




# THE WORLDS OF PHONETICA

**A MAGICAL JOURNEY FOR  
AI-POWERED CHILD SPEECH IMPAIRMENT THERAPY**

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**1 IN 12**

In a world where 1 in 12 children  
struggle with speech...

# BACKGROUND

## INTRODUCTION TO CHILD SPEECH IMPAIRMENT

This is the daily struggle for 1 in 12 children aged 3-17 in the United States.

Mispronouncing Words?

Struggle with:

Moving multiple muscle structures in the mouth

Developing proper sound patterns

Building confidence in communication

Maintaining consistent practice





# PROBLEM STATEMENT

## ACCESSIBILITY

### Large Untreated Population

55.2% of 4.15 million US 5-17 children are **untreated** in the past year

### Limited Available Resources

**not every hospital provide speech therapy**

## AFFORDABILITY

### High Treatment Cost

#### Initial Assessment:

- Expressable: **\$100-\$150**

#### Ongoing Treatment:

- Better Speech - **\$225** per session
- Expressable - **\$65-\$90** per session

## SOCIOECONOMIC

### Racial Disparity

9.6% Black children have disorder compared to 7.8% of White children

### Financial Burden


treatment expenses/monthly salary ratio can reach **20 at maximum, 4.41 in average**



# OUR SOLUTION:





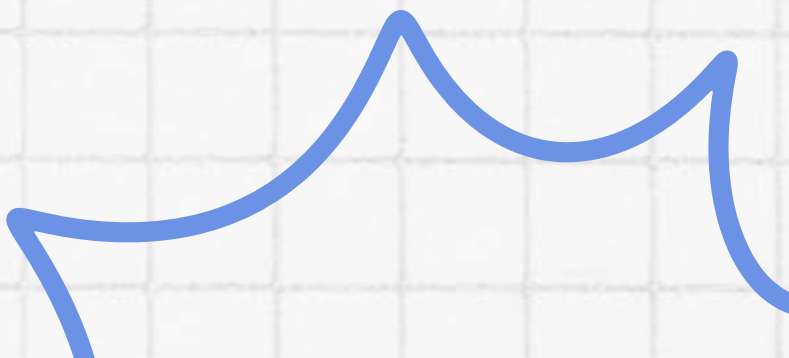


# MISSION

- To make speech therapy more accessible and engaging to kids through an AI-powered game designed specifically for children ages 6-12.
- To transform speech therapy through magical digital experiences that make professional treatment accessible, engaging, and effective for every child.
- Through our crystal-powered world of Phonetica, we bridge healthcare gaps, empower confidence in communication, and create joyful pathways to speech mastery - ensuring that every voice has the chance to shine.

# VISION

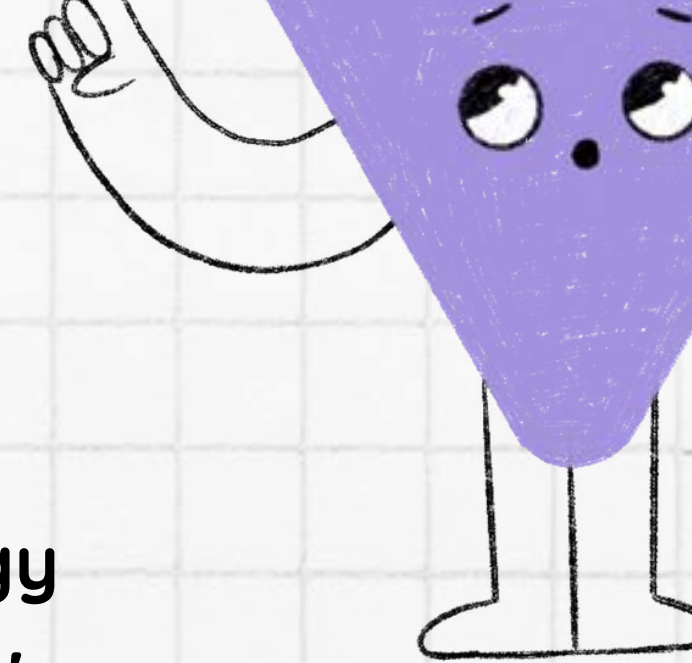
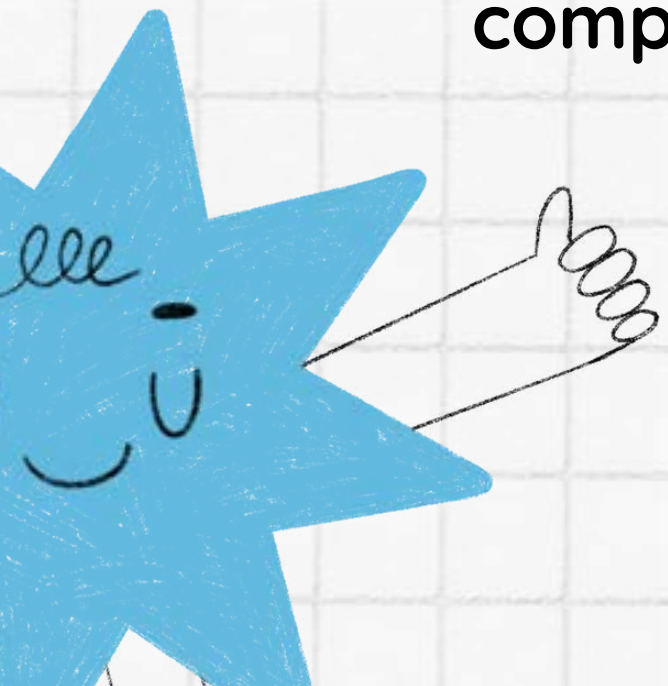
Create an inclusive world where every child has access to quality speech therapy regardless of socioeconomic status.





# GAME NARRATIVE

In the magical realm of Phonetica, where crystals pulse with sound energy and pathways glow with musical light, young Sound Keepers (the players' customizable magical creature avatars) discover that the realm's Crystal Harmony is fading. They meet Luna, a young crystal fox whose family guards the Sacred Sound Crystals that keep the world in balance. However, the crystals have been scattered across the realm by the mysterious Sound Scatter, a chaotic force that jumbles words and sounds. The player will join the game to help the fox collect crystals back through completing challenges related to pronunciations.







# WORLD STRUCTURE

## 1 WHISPER WOODS (DAILY PRACTICE)

- Basic sounds and confidence building
- Gentle, encouraging environment
- Collection of first sound crystals
- Meeting Luna and learning basic mechanics

## 2 RHYTHM RAPIDS

- Focus on sound flow and timing
- Musical elements and rhythm games
- Water-based challenges
- Collecting flow crystals

## 3 CONSONANT CANYON

- Mastering consonant sounds
- Echo-based challenges
- Crystal formation puzzles
- Sound combination discoveries

## 4 VOWEL VALLEY

- Pure vowel sound mastery
- Harmony-based challenges
- Musical crystal gardens
- Sound blending activities

## 5 PEAK OF EXPRESSION

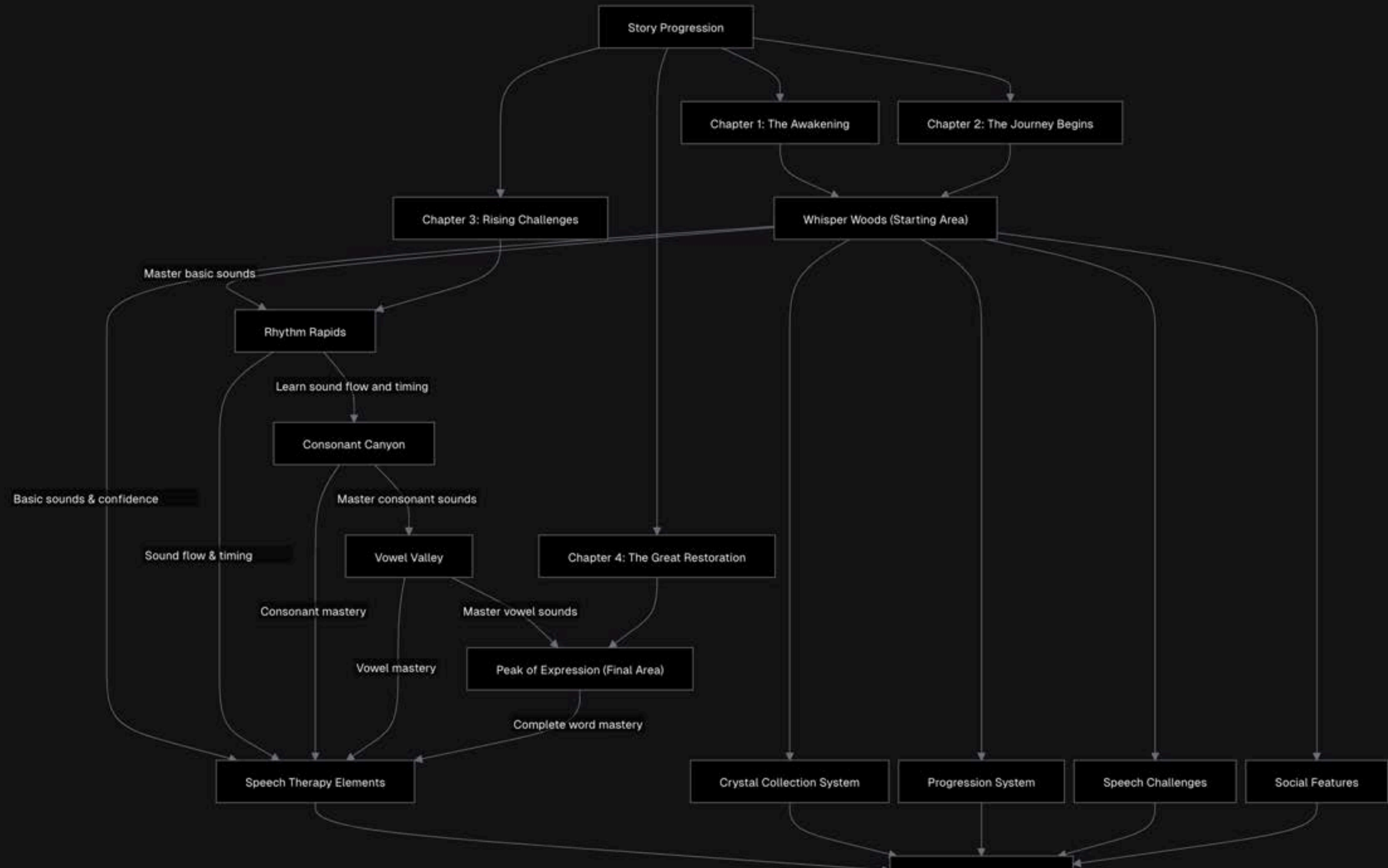
- Complete word mastery
- Advanced sound combinations
- Grand crystal formations
- Final harmony restoration

**CONTINUE TO DO DAILY PRACTICE  
TO AVOID REGRESSION...**





# ROADMAP OF THE GAME



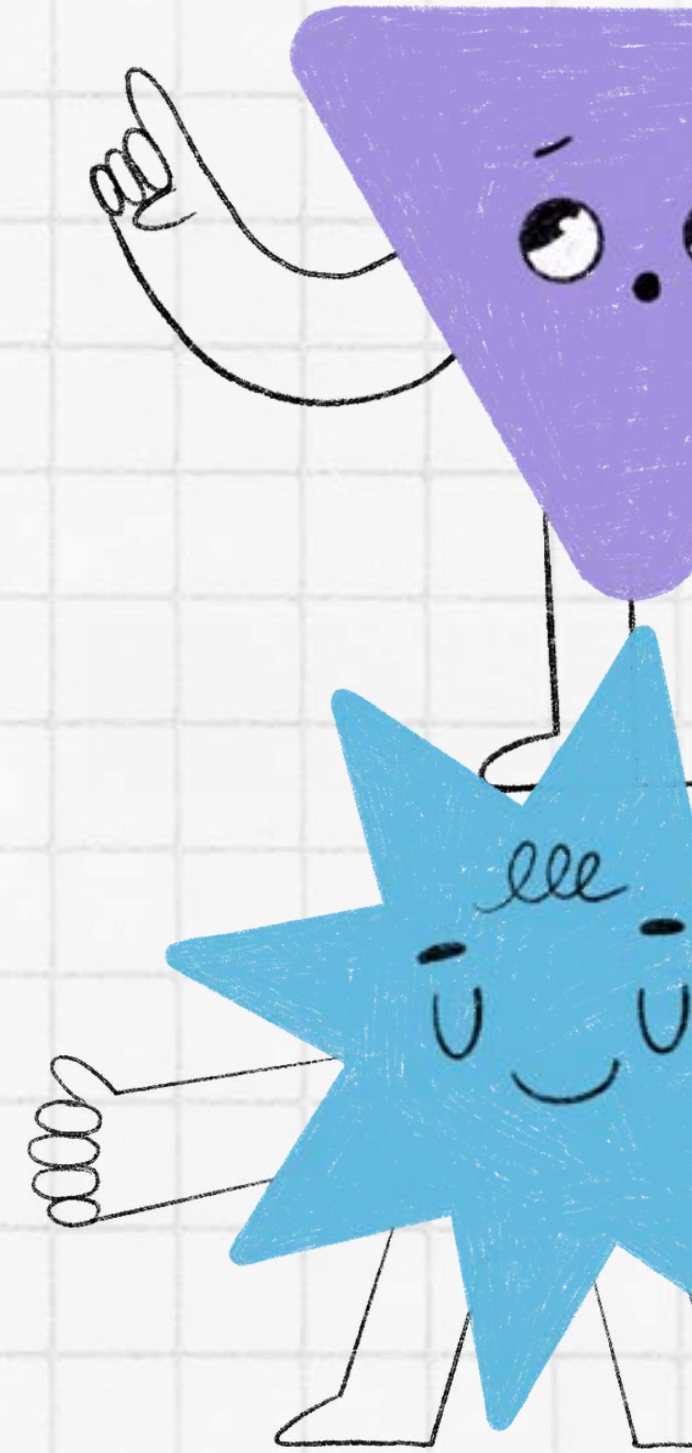
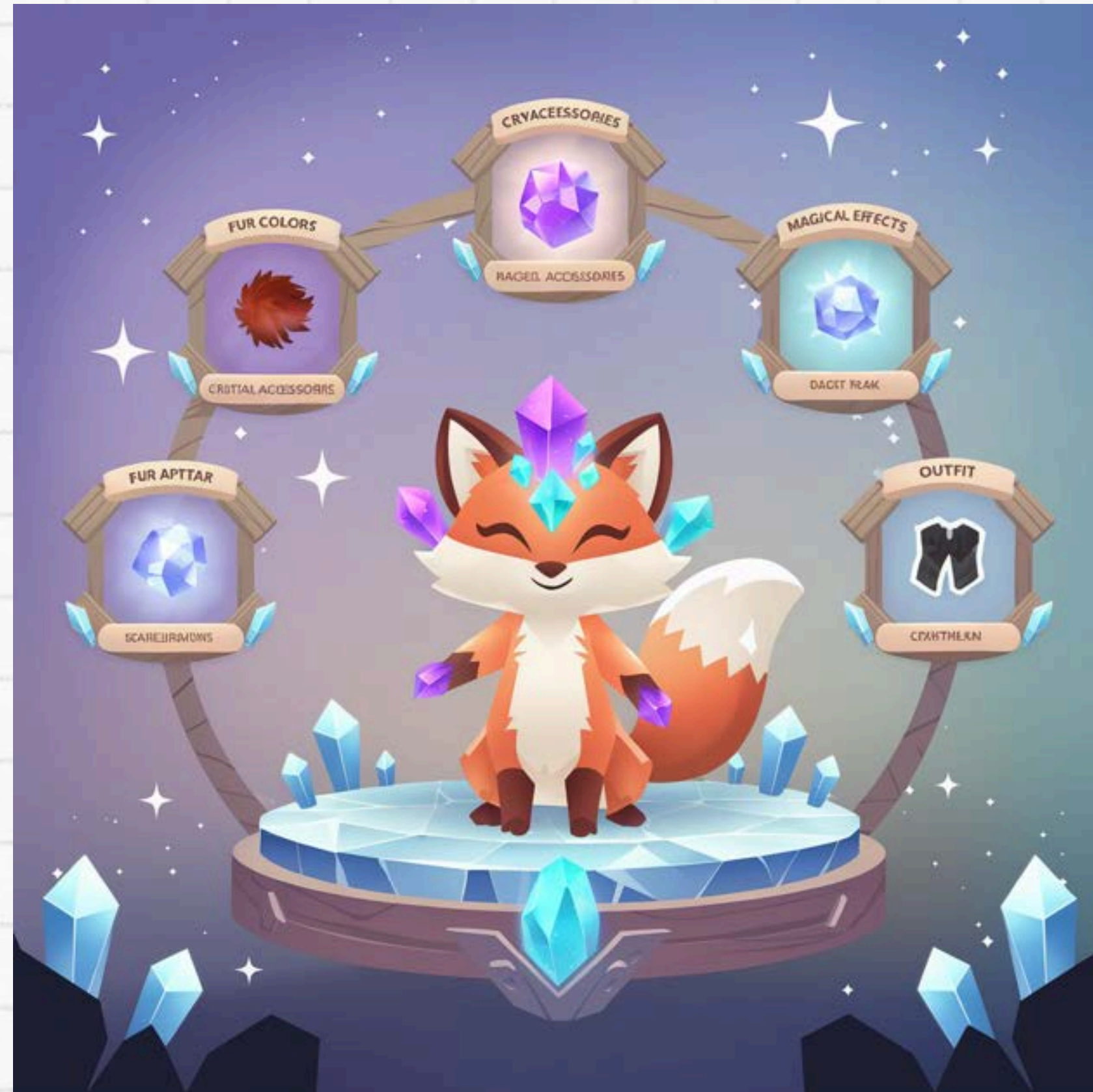


# HOMEPAGE



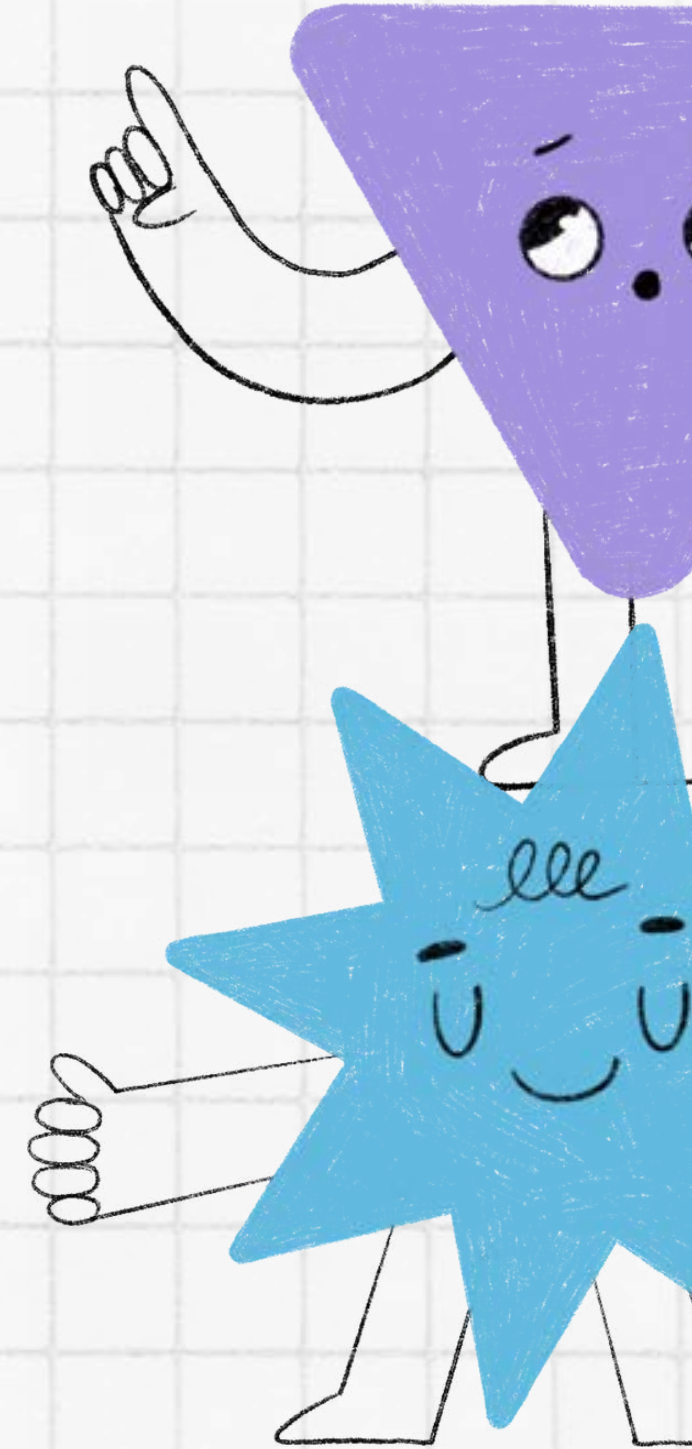
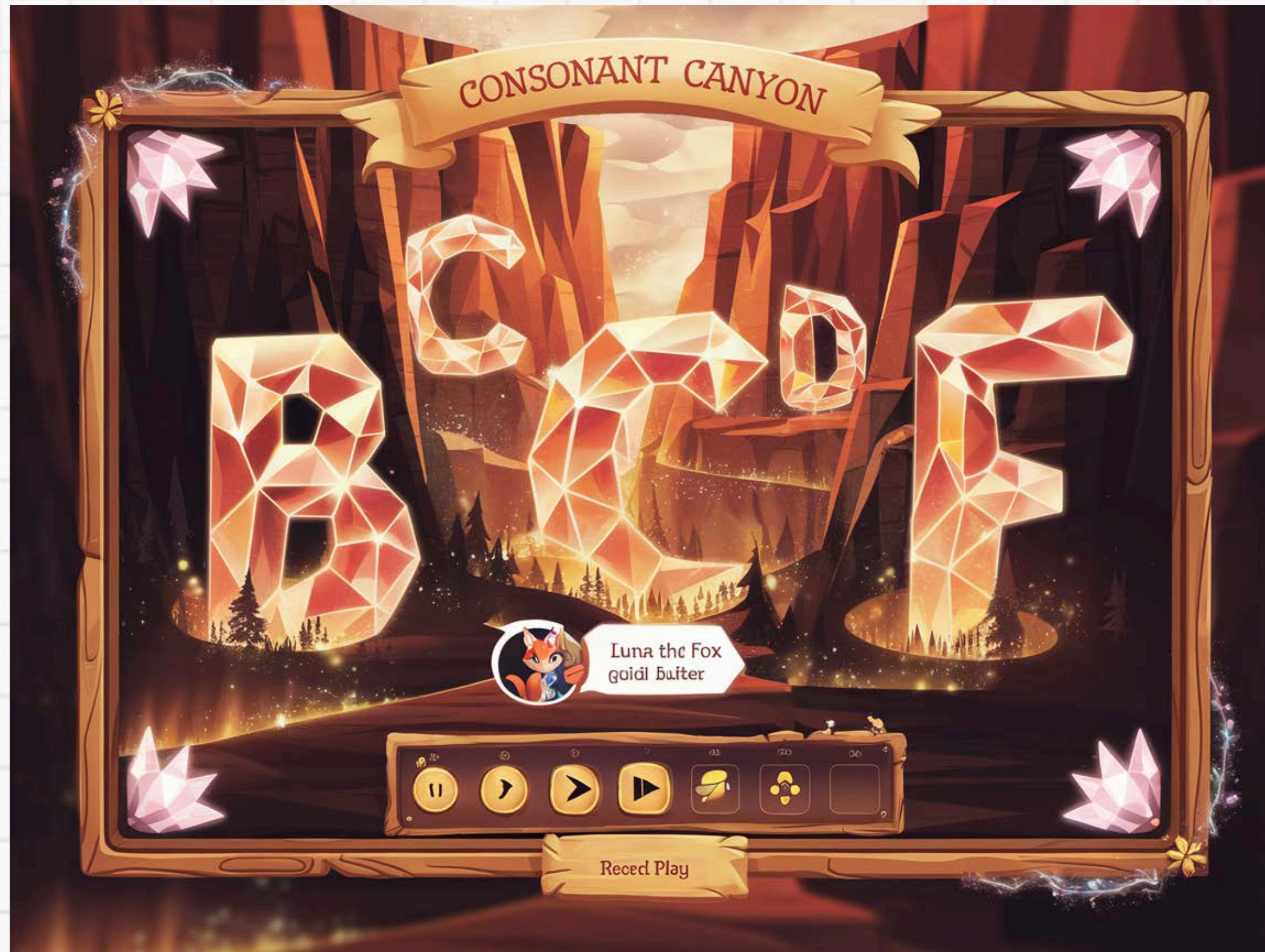


# CUSTOMIZATION



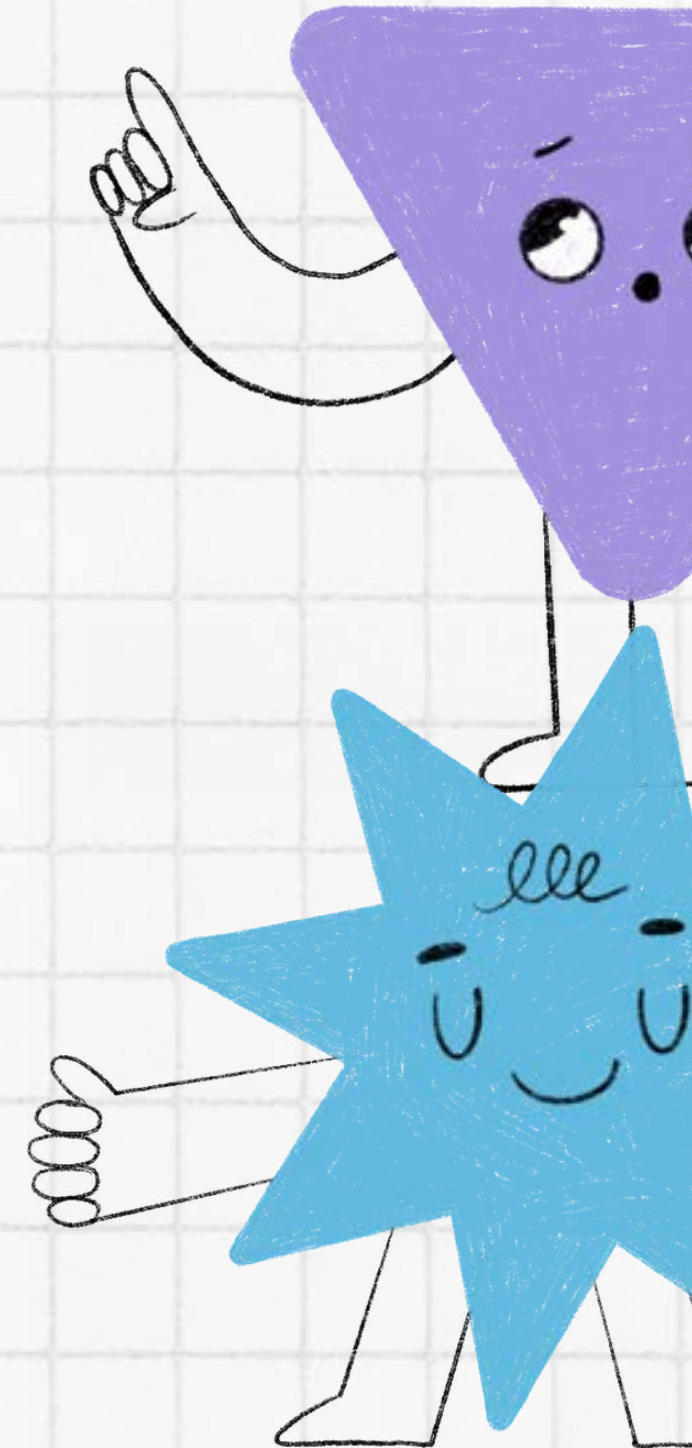
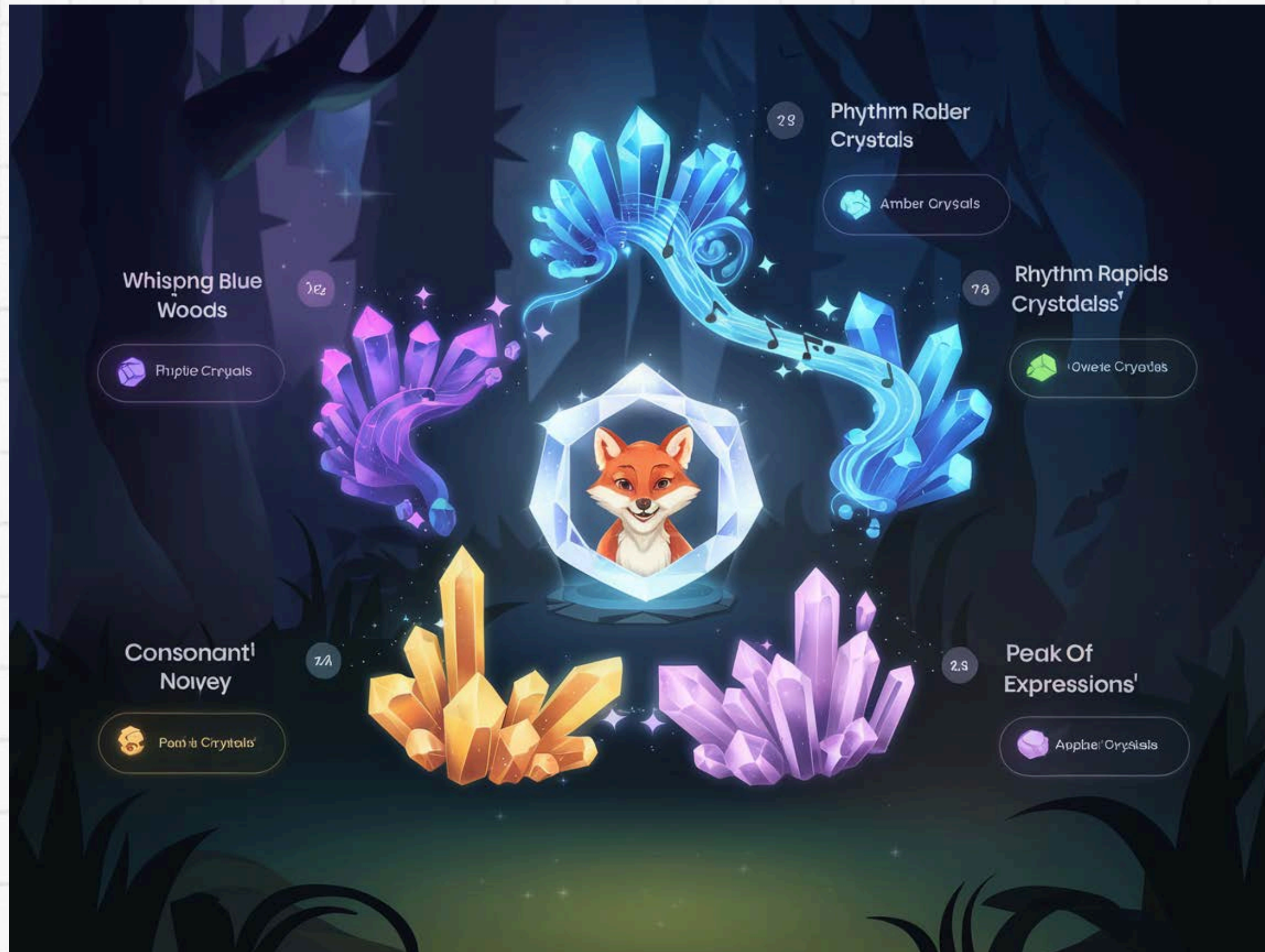


# LOCATION



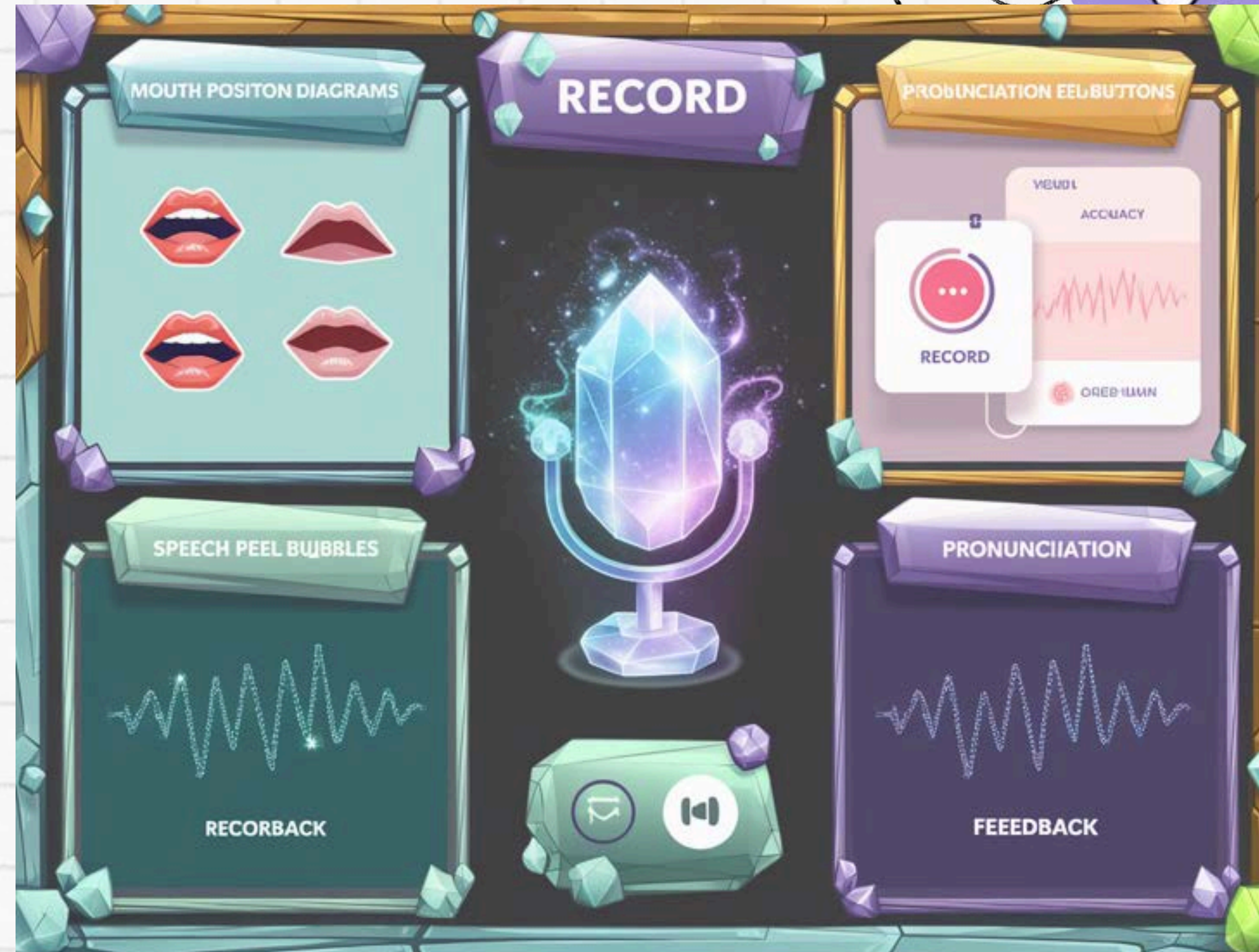


# PARENT DASHBOARD





# CHALLENGE







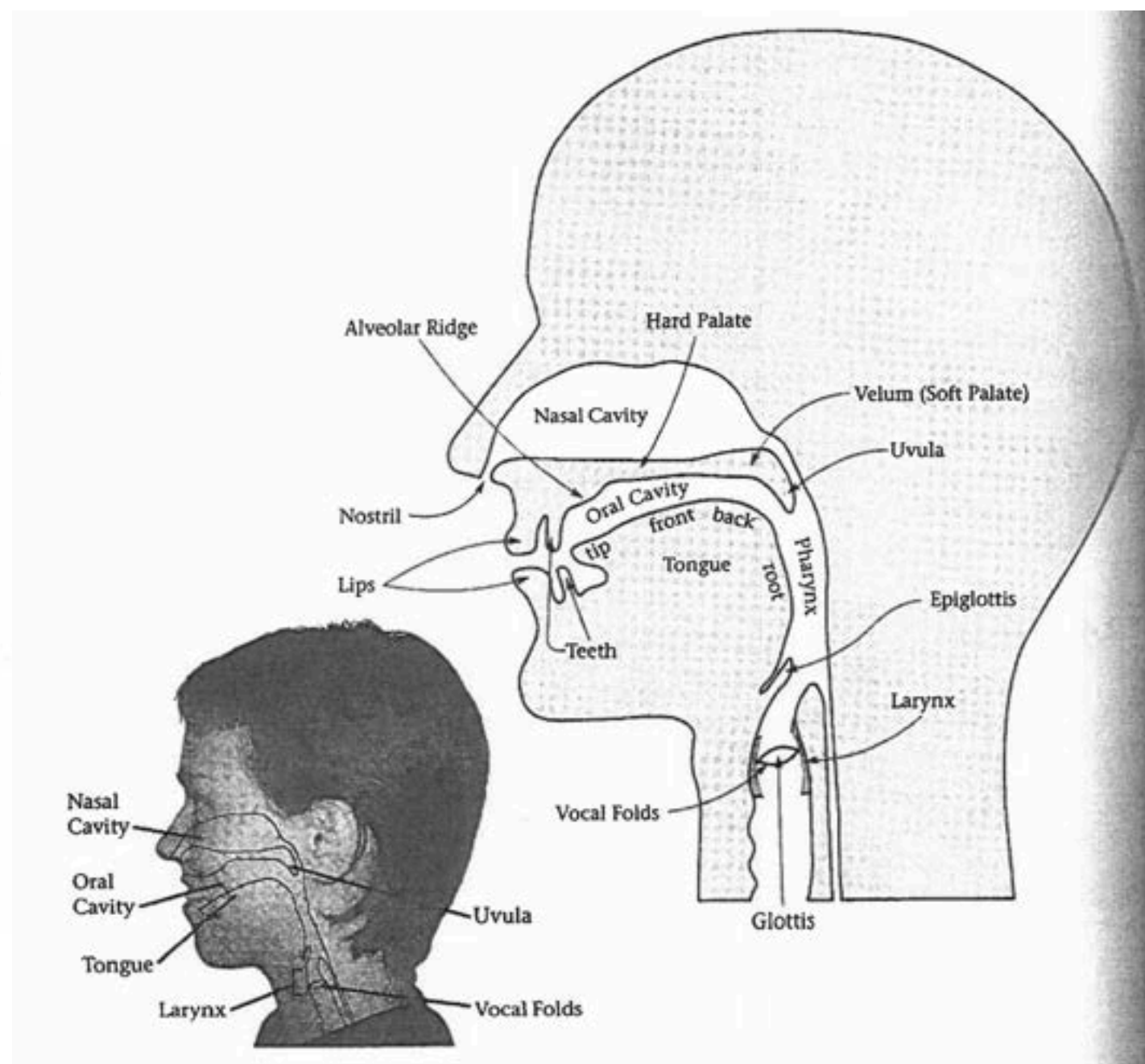
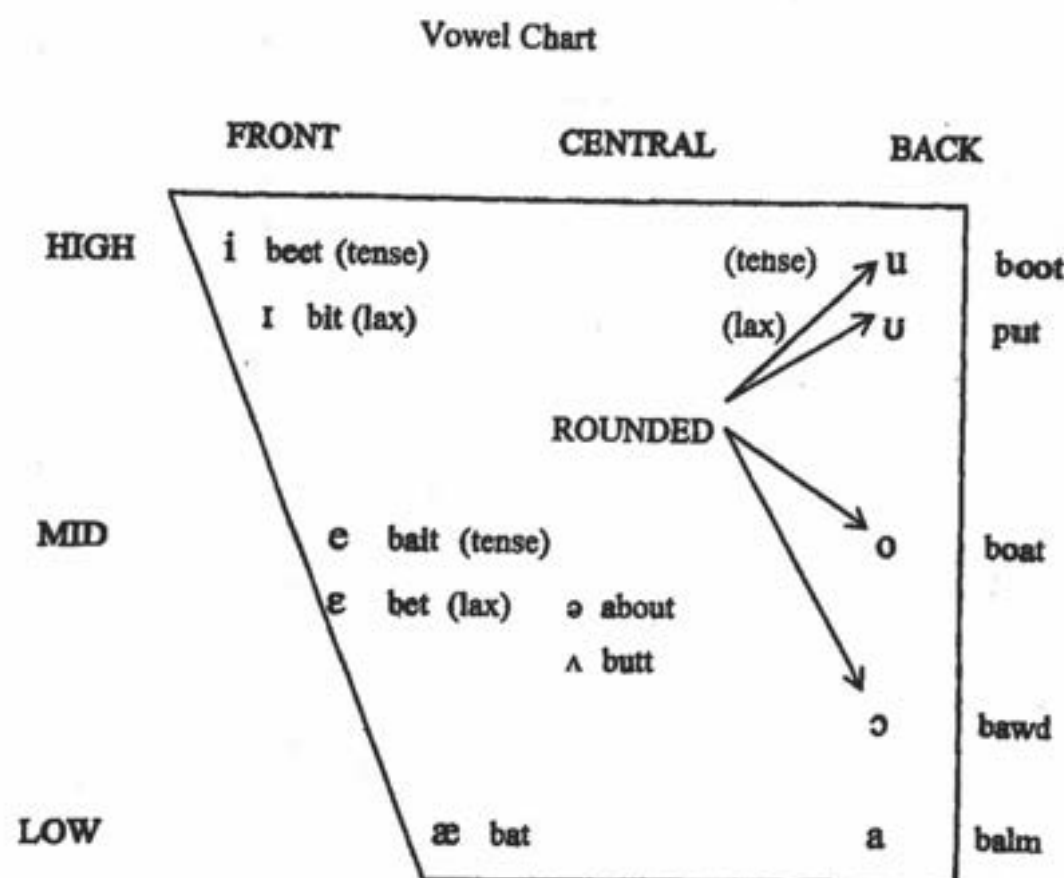
# MAJOR FUNCTIONS OF OUR SPEECH THERAPY (HOW CHALLENGES WORK)

1. Detailed tutorial: provide sagittal section of the vocal tract: vivid demonstration of how our mouth muscles and tract move
2. **AI modeling!!!** is trained to record children's voices and analyze problems with their pronunciation (too front, too low, compensation etc...) to prevent development of incorrect oral muscle movements in daily speech.
3. Only if the pronunciation is precise enough can the player move onto the next part





# Follow and provide professional linguistics knowledge using AI



## Feature matrix for consonants

Features	p	b	m	t	d	n	k	g	ŋ	f	v	θ	ð	s	z	ʃ	ʒ	ç	ʝ	ɰ	l	r	j	w	h
Consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-
Sonorant	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-
Syllabic	-	-	-/+	-	-	-/+	-	-	-/+	-	-	-	-	-	-	-	-	-	-	-	-/+	-/+	-	-	-
Nasal	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Voiced	-	+	+	-	+	+	-	+	+	-	+	-	+	-	+	-	+	-	+	+	+	+	+	+	-
Continuant	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Labial	+	+	+	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-
Alveolar	-	-	-	+	+	+	-	-	-	-	-	-	-	+	+	-	-	-	-	-	+	+	-	-	-
Palatal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-	-	+	-	-	-
Anterior	+	+	+	+	+	+	-	-	-	+	+	+	+	+	+	-	-	-	-	+	+	-	-	-	-
Velar	-	-	-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Coronal	-	-	-	+	+	+	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-
Sibilant	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	-	-	-	-	-

Note: The phonemes /r/ and /l/ are distinguished by the feature [lateral], not shown here. /l/ is the only phoneme that would be [+lateral].



# **MARKET POTENTIAL**

## **Primary Market: US domestic market**

Total U.S. children aged 5-17: 53.9 million

1 in 12 children (7.7%) aged 3-17 have voice or communication disorders  
≈ 4.15 million children (5-17) affected

55.2% of children did not receive treatment in past year  
≈ 2.29 million untreated children in the age range of 5-17

**52.5% children aged 5-11**

**≈ 1.2 million untreated children in the age range of 5-11**

**Initial Target Segment (Ages 5-11)**



# **FEASIBILITY, SCALABILITY, AND ETHICAL CONCERNS**

## **Feasibility:**

### **1.Voice Recognition Technology**

- Current speech recognition technology is mature enough to analyze pronunciation and give real-time feedback for various language

### **2.User Interface**

- The gamified design is achievable using animation and graphic tools

## **Scalability:**

- Develop multilingual version of the app, available across the world

## **Ethical Concerns:**

- consult and verify with speech therapist professionals regarding. The mechanics of the oral muscle movements to ensure accuracy
- game is progress based, not competitive based
- Data will be deleted once the accounts are deactivated





# COMPETITOR ANALYSIS:

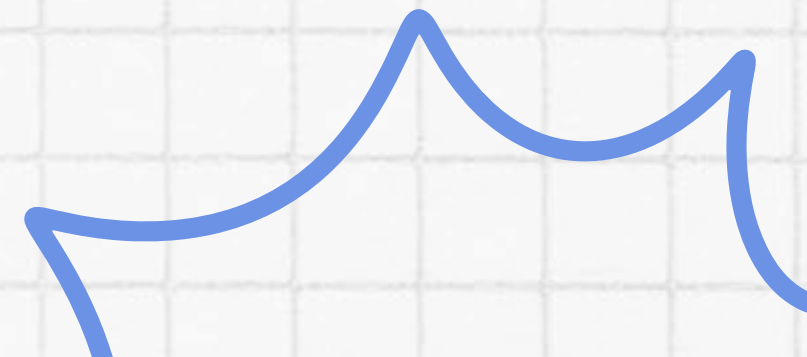
## BETTER SPEECH/THERA PLATFORM

### Their Main Product:

- Combination of In-person treatment and AI therapy Assistant Jessica
- AR/VR technology
- Take the audio of the kid's pronunciation and provide AI feedback
- Price: \$69.95 per week(Better Speech)/39-69-79(Threa Platform)

### Our Main Advantages:

- For Kid:
  - Gamification, a learning approach with much more fun
  - Additional visual examination of the kid's speech
- For Parents:
  - More involvement: provide guide to parents with assistance from institutions
- Price: free basic functions + premium plans available for upgrading







# **BUSINESS MODEL**

## **Revenue Streams:**

- Subscriptions
- Premium features
- Institutional partnerships (Publicized by institutions)
- Sponsorship

## **Cost Structure:**

- Research and development
- Marketing
- Customer support services

**Ensure Affordability: still much cheaper than other options available**



# **FUTURE PLAN**

1. **Cooperation with hospitals**
  - a. **More professional design of practices involved**
  - b. **Potential clinical experiment using our app**
2. **Cooperation with companies with Speech Recognition Technologies**
3. **Broaden the customer age level: from 5-11 to 3-11 and even broader...**
4. **Develop Multilingual versions of our app**



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