

AI Dating App — Product Specification & End-to-End User Flow

Purpose: This document describes the exact product behavior, user flows, constraints, premium features, backend objects, enforcement rules, and KPIs for the app specified: an AI-first grid discovery app with *on-grid* (high-precision) and *off-grid* (broader discovery) results, strict daily limits, a cooldown mechanic, and premium unlocks.

1. Executive summary

This app replaces infinite swiping with an AI-driven, controlled discovery loop that reduces burnout and equalizes opportunity. Users search with natural language; the AI returns a short set of *on-grid* (high-match) results and an *off-grid* panel for broader discovery. Strict daily interaction limits and an automated cooldown for heavily-received profiles ensure demand does not swamp supply. Premium users can bookmark, rewind, expand limits, or bypass small constraints.

This spec implements the final rules:

- After searching, **males** receive **3 on-grid AI matches** and an **off-grid panel of 4** (refreshable). Males may *like* 1 on-grid in 12 hours and *like* up to 4 off-grid (refreshable) in 12 hours.
 - **Females** receive **6 AI on-grid matches** and an **off-grid panel of 4**. Females may like 3 on-grid and 5–7 off-grid. After hitting limits, a per-user cooldown (8–12 hours) hides their profile from receiving new likes (auto-enabled for females, disabled by default for males).
 - Off-grid refresh is unlimited for browsing; to rewind previously-seen off-grid profiles or to exceed daily limits, user must buy premium. Premium users “shine” in search (small ranking uplift) and have fewer restrictions, they can also bookmark the cooldown profiles to like after they active.
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2. Core principles and goals

- **Quality over quantity:** limit outreach so conversations are meaningful.
 - **Fairness & retention:** prevent overload for the minority gender and encourage continued presence.
 - **Transparency:** users should understand limits clearly and see how to upgrade.
 - **Safety first:** mutual-like behavior preferred; paid-first-message constrained and moderated.
 - **Scalable economics:** premium offers extend convenience, not fairness.
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3. High-level system overview

1. **User enters query** (natural language).
 2. **AI parses query** into attributes (explicit filters) and embeddings (MBTI).
 3. **Match engine** returns two sets: *on-grid* (top N precise) & *off-grid* (broader set).
 4. **UI** renders: Grid view with on-grid top-left and off-grid tab/panel. Users interact under daily quotas.
 5. **Like → mutual like → match** → messaging is unlocked. Message caps apply for starting new threads.
 6. **Limits / cooldown** enforcement is performed by the rate-limiter service. Premium and reputation modifiers can adjust allowances.
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4. Onboarding & profile setup

Goals: collect enough signals for AI matching without friction.

Mandatory fields:

- Name / Display name
- Age
- Gender (and who they are interested in)
- Location (city + optional distance radius)
- 3 short prompts (300 chars total) about personality/values
- 3 photos (first photo required)

Optional & recommended:

- Verified badge (photo/video verification)
- Interests (select tags) — these seed the AI embeddings
- Quick personality quiz (MBTI TEST) to improve matching quality

Onboarding also explains limits in plain language:

“A quick popup FAQ will explain the rules of this app”

5. Search & AI matching: how a query becomes results

Search input: free-form NL text + optional facet toggles (height, distance, age range, interests).

AI pipeline (simplified):

1. **Parse:** NL extracts explicit filters (e.g., height > 5.10ft) and MBTI and keywords intent ("kind, loves travel").

2. **Vectorize:** user query and profile text/images are converted into embeddings. Photos feed an optional image-embedding model for style/tone match.
 3. **Candidate retrieval:**
 - Retrieve high-similarity candidates (***on-grid*** candidates pool).
 - Retrieve broader nearby candidates with partial overlap (***off-grid*** pool).
 4. **Re-rank:** consider freshness, MBTI reciprocity, reputation, geographic proximity. Limit final on-grid to configured count (3 for males, 6 for females).
 5. **Return:** results to the client are packaged as two ordered lists with metadata (why this match: e.g. "shared interest: travel") and eligibility flags.
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6. On-grid vs Off-grid: definitions and rules

On-grid

- Highest precision matches. Presented as a compact grid of top results (3 for males / 6 for females).
- First the priority is MBTI matching if not much profile are showing up then it can come back again after few hours or check off grid page
- Liking rules: restricted (males may like 1 on-grid per 12h; females may like up to 3 total among their 6 on-grid).
- Off-grid refresh and rewind restrictions do not apply to on-grid matches — except when exceeding daily like quotas.

Off-grid

- Broader discovery list: suggested people who share some but not all intent signals.

- Presented in a separate tab/panel with 4 slots for males (refreshable) and 4 for females.
- Off-grid slots can be refreshed unlimitedly for browsing; *liking* off-grid counts against daily off-grid like limits.
- Rewinding previously-seen off-grid profiles (bringing them back after they are refreshed out of view) requires premium.

Why two sets?

- On-grid focuses connections (precision); off-grid encourages exploration while preserving supply.
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7. Male user flow (concrete sequence)

Assumptions: user is signed-in, has completed onboarding.

1. **Search:** male types "tall, thoughtful, loves hiking and cinema, New Delhi" and taps Search.
2. **AI returns results:** on-grid (3 profiles) + off-grid panel (4 profiles). The UI highlights 3 on-grid tiles.
3. **On-grid interaction:** male may like *only 1* of the 3 right now (this consumes his on-grid like allowance). After liking 1 on-grid, he must wait 12 hours to like another on-grid candidate.
4. **Off-grid interaction:** male can browse the off-grid panel and refresh it (swap the 4 profiles) as much as he wants to *browse*. Liking off-grid consumes an off-grid like credit (up to 4 likes per 12 hours).
5. **If mutual like occurs** → match appears in Matches screen; man may start conversation subject to messaging rules (see Section 9).
6. **If male exhausts both on-grid and off-grid likes** he is shown premium upsell options: "Get +2 off-grid likes now" or "Add one on-grid like now".

7. If male wants to see previously refreshed off-grid profiles (rewind) he must purchase a Premium rewind credit.

Edge-case handling: if male's city has low density and on-grid is empty, show a message: "We couldn't find 3 precise matches right now — show broader discovery instead? Or Choose increase your Distance or Choose Different city" with a button to expand and present more **off-grid or on-grid** candidates.

8. Female user flow (concrete sequence)

Assumptions: female signed-in; auto-cooldown enabled in settings.

1. **Search:** she enters the same query or chooses saved search.
2. **AI returns** on-grid (6) + off-grid 4. UI shows 6 tiles and a visible off-grid row/tab.
3. **On-grid interaction:** she can like up to **3** of the 6 on-grid results (counts against her daily on-grid likes).
4. **Off-grid interaction:** she can browse and like up to **5–7** off-grid profiles. Off-grid refresh is unlimited for browsing; liking consumes off-grid credits.
5. **When the female hits her total daily like limit**, the app auto-activates a **cooldown** for her profile (8–12 hours — see Section 10). During cooldown, she remains visible in search only in a read-only mode (others cannot send new likes to her), but she can still browse and message her existing matches.
6. **Bookmarks:** females who are in cooldown cannot receive likes; premium users (males or females) can bookmark her profile to automatically like/send when she leaves cooldown (bookmarks are premium-only).

Note: the cooldown auto-enable is the default for female users to prevent overload; they can toggle it in settings if they wish.

9. Like / Match / Message rules (limits & timings)

Daily windows & cooldowns

- On-grid like cooldown: *12 hours* between on-grid likes for the same user (for men who liked on-grid once, must wait 12 hours to like another on-grid). This prevents spamming high-precision conveys.
- Off-grid like window: off-grid likes are grouped per 12-hour window (men max 4 per 12 hours; women 5–7 per 12 hours). These reset on a rolling 12-hour timer per user.
- Messaging: replies in existing matches are allowed unlimited for a window (e.g., first 7 days conversation unlimited), but starting *new* message threads is limited similarly to likes (to prevent mass outreach). Starting new threads per day: men 3/day, women 10/day (initial launch baseline—these numbers can align with the like limits already described).
- Male or Female can refresh the AI suggested profiles after 12 hours. (previous profiles will vanish to undo them user need to buy premium)

Mutual-like requirement

- Messages to unmatched users are not permitted except via premium-first-message flow (carefully moderated) — mutual-like-first is default.

Bookmarks & rewinds

- **Bookmark:** premium users may bookmark profiles during another user's cooldown; bookmark stores the profile into a bookmark tab and the user can like the profile when the profile becomes active.
- **Rewind off-grid:** Previously seen off-grid profiles (which were refreshed out) cannot be seen again unless user buys premium.

Premium bypasses (examples):

- +1 on-grid like/day (temporary boost)
- +7 off-grid likes/day

- Immediate bookmark of cooldown profiles
 - Rewind profiles
 - Send Direct message / week
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10. Cooldown behavior and settings

Default behavior

- For female users: after hitting daily like limits, **cooldown auto-enables** (8–12 hours). During cooldown:
 - Their profile stays in the app (visible to themselves and in read-only search previews) but **cannot receive new likes**.
 - Existing matches and messages continue normally.
 - Premium users can bookmark them for later.
- For male users: cooldown is **off by default**. Men can optionally enable cooldown in settings if they prefer reduced incoming activity.

Rationale: female-first auto cooldown prevents flooding and improves retention. Men can optionally enable the same to avoid receiving many messages. Female do can also turn off this feature.

UI treatment: show a clear banner: "Your profile is in cooldown to keep conversations high-quality. You will be visible for new likes again at [time stamp]. Premium users may bookmark you now." Include a toggle in Settings to disable/enable auto-cooldown.

11. Premium features & monetization

Primary monetization principles: convenience and speed, not fairness. Premium should *improve* experience but not unbalance supply-demand.

Premium offering (example tiers):

- **Plus (monthly):** +1 on-grid like/day, +7 off-grid likes/day, 3 rewind credits/day, bookmark access, search shine and verified badges.
- **Pro (monthly):** +3 on-grid/day, +15 off-grid/day, unlimited rewind, priority ranking, bookmark queue, advanced filters.
- **Pay-per-use microtransactions:** rewind one off-grid profile, boost to appear in more searches for 2 hours.

Features tied to your spec:

- **Bookmarking** (premium): save a female profile during cooldown; be notified when she re-appears.
- **Rewind off-grid or on-grid** (premium): pull previously refreshed on or off-grid items back into the visible slots.
- **Bypass daily caps** (premium): purchase to like extra on-grid or off-grid profiles beyond daily limit. These should be priced to avoid "paid flooding" (e.g., reasonably high relative to subscription).
- **Shine in search:** small ranking uplift for premium users; this does not guarantee exposure but increases probability.

Ethical considerations: don't sell unlimited reach or the ability to target specific female profiles. Premium should not enable harassment.

12. UX microscopy & screens (examples)

Home / Search screen

- Headline: "Search your type — get a few highly-curated people."
- Hint: "Try: 'tall, loves hiking, film buff'"

After searching (on-grid)

- "Top 3 matches for you" → tooltip "These were chosen by our AI for relevance. You may like 1 now; you get another on-grid like in 12 hours or buy premium to get a refresh"

button for on grid"

Off-grid panel

- "Explore: 4 profiles (refresh any time). Liking consumes off-grid credits."
- Refresh CTA: "Refresh (browse new people)"

Hit limit modal

- "You've used today's Discovery credits." CTA: "Upgrade to get +2 likes today" / "Wait 12 hours for your next on-grid"

Cooldown banner (female)

- "You're currently in Cooldown to keep conversations high-quality. People can't like you right now. You'll be active again at [time]. Upgrade to allow bookmarks."

Premium upsell

- Contextual: show at the precise moment user hits the limit with a short value proposition describing rewind/bookmark.
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12. Safety, moderation & anti-abuse

- **Verification:** photo or video verification for improved trust.
- **Automated filters:** profanity, sexual solicitations, and repeated infraction detection.
- **Human review queue:** paid-first-message flagged for human review if content triggered.
- **Block/report workflows:** easy in-chat reporting; quick temporary suspensions on repeated infractions.

- **Rate-limit abusers:** accounts with high block/report ratios get reduced reach and possible bans.
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13. Analytics & KPIs

Primary KPIs

- Female 7-day retention (primary health metric)
- Reply rate to first message
- Matches per active user (by gender)
- Reports/blocks / 1k sessions
- Premium conversion rate

Thresholds to watch

- If female 7-day retention drops below a target (set by your business case), relax male reach or increase female control.
 - If reply rate < 20% for either gender, increase match quality or reduce outreach volume.
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14. Appendix: example user journeys

A. Male journey — Delhi, evening

1. Searches: "tall nature lover, 25–32, Mumbai or for location he can also search near me"
→ on-grid 3, off-grid 4 appear.
2. Likes 1 on-grid (uses his on-grid like allowance), likes 4 off-grid (now 3/4 off-grid used).

3. One off-grid matches him back → match opens; he may start 1 new conversation (men allowed to start 3/day).
4. He runs out of off-grid likes; an upsell modal offers +7 off-grid likes for \$\$.

B. Female journey — Mumbai, morning

1. Searches: "kind, likes books, 27–33" → on-grid 6 + off-grid 6.
 2. Likes 2 on-grid, likes 5-7 off-grid; total likes used reaches her limit.
 3. Cooldown auto-activates for 10 hours; she receives a banner explaining the cooldown and that premium bookmarks can be saved by others.
 4. She continues to message existing matches without restriction.
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