

Case Study

Ads-Free feature for emergency in YouTube

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Section A - Case Study

1. Executive Summary

YouTube users like Sam often rely on long instructional videos especially for tasks like cooking, learning music, or following a workout. These sessions require frequent pauses as users execute steps in real-time. Unfortunately, after prolonged pauses, YouTube auto-refreshes the video or resumes with non-skippable ads, disrupting focus and creating a poor user experience during high-concentration activities.

This interruption becomes especially frustrating when the user is mid-task, say stirring a sauce or handling hot cookware and has to break their flow to deal with a video reload or unexpected ad.

What Assumptions Have I Made?

- Users want temporary ad-free experiences, not necessarily a full YouTube Premium subscription just relief during high-focus moments.
- Ad-free needs are contextual (e.g., while cooking or meditating), and often short-lived, ranging from 30 minutes to 2 hours.
- YouTube has an existing payment ecosystem (Google Pay, UPI, card) that can be used to offer microtransactions.
- YouTube's platform supports account-based session persistence, allowing features like cross-device tracking and time-bound controls.
- Deferred payments are technically feasible, and with appropriate enforcement (e.g., blocking new sessions until dues are cleared), can increase adoption without severe revenue leakage.

What Solution Am I Proposing?

A new feature called “Ad-Free Session” that allows users to temporarily suspend ads for 30, 60, 90, or 120 minutes, using one of two payment modes:

- Pay Now: Immediate payment using existing checkout flows
- Pay Later: Start session instantly and pay once the session ends (or face restricted usage if unpaid)

Users see a live countdown timer on their video and can manage active sessions or payments from their Settings > Playback section. All sessions are non-refundable, device-agnostic, and persist through reloads or tab changes.

To evaluate this idea, I explored three models: paid sessions, survey exchange, and watch-later ad banking and chose the Paid Ad-Free Session with Pay Later as the most feasible and scalable solution. It balances:

- User satisfaction during high-engagement moments
- Revenue continuity for YouTube
- Low engineering overhead by reusing existing systems

What's Included in This Submission?

This submission includes a complete Product Requirements Document (PRD), with:

- Realistic user stories and functional requirements
- Coverage of key edge cases and platform constraints
- Updated textual wireframes for both video and settings screens
- A detailed breakdown of solution trade-offs and rationale
- Clear, concise responses to Tracxn's interview questionnaire framed from a product mindset

2. Solution Options Analysis

Option	Detailed Pros	Detailed Cons
1. Paid Ad-Free Session	<p>Immediate clarity and user control: Sam can select the exact duration they want ad-free playback for (e.g., 30 mins / 1 hour / 1.5 hours / 2 hours) with clear pricing displayed. They can choose to pay now or defer payment until the session ends.</p> <p>Flexible monetization flow: “Pay Later” increases adoption for casual or hesitant users. Those who choose to continue using YouTube after the session ends are prompted to pay, with light reminders.</p> <p>Scalable, familiar UX: Google Pay, UPI, credit cards, and other already-integrated payment options can be reused. Sessions are tied to the user's Google account across devices.</p>	<p>Deferred revenue risk: Some users may leave mid-session or not pay after completion, especially in “pay later” mode leading to revenue leakage if not managed with reminders or usage restrictions.</p> <p>Communication clarity required: Users need to understand clearly when their session ends and what happens if they exit early or don't pay afterward. Potential confusion if not handled with smart UI copy and reminders.</p> <p>Support tickets and refund requests: Users might start sessions unintentionally, forget they were in “pay later” mode, or dispute charges necessitating proper</p>

		disclaimers, retry options, and logs for verification.
2. Survey-for-Ad-Free Exchange	<ul style="list-style-type: none"> • Free to users: Sam can opt in to a short, snack-sized survey (2–3 questions) instead of paying, maintaining accessibility. • Actionable insights: YouTube gains direct feedback on ad relevancy, targeting, and user preferences. • Engagement loop: Users who feel “heard” by the brand may have increased loyalty. 	<ul style="list-style-type: none"> • Survey fatigue risk: Frequent interruptions for surveys could frustrate heavy users, leading to drop-off. • Lower monetization yield: Surveys typically pay out lower CPM than standard ads. YouTube may lose incremental ad revenue. • Implementation complexity: Need to design dynamic surveys, route responses, and analyze quality adds cross-functional overhead.
3. Watch-Later Ad Bank	<ul style="list-style-type: none"> • Revenue neutrality: Sam agrees to watch a batch of ads at session end, ensuring no lost impressions. • Deferred annoyance: Delays interruptions until Sam is done cooking, preserving flow. • Tracking sophistication: Builds on ad-impression queueing, tying banked ads to user accounts. 	<ul style="list-style-type: none"> • Cognitive load: Users must remember that they owe ads later and may feel guilty or uncertain. • Queue management complexity: Handling partial watches, session expirations, or device switches risks mistakes. • Possible churn: If banked ads pile up, Sam may skip videos or use ad blockers to avoid a future barrage.

3. Recommended Solution

After thoroughly evaluating UX simplicity, monetization flexibility, and engineering feasibility, the Paid Ad-Free Session with Deferred Payment Option stands out as the most balanced and user-friendly approach”

1. **User Value & Clarity:** A single, prominent CTA “Buy Ad-Free Session” lets users instantly initiate a distraction-free viewing experience. They’re offered multiple duration blocks (30 mins, 60 mins, 90 mins, 120 mins) with pricing clearly stated. Critically, they

can choose to pay upfront or defer payment until the session ends, giving users control based on their intent and context.

2. **Flexible Monetization, Higher Adoption:** Allowing users to “Pay Later” reduces friction and appeals to hesitant or first-time buyers. For YouTube, it opens doors to incremental monetization by capturing high-intent moments (e.g., cooking, learning, meditating) without relying solely on ads or subscriptions. Sessions that aren't paid for post-use can be softly penalized (e.g., ads resume immediately, or deferred payment reminders).
3. **Minimal Engineering Risk:** The solution builds on existing Google Pay and account-session tracking infrastructure. Technical additions are mostly limited to:
 - a. Flagging ad-free sessions with duration and payment mode.
 - b. Front display of countdown timers and payment reminders.
 - c. Session tracking persisted across devices using login-based tokens.
 - d. No overhaul of ad systems or deep integration with YouTube Premium is required ensuring faster rollout with measurable ROI.

Implementation highlights

- Users can select from 30, 60, 90, or 120-minute ad-free blocks.
- Sessions begin immediately and are tied to the user's Google account, ensuring cross-device continuity.
- A non-intrusive countdown banner is displayed on the video player.
- Session history and pending payments (if any) are accessible in the settings page.
- Payment reminders are triggered at session end, with a gentle nudge to complete deferred transactions.

This upgraded approach creates a win-win. Users enjoy freedom from interruptions during high-focus tasks without committing to a full Premium subscription. YouTube monetizes intent-rich micro-moments with flexible, user-driven payments. Engineering teams can build incrementally on current systems with minimal disruption. In essence, this model transforms “ad breaks” into “ad choice moments,” allowing YouTube to be both useful and respectful of the user's time.

4. PRD: Context & User Stories

4.1 Context

- **Problem:** When Sam pauses a cooking tutorial for more than X minutes, Chrome's inactivity timer triggers either a forced reload or an in-stream ad.
- **Impact:** Unplanned ads, especially non-skippable ones break concentration, risk cooking mistakes, and erode trust in the platform.
- **Goal:** Introduce a lightweight feature that lets users suspend ads temporarily, preserving instructional flow without heavy technical lift.

4.2 User Personas & Stories

Persona	Goals & Behaviors
Sam, Home Cook (New)	<ul style="list-style-type: none">• Watches long-format tutorials (15–45 min).• Pauses frequently for prep, steps, rest.• Easily distracted by webpage reloads or unexpected ads.
Priya, Busy Professional	<ul style="list-style-type: none">• Brief cooking windows (30–60 min).• Prefers predictable breaks.• Values seamless experience across mobile and TV devices.
Rahul, Cooking Enthusiast	<ul style="list-style-type: none">• Explores advanced techniques (multimedia overlays, high-res).• High tolerance for premium features.• Likely to pay for enhanced UX.

Key User Stories

1. Ad-Free Session Start Flow

- *As Sam, I want to click a “Buy Ad-Free Session” button on the video and choose how long I want to go ad-free (e.g., 30 mins, 1 hr), so that I can enjoy uninterrupted cooking time. I also want the option to either pay now or pay at the end, depending on my convenience.*

2. Session Management

- *As Priya, I want to see how much ad-free time I have remaining, whether I'm on my phone, tablet, or smart TV, so that I can manage my session efficiently, and be prepared to complete the payment if I opted for "pay later."*

3. Settings Controls

- *As Rahul, I want to open my YouTube Settings to view ongoing or past ad-free sessions, see which ones are pending payment, extend an existing session, or start a new one, so that I have full control over how I manage my ad-free experience across devices.*

5. PRD: Functional Requirements

ID	Requirement	Notes & Acceptance Criteria
FR-1	Ad-Free Session Start CTA	<ul style="list-style-type: none">• Place a "Buy Ad-Free Session" button next to existing video player controls (e.g., Share, Save).• Clicking it opens a modal with duration options (30, 60, 90, 120 mins) and payment mode selection (Pay Now / Pay Later).• The modal must display prices and expiration time clearly.
FR-2	Session Timer & Countdown Overlay	<ul style="list-style-type: none">• Show a real-time timer indicating remaining ad-free duration on the video player.• Timer must persist across tabs, reloads, and devices using login-based tokens.• In Pay Later mode, show a gentle "Pending Payment" label during and after the session.
FR-3	Settings Dashboard & Session Logs	<ul style="list-style-type: none">• In Settings > Account > Playback, list all active, expired, and unpaid ad-free sessions.• Allow users to extend sessions, pay outstanding balances, or view receipts.• "Pending Payment" sessions must display a 'Pay Now' button with retry option.
FR-4	Session Expiry & Payment Prompt	<ul style="list-style-type: none">• On session expiry, immediately revert to normal ad behavior.

		<ul style="list-style-type: none"> • For Pay Later users, show non-intrusive toast: “Your ad-free session has ended. Complete payment to unlock future sessions.” • Allow post-expiry payment within 1 hour window to avoid penalty.
FR-5	Edge Case Handling	<ul style="list-style-type: none"> • If the user loses connection, pause timer and resume upon reconnection. • On switching devices (e.g., from mobile to smart TV), sync session state within 5 seconds. • If a session ends without payment, lock out new sessions until dues are cleared (for Pay Later users).

6. PRD: Edge Cases & Assumptions

6.1 Edge Cases

1. Network Loss During Session

Scenario: Sam loses Wi-Fi while his ad-free session is ongoing.

Handling: The session timer is paused immediately upon disconnection. Once connectivity is restored, the timer resumes from where it left off. The user sees a “Session Paused – Waiting for Network” label.

2. Browser Tab Suspension

Scenario: Chrome suspends Sam’s background tab (e.g., due to inactivity or device sleep).

Handling: The session is tracked server-side using timestamp-based account tokens. When the tab reactivates, YouTube fetches the most recent timer state from the server, ensuring accurate continuity

3. Concurrent Device Usage

Scenario: Sam starts a session on mobile, then switches to desktop or smart TV.

Handling: Sessions are tied to the user’s Google Account, not to a specific device. Any logged-in device can fetch and resume the active ad-free session within seconds. Payment reminders (if Pay Later) are shown across all active devices.

4. Multiple Quick Purchases

Scenario: Sam buys a 30-minute ad-free session, then immediately starts another 60-minute one.

Handling: Session durations stack chronologically, i.e., the new session starts after the previous ends. The UI updates to reflect the total ad-free time remaining, e.g., “1 hr 30 mins left”.

5. Non-Payment After Session Ends (Pay Later Mode)

Scenario: Sam selects Pay Later, completes the ad-free session, but forgets to pay.

Handling: User is prompted with a friendly but persistent reminder via toast and email. New sessions are temporarily restricted until the pending balance is cleared. Grace period (e.g., 1 hour) allows resolution before enforcement kicks in.

6.2 Assumptions

- Payment Integration:

Users must have a linked Google Pay, UPI, or card on file to start a Pay Now or Pay Later session.

- Session Scope:

Ad-free blocks are sold in non-refundable, fixed durations (30/60/90/120 mins). No prororation or refunds for early exits.

- Ad Scope:

This feature removes only in-stream video ads. It does not apply to:

- Sponsored cards
- Product placement overlays
- Branded content or native ads within the video

- Localization Strategy:

The initial rollout will target English-language users in key regions (e.g., US, UK, India). Prices will be localized by currency and market expectations before global expansion.

- Security & Fraud Protection:

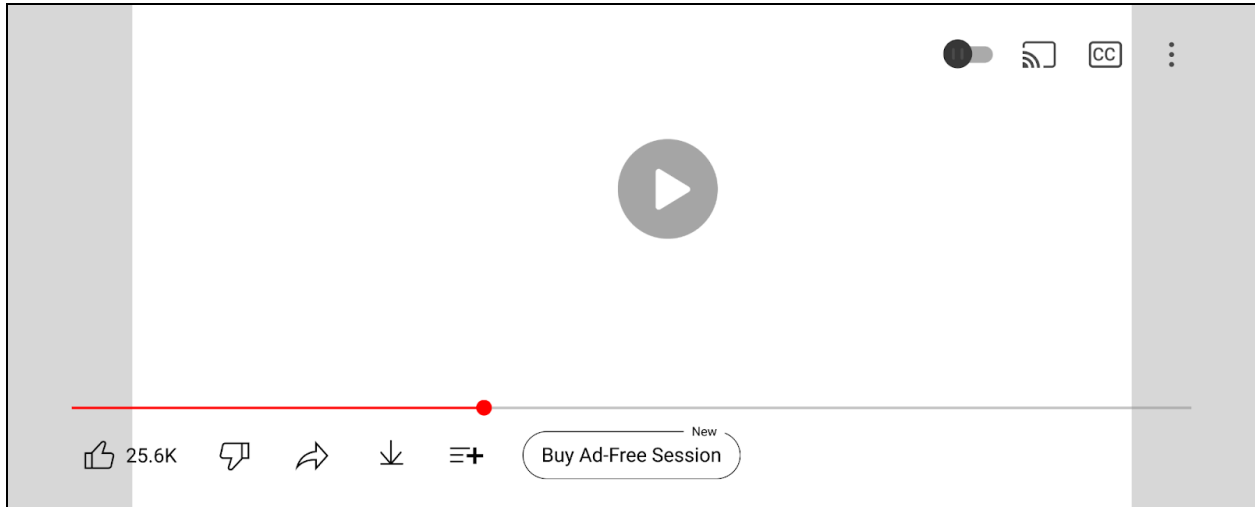
Users who exploit Pay Later without payment may be temporarily blocked from new sessions. Abuse prevention will be enforced through Google account behavior signals.

7. Wireframe Descriptions

7.1 Video Page Wireframe (Textual)

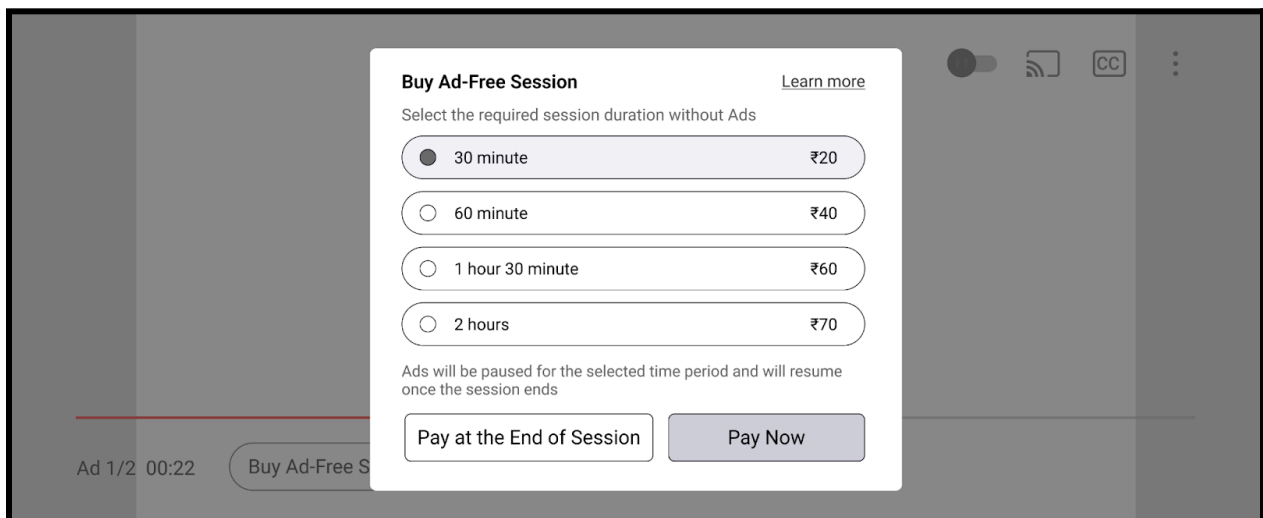
1. Buy Ad-Free Session Button on Video Player:

- A newly introduced pill-style button labeled “Buy Ad-Free Session” appears just below the video progress bar and to the right of the engagement icons (Like, Dislike, Share, Download, Save).
- Marked with a subtle “New” tag to indicate it's a recently introduced feature. Hover tooltip: “Skip ads for a set time by starting an ad-free session”.



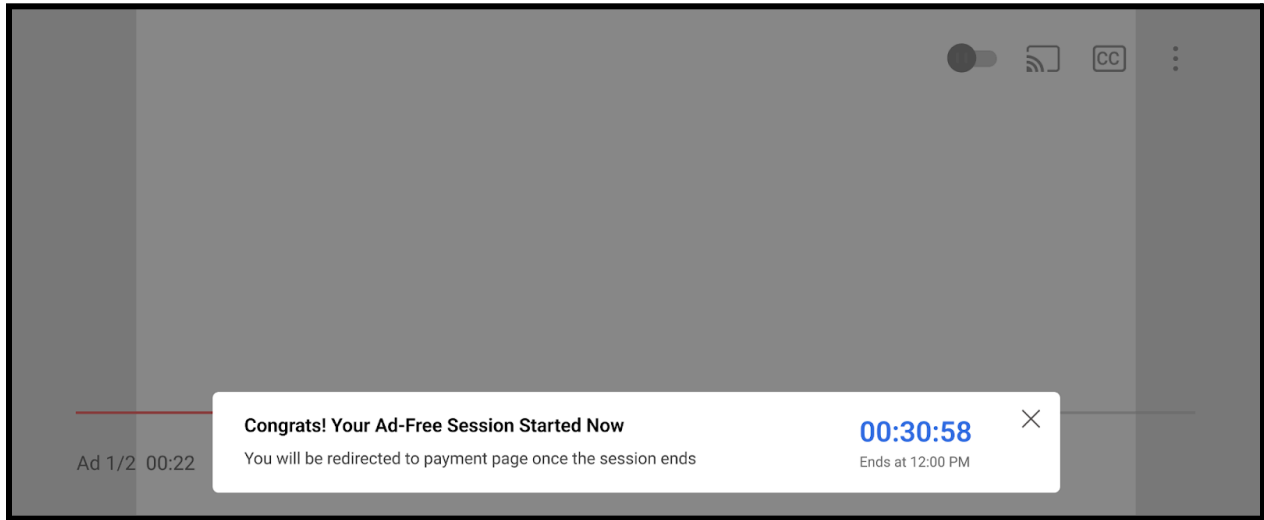
2. Ad-Free Session Selection Modal:

- Triggered when the user clicks “Buy Ad-Free Session”.
- Modal Title: “Buy Ad-Free Session”
- Description: “Select the required session duration without Ads”.
- Duration Options: 30 minutes – ₹20, 60 minutes – ₹40, 1 hour 30 minutes – ₹60, 2 hours – ₹70.
- Each option is presented with custom radio-style buttons for clean selection.
- Dual CTA Buttons:
 - i. “Pay at the End of Session”: Allows deferred payment
 - ii. “Pay Now”: Takes the user directly to Google Pay or preferred payment method.
- Below the CTAs, a subtle disclaimer text reads: “Ads will be paused for the selected time period and will resume once the session ends”



3. Confirmation Toast & Countdown Overlay

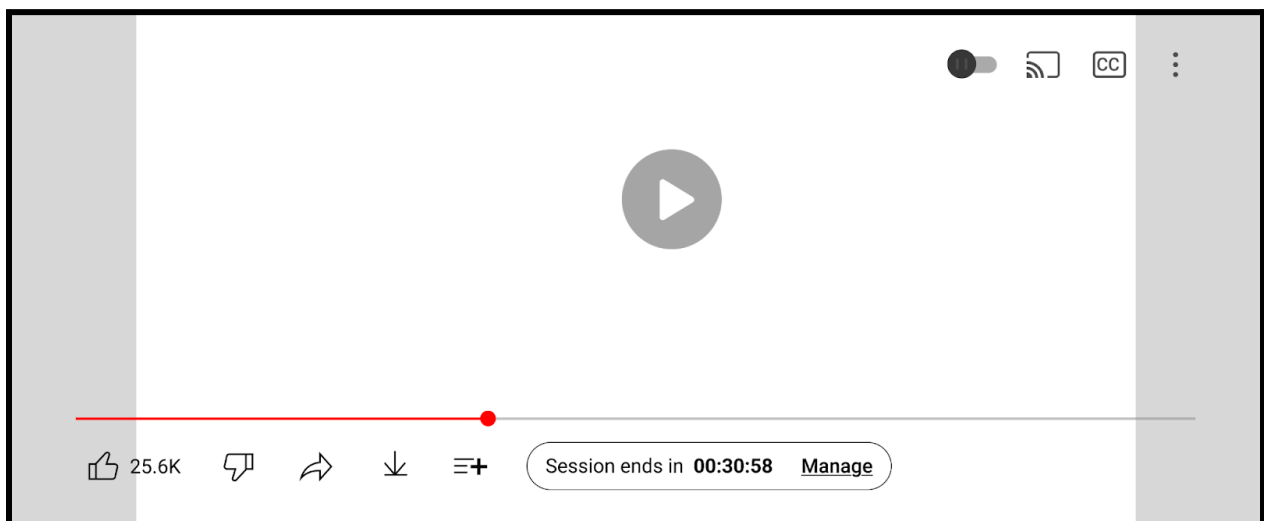
- On starting the session, a confirmation message bar appears at the bottom of the video player: "Congrats! Your Ad-Free Session Started Now". You will be redirected to the payment page once the session ends.
- To the right side of this bar is a real-time countdown timer (e.g., 00:30:58), paired with a message: Ends at 12:00 PM.
- Timer is animated in real-time and visible throughout the session, acting as both a reminder and session manager.



7.2 Settings Page Wireframe (Textual)

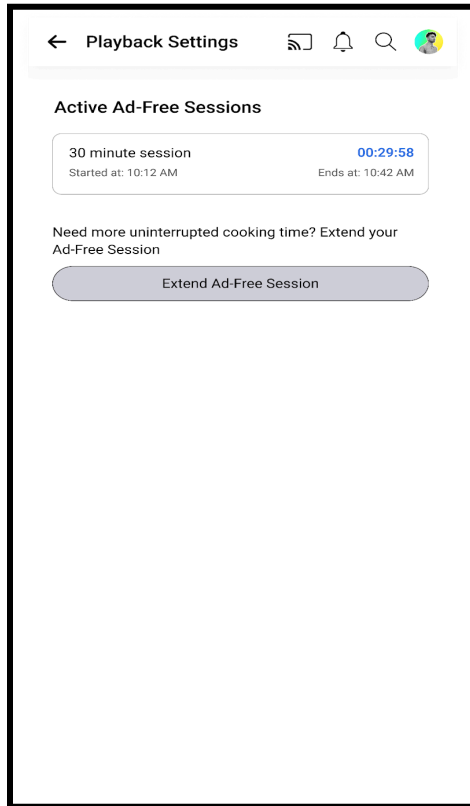
1. Manage > Playback Settings

- Section header: "Ad-Free Sessions"



2. Current Active Session Block

- Title: "30 minute session"
- Subtext (Left-aligned): Started at: 10:12 AM
- Subtext (Right-aligned): Ends at: 10:42 AM
- Countdown Timer (Right-aligned, blue text): 00:29:58
- Entire block styled as a subtle card with a thin outline



3. Session Extension Prompt

- Text: "Need more uninterrupted cooking time? Extend your Ad-Free Session"
- CTA:
 - i. Label: Extend Ad-Free Session
 - ii. Style: Large rounded button, centered, subtle grey background with shadow

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Section B - Questionnaire

Q1. Why are you looking for a job change? How does this role at Tracxn fit in?

After four years developing AI-powered SaaS for defence and law-enforcement agencies at Innefu Labs and Pinaca, I'm eager to apply my product expertise to broader market-intelligence challenges. Tracxn's focus on investor benchmarking and turning situational intelligence into actionable insights aligns perfectly with my passion for building analytic platforms that inform critical decisions. I see this role as a chance to leverage my domain knowledge, drive new feature development, and help Tracxn scale its competitive edge.

Q2. What do you think are the pros and cons of joining a startup?

Pros:

- **Ownership & impact:** You own features end-to-end and see their real-time effects on user outcomes.
- **Faster exposure = faster growth:** Wearing multiple hats accelerates learning; as Tracxn grows, so will my responsibility.
- **Family atmosphere:** Lean teams foster close relationships, your voice matters and you're supported as part of the company's family.

Cons:

- **Resource constraints:** You learn to do more with less, which means prioritizing ruthlessly.
- **Process ambiguity:** Rapid scale can shift roles and workflows requiring constant adaptation and clear communication.

Q3. According to you, what would you be doing as a Product Manager in Tracxn?

I would begin by listening closely to investors and analysts walking through their workflows to truly understand their needs and frustrations. My empathy will help me frame the right questions and capture real user stories. From there, I will work hand-in-hand with design and engineering,

using data and clear decision making frameworks to prioritize features that deliver the most value. Throughout, I'll keep everyone aligned with simple, strategic roadmaps and regular check-ins, ensuring we build solutions that both users and the team believe in.

Q4. In 20 words or less, describe what you want to be in the next five years.

A product leader who shapes strategic decision-making by converting situational intelligence into actionable insights across global markets.

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