt in control even with randomness involved.”

- “Rolling two dice and placing two tokens felt unique – I instantly got the idea of **being in two states at once**.”
- “The collapse mechanic was tense and exciting; every measurement felt like a dramatic moment.”

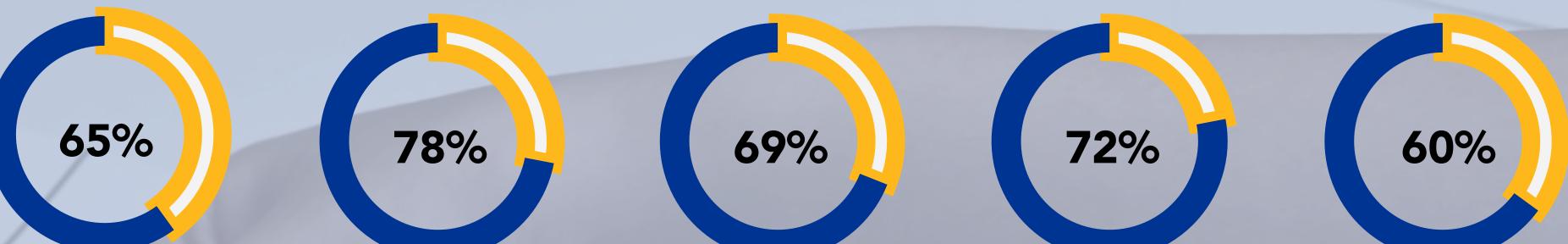
The cards were word-heavy and slowed the game

# Final Work

## 1 Setting Up



During the final game test, participants find it easier to connect terms to quantum logic and strategic gameplay, indicating better understanding towards each 5 quantum concepts



## 3 Board Spaces

### Superposition Tile

- Grants a Superposition Shield (immune to one measurement) — modeling how a system can remain in superposition without collapsing until observed.

### Entanglement Area

- Entangle with another player for 3 turns, sharing gains and losses — mirroring quantum entanglement where two particles' states are linked

### Quantum Event

- Draw a random event card with boosts or penalties — reflecting quantum fluctuations and unpredictability in physical systems.

### Measure Time

- Roll 1 die to keep one token and remove the other — simulating wavefunction collapse, where measurement forces one definite outcome.

### Energy Station

- Gain +1 energy point for each token — representing how particles store and exchange quantum energy in different states.