

# My Rhyme Star

## 1. Executive Summary

*My Rhyme Star* lets parents upload one photo of their child, auto-generate a cute 3-D cartoon avatar (in a family-friendly style) and place that avatar into classic 30 s / 60 s nursery-rhyme videos. A gem-based economy (first 200 gems free, IAP thereafter) controls usage, while viral referrals, in-app purchases, and multi-language rhymes grow and monetize the product.

## 2. Objectives & Success Metrics

Objective	KPI (90-day target)
Drive revenue via gem purchases	≥ 20 % of WAU buy gems
Keep generation success high	≥ 75 % jobs complete
Spur organic installs	K-factor ≥ 0.35

## 3. Primary User Personas

Persona	Goals	Pain Points
“Proud Parent Priya” (28-40)	Unique keepsakes to share on social	Child-safe content, quick results
“Gift-Giver Raj” (20-35)	Surprise nephew/niece with fun video	Limited time, wants wow factor

<b>Kids (indirect) (2-6)</b>	Entertained by seeing themselves	Short attention span
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## 4. Core Integrations

Domain	Service	Purpose
<b>Avatar Rendering</b>	GPT-4o	Generate kid-style cartoon face
<b>Video Synthesis</b>	Kling API	Compose rhyme scenes with avatar
<b>Payments</b>	Apple IAP, Google Play Billing	Gem pack purchases / restore
<b>Backend</b>	Supabase	Auth, gem ledger, rhyme catalog, referrals
<b>Analytics</b>	Firebase	Event tracking, funnels
<b>Storage &amp; CDN</b>	AWS S3 + CloudFront	Store videos 30 days, HLS streaming
<b>Content Safety</b>	OpenAI moderation & on-device face detection	Filter images, verify child photo

## 5. Screen-by-Screen Use-Cases & Requirements

## 5.1 Splash / Loading

### Use cases

- Brand impression; preload config
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### Requirements

- Autodismiss  $\leq$  3 s or after preload
- Maintenance flag  $\rightarrow$  I3

### Design



## 5.2 Age Gate & ToS

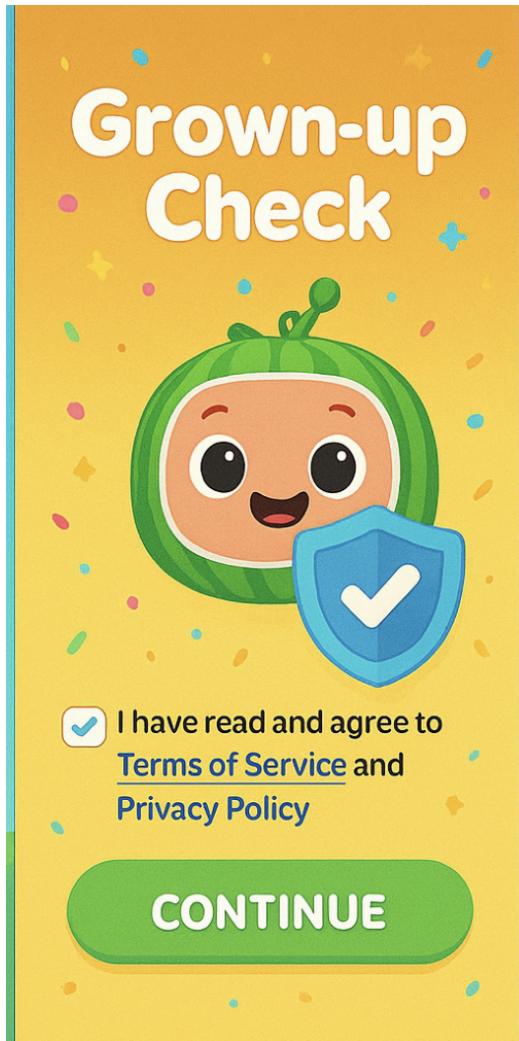
### Use cases

- COPPA consent

### Requirements

- Checkbox must be ticked to enable Continue
- Decline exits app

#### Design



### 5.3 Intro Carousel

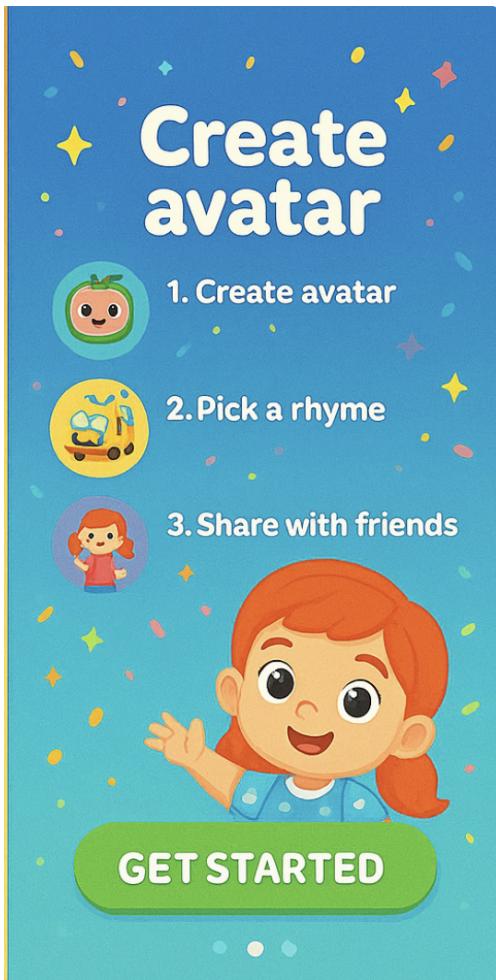
#### Use cases

- Teach 3-step flow

#### Requirements

- Three slides; Skip CTA; first-launch only

#### Design



## 5.4 Upload Photo

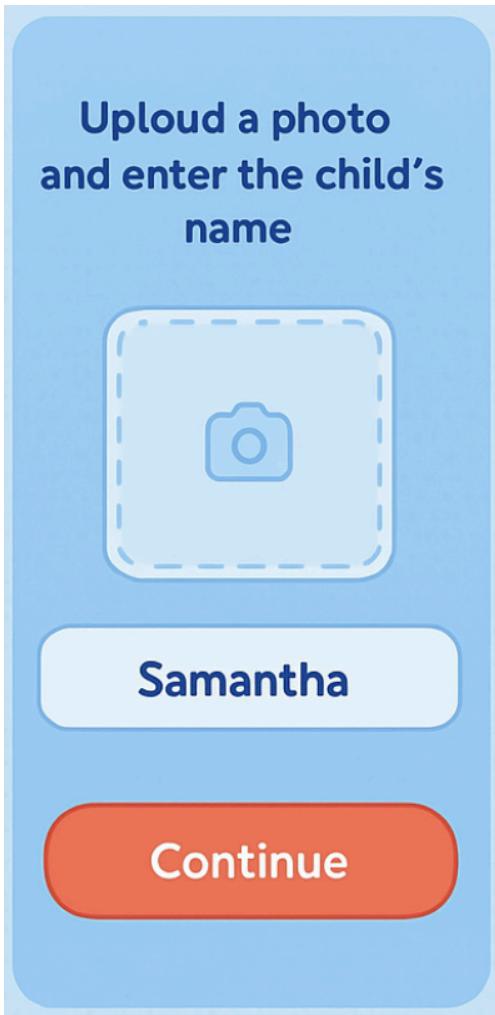
### Use cases

- Add child photo & name

### Requirements

- Face-detector validation
- JPG/PNG ≤ 5 MB

### Design



## 5.5 Upload Photo

### Use cases

- Add child photo & name

### Requirements

- Face-detector validation
- JPG/PNG ≤ 5 MB

### Design



## 5.6 Home

### Use cases

- Show wallet, last rhyme, entry to catalog

### Requirements

- Avatar at the top
- Gem balance and ability to buy gems
- A scrollable 2-col grid catalog of rhymes including - (1) Wheel on the bus, (2) Johnny johnny yes papa, (3) baba black sheep, each with duration and gems to create them
- Pull-to-refresh
- Rhymes already created can be identified

### Design



## 5.7 Rhyme Catalog

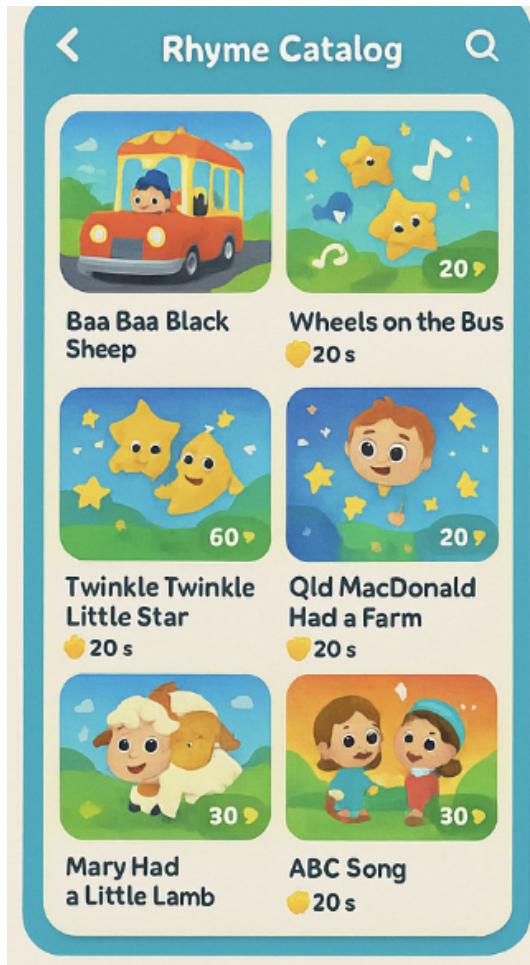
### Use cases

- Show wallet, last rhyme, entry to catalog

### Requirements

- Avatar at the top
- Gem balance at the top
- A scrollable 2-col grid catalog of rhymes including - (1) Wheel on the bus, (2) Johnny johnny yes papa, (3) baba black sheep, each with duration and gems to create them
- Search for rhymes
- Rhymes already created can be identified

### Design



## 5.8 Rhyme Confirmation

### Use cases

- Final spend confirmation

### Requirements

- User sees the number of gems needed to create the rhyme, the duration of the rhyme along with thumbnail of the rhyme
- Moves to rhyme generation screen

### Design



## 5.9 Video playback

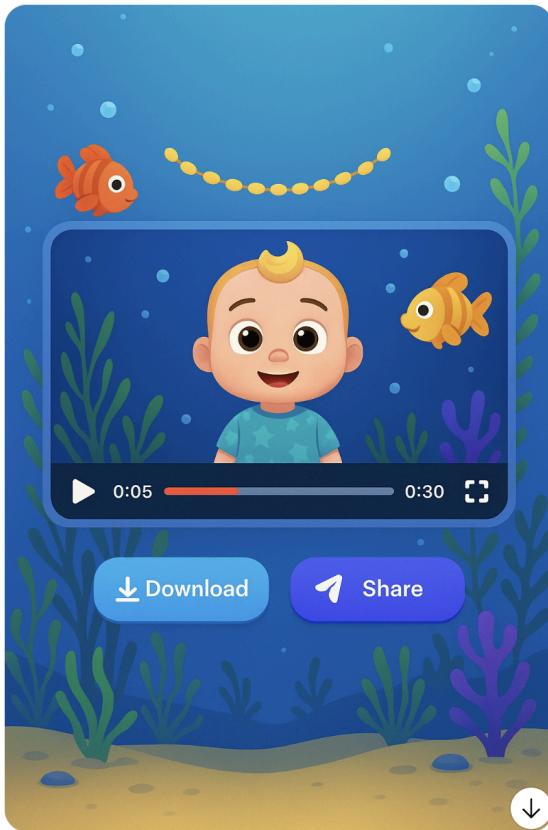
### Usecases

- Play, download, share or recreate the rhyme

### Requirements

- HLS player; 9:16
- Download watermarked MP4
- Regenerate button (cost)
- Video player requirements
  - User can play, pause, change timestamp of what is being played dragging the progress on video player

### Design



## 5.10 Regenerate Modal

### Use cases

- Recreate rhyme. It costs gems

### Requirements

- Same gem cost
- If failed, gems are refunded back to user's wallet

### Design



## 5.11 Gem Store

### Use cases

- Buy gem packs / restore

### Requirements

- Four tiers (100/500/1500/4000)

### Design



## 5.12 Low Gem Alert

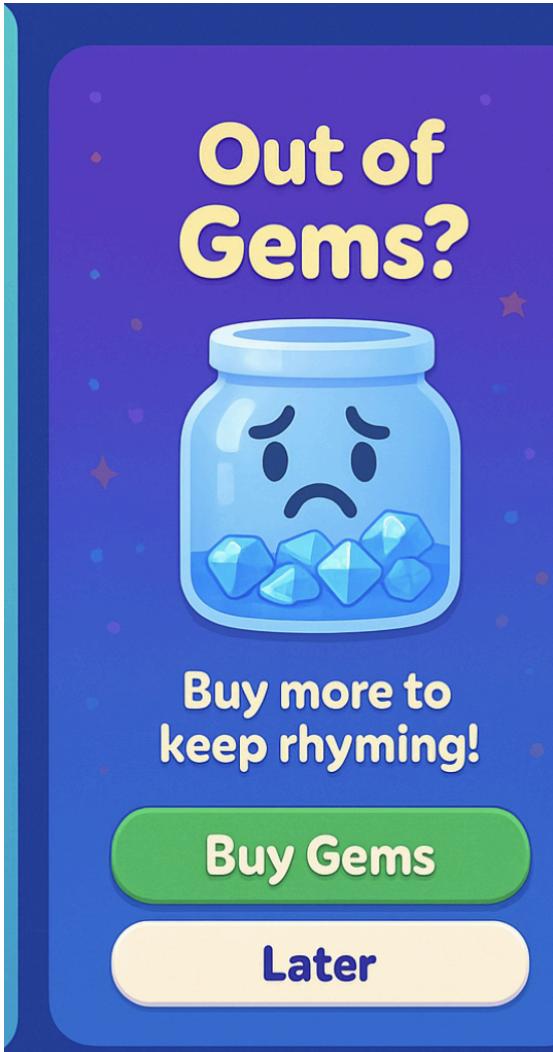
### Use cases

- Upsell prompt

### Requirements

- Shows when balance < cheapest rhyme

#### Design



### 5.13 Referral Invite

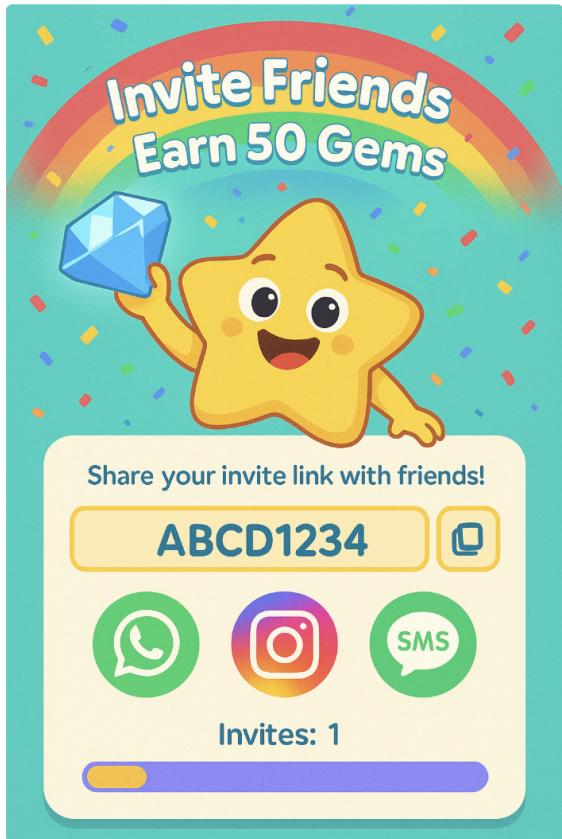
#### Use cases

- Share referral code with friends to get them onboarded

#### Requirements

- Copy/share link (WhatsApp, Insta, SMS)
- +50 gems on first video each side

#### Design



## 5.14 Network Error

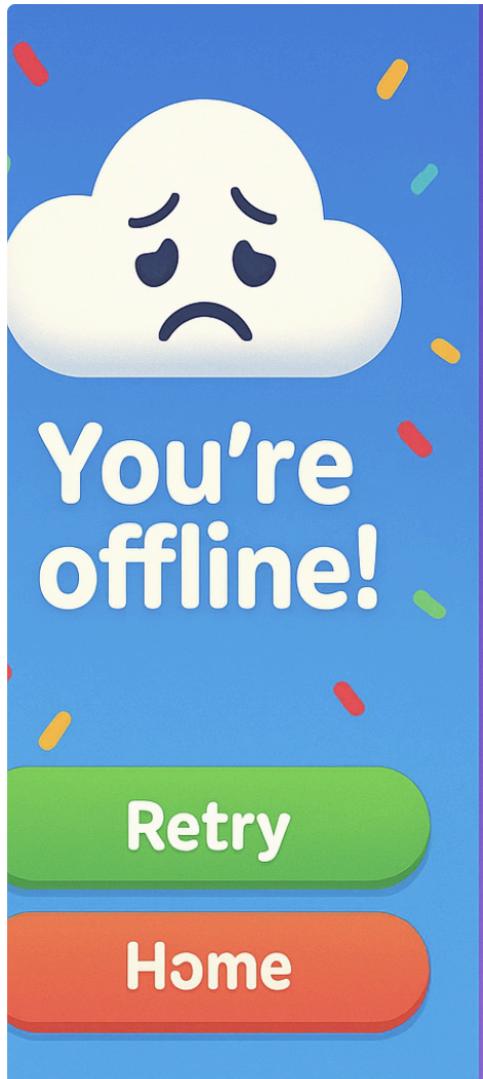
### Use cases

- Offline retry

### Requirements

- Retry every 5 s

### Design



## 5.15 Delete Data

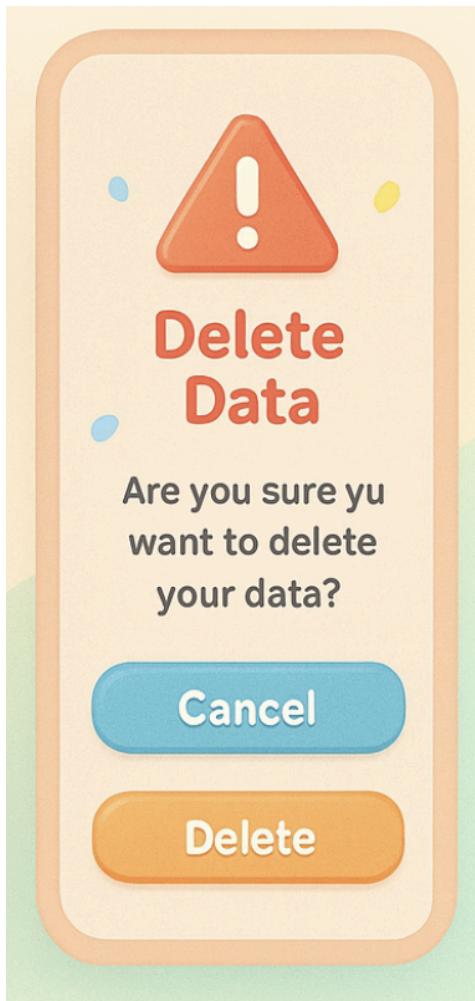
### Use cases

- GDPR/COPPA erase

### Requirements

- Double confirm
- Auto logout & purge

### Design



## 5.16 Render Failed

### Use cases

- Retry render

### Requirements

- Gems auto-refunded

### Design

# Rhyme Generation Failed

We refunded your gems.



**Try Again**

**Cancel**

## 7. Non-Functional Requirements

Area	Specification
Performance	Cold start TTI $\leq$ 3 s; avatar render p50 $\leq$ 20 s
Availability	$\geq$ 99.5 % monthly
Privacy	Photos/videos auto-delete after 30 days or on request

**Security** TLS 1.2+; AES-256 at rest; idempotent gem ledger

**Accessibility** WCAG AA text contrast, VoiceOver labels  
y

**Localization** UI + TTS for EN, HI, TA, TE, BN, KN

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## 8. Analytics & Instrumentation

Event	Properties
avatar_created	duration_ms
video_generated	rhyme_id, runtime, quality
gem_purchase	pack_size, revenue_usd
share_clicked	channel
referral_complete	referrer_id