

WRITOGRAM

Where Thoughts Find Their Voice

FUNCTIONAL REQUIREMENTS DOCUMENT

Version 1.0

Field	Detail
Product Name	Writogram
Document Type	Functional Requirements Document (FRD)
Version	1.0 — Draft
Owner	Avinash Tanikella
Website	www.writogram.com
Date	April 2026
Status	For Development Planning

Table of Contents

1. Introduction
2. Product Overview & Vision
3. Scope (In-Scope & Out-of-Scope)
4. User Personas
5. System Actors & Roles
6. High-Level System Architecture
- 7. Functional Modules**
 - M1. Authentication & Onboarding
 - M2. User Profile & Personalization
 - M3. Writing Experience & Composer
 - M4. AI-Enhanced Creativity Engine
 - M5. Feed, Discovery & Emotion-Based Browse
 - M6. Communities & Forums
 - M7. Direct Messaging (Identified & Anonymous)
 - M8. Personal Space (Diaries & Journals)
 - M9. Books & Reading Experience
 - M10. Notifications
 - M11. Search
 - M12. Reporting, Moderation & Trust/Safety
 - M13. Admin Panel
8. Non-Functional Requirements
9. Data Model (High-Level Entities)
10. Integrations
11. Assumptions, Risks & Open Questions
12. Release Plan (Phased Rollout)
13. Glossary

1. Introduction

1.1 Purpose

This Functional Requirements Document (FRD) defines the complete functional scope of Writogram — a digital writing, expression, reading, and community platform. It is intended for use by product, design, engineering, QA, and stakeholder teams as the authoritative reference for what the system must do.

1.2 Intended Audience

- Product Management — for prioritization and roadmap alignment
- UX/UI Designers — for screen flows, states, and interaction design
- Engineering (Mobile, Web, Backend, AI) — for system design and implementation
- QA / Test Engineering — for test case derivation and acceptance verification
- Founders / Business Stakeholders — for scope sign-off and release decisions

1.3 Document Conventions

- Each module is identified as M1, M2, ... with sequential Functional Requirement IDs (e.g., M3.FR4).
- Priority levels: P0 (Must-have for MVP), P1 (Important, near-term), P2 (Future / Phase 2).
- User stories follow the standard format: As a <role>, I want <capability>, so that <benefit>.

1.4 Reference Document

Source: “Writogram — Product Vision & Concept” by Avinash Tanikella. This FRD operationalizes that vision into testable, buildable requirements.

2. Product Overview & Vision

Writogram is a thoughtfully designed digital platform for writers, thinkers, and everyday individuals to express, explore, and connect through words. It blends creativity, community, and intelligent technology to transform simple thoughts into meaningful experiences.

2.1 Vision Statement

*To build a platform where **words carry emotion, thoughts find meaning, and people connect beyond identities.***

2.2 Strategic Pillars

Pillar	What it Means for Writogram
Expression	A clean, distraction-free composer that respects the writer's voice.
Emotion	AI that understands and surfaces the feeling behind words, not just the keywords.
Community	Forums, follows, communities, and direct messaging — including anonymous modes.
Continuity	From a 300-word thought to a full published book, all in one ecosystem.
Privacy	Granular per-post privacy and a fully private personal journal space.

2.3 Differentiators

- Emotion-Based Discovery: browse by mood, not just by topic or hashtag.
- Unified Creative Expression: thoughts, poems, quotes, and books coexist in one stream.
- Anonymous + Identified Messaging: connect without compromising safety.
- Real-Book Reading UI: long-form reading inside a social writing app.
- Personal Signature: every post carries the author's identity, automatically.

3. Scope

3.1 In-Scope (V1.0)

#	Capability	Notes
1	User authentication via Gmail OAuth and phone OTP	Core account creation
2	Profile creation with signature and theme personalization	Includes Theme Store (100–200 themes)
3	Composer for posts up to ~300 words	With privacy controls: Private / Public / Custom
4	AI Grammar & Expression assistant (toggle)	Optional, non-intrusive
5	Emotion Detection Engine for posts	Multi-emotion tagging
6	Personalized feed + Trending + Curated	Algorithmic + editorial
7	Emotion-based discovery	Mood selector → mood-tagged content
8	Communities & Forums (public/private)	Discussion, Q&A, perspectives
9	Direct Messaging (1:1, identified or anonymous)	Real-time, with safety guardrails
10	Personal Space (private journals/diaries)	Encrypted at rest
11	Books module — write, publish, import (PDF)	Book-like reading UI
12	Notifications (push + in-app)	Engagement, mentions, system
13	Search (users, posts, books, communities)	Cross-entity search
14	Reporting & moderation	User-driven flagging + admin review

3.2 Out-of-Scope (V1.0)

- Monetization features: paid subscriptions, tipping, paid books — planned for Phase 2.
- Native audio/video posts — text-first product in V1.
- Group video calls or voice rooms.
- Live streaming or live writing sessions.

- Multi-author collaborative editing on a single post or book.
- Marketplace for themes (themes are free in V1).
- Web3 / token-based features.

4. User Personas

Writogram serves a deliberately broad audience. The following personas represent the primary user types the product must satisfy at launch.

Persona	Profile	Primary Needs	Why Writogram
The Casual Writer	Age 18–35, expresses thoughts occasionally, mostly on social media	Quick composer, supportive audience, low pressure to perform	Distraction-free composer + emotion-tagged feed; not a beauty contest like Instagram
The Serious Writer	Aspiring author, poet, essayist, blogger	Long-form publishing, readership, distraction-free environment	Books module + reading UI + community of readers
The Reader	Loves reading thoughts, poems, short reflections, full books	Discovery, mood-based browsing, personalization	Emotion-based discovery + curated content + book library
The Reflective Journaler	Writes privately, may never share publicly	Privacy, quick capture, secure storage	Personal Space (journals/diaries) — fully private
The Community Member	Joins forums, discusses topics, asks questions	Trusted spaces, identity flexibility, meaningful discussion	Communities + anonymous DM option
The Anonymous Sharer	Wants to share difficult emotions without identity exposure	Anonymity, safety, emotional discovery	Anonymous DM + privacy controls + emotion-based feeds

5. System Actors & Roles

Actor	Type	Permissions Summary
Guest	Unauthenticated	Browse limited public content; cannot post, follow, or message.
Registered User	Authenticated	Full access to compose, follow, message, join communities, journal, read/publish books.
Community Owner	Role	Inherits Registered User; can manage members, settings, and posts within their community.
Community Moderator	Role	Inherits Registered User; can remove posts and warn members within assigned community.
Author (Books)	Role flag	Inherits Registered User; gains publishing tools for long-form books.
Admin	Internal	Platform-wide moderation, user management, theme store curation, content takedowns.
Super Admin	Internal	All Admin rights + role assignment, billing/config, audit log access.
AI Service	System	Asynchronous service that performs grammar, emotion tagging, and recommendation tasks.

6. High-Level System Architecture

Writogram is designed as a cloud-native, mobile-first platform with a shared web experience. The architecture is decomposed into the following logical layers:

6.1 Client Layer

- Native Mobile Apps — Android and iOS (recommended: React Native or Flutter for shared codebase).
- Responsive Web App — for composing, reading, and admin functions.

6.2 API & Application Layer

- REST + WebSocket API gateway for client-server communication.
- Stateless application services for: Identity, Profile, Composer, Feed, Communities, Messaging, Books, Notifications, Search, Moderation.
- WebSocket service for real-time messaging and live notifications.

6.3 AI Services Layer

- Grammar & Expression Service — third-party LLM (e.g., GPT-4 class) or fine-tuned model, called on demand.
- Emotion Detection Service — multi-label emotion classifier, run asynchronously after post submission.
- Recommendation Engine — for feed ranking, mood-based discovery, and trending detection.

6.4 Data Layer

- Primary OLTP Database — PostgreSQL for users, posts, communities, messages, books.
- Cache Layer — Redis for sessions, feed cache, rate limits.
- Object Storage — S3-compatible store for media, book PDFs, theme assets.
- Search Index — Elasticsearch / OpenSearch for full-text and emotion-tag search.
- Analytics Warehouse — for product analytics and trending computation.

6.5 Cross-Cutting Services

- Authentication: Gmail OAuth 2.0 + Phone OTP via SMS provider.
- Push Notifications: FCM (Android), APNs (iOS), in-app socket.
- CDN: for theme assets, book images, and avatars.
- Observability: centralized logging, metrics, distributed tracing.

7. Functional Modules

The following sections detail each functional module of Writogram. Each module is structured as: Overview, User Stories, Functional Requirements, Business Rules, Acceptance Criteria, and Dependencies.

M1. Authentication & Onboarding

Enables new and returning users to securely access Writogram via Gmail or phone-OTP, and guides them through a brief onboarding flow that sets up their profile, language, and initial theme.

User Stories

ID	As a...	I want...	So that...
M1.US 1	new user	to sign up using my Gmail account	I don't need to remember another password
M1.US 2	new user	to sign up using my phone number with an OTP	I can join even without a Gmail account
M1.US 3	returning user	to log in quickly using my registered method	I can resume reading or writing immediately
M1.US 4	user	to choose my preferred language during onboarding	the experience feels native to me
M1.US 5	user	to be guided through a short setup flow	I understand the basics before exploring

Functional Requirements

ID	Requirement	Description	Priority
M1.FR 1	Gmail OAuth Sign-up/Login	System shall support OAuth 2.0 sign-up and login via Google. Email, name, and profile photo are imported with user consent.	P0
M1.FR 2	Phone OTP Sign-up/Login	System shall send a 6-digit OTP to the user's phone number, valid for 5 minutes. Maximum 5 OTP requests per phone number per hour.	P0
M1.FR 3	Account Linking	User shall be able to link both Gmail and phone to a single account from settings.	P1
M1.FR 4	Session Management	System shall issue secure JWT-based session tokens with refresh-token rotation. Sessions expire after 30 days of inactivity.	P0
M1.FR 5	Logout (current and all devices)	User shall be able to log out from current device or invalidate all active sessions.	P0
M1.FR 6	Account Deletion	User shall be able to permanently delete their account; data is soft-deleted for 30 days then purged.	P0

ID	Requirement	Description	Priority
M1.FR 7	Onboarding Wizard	First-time users shall complete: language selection → basic profile (name, location optional) → signature setup → theme selection → first contact suggestions.	P0
M1.FR 8	Skip & Resume	Onboarding steps after language selection shall be skippable and resumable from the profile screen.	P1

Business Rules & Constraints

- Phone numbers must be verified via OTP before being usable for login.
- Email addresses imported via Gmail are considered verified.
- A single Gmail or phone number can be associated with only one active Writogram account.
- Onboarding language is stored as the user's default UI language; can be changed later from settings.

Acceptance Criteria

- New user can complete sign-up with Gmail in under 60 seconds end-to-end.
- New user can complete sign-up with phone + OTP in under 90 seconds.
- Invalid OTP entries lock OTP retry for 15 minutes after 5 failed attempts.
- User reaches the home feed within 2 taps after completing onboarding.
- Account deletion request triggers a confirmation step and a 30-day grace period.

Dependencies

- Google OAuth client credentials configured.
- SMS gateway (e.g., Twilio, MSG91) integrated for OTP delivery.
- Privacy Policy and Terms of Service finalized and linked from sign-up screen.

M2. User Profile & Personalization

Manages the user's identity on the platform — basic information, signature, contacts, and visual personalization through themes.

User Stories

ID	As a...	I want...	So that...
M2.US 1	user	to edit my name, photo, location, and bio	others recognize me on the platform
M2.US 2	user	to create a personal signature	every post I share carries my consistent voice
M2.US 3	user	to choose and switch themes	the app feels personal to me
M2.US 4	user	to follow other writers	I see their posts in my feed
M2.US 5	user	to find my contacts already on Writogram	I can connect with people I know

Functional Requirements

ID	Requirement	Description	Priority
M2.FR 1	Profile Fields	System shall capture and display: display name, username (unique), profile photo, bio (≤ 200 chars), location (city/country, optional), language preference, joined date.	P0
M2.FR 2	Signature Setup	User shall create a signature (text, ≤ 80 chars, optional emoji) that is automatically appended to every public/custom post. Signature can be edited or disabled.	P0
M2.FR 3	Theme Store	System shall provide a curated catalog of 100–200 themes covering color palette, typography, and background style. Themes apply to the user's app UI only.	P0
M2.FR 4	Theme Switching	User shall preview and apply any theme instantly without restart. Last 5 used themes shown as recent.	P0
M2.FR 5	Follow / Unfollow Users	User shall follow or unfollow any public account. Follower and following counts are visible on the profile.	P0

ID	Requirement	Description	Priority
M2.FR 6	Contact Discovery	With user permission, system shall match phone contacts against registered users and surface them as suggested follows.	P1
M2.FR 7	Privacy Settings	User shall control who can: follow them, message them, see their followers list, and see their location.	P0
M2.FR 8	Block & Mute	User shall block or mute any other user. Blocked users cannot view the user's profile or content.	P0
M2.FR 9	Profile Verification (Phase 2)	Verified-author badge for selected published authors.	P2

Business Rules & Constraints

- Username must be unique platform-wide, 3–20 characters, alphanumeric + underscore.
- Themes are free in V1.0; premium themes may be introduced in Phase 2.
- Profile photo must be an image ≤ 5 MB; auto-cropped to square.
- Signature is appended to public and custom posts only — not to private posts or DMs.

Acceptance Criteria

- User can change theme and see the change applied across all screens within 1 second.
- Signature appears at the bottom of every applicable post in a visually consistent way.
- Blocked user cannot view the blocker's profile, posts, or send messages.
- Username uniqueness is enforced at registration with an inline availability check.

Dependencies

- M1 (Authentication) for identity.
- Theme assets hosted on CDN.
- Contact-permission flow compliant with platform (iOS/Android) policies.

M3. Writing Experience & Composer

The core composer for thoughts, poems, quotes, and emotional expressions — built around a clean, distraction-free interface with rich privacy controls.

User Stories

ID	As a...	I want...	So that...
M3.US 1	writer	a clean, focused space to write	I'm not distracted by UI clutter
M3.US 2	writer	to set who can see each post (private/public/custom)	I control my audience post-by-post
M3.US 3	writer	to save drafts	I can come back and finish later
M3.US 4	writer	my signature appended automatically	I don't repeat myself
M3.US 5	writer	to schedule a post	it goes live at a chosen time

Functional Requirements

ID	Requirement	Description	Priority
M3.FR 1	Distraction-Free Composer	Full-screen composer with minimal chrome: title (optional), body, character counter, format toggles. No banners, ads, or notifications inside the composer.	P0
M3.FR 2	Word Limit	Body capped at 300 words in V1.0; system shall display word count and prevent submission beyond limit. Limit shall be configurable in future releases.	P0
M3.FR 3	Basic Formatting	Support for bold, italic, line breaks, and emoji. No images or rich media in V1 (text-first product).	P0
M3.FR 4	Privacy Selector	Each post shall have a privacy setting: Private (self only), Public (everyone), Custom (selected followers/contacts). Default = last used setting.	P0
M3.FR 5	Custom Audience Picker	When Custom privacy is selected, user shall search and select individuals from their followers/following. Saved as a reusable list (Phase 2).	P0
M3.FR 6	Drafts	System shall auto-save drafts every 5 seconds. Drafts are private to the user and listed in a Drafts tab.	P0

ID	Requirement	Description	Priority
M3.FR 7	Signature Append	User's signature shall be auto-appended on submission for Public and Custom posts. Toggle to suppress per-post.	P1
M3.FR 8	Edit Window	Posts shall be editable within 30 minutes of publishing; after that, edits show an 'edited' marker with timestamp.	P1
M3.FR 9	Delete Post	Author can delete a post at any time; cascade-removes associated comments and reactions.	P0
M3.FR 10	Schedule Post	User shall schedule a post for a future date/time (Phase 2).	P2
M3.FR 11	Post Categorization	User may tag the post with one or more types: Thought, Poem, Quote, Reflection. Used for discovery filters.	P1

Business Rules & Constraints

- Word count = count of whitespace-separated tokens, excluding signature.
- Private posts are excluded from all feeds, search, and AI emotion-tagging visible to others.
- Posts deleted by the author are soft-deleted for 7 days for recovery, then hard-deleted.
- Drafts are kept indefinitely until manually deleted by the user.

Acceptance Criteria

- Author can create and publish a 100-word public thought in under 30 seconds.
- Drafts persist across logout/login on the same account.
- Privacy selector defaults to user's last-used setting and is changeable before publishing.
- Custom-audience post is invisible to anyone outside the selected list.

Dependencies

- M2 (Profile/Signature) for signature data.
- M4 (AI) for optional grammar assistance toggle.

M4. AI-Enhanced Creativity Engine

Generative-AI capabilities that augment the writing experience: optional grammar assistance and an automatic multi-emotion detection engine that powers discovery and personalization.

User Stories

ID	As a...	I want...	So that...
M4.US 1	writer	optional grammar and expression suggestions	my writing reads better without losing my voice
M4.US 2	writer	the system to detect the emotion in my post automatically	the right readers can find it
M4.US 3	reader	posts to be tagged by emotion accurately	I can browse content that matches my mood
M4.US 4	writer	to opt out of AI assistance entirely	my words remain untouched

Functional Requirements

ID	Requirement	Description	Priority
M4.FR 1	Grammar & Expression Toggle	Composer shall include an AI Assist toggle (default OFF). When ON, system suggests grammar fixes and clearer phrasings inline; user accepts or rejects each.	P0
M4.FR 2	Non-Intrusive Suggestions	Suggestions are shown as soft underlines or side hints; never auto-applied. User text is the source of truth.	P0
M4.FR 3	Emotion Detection on Submit	On post submission, system shall asynchronously run emotion classification and tag the post with up to 5 emotions with confidence scores.	P0
M4.FR 4	Multi-Emotion Support	Supported emotion taxonomy (V1): Joy, Sadness, Love, Anger, Fear, Hope, Inspiration, Motivation, Loneliness, Gratitude, Nostalgia, Confusion, Calm. Extensible.	P0
M4.FR 5	Emotion Display	Detected emotions shall be visible to the author for review. Author can confirm, remove, or add emotion tags before they go live.	P0
M4.FR 6	Privacy of AI Processing	Private posts may be excluded from AI processing per user preference; this preference shall be exposed in settings.	P0

ID	Requirement	Description	Priority
M4.FR 7	Language Coverage	Grammar assistance and emotion detection supported in English at launch; additional languages added per roadmap.	P0
M4.FR 8	Trending Emotions	System shall compute and surface trending emotions over rolling 24-hour and 7-day windows for discovery (M5).	P1
M4.FR 9	Confidence Threshold	Emotion tags below configurable confidence (default 0.55) are not auto-applied.	P1
M4.FR 10	Feedback Loop	Users may flag inaccurate emotion tags; signals feed back into model retraining.	P2

Business Rules & Constraints

- AI suggestions are advisory only; the user always has the final word.
- Emotion tags are public metadata for public posts only.
- AI processing must complete within 5 seconds (P95) to avoid blocking discovery.
- Users can opt out of all AI processing for their account from privacy settings.

Acceptance Criteria

- With AI Assist ON, suggestions appear within 800 ms of typing pause.
- Emotion tags are attached to a public post within 5 seconds of publishing (P95).
- Author can override system-suggested emotion tags before they appear in discovery.
- Disabling AI in settings prevents any subsequent AI calls for that user's content.

Dependencies

- AI provider integration (LLM API or in-house model service).
- Emotion taxonomy ratified by product team.
- Async job processing infrastructure (queue + worker).

M5. Feed, Discovery & Emotion-Based Browse

Multiple discovery surfaces that help users find content: a personalized following feed, trending public thoughts, curated picks, and the differentiator — Emotion-Based Discovery.

User Stories

ID	As a...	I want...	So that...
M5.US 1	user	to see posts from people I follow	I stay connected to voices I care about
M5.US 2	user	to discover trending public thoughts	I see what the community is feeling
M5.US 3	user	to browse content by my current mood	I find writing that resonates
M5.US 4	user	to see curated content	I can rely on quality recommendations

Functional Requirements

ID	Requirement	Description	Priority
M5.FR 1	Following Feed	Reverse-chronological feed of posts from accounts the user follows, with optional ranking boosts for engagement.	P0
M5.FR 2	Trending Feed	System shall compute trending posts using a velocity-weighted score over engagements (reads, reactions, replies) in the last 24 hours.	P0
M5.FR 3	Curated Picks	Editorially curated content (by Admin) shall be available as a 'Curated' tab. Refreshed at least daily.	P1
M5.FR 4	Emotion-Based Discovery	User shall select one or more emotions from the mood selector; system returns public posts tagged with those emotions, ranked by recency × engagement × confidence.	P0
M5.FR 5	Mood Selector UI	Discoverable from the home screen and the search tab; visualizes emotions as color-coded chips with iconography.	P0
M5.FR 6	Filters	Discovery feeds shall support filters: post type (Thought/Poem/Quote/Reflection), language, time window.	P1
M5.FR 7	Save / Bookmark Post	User shall bookmark any post for later reading. Bookmarks are private.	P0

ID	Requirement	Description	Priority
M5.FR 8	Reactions	Lightweight reactions (e.g., Heart, Hug, Insightful, Resonates) instead of generic likes — reflecting the emotion-first nature of the platform.	P0
M5.FR 9	Comments	Threaded replies on public/custom posts. Author can disable comments per post.	P0
M5.FR 10	Share	Share a post outside the app via system share sheet, with deep-link back to Writogram.	P0
M5.FR 11	Hide / Not Interested	User shall mark a post as not interested; future feed ranking adjusts accordingly.	P1

Business Rules & Constraints

- Private posts are never visible in any feed except to the author.
- Custom posts are visible only to the explicitly selected audience.
- Trending computation runs every 5 minutes during peak; every 15 minutes off-peak.
- Reaction set is fixed in V1.0 and managed centrally.

Acceptance Criteria

- Following feed loads first paint in under 2 seconds on 4G.
- Selecting a mood returns at least 20 relevant public posts (where available) within 1 second of selection.
- Bookmarked posts are accessible offline (last 50).
- Reactions and comments update in near-real time for the post author.

Dependencies

- M3 (Posts), M4 (Emotion tags), M2 (Follow graph).
- Recommendation/ranking service.
- Search/index infrastructure.

M6. Communities & Forums

Public and private spaces where users gather around shared interests, exchange ideas, ask questions, and discuss topics in a structured, moderated environment.

User Stories

ID	As a...	I want...	So that...
M6.US 1	user	to create a community around a topic I care about	I can grow a group of like-minded writers
M6.US 2	user	to join existing communities	I can participate in discussions
M6.US 3	user	to ask questions in a forum	I get clarity from the community
M6.US 4	community owner	to moderate posts and members	the space stays healthy

Functional Requirements

ID	Requirement	Description	Priority
M6.FR 1	Create Community	Any user shall create a community with: name, description, cover image, visibility (Public/Private), guidelines.	P0
M6.FR 2	Join / Leave	Public communities are joinable instantly; private communities require owner/moderator approval.	P0
M6.FR 3	Roles	Community supports roles: Owner, Moderator, Member. Owner may appoint Moderators.	P0
M6.FR 4	Discussion Posts	Members shall create discussion posts within a community (text, ≤ 1000 words). Each post supports threaded replies.	P0
M6.FR 5	Question Posts	Distinct post type 'Question' that allows the asker to mark a reply as 'Best Answer'.	P1
M6.FR 6	Pinned Posts	Owners/Moderators can pin up to 3 posts at the top of the community.	P1
M6.FR 7	Member Directory	Visible list of community members (only to members in private communities).	P0
M6.FR 8	Moderation Tools	Moderators can remove posts, mute members for a duration, and ban members. All actions are logged.	P0

ID	Requirement	Description	Priority
M6.FR 9	Reporting	Members can report posts/members; reports surface to community moderators and admins.	P0
M6.FR 10	Community Guidelines	Owners shall define guidelines that members must accept on first post.	P1
M6.FR 11	Search within Community	Posts and members are searchable inside each community.	P1

Business Rules & Constraints

- A user can own up to 10 communities at launch.
- Banned members cannot rejoin without owner reversal.
- Private community content is excluded from platform-wide search and feeds.
- Community names are unique within Writogram.

Acceptance Criteria

- Owner can create a community and post the first discussion in under 90 seconds.
- Removed posts disappear from all member views within 5 seconds.
- Private community content is never returned in global search.
- Best Answer is visually distinguished and appears at the top of replies.

Dependencies

- M2 (Profile, Block/Mute graph).
- M12 (Reporting & Moderation pipeline).
- Notification system for join requests, mentions, replies.

M7. Direct Messaging (Identified & Anonymous)

Real-time 1:1 messaging with the option to communicate with full identity or anonymously, supported by safety guardrails to prevent abuse.

User Stories

ID	As a...	I want...	So that...
M7.US 1	user	to message another writer privately	we can have a direct conversation
M7.US 2	user	to start a conversation anonymously	I can share something difficult without revealing my identity
M7.US 3	recipient	to know whether a message is identified or anonymous	I can choose whether to engage
M7.US 4	user	to block, mute, or report any conversation	I stay safe

Functional Requirements

ID	Requirement	Description	Priority
M7.FR 1	1:1 Conversations	Users shall start a direct conversation with any user who allows DMs from non-followers (per their privacy setting).	P0
M7.FR 2	Identified Mode	Default mode; the sender's display name and photo are shown to the recipient.	P0
M7.FR 3	Anonymous Mode	On conversation start, sender may choose Anonymous. Recipient sees a system-generated handle and an 'Anonymous' badge. Real identity is never revealed.	P0
M7.FR 4	Real-Time Delivery	Messages delivered via WebSocket with typing indicators, read receipts (toggleable), and delivery states (sent / delivered / read).	P0
M7.FR 5	Message Types	Text + emoji in V1.0. Image/voice attachments in Phase 2.	P0
M7.FR 6	Conversation Controls	Each user can block, mute, archive, or delete a conversation. Anonymous senders can be blocked at the conversation level.	P0
M7.FR 7	Anti-Abuse Guardrails	Anonymous senders are rate-limited (e.g., max 5 new conversations per day) and subject to stricter content filters.	P0

ID	Requirement	Description	Priority
M7.FR 8	Reveal Identity (Optional)	An anonymous sender may, at any time, opt to reveal their identity within a conversation. Reveal is one-way and irreversible.	P1
M7.FR 9	Message Retention	Messages are retained until either party deletes the conversation; deletion removes only the deleter's copy unless both parties delete.	P0
M7.FR 10	End-to-End Encryption (Phase 2)	Optional E2E encryption for messages.	P2

Business Rules & Constraints

- Anonymous mode does not reveal identity to admins except in cases of reported abuse subject to platform policy.
- If recipient blocks an anonymous handle, the underlying user is also blocked from creating new anonymous conversations with them.
- Hate speech, harassment, and CSAM detected in messages trigger automatic enforcement per Trust & Safety policy.

Acceptance Criteria

- A new identified message is delivered within 1 second under normal load.
- Recipient can clearly distinguish anonymous from identified conversations at a glance.
- Blocking a user immediately closes the active conversation and prevents future messages.
- Reveal-Identity action shows a clear confirmation modal and cannot be undone.

Dependencies

- WebSocket infrastructure.
- M2 privacy settings (who can DM me).
- M12 moderation pipeline.

M8. Personal Space (Diaries & Journals)

A fully private writing area dedicated to personal reflection — diaries, journals, notes, and unsent messages — separated from the social platform.

User Stories

ID	As a...	I want...	So that...
M8.US 1	user	a private space to write a diary	my reflections stay only with me
M8.US 2	user	to organize my journals	I can find entries by date or topic
M8.US 3	user	to write unsent messages	I can express things I never share
M8.US 4	user	my journals to be securely stored	I trust the platform with my private thoughts

Functional Requirements

ID	Requirement	Description	Priority
M8.FR 1	Private Workspace	Personal Space is a dedicated tab, visually distinct from public modules. Content here is never indexed, recommended, or shown to anyone else.	P0
M8.FR 2	Multiple Journals	User shall create multiple named journals (e.g., 'Daily', 'Travel', 'Letters I Never Sent'). No content limit per journal.	P0
M8.FR 3	Entry Editor	Same composer experience as M3 but without word limit and without privacy selector (always private).	P0
M8.FR 4	Date-Based View	Entries can be browsed by calendar view and by chronological list within each journal.	P0
M8.FR 5	Tags	Entries can be tagged with user-defined keywords for personal organization.	P1
M8.FR 6	Lock Personal Space	Personal Space can be protected with a separate PIN or biometric in addition to app-level auth.	P0
M8.FR 7	Encryption	Journal entries are encrypted at rest. Server admins do not access journal content in normal operations.	P0
M8.FR 8	Export	User shall export a journal as PDF or plain text for personal backup.	P1

ID	Requirement	Description	Priority
M8.FR9	Mood Tagging	Optional emotion tagging for personal entries — strictly local to the user, used for personal mood-tracking dashboards (Phase 2).	P2

Business Rules & Constraints

- Personal Space content is never used for AI training or platform-wide recommendation.
- Deleting an entry removes it from personal storage immediately; encrypted backups purge within 30 days.
- PIN/Biometric for Personal Space is separate from device unlock and cannot be bypassed by app login alone.

Acceptance Criteria

- User can create a journal and add the first entry in under 30 seconds.
- Entries are inaccessible without unlocking Personal Space when lock is enabled.
- Exported PDF preserves date, tags, and entry text in a readable layout.
- No personal entry appears in any platform feed, search result, or recommendation.

Dependencies

- M1 for app-level auth.
- Encryption-at-rest infrastructure.
- PDF generation service.

M9. Books & Reading Experience

Long-form publishing and reading inside Writogram. Authors can write books natively or import them; readers enjoy a real-book-like UI optimized for immersive reading.

User Stories

ID	As a...	I want...	So that...
M9.US 1	author	to write a book chapter by chapter	I can publish without leaving the app
M9.US 2	author	to import a PDF I've already written	I can quickly bring my book to readers
M9.US 3	reader	a book-like reading interface	long-form reading is comfortable
M9.US 4	reader	to bookmark pages and highlight passages	I remember what mattered

Functional Requirements

ID	Requirement	Description	Priority
M9.FR 1	Book Creation	Author shall create a book with: title, cover image, description, language, category. Books are private until published.	P0
M9.FR 2	Chapter Editor	Each book consists of ordered chapters; chapter editor extends the M3 composer with no word limit and chapter title support.	P0
M9.FR 3	Import PDF / EPUB	Author shall import a PDF or EPUB; system extracts text and paginates for the reader UI. Original file retained for fallback.	P0
M9.FR 4	Publish Book	Publishing makes a book discoverable in the Books tab. Author may publish chapters incrementally.	P0
M9.FR 5	Reader UI	Reader provides paginated, book-like layout with adjustable font, size, line height, theme (sepia/dark/light), and page-turn animation.	P0
M9.FR 6	Bookmarks & Highlights	Readers can bookmark pages and highlight passages. Highlights are private by default; shareable as quotes (Phase 2).	P0
M9.FR 7	Reading Progress	System tracks reading progress per book per user; resumes on next open across devices.	P0

ID	Requirement	Description	Priority
M9.FR 8	Book Discovery	Books tab supports browse by category, trending, recently published, and editor's picks.	P0
M9.FR 9	Reviews & Ratings	Readers may leave a 1–5 star rating and short review on a published book.	P1
M9.FR 10	Author Profile Link	Each book links to its author's Writogram profile with their other books and posts.	P0
M9.FR 11	Book Privacy	Books may be Public, Private (draft), or Custom (specific readers). Custom requires invite link.	P1
M9.FR 12	Monetization (Phase 2)	Paid books, free chapters/preview, payouts.	P2

Business Rules & Constraints

- Imported PDFs must be ≤ 50 MB and authored or owned by the uploader (acceptance via checkbox).
- Published books cannot be deleted; they may be unpublished, hiding them from discovery.
- Reader font/theme settings persist per device.

Acceptance Criteria

- Author can create a book, add a chapter, and publish in under 5 minutes.
- Reader UI maintains scroll/page position when app is reopened.
- Imported PDF renders as paginated text with original formatting preserved as closely as feasible.
- Highlight made on one device is visible on other devices for the same user within 10 seconds.

Dependencies

- PDF/EPUB parsing service.
- Object storage for original files and cover images.
- Sync service for cross-device reading state.

M10. Notifications

Push and in-app notifications keep users informed of meaningful activity without overwhelming them.

User Stories

ID	As a...	I want...	So that...
M10.U S1	user	to be notified when someone reacts to my post	I know my words are landing
M10.U S2	user	to control which notifications I receive	I'm not overwhelmed
M10.U S3	user	in-app and push notifications to stay in sync	I don't see duplicates

Functional Requirements

ID	Requirement	Description	Priority
M10.F R1	Notification Types	Reactions, comments, mentions, new follower, DM received, community invite/approval, book chapter from followed author, system/admin announcements.	P0
M10.F R2	Channels	Push (mobile), in-app inbox, optional email digest (Phase 2).	P0
M10.F R3	Granular Preferences	User can enable/disable each notification type per channel.	P0
M10.F R4	Mute Conversations / Communities	User can mute notifications from a specific conversation or community.	P0
M10.F R5	Quiet Hours	User-defined quiet hours suppress push notifications.	P1
M10.F R6	In-App Inbox	Centralized inbox with unread badge, mark-as-read, mark-all-as-read, and 30-day retention.	P0

Business Rules & Constraints

- System suppresses notification storms by batching reactions on the same post within a short window.
- Quiet hours suppress push but preserve in-app inbox entries.

Acceptance Criteria

- Push notification arrives within 5 seconds of triggering event (P95).

- Disabling a category stops all notifications of that type within 1 minute.

Dependencies

- FCM and APNs setup.
- Notification service with template management.

M11. Search

Cross-entity search to help users find people, posts, books, and communities.

User Stories

ID	As a...	I want...	So that...
M11.U S1	user	to search for a writer by name or username	I can follow them
M11.U S2	user	to search posts by keyword or emotion	I can find content I remember
M11.U S3	user	to search books by title or author	I can start reading quickly
M11.U S4	user	to discover communities by topic	I can join discussions

Functional Requirements

ID	Requirement	Description	Priority
M11.F R1	Unified Search Bar	Single search input with tabbed results: All, People, Posts, Books, Communities.	P0
M11.F R2	Filters	Filter by language, time window, post type, and emotion tags (for posts).	P0
M11.F R3	Recent & Suggested	Show recent searches and trending queries when search is empty.	P1
M11.F R4	Privacy-Aware Indexing	Private and Personal Space content shall never be indexed; custom posts are indexed only for their allowed audience.	P0

Business Rules & Constraints

- Search index updates within 1 minute of content publish.
- Blocked users do not appear in each other's search results.

Acceptance Criteria

- Typing 3 characters returns suggestions within 500 ms.
- Emotion-filtered search returns only posts whose detected emotions match.

Dependencies

- Search engine (Elasticsearch/OpenSearch).
- M4 emotion tags as searchable metadata.

M12. Reporting, Moderation & Trust/Safety

Tools and workflows to keep Writogram safe, respectful, and free from abuse.

User Stories

ID	As a...	I want...	So that...
M12.U S1	user	to report inappropriate content or behavior	the platform stays safe
M12.U S2	moderator	a clear queue of reports with context	I can act efficiently
M12.U S3	admin	audit trails of moderation actions	decisions are accountable

Functional Requirements

ID	Requirement	Description	Priority
M12.F R1	Report Submission	Users can report posts, comments, books, communities, and users with predefined reasons (harassment, spam, hate, sexual content, self-harm, copyright, other).	P0
M12.F R2	Automated Filters	System runs automated checks on new content (text classification for hate, sexual content, self-harm risk).	P0
M12.F R3	Moderation Queue	Internal admin/moderator dashboard lists open reports with content snapshot, reporter info, history of accused user.	P0
M12.F R4	Actions	Available actions: dismiss, warn user, remove content, restrict user, suspend user, permanently ban user. Cascade-delete options where applicable.	P0
M12.F R5	Self-Harm Response	Posts/messages flagged as self-harm trigger a supportive in-app resource overlay with helpline information localized to the user's country.	P0
M12.F R6	Appeals	Users may appeal enforcement actions; appeals route to a separate review queue.	P1
M12.F R7	Audit Log	All moderation actions are logged with actor, timestamp, target, and reason.	P0

Business Rules & Constraints

- Anonymous DM senders are subject to stricter automated thresholds.
- Repeated offenses escalate via a documented strike policy.

- CSAM detection triggers immediate removal and reporting per applicable law.

Acceptance Criteria

- A submitted report is visible in the moderation queue within 30 seconds.
- Removing content takes effect across all surfaces within 10 seconds.
- Self-harm overlay appears the moment a flagged composition is submitted.

Dependencies

- AI/ML classifiers for automated moderation.
- Localized helpline resource database.

M13. Admin Panel

Internal web application for Writogram operators to manage users, content, communities, themes, and platform configuration.

User Stories

ID	As a...	I want...	So that...
M13.U S1	admin	to manage users (suspend, ban, restore)	I can enforce platform policy
M13.U S2	admin	to curate content for the Curated feed	I can elevate quality writing
M13.U S3	admin	to manage the Theme Store	the catalog stays fresh
M13.U S4	admin	to view platform analytics	I can make informed decisions

Functional Requirements

ID	Requirement	Description	Priority
M13.F R1	Admin Authentication	Separate admin login with mandatory 2FA and IP allowlist (configurable).	P0
M13.F R2	User Management	Search users, view profile, see history, take enforcement actions.	P0
M13.F R3	Content Management	Browse posts, books, communities; remove, restore, or feature content.	P0
M13.F R4	Curation	Mark posts/books as Curated with a scheduled publish date.	P0
M13.F R5	Theme Store Management	Add, edit, deprecate themes; upload theme assets.	P0
M13.F R6	Reports & Analytics	Dashboards for DAU/MAU, posts created, retention, top emotions, community growth, moderation throughput.	P0
M13.F R7	Configuration	Manage feature flags, AI confidence thresholds, rate limits, and message retention.	P1
M13.F R8	Role Management	Super Admin manages admin/moderator roles and permissions.	P0

ID	Requirement	Description	Priority
M13.F R9	Audit Trail Viewer	Searchable log of all admin actions.	P0

Business Rules & Constraints

- All destructive admin actions require confirmation and are logged.
- Admin access is reviewed quarterly.

Acceptance Criteria

- Admin can suspend a user account in under 30 seconds end-to-end.
- Curated content publishes at the scheduled time within 1-minute precision.
- Audit log entries are immutable.

Dependencies

- Internal SSO or admin identity provider with 2FA.
- Analytics warehouse pipeline.

8. Non-Functional Requirements

8.1 Performance

Metric	Target
Home feed first paint (4G)	< 2.0 s (P95)
Composer load time	< 800 ms
Message delivery (in-app, normal load)	< 1.0 s (P95)
Push notification arrival	< 5.0 s (P95)
Emotion tagging on publish	< 5.0 s (P95)
API response (read endpoints)	< 300 ms (P95)
Search query (3-char prefix)	< 500 ms (P95)

8.2 Scalability

- Designed to support 1M registered users and 100K DAU at launch, with horizontal scaling for application services.
- Stateless services behind a load balancer; databases use read-replicas for read-heavy paths.
- Async processing (emotion detection, notifications) decoupled via message queue.

8.3 Availability & Reliability

- Target uptime: 99.9% monthly for core services (auth, feed, composer, messaging).
- Automated backups: hourly incremental, daily full, 30-day retention.
- Documented runbooks and on-call rotation.

8.4 Security

- All traffic over TLS 1.2+ only.
- Passwords (where used) hashed with a modern algorithm; OTPs are time-bound and single-use.
- Personal Space content encrypted at rest with per-user keys.
- Role-based access control enforced server-side; clients are never trusted for authorization.
- Regular dependency scanning and quarterly penetration testing.

- OWASP ASVS Level 2 as the security baseline for application code.

8.5 Privacy & Compliance

- Compliant with India's DPDP Act and GDPR for applicable users.
- Clear in-app privacy policy and terms; consent captured at sign-up.
- Data export (right to access) and account deletion (right to erasure) supported.
- AI processing toggleable and clearly explained.

8.6 Accessibility

- WCAG 2.1 AA as the design and engineering target.
- Dynamic type, sufficient contrast across all themes, screen-reader labels for interactive elements.

8.7 Localization & Internationalization

- UI string externalization from day one to support multiple languages.
- Launch languages: English; subsequent: Hindi, then prioritized Indic languages based on demand.
- Locale-aware date, number, and time formatting.

8.8 Maintainability

- Modular service boundaries aligned with the modules in this FRD.
- Comprehensive automated test coverage: unit, integration, end-to-end critical paths.
- Centralized logging and observability with correlation IDs across services.

8.9 Compatibility

- Mobile: iOS 15+ and Android 9 (API 28)+ at launch.
- Web: latest two major versions of Chrome, Safari, Firefox, and Edge.

9. Data Model — Core Entities (High-Level)

The following are the primary entities and key relationships. Detailed schemas will be produced during the technical design phase.

Entity	Key Attributes	Key Relationships
User	id, username, display_name, email, phone, avatar, bio, language, signature, theme_id, created_at	Has many Posts, Journals, Books, Memberships; follows/follower edges to other Users
Post	id, author_id, body, type (Thought/Poem/Quote/Reflection), privacy, audience, created_at, edited_at	Belongs to User; has many Reactions, Comments, EmotionTags
EmotionTag	id, post_id, emotion, confidence, source (ai user)	Belongs to Post
Reaction	id, user_id, post_id, type	Belongs to User and Post
Comment	id, post_id, parent_comment_id, author_id, body, created_at	Threaded under Post
Follow	follower_id, followee_id, created_at	User → User
Community	id, name, description, visibility, owner_id, created_at	Has many Memberships, CommunityPosts
Membership	user_id, community_id, role, joined_at	User × Community
Conversation	id, mode (identified anonymous), created_at	Has many Messages and Participants
Message	id, conversation_id, sender_id, body, sent_at, read_at	Belongs to Conversation
Journal	id, owner_id, name, created_at	Belongs to User; has many JournalEntries
JournalEntry	id, journal_id, body (encrypted), created_at, tags	Belongs to Journal
Book	id, author_id, title, cover, description, language, status (draft published)	Has many Chapters, Reviews, Highlights
Chapter	id, book_id, order, title, body, published_at	Belongs to Book

Entity	Key Attributes	Key Relationships
Highlight	id, user_id, chapter_id, range, note	Belongs to User and Chapter
Theme	id, name, palette, typography, asset_url, status	Referenced by Users
Report	id, reporter_id, target_type, target_id, reason, status, created_at	Created by User; resolved by Admin/Moderator
AdminAction	id, actor_id, action_type, target, reason, created_at	Audit log

10. Integrations

Capability	Provider Options	Used By
OAuth (Google)	Google Identity Platform	M1 Authentication
SMS / OTP	Twilio, MSG91, Kaleyra	M1 Authentication
Push Notifications	Firebase Cloud Messaging, APNs	M10
Email	SendGrid / SES (transactional + future digests)	M10, system
AI — Grammar/Expression	OpenAI / Anthropic / In-house LLM	M4
AI — Emotion Classification	Custom classifier or HuggingFace-hosted model	M4
Object Storage	AWS S3 / GCP Cloud Storage	All media
CDN	CloudFront / Cloudflare	Themes, avatars, book assets
Search Engine	Elasticsearch / OpenSearch	M11
Analytics	Mixpanel / Amplitude + internal warehouse	Product, M13
Crash & APM	Sentry / Datadog	Engineering
Payment Gateway (Phase 2)	Razorpay / Stripe	Future monetization

11. Assumptions, Risks & Open Questions

11.1 Assumptions

- Mobile-first, with a companion responsive web app sufficient for V1.
- Launch market is primarily India with English UI; Indic languages roll out post-launch.
- Third-party AI services are acceptable for V1 emotion detection and grammar assistance.
- Themes are free at launch; monetization deferred.

11.2 Risks

Risk	Impact	Mitigation
AI emotion misclassification at scale	Erodes trust in core differentiator	Confidence thresholds, author override before discovery, feedback loop, periodic model evaluation
Anonymous DM abuse	Safety incidents, brand damage	Strict rate limits, automated content filters, easy block/report, escalation policy
Trust & Safety operational load	Slow response, user harm	Strong automated filters + tiered moderation team + clear playbooks
Scaling real-time messaging	Outages or latency in DMs	Stateless WebSocket fleet behind a connection broker; load testing prior to launch
Content quality vs. quantity	Feed feels noisy or low-quality	Curated feed, editorially highlighted authors, ranking signals beyond recency
Privacy concerns around AI processing	User opt-outs, regulatory scrutiny	Transparent settings, opt-out toggle, exclude private content by default

11.3 Open Questions for Stakeholder Decision

- Final emotion taxonomy: confirm 13 launch emotions or adjust based on user research?
- Custom audience lists: support saved lists in V1 or defer to Phase 2?
- Reactions: confirm exact reaction set (Heart, Hug, Insightful, Resonates) or expand?
- Word limit ceiling: hard 300 in V1 or allow long-form via Books only?
- Anonymous DM identity reveal: one-way only, or allow both reveal and re-anonymize?
- Books monetization: target Phase 2 timeline?
- Web app scope: full parity with mobile or focused subset (read + write + admin)?
- Data residency: India region only, or multi-region from day one?

12. Release Plan — Phased Rollout

12.1 Phase 1 — MVP (Launch)

Focus: validate the core thesis — distraction-free expression + emotion-aware discovery + community.

- M1 Authentication & Onboarding
- M2 Profile & Personalization (with starter Theme Store of ~50 themes)
- M3 Composer with privacy controls (300-word cap)
- M4 AI emotion detection + grammar toggle
- M5 Following feed, Trending, Mood-based Discovery, Reactions, Comments
- M7 1:1 Direct Messaging (identified mode only)
- M8 Personal Space (journals + lock)
- M10 Push and in-app notifications
- M11 Cross-entity search
- M12 Reporting + basic moderation
- M13 Admin Panel — core operator tools

12.2 Phase 2 — Differentiators (3–4 months post-launch)

- M6 Communities & Forums (full)
- M7 Anonymous DM mode
- M9 Books — write, publish, import PDF, reader UI
- Curated feed (editorial)
- Saved custom audiences, scheduled posts

12.3 Phase 3 — Growth & Monetization

- Paid books, premium themes, author payouts
- Email digests
- Native audio/voice attachments in DM
- E2E encryption for DMs
- Personal mood-tracking dashboards (from journal data)
- Additional Indic languages and localized AI emotion models

13. Glossary

Term	Meaning
Composer	The writing interface where users author posts, journal entries, and chapters.
Custom Audience	A user-selected list of recipients for a non-public post.
DM	Direct Message — 1:1 private conversation.
Emotion Tag	A label (with confidence score) attached to a post indicating a detected emotion.
Feed	Ranked list of posts presented to a user (Following, Trending, Curated, or Mood-based).
FRD	Functional Requirements Document.
Journal	A private collection of personal entries within Personal Space.
Mood Selector	UI control where the user picks one or more emotions to drive discovery.
P0 / P1 / P2	Priority tiers — Must-have / Important / Future.
Personal Space	The fully private writing area; never indexed or shared.
Signature	A short personal phrase auto-appended to a user's public/custom posts.
Theme	A visual style (palette, typography, background) applied to the user's app UI.
Trending	Velocity-weighted ranking of posts based on recent engagement.