

Plaintiff's Exhibit Markers	
PLAINTIFF	United States District Court Northern District of California
	Case No. MDJ No. 2017 DC 001
	Case Title: IG Mental Well-being, Problematic Use • Strategy and Design
	Exhibit No. 4118
	Document
	Marked by: Clerk by: Deputy Clerk

Late Night Use[☾]

IG Mental Well-being, Problematic Use • Strategy and Design

[A/C Priv] • 21 Jul 2022

4118_0001

Objectives

Goals

1. Problematic Use: Definition and Strategy
2. Interventions for Late Night Use
 - a. Quiet mode
 - b. Awareness bumpers

Non goals

1. Measurement Feedback
2. Frequent Use (ETA: 8/4)

Executive summary

1. Teens Problematic Use (PU) is the Mental Well-being team's priority based on IG and CWB leadership guidance

PU is a driver of churn for teens, and a top WB issue teens report experiencing. 18.3% of IG teens exhibit behaviors associated with problematic use overall ([ref](#))

IG lags on teens late-night investments compared to other apps – we can change the tide and lead in this space if addressed now

1. In H2, we will focus on two sub-PU behaviors: late night (today's focus) and frequent use
2. This review focuses on the overall strategy for PU, and specific H2 interventions to address teens late-night use

Quiet mode: A controls-based bundle that helps teens manage their relationship with IG at night – fewer engagement triggers to pull them into the app, and a less stimulating experience when browsing the app

Awareness bumpers: An awareness-based nudge that reminds teens when it's late at night and might be time to leave the app

Problematic Use

Context and Strategy

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Framing

Context

IG plays a key role in young people's mental well-being that can affect their usage of the app—both if and how they use it. Our team helps IG acknowledge, understand, and proactively address its role in teen mental well-being.

Vision & Approach

When we've succeeded, IG continues to be a safe space for teens to actively engage with their community and feel good about the time they spend on the app.

Reduce behaviors of **Problematic Use** and **increase sense of control** by landing a steady drumbeat of expert-backed visible products that support teen well-being.

What is PU and why we should care?

Problematic Use

Occurs when people feel they lack control over their usage of technology and this leads to negative life impact (e.g., on sleep, productivity, parenting)

PU x Meta

1 of 4 priority areas for Meta well-being strategy in 2022

Key experts and policy stakeholders advocate for us to focus more on it - we are not yet on track for long-term success

PU x Instagram

18.3% of IG teens WAU over one week exhibit behaviors that may reflect problematic use

PU is among the top WB issues teens report experiencing, and a driver of churn

We already made progress with Take a Break (Long Sessions) and Topic Nudge (Passive Use); in H2 we plan to prioritize two new PU sub-areas: Late Night Use and Frequent Use

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Success

H2 Goals

1. Reduce behaviors associated with problematic use by shipping incremental PU interventions - test 3 and launch at least 1 with an external drumbeat narrative
2. Set baseline to goal on adoption & behavior reduction next half

2023+ Commitment

1. Reduce teen experiences of PU by X%
2. Reduce teen PU proxy behaviors by Y%
3. Drive adoption to X% of global teen WAU

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Late Night Strategy

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Why Late Night?

In collaboration with CWB, we identified 4 critical PU sub-areas related to potentially problematic on-platform behaviors

Of these 4, we identified late night use as a top priority for H2 2022 as negative impact of poor sleep is well-documented (ref) and this is where we have coverage gaps for ~8% of teens

Problematic Use				
Sub-area	Teen prevalence	Problem severity	Instagram coverage	TikTok coverage
Late night use Late night usage/during times that are likely displacing sleep for most people (12am-4am)	7.4% of teens WAU (over one week) exhibit one or more late-night problematic behaviors	Medium	Not supported	Time-spent awareness videos Auto-silenced notifs after 9pm Night Insights
Frequent use Habitual and repeated checking of: app, notifications, direct, quick switching between surfaces	Sizing in progress	Medium	Not supported	App-opens insights
Long periods of use Spend more time in the app than intended, lose track of time, low awareness of time spent and long sessions	33% of teens WAU Have at least one 20min+ session per week	High	Daily usage limits Take a break (upsell and tool)	Take a break (tool only, no upsell)
Passive use Sessions with low/no engagement, long scrolling	9% of teens WAU Scrolls with 35+ impressions on the same topic	Medium	Alternative topic nudge	Usage-awareness videos

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Teens (13-17) late-night use

Teens late night usage (12am - 4am)

- **43.3%** (77.9M) WAU have **at least 1 late night session** over one week
- **4.6%** of WAU teens have **1 or more late sessions every night** over one week
- **7.4%** (13M) WAU exhibit **at least 1 late night behavior** associated with problematic use (see proxies below) over one week

Problematic behavioral proxies (p95) WAU

- **18 min+** spent on IG between 12 am and 4 am
- **5 sessions** between 12am and 4am
- 1 session between 12am and 4am with **18+ surface switches**

Late Night PU metrics identified as behavioral proxies (thresholds derived from p95).
See FCI Countries breakdown [here](#).

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Guiding Principles

Empower through controls

We want to build solutions that create contextual awareness for teens and give them tools to take action.

Ensure intentional use

Preventing late night use altogether isn't a realistic or viable goal. Instead, we want to increase intentionality and feelings of control for teens.

Foster healthy norms

Prioritize teens who need the most help and foster healthy usage norms for the community overall

Support strong external narrative

Prioritize visible products that serve as the strongest proof-points externally for press, regulators and guardians.

Features consideration framework

[More features explored here](#)

		Control	Intentional Use	Norm Setting	External Narrative
1	Notification muting and app counter suppression at night	●	●	●	●
2	Contextual awareness (late use awareness nudges, targeted reels, etc)	●	●	●	●
3	Activity indicator (away message, status, etc)	●	●	●	●
4*	Automatic app cues (dark mode, audio off, screen dimming, etc)	●	●	●	●
5	Insights-driven awareness (dashboards, app usage insights, etc)	●	●	●	●

*4 includes features that have strong potential to address the problem (dark mode, audio off, etc) but it was not prioritized for the MVP because of on-going Panavision dependencies.

Late Night Interventions

Quiet Mode & Awareness Bumpers

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Quiet Mode

Bundles together a series of existing and new features that can help teens minimize distraction off app & have a less stimulating in-app experience at night

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Why Quiet Mode to address PU?

Key drivers of late-night app opens/use (12am - 4am) for teens exhibiting problematic behaviors

- Notifs drive app opens: 40% of teen's late night sessions start from a notification or an app badge
- 18% of teens DAU start a session from a notification that was sent and clicked within 12 am and 4 am
- Active indicator (green dot): +2.0% and +1.6% message sends for iOS and Android respectively
- "Active Now tray": +1.01% reciprocal conversations among teens, +0.18% longer sessions overall

Based on the above, we identified a two-pronged approach

- [Off-app] Reduce app opens by muting notifications during night time
- [In-app] Reduce late night use via in-app cues & norm setting

What is Quiet Mode

A control enabled bundle of existing and new features that can help people have a less stimulating experience and wind down at night

Designed to specifically address late use awareness, control, norm settings and FOMO reduction

Self experience

-  No push notification or app badge/counter
-  All tabs in dark mode
-  Status indicator in Home
-  Morning digest

Viewer experience

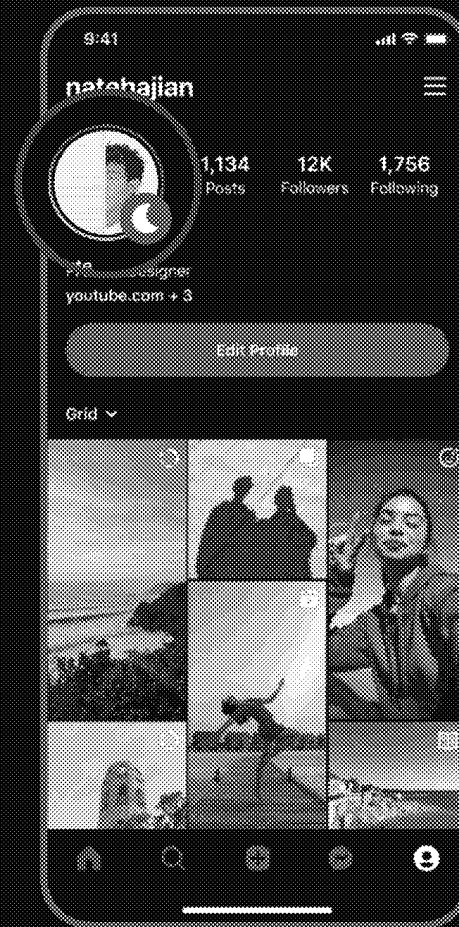
-  No active indicator (aka green dot)
-  Status indicator in Profile and Direct
-  Direct auto-reply in 1:1 threads

 Daily automatic start and end time

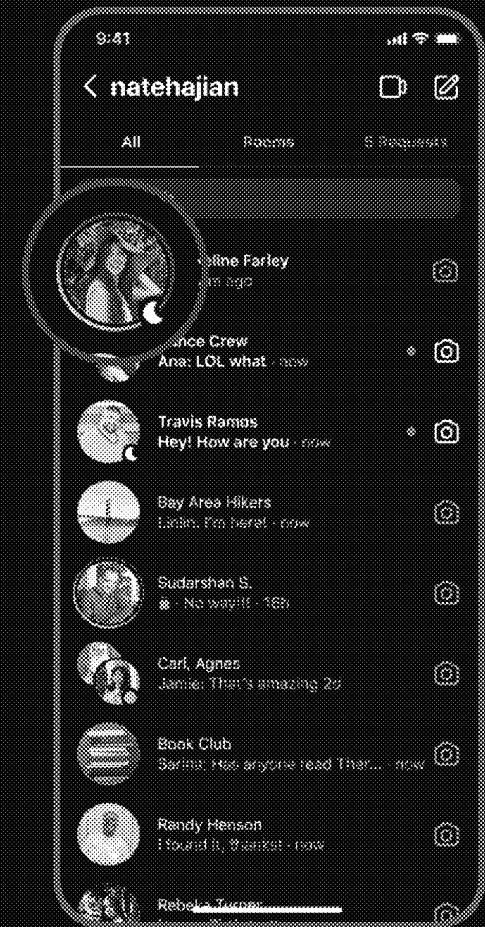
QUIET MODE DEEP DIVE

Status indicators

Hide all active indicators, AKA green dot, throughout the app (inbox, stories, chat thread, etc), and replace with visual cues to set norms and engagement expectations around late night use



Profile (Self and public view)



Direct

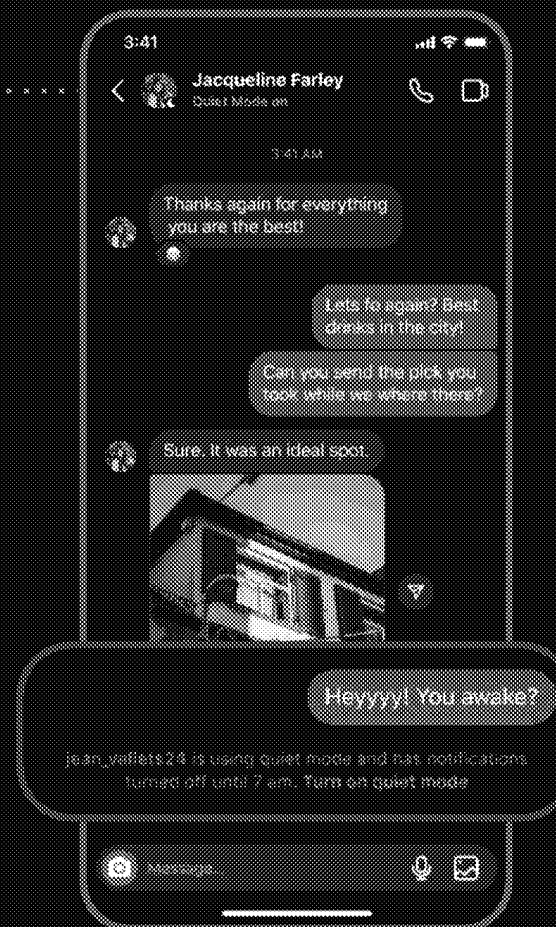
QUIET MODE DEEP DIVE

Direct auto-reply

Set late night norms by letting the sender know the recipient is in Quiet Mode, and won't get notified about the message sent

Leverage this as a product upsell moment for the sender as well, and allow them to turn on the feature contextually

In-thread indicator



. . . . Auto-reply and Quiet Mode upsell

Direct thread

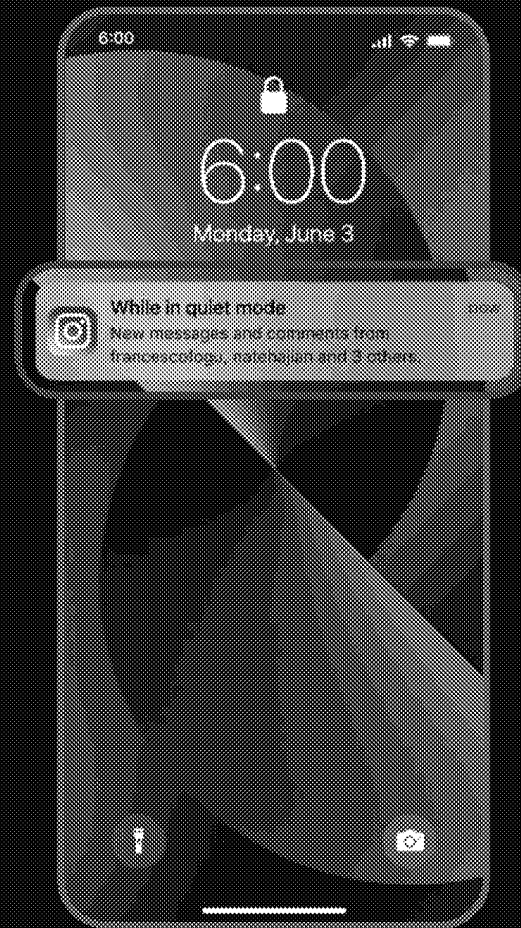
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QUIET MODE DEEP DIVE

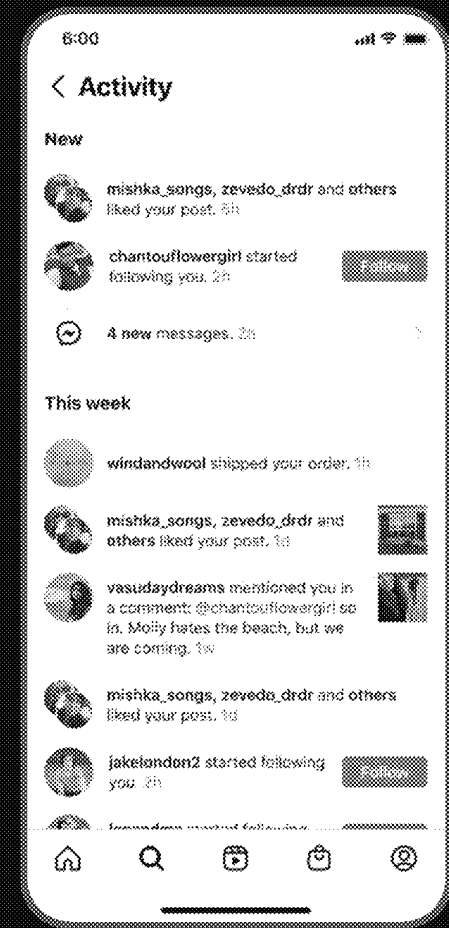
No push notifications, suppressed app counter, and morning digest

While in Quiet Mode, users won't receive any push notifications from IG. The notif counter on the IG App icon will also be suppressed

To reduce FOMO, teens can catch up on activity they missed via a digest notif sent in the morning, when Quiet Mode turns off)



Morning digest notif



Activity feed

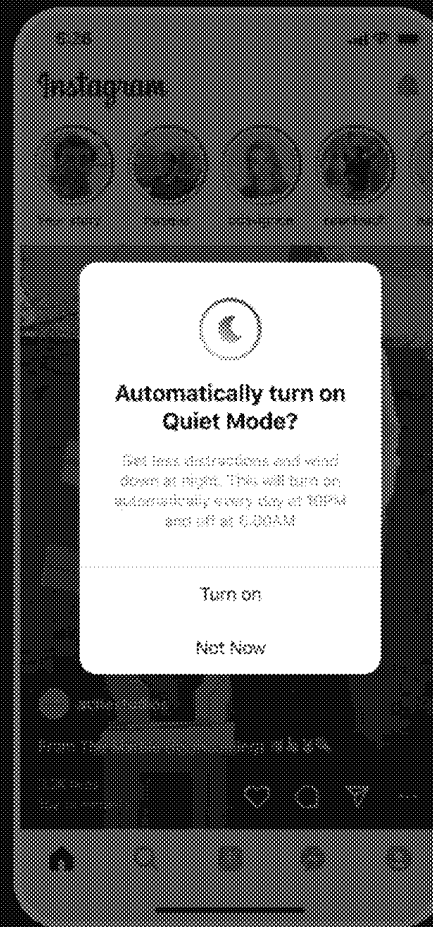
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QUIET MODE DEEP DIVE

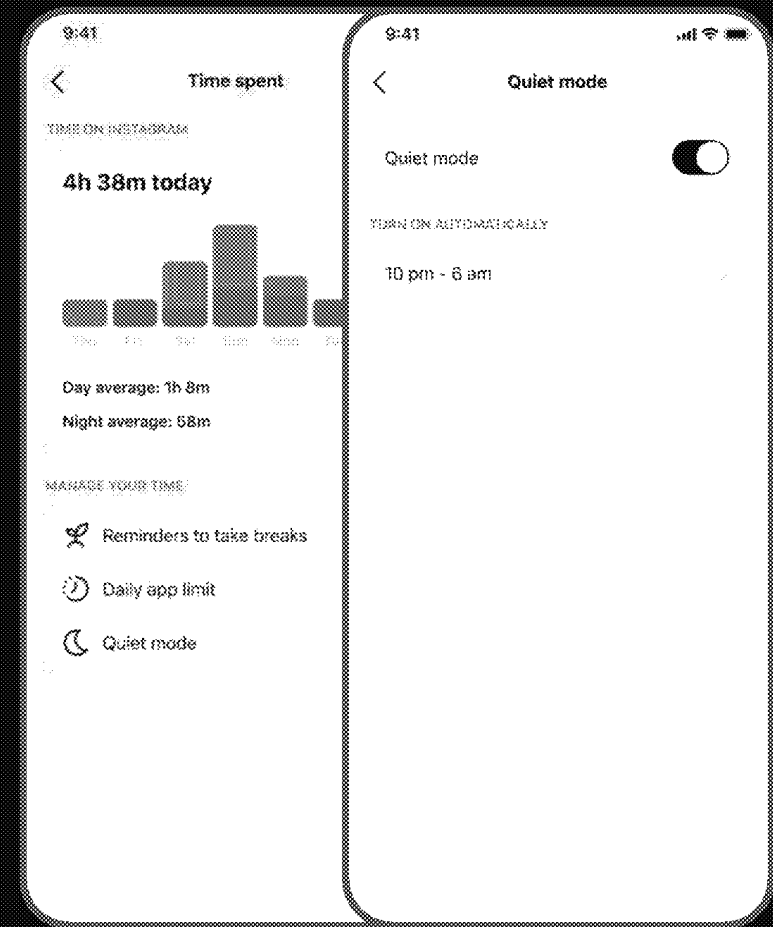
Upsell, entry-point & customization

Quiet Mode will be contextually upsold to targeted teens that exhibit potentially PU behavior during late night hours

In Settings, anyone will be able to turn the feature on/off and customize start and end time



Targeted late-night upsell (illustrative)



Permanent entrypoint + management

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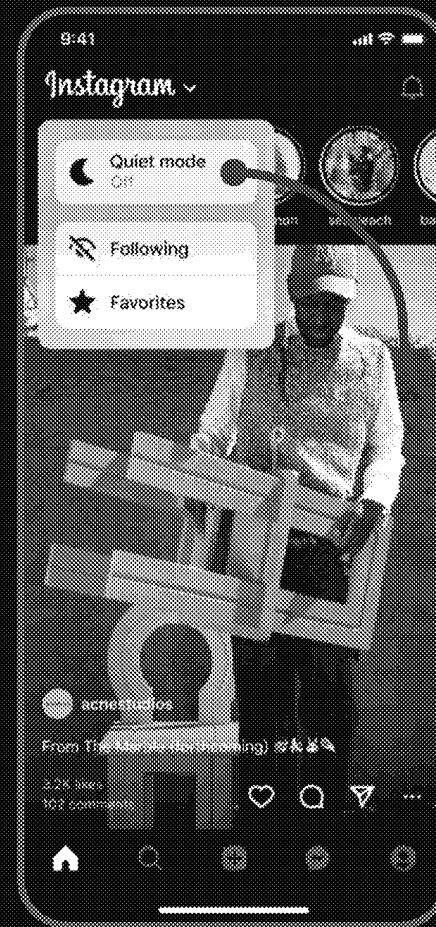
QUIET MODE - FUTURE

A scalable system for all quiet needs

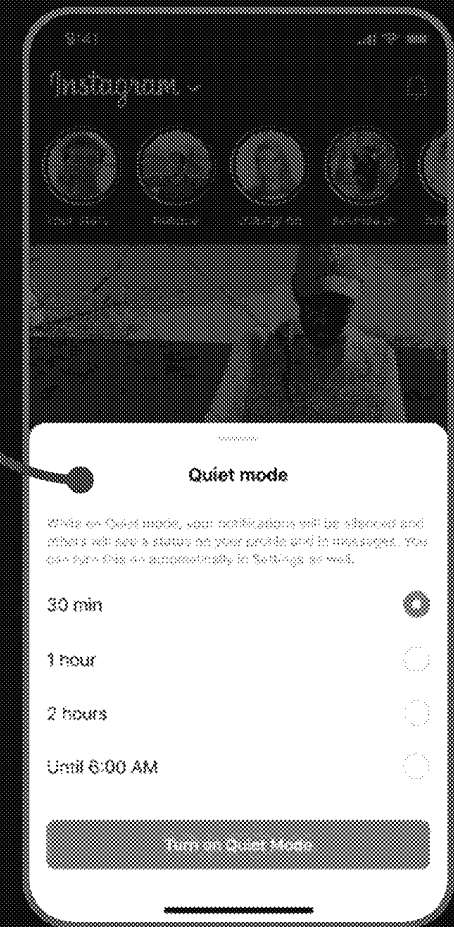
As we move towards a Panavision world where audio on and entertaining reels will be the primary elements of the IG experience, we want to give people ways to control how they browse content in Home, and have a less stimulating experience if they choose so.

Concepts include:

- Per-session Quiet Mode
- Dimmed screen brightness when in QM
- Audio off when in QP
- No haptic/sound feedback



Contextual Quiet Mode control



One-off quiet mode session

Awareness Bumpers

Time-based interventions designed to help teens develop usage awareness, and let them decide how to use the app late at night.

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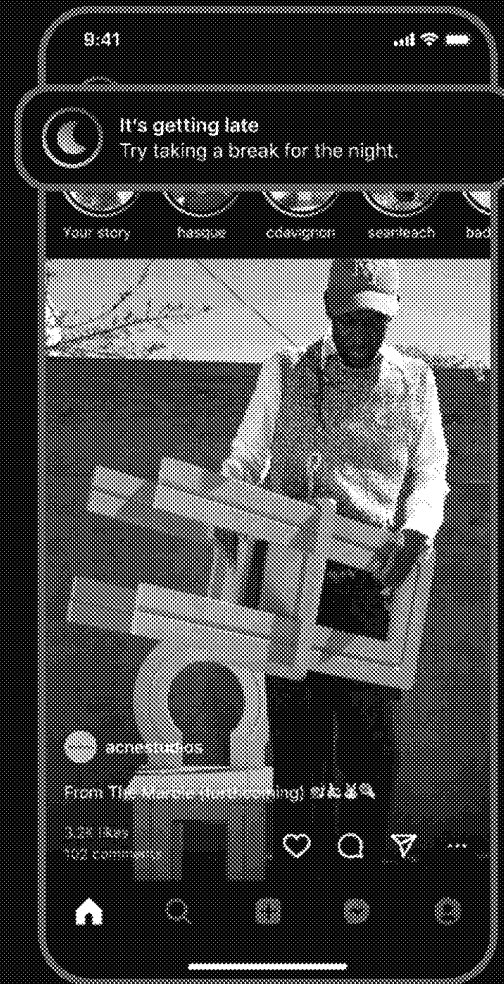
AWARENESS BUMPERS

Surface agnostic

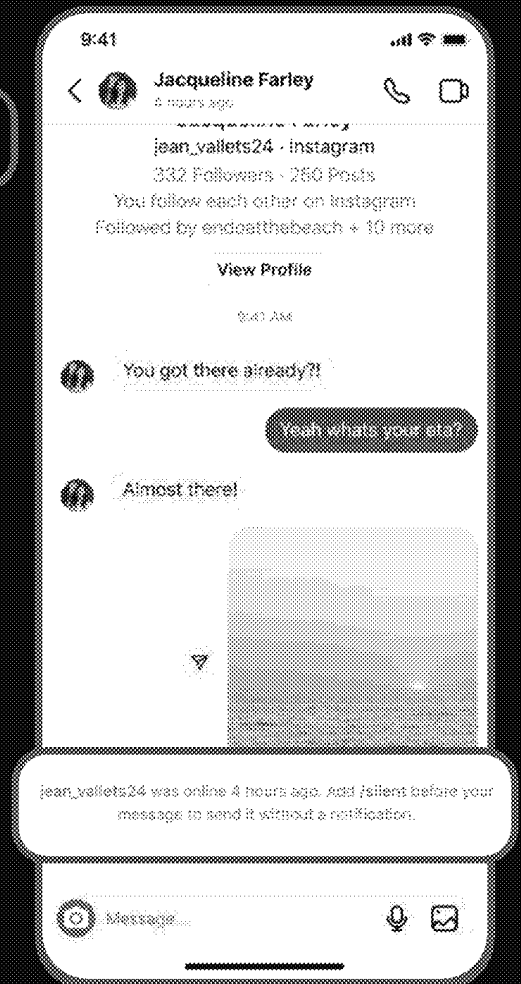
Lightweight nudge shown on any surface as a top toast. Triggered only late at night. Can have an action or be just informative

Surface specific

Targeted intervention for specific surfaces with detailed insights



In-app toast (surface agnostic)



Surface-specific nudge

AWARENESS BUMPERS - **FUTURE**

In-feed sleep-focused content

Netego with resources reminds users to start winding down

This includes experts-backed content developed in partnership with external services and creators

⚠️ *While we are very excited about this concept, we will have to wait for Panavision to stabilize before introducing new features in feed. We can potentially start content creation before eng implementation if needed*



In-feed Netego



Chained curated content

Discussion

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DISCUSSION TOPIC #1

Alignment Check-in

Feedback needed

1. Are leads aligned with our focus on late night use?
2. Are leads aligned on the proposed big bets for H2 especially “Quiet Mode”? What about “Awareness Bumpers”?

Considerations summary

1. We have a Communities P0 goal to “Reduce behaviors associated with problematic use - test 3 PU interventions and launch at least one with an external drumbeat narrative”
2. We recommend Quiet Mode as a hero product for late night use intervention and propose phased test + launch with comms moment
3. We’ve aligned with comms that Quiet mode addresses external concerns – often re: “addiction” to our products – from parents, policymakers and teens, especially if we default teens into them or include strong upsells

DISCUSSION TOPIC #2

Adoption strategy

Feedback needed

1. The team is interested in opting early teens into Quiet Mode by default. Any guidance from leads on this and guardrails to help us avoid decision churn?

Considerations highlights

1. TikTok mutes notifs for all teens at night by default
2. We are still evaluating our adoption strategy (opt in/out, triggers) and believe an 'opt out' strategy might be warranted, at least for early teens
3. Last half, IG/WB leads shared that the bar for defaults is high requiring either regulation, compelling test data or strong user need. Testing opt out was also blocked due to concerns that its a 'one-way door'
4. Ecosystem impact for Quiet Mode (even with just opt-in) might be non-trivial, opt-out even more so. Given the org's focus on driving engagement, and past guidance, some early signal on whether testing opt out is an option would be helpful.

DISCUSSION TOPIC #3

Overlap with OS

Feedback needed

1. Are leads aligned that Quiet Mode is sufficiently differentiated from OS “focus features”, and that the two can coexist without being mutually exclusive? Any feedback or concerns?

Considerations summary

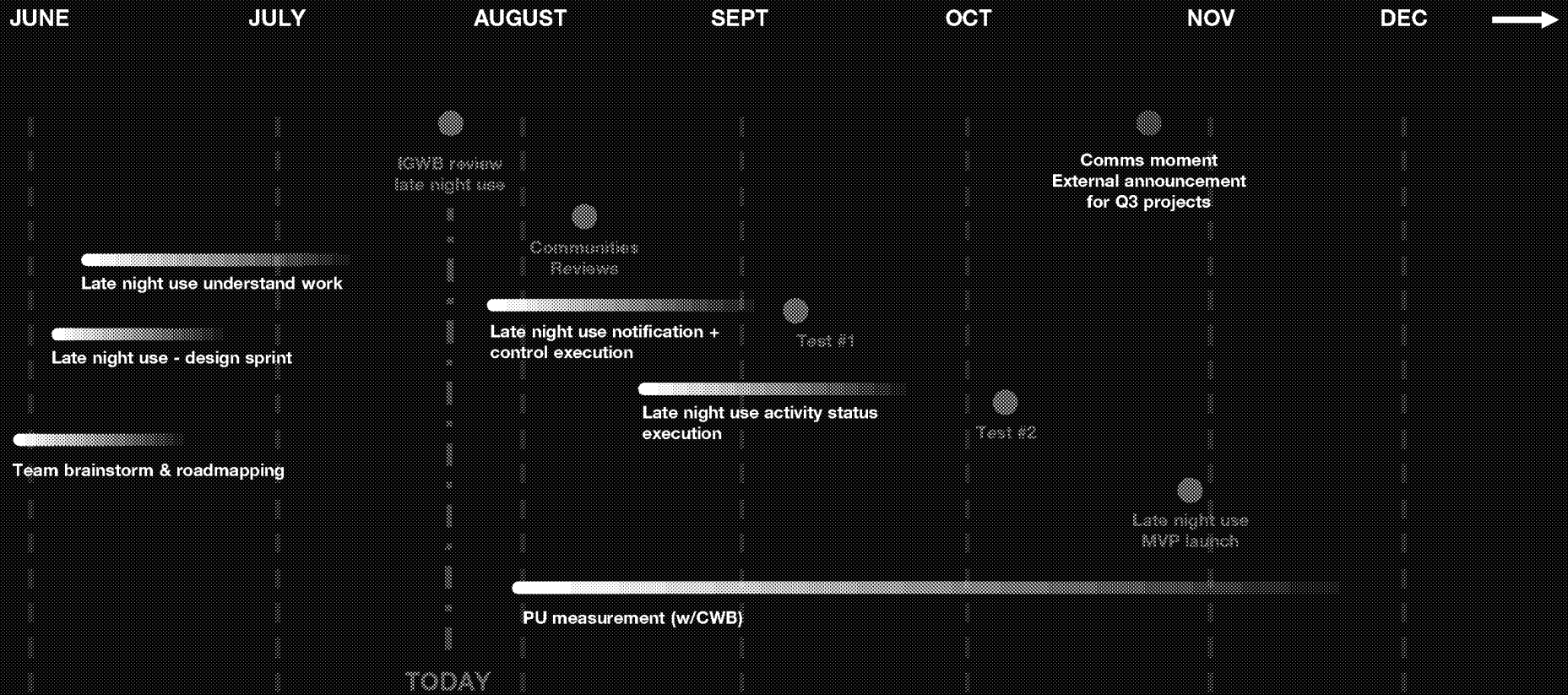
1. iOS and Android offer a suite of focus features with the ability to configure notifications, contacts, and home screen
2. IG's 'Quiet Mode' differentiates itself primarily through custom in-app experiences that help individuals, and the overall IG community, fosters healthy night norms
 - a. Key features not offered by the OS include: in-app public cues like “Night Mode On” indicators, direct auto-reply, and morning digest, and potentially sound off/dimmed screen in the future.
 - b. Muting notifs and app badge/counter suppression directly overlap with OS, but are required for us to control the end-to-end experience, especially for people that don't adopt OS tools but only IG ones.
3. Long term, we see opportunities to integrate with Apple's wellness API once we have a basic framework in place

Appendix

Quiet Mode deep dive, additional concepts

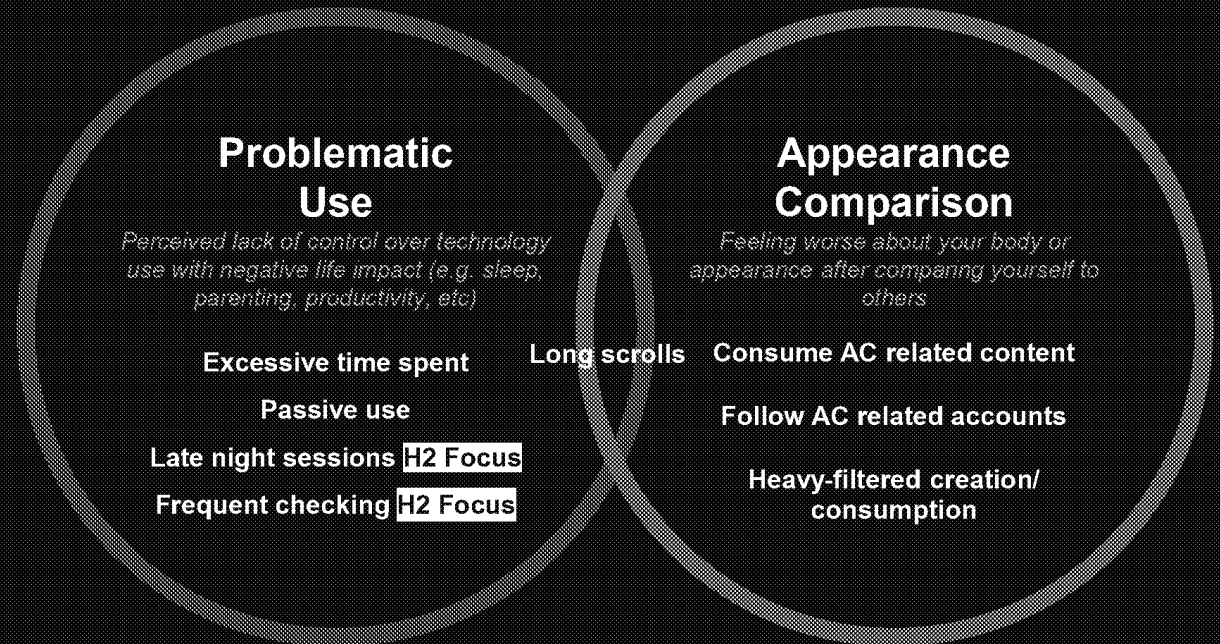
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H2 EXECUTION TIMELINE



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Overall Landscape



Competitive Considerations

Feature	IG (Teens)	TikTok (Teens)	iOS
Daily usage limits	Yes	Yes	Yes
Take a break reminder	Upsell Tool	Tool	No
Late Night interventions	No	Awareness videos Auto-silenced notifs Night use insights	Sleep mode (opt- in)
Frequent use interventions	No	Insights	Insights Tools
Time spent insights	Total usage	Day usage Night usage	Advanced insights
Brightness/colors	Dark Mode	Dark Mode	Night shift

OS offerings X IG integration

Feature	IG's Quiet Mode	iOS (Focus, DnD, Sleep)	Android (Focus, DnD, Bedtime)
Push notifs muted	Yes	Yes	Yes
App badge counter muted	Yes	Yes	Yes
Catch up digest	Yes (IG specific)	Yes (scheduled summary)	Yes
Dark mode	Tentative	Yes	Yes
In app active indicator suppressed	Yes	No (Yes with IG integration)	No
In app status/night icons	Yes	No (Yes with IG integration)	No
Auto reply in IGD	Yes	No (Yes with IG integration)	No
Daily schedule	Tentative	Yes (also supports other triggers like location)	Yes
Dim screen	Post MVP	Yes	Yes (can also set grayscale)
Audio off	Post MVP	No	No

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Framework and solutions explored

	Awareness	Control	Norm Setting	Behavioral changes	Support	External perception
	ie user is aware of what time it is and how much time they've spent on IG	ie user has access to tools that help them manage their time	ie user sets boundaries for themselves and others on how/when to engage	ie user over time shows less PU behaviors	ie user has access to guidance and resources for addressing PU	ie solution can change general perception of IG and drive teen growth
Quiet mode	●	●	●	●	●	●
Usage awareness bumpers	●	●	●	●	●	●
Reels + night insights combo	●	●	●	●	●	●
Notif muting at night	●	●	●	●	●	●
Screen dimming at night	●	●	●	●	●	●
Audio off at night	●	●	●	●	●	●
Curated Guides	●	●	●	●	●	●
Weekly time spent digest	●	●	●	●	●	●

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Quiet Mode feature list (MVP test vs MVP launch)

Sub-Feature	Exists Today	Required for MVP test 1	Required for Launch
Push notification muting + app icon badge suppression	Yes	Yes	Already built in MVP
Active indicator (green dot) suppression	Yes	Yes	Already built in MVP
Direct in-thread auto reply	No	No	Yes
Quiet mode indicator (profile)	No	Stretch goal	Stretch goal
Quiet mode indicator (direct)	No	No	Yes
Activity digest push	No	Yes	Already built in MVP
IG-wide dark mode	Yes	Stretch goal	Stretch goal
Screen dimming	No	No	No
Sound off	No	No	No
Quiet Mode customization	No	No	Yes • Auto start/end only
Auto turn on/off (bundle)	No	Yes	Already built in MVP
Auto turn on/off (uspell)	No	Yes	Already built in MVP
Ad-hoc turn on/off (bundle)	No	No	TBD

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Why is 12AM-4AM late night?

- Previous research which linked problematic Facebook use to late-night use, has been associated with both later bedtimes and rising times and with insomnia. Because of the association between PU and lack of sleep, the fraction of sessions that occur late at night (12AM - 4AM) was used for this paper.
- 12AM-4AM is the approximate time period associated with higher negative affect in Golder & Macy 2011.
- On TikTok all teens do not receive notifications at night by default:
 - 13-15 yrs old - notif muted starting at 9PM
 - 6-17 yrs old - notif muted starting at 10PM
- Apple defaults Focus Mode/Do Not Disturb to 10PM - 7AM daily

PU Behavioral Proxies

We are currently collaborating with CWB on a “ground truth” measurement survey of problematic use on Instagram, and expect to have a PU prevalence estimate by end of H2 (see [understand plan](#)).

In the meantime, we can leverage behavioral proxies identified in a Facebook study to estimate PU on Instagram. That study found that 12.5% of FB app users worldwide experience PU based on user self-report ([ref](#)) and identified the following metrics as PU proxies:

1. No-engagement late night sessions
2. Late night high volume product switching
3. No-engagement repeat sessions (Less than 10 min from end of prior session)
4. High volume of short sessions (<15 sec)
5. High Frequency notifications checking

Using these signals, plus late night long sessions (since displacing sleep is one of the negative life impacts of PU), we estimate that 18.3% of IG teen users exhibit behaviors associated with PU.

Late night use x teens (13-17)

Late Night Problematic Behavioral Proxies

1. Late night sessions

Stated teen/non-teen	Avg total sessions late night	P50 total sessions late night	P75 total sessions late night	P80 total sessions late night	P95 total sessions late night
non-teen	0.9	0.0	0.7	1.0	4.0
teen	1.1	0.0	0.8	1.1	5.0

1. Late night high volume product switching

Stated teen/non-teen	Avg product switches late night	P50 product switches late night	P75 product switches late night	P80 product switches late night	P95 product switches late night
non-teen	3.8	0.0	3.1	4.4	17.6
teen	3.7	0.0	2.8	4.0	15.0

1. Late night long sessions (since displacing sleep is one of the negative life impacts of PU)

Stated teen/non-teen	Avg Late night time spent (min)	P50 Late night time spent (min)	P75 Late night time spent (min)	P80 Late night time spent (min)	P95 Late night time spent (min)
non-teen	3	0	3	5	17
teen	3	0	3	4	15

Late night use x teens (13-17)

Late Night Problematic Behavioral Proxies by FCI Countries:

With p95 set by the global average this is the % of WAU by Country(FCI):

FCI Country	% of total WAU teens with at least 1 PU behavior	# WAU Teens with at least 1 PU behavior
US	11.74%	1,522,833
Australia	6.27%	73,118
Brazil	8.10%	861,713
France	12.32%	256,601
Germany	5.14%	107,208
India	3.05%	1,436,068
Japan	7.01%	427,045
Korea	13.45%	280,498
UK	4.82%	106,842

This could indicate that there are key differences in markets in terms of either norms or problematic use, which remains to be seen by further research.

If we were to set thresholds based on the market it would like this:

FCI Country	Late Night Total Sessions (Teens) p95	Late Night Minutes spent (Teens) p95	Late Night Product Switches (Teens) p95	% of Total WAU teens with at least 1 PU behavior
Global	5	18	18	7.4%
US	10	19	13	7.1%
Australia	5	12	13	7.8%
Brazil	5	22	24	7.6%
France	9	19	13	8.0%
Germany	5	10	12	7.4%
India	2	11	34	6.6%
Japan	6	10	13	7.7%
Korea	10	20	15	7.3%
UK	5	9	12	7.5%

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Sizing/Severity Late Night Use

- 43.3% (77.9M) of WAU teens have at least 1 late night session* L7
- WAU teens L7 with at least 1 session:
 - >10 min: 13.6% (24.5 M)
 - >30 min: 3.24% (5.8M)
 - >1 hr: 0.59% (1M)
- 67M Sessions (0.4% of total teen sessions) >10 min late night L7 for teens
- 4.6% of WAU teens have 1 or more sessions every night L7
- 33% of teen sessions between 12 am and 4 am start due to a notif (26% receive and click after midnight)

Sizing/Severity Late Night Use

For Users with Late Night PU Behaviors:

- **An average of 40% of teen's sessions, start from a notification or an app badge.**
 - 18% of dau start a session from a notification that was sent and clicked within 12 am and 4 am
 - 43% are direct text notifications
- Users who start a session organically have a higher daily average time spent in reels, compared to users who start a session from notifications/app badge whose daily average time spent is higher on direct.

Session start attribution is organic			
Surface	Daily avg minutes	Daily mean minutes	Daily p95 minutes
reels	8.0	2.0	36.0
home	3.9	1.4	16.5
profile	3.5	0.8	15.9
explore	5.7	0.7	29.1
saved	3.3	0.7	15.1
direct	2.4	0.4	10.7

Session start attribution is notification or app badge			
Surface	Daily avg minutes	Daily mean minutes	Daily p95 minutes
home	6.4	3.1	23.8
direct	9.8	2.3	47.0
reels	6.8	1.9	29.9
profile	3.7	1.3	15.6
Stories creation	2.7	0.9	11.9
saved	2.5	0.6	11.6

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Ecosystem Impact Estimates

Feature	Metric	Estimated Regression	Material Threshold	Assumptions
Awareness bumps	IG Time Spent	-0.25%	0.20%	Bump trigger (total time spent over a single night): 20 min Bump honor rate: 1% % of overall time spent that is late night: 8% Bump is shown to everyone who meets the trigger criteria
Night mode	IG Foreground Sessions, IG Time Spent	-0.24%	0.20%	Feature enable rate: 0.40% % of notifs still clicked the next day: 40% Night mode only blocks push notifications, activity feed still accessible

Other relevant metrics that could be affected:

- Feed impressions
- IG Revenue
- Stories Impressions
- Reels intentional plays
- Foreground sessions

Full analysis

Framework for Defaults

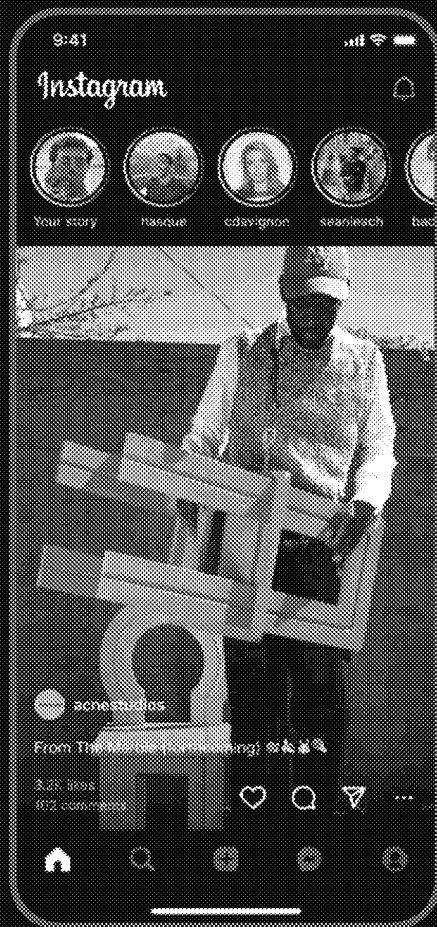
Well-being suggestions should focus on teen and guardian empowerment, which translated into visibility level means that Well-Being options should be promoted with roughly the same level of visibility as promotions.

Second, to go beyond empowerment into truly opinionated products about user behavior, we should hold a much higher bar. We would only consider these product options in one of the following three scenarios:

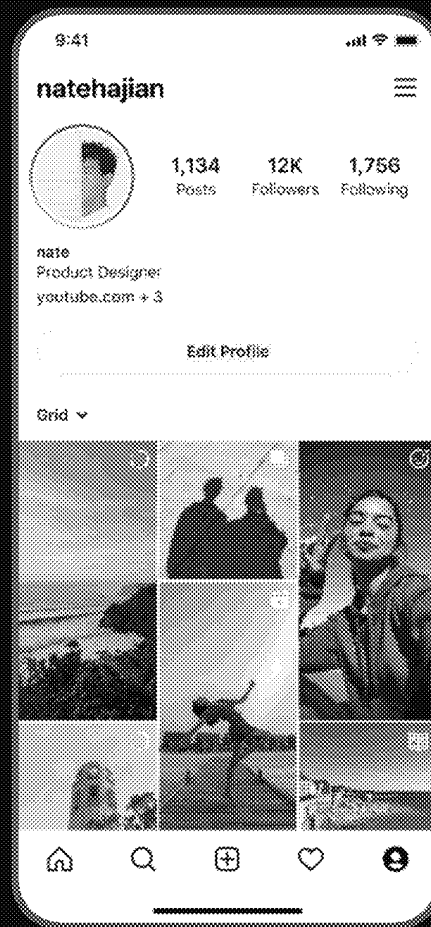
1. There is a specific policy / legal requirement for changing defaults or persistent notifications.
2. Behavioral (i.e. experimental) data shows that a majority of users use the product / option promoted by us.
3. Declarative (i.e. survey) data suggest that a majority of users (or guardians depending on age group) would support a given product

#	Visibility Level	Product Type	Example	WB Product Example
1	Promotion	Empowerment	Ads, QPs	Take a Break: Feed Take a Break: Reels Topic Nudge
2	Product Feature	Opinionated	Interstitial QP	
3	Out of Product Reminder		Notifs, Persistent Banner	
4	Opt Out			Teen Privacy Settings

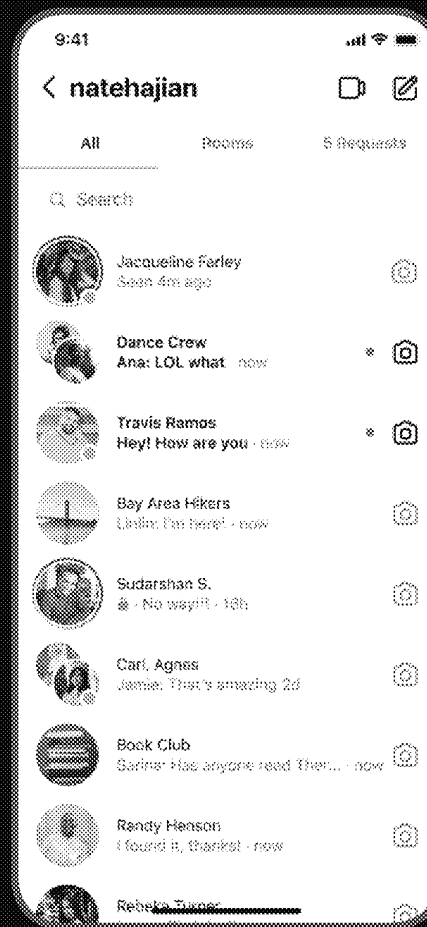
Status Quo



Home



Profile



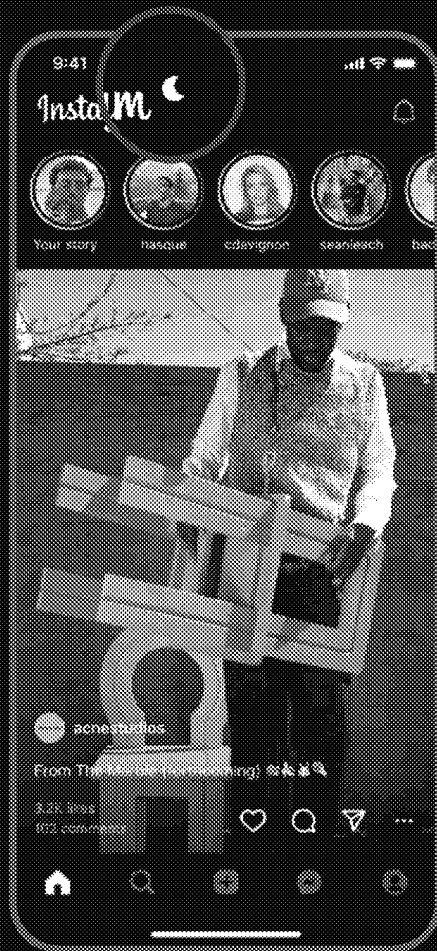
Inbox



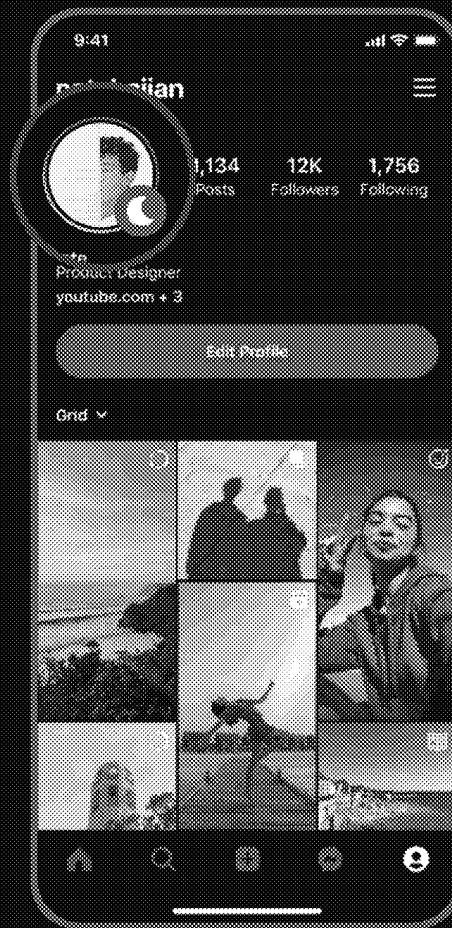
Direct auto-reply

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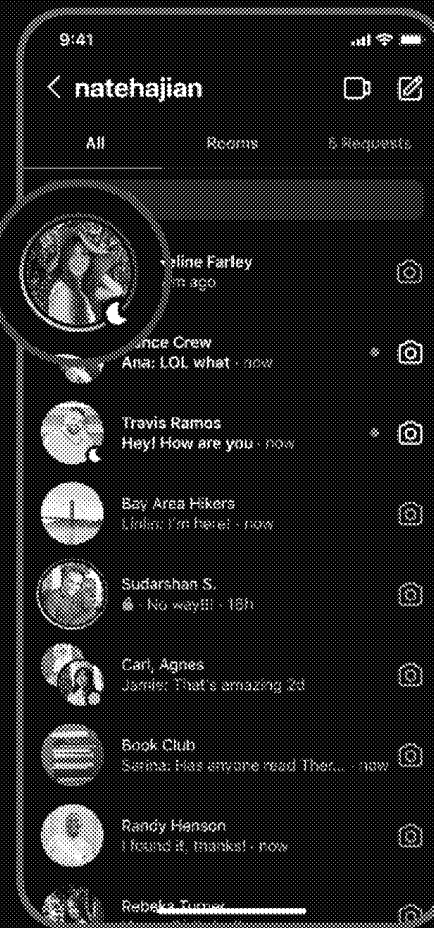
Quiet Mode On



Home - Mode On



Profile - Mode Indicator



Inbox - Mode Indicator



Direct - Auto-reply

4118_0045

Dashboard + Night Insights

4118_0046

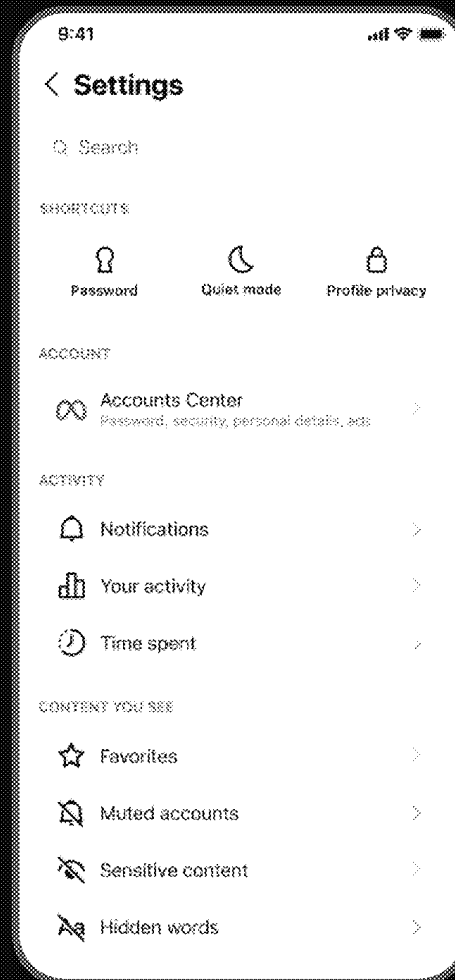
Expand Your Activity to include night stats

1. Night vs day usage

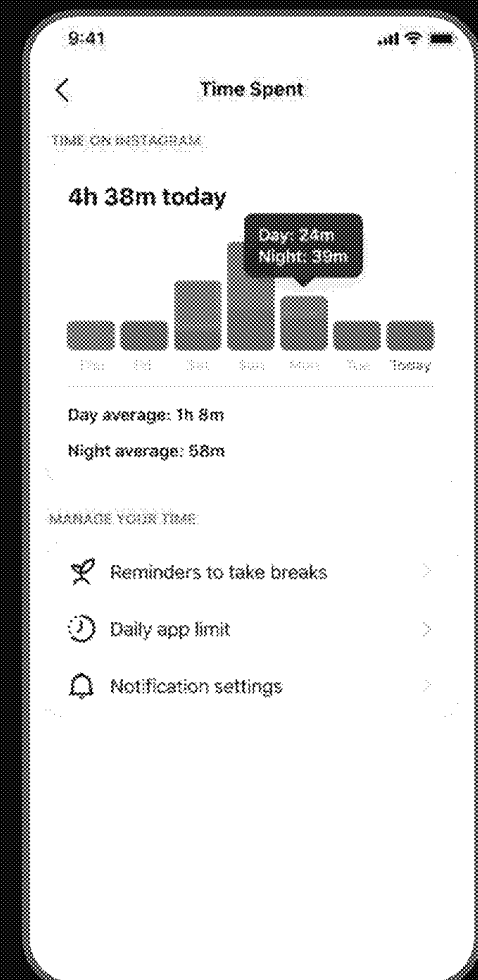
Create clear visual comparison between the two

2. Targeted products for night users

Upsell night-usage products for in-need cohorts



Targeted Night Mode upsell in Settings



Dashboard with clear usage breakdown

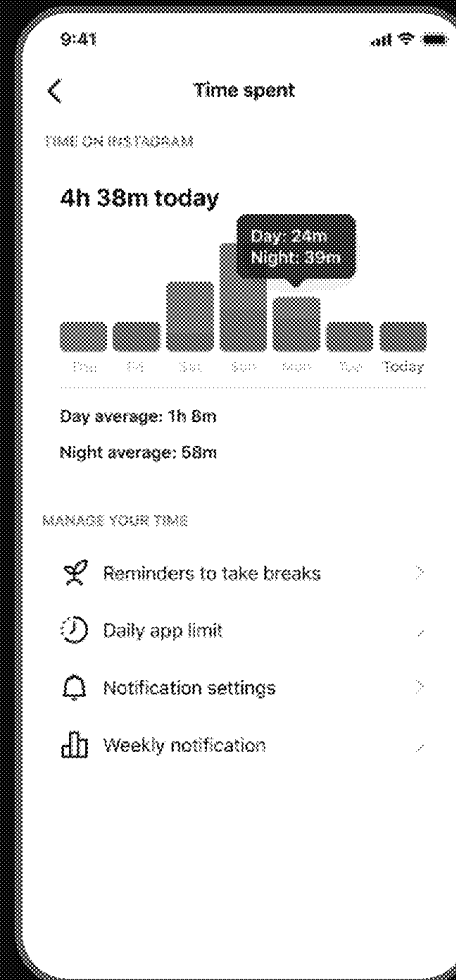
Weekly summary with time spent usage

1. Trigger point to access Time Spent

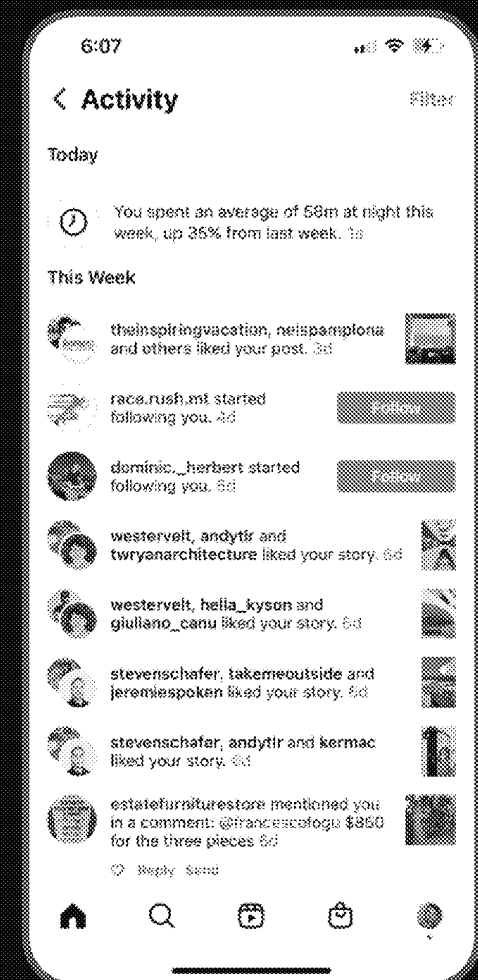
Weekly reminder to help people be aware of their time spent

2. Emphasize uncommon patterns

Use language that calls out abnormal behaviors, especially at night



Time Spent tools



Weekly digest

Late Night Use

IG Mental Well-being, Problematic Use • Strategy and Design

(A/C Priv) • 01 Jul 2023

Objectives

Goals

1. Problematic Use: Definition and Strategy
2. Interventions for Late Night Use
 - a. Quiet mode
 - b. Awareness buzzers

Non goals

1. Measurement Feedback
2. Frequent Use (ETA: 8/4)

Executive summary

1. **Teens Problematic Use (PU) is the Mental Well-being team's priority based on IG and CWB leadership guidance**

PU is a driver of churn for teens, and a top WRD issue teens report experiencing. 18.4% of IG teens exhibit behaviors associated with problematic use overall (pg)

IG lags on teens late-night investments compared to other apps – we can change the late and lead in this space if addressed now

1. **In H2, we will focus on two sub-PU behaviors: late night (today's focus) and frequent use**

2. **This review focuses on the overall strategy for PU, and specific H2 interventions to address teens late-night use**

Quiet mode: A controls-based mode that helps teens manage their relationship with IG at night – fewer engagement triggers to pull them into the app, and a less stimulating experience when browsing the app

awareness bumpers: An awareness-based nudge that reminds teens when it's late at night and might be time to leave the app

Problematic Use

Context and Strategy

Framing

Context

IG plays a key role in young people's mental well-being that can affect their usage of the app—both if and how they use it. Our team helps IG acknowledge, understand, and proactively address its role in teen mental well-being.

Vision & Approach

When we're successful, IG continues to be a safe space for teens to actively engage with their community and feel good about the time they spend on the app.

Reduce behaviors of **Problematic Use** and **increase sense of control** by finding a steady drumbeat of expert-backed visible products that support teen well-being.

What is PU and why we should care?

Problematic Use

Occurs when people feel they lack control over their usage of technology and this leads to negative life impact (e.g., on sleep, productivity, parenting)

PU x Meta

1 of 4 priority areas for Meta well-being strategy in 2021

Key experts and policy stakeholders advocate for us to focus more on it - we are not yet on track for long-term success

PU x Instagram

10.3% of IG teens WAU over one week exhibit behaviors that may reflect problematic use

PU is among the top WE issues teens report experiencing, and a driver of shame

We already made progress with Take a Break (Long Sessions) and Topic Nudge (Passive Use); in H2 we plan to prioritize two new PU sub-areas: Late Night Use and Frequent Use

Success

H2 Goals

1. Reduce behaviors associated with problematic use by skipping incremental PU interventions - test 3 and launch at least 1 with an external brand/sal name/ops
2. Set baseline to goal on adoption & behavior reduction next half

2023+ Commitment

1. Reduce teen experiences of PU by X%
2. Reduce teen PU proxy behaviors by Y%
3. Drive adoption to X% of global teen WAU

Late Night Strategy

Problematic Use				
Sub-area	Teen prevalence	Problem severity	Instagram coverage	TikTok coverage
Late night use Late night usage during times that are likely disrupting sleep for many people (10pm-5am)	7.4% of teens WAU (over 20% in IG)	Medium	Not supported	Teen spent down time in videos A lot of late night posts after 9pm Night auditors
Frequent use Frequent and repeated checking of app, not sleeping, direct, speak, scrolling between surfaces	Using on phone at	Medium	Not supported	Appropriate tonight
Long periods of use Spend more time in the app than would be the track of time, low awareness of time spent and long sessions	33% of teens WAU Have at least one 20min session per week	High	Daily usage links Take a break (not only, no working)	Take a break (not only, no working)
Passive use Sessions with low engagement, long scrolling	9% of teens WAU Scrolls with 2-5h sessions at the same topic	Medium	A 8-minute topic routine	Engage with news & violence

Considerations

- **Severity:** Based on an external literature review, is there causal empirical evidence that this behavior is associated with a negative outcome (e.g., depression)?
- **Product coverage + parity:** Based on product audits (1, 2), are there products that exist today that aim to address the sub-area of PU and is there parity across IG<>FB?
- **Competitors:** Based on competitor audits (1, 2), is IG at par with peer companies?
- **Likelihood to impact external narrative:** Based on the last three months of comms reports, how often is the sub-area mentioned in the external narrative about Meta and problematic use?

Teens (13-17) late-night use

Teens late night usage (12am - 4am)

- **43.3%** (77.2M) WAU have **at least 1 late night session** over one week
- **4.6%** of WAU teens have **1 or more late sessions every night** over one week
- **7.4%** (13M) WAU exhibit **at least 1 late night behavior** associated with problematic use (see proxies below) over one week

Problematic behavioral proxies (p95) WAU

- **10 min+** spent on IG between 12 am and 4 am
- **5 sessions** between 12am and 4am
- 1 session between 12am and 4am with **10+ surface switches**

Late Night PU metrics identified as **behavioral proxies** (thresholds derived from p95).
See P-Cat Companion breakdown [here](#).

VO: This is a large proportion of teens, however reducing late night time spent for teens is seen as non-controversial net positive, therefore we should look at different thresholds to understand the overall sizing of teens with any kind of time spent late at night.

Guiding Principles

Empower through controls

We want to build solutions that create contextual awareness for teens and give them tools to take action.

Ensure intentional use

Preventing time spent too long together isn't a realistic or visible goal. Instead, we want to increase intentionality and feelings of control for teens.

Foster healthy norms

Prioritize teens who need the most help and foster healthy usage norms for the community overall.

Support strong external narrative

Prioritize visible products that serve as the strongest proof-points externally for press, regulators and guardians.

Features consideration framework

More features explored B2B2

		Control	Intentional Use	Norm Setting	External Narrative
1	Notification muting and app counter suppressor at night	●	●	●	●
2	Contextual awareness (safe use awareness nudges, targeted restrictions, etc)	●	●	●	●
3	Activity indicator (away message, status, etc)	●	●	●	●
4*	Automatic app cues (dark mode, audio off, screen dimming, etc)	●	●	●	●
5	Insights-driven awareness (dashboards, app usage insights, etc)	●	●	●	●

*4 includes features that have strong potential to address the problem (dark mode, audio off, etc) but it was not prioritized for the MVP because of on-going Paveview dependencies.

Late Night Interventions

Quiet Mode & Awareness Bumpers

Quiet Mode

Bundles together a series of existing and new features that can help teens minimize distraction off app & have a less stimulating in-app experience at night

Why Quiet Mode to address PU?

Key drivers of late-night app opens/use (12am - 4am) for teens exhibiting problematic behaviors

- Notifications drive app opens, 40% of teen's late night sessions start from a notification or an app badge
- 10% of teens D&I start a session from a notification that was seen and clicked within 12 am and 4 am
- Active Indicator (green dot), +8.6% and +1.6% message sends for iOS and Android respectively
- "Active Now tag" +1.41% reciprocal conversations among teens, +0.10% longer sessions overall

Based on the above, we identified a two-pronged approach

- [On-app] Flexion app opens by muting notifications during night time
- [In-app] Reduce late night use via in-app cues & in-app setting

Users who start a session from notifications/app badge have a higher daily time spent in direct. (10 min, 55% more than home)

98* %tk&mj%*% .%tk&mj%&xxtsx&gjj| jjs%7%&r %&si%&r %&wj%&fzxji&g~&I&njhy&styx

See surface analysis [here](#)

Zxjw%| mt&xyfw&%&xxtsx&wlfsmf&nf{j&%&mlmjw&fi&%{jwflj&nr j&xujsy&is&wj&x%&r is&B} & twj&mf&s&ntr j.

What is Quiet Mode

A control enabled bundle of existing and new features that can help people have a less stimulating experience and wind down at night.

Designed to specifically address use case awareness, control, norm settings and FOMO reduction.

Self experience

 No push notification or app badge counter

 All tabs in quiet mode

 Status indicator in Home

 Morning digest

Viewer experience

 No active indicator sub green dot

 Status indicator in Profile and Direct

 Direct auto-reply in 1:1 threads

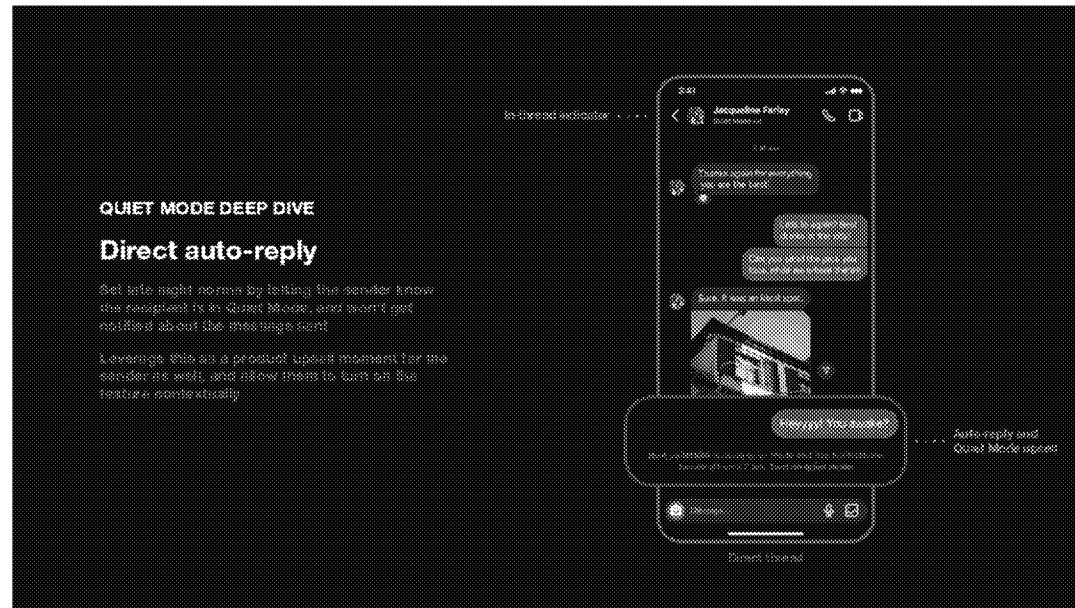
 Daily automatic start and end time

QUIET MODE DEEP DIVE

Status indicators

Hide all active indicators, AKA green dot, throughout the app (inbox, stories, chat thread, etc), and replace with visual cues to set norms and engagement expectations around late night use



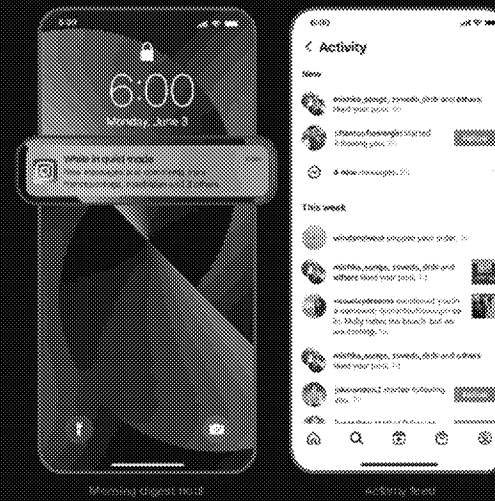


QUIET MODE DEEP DIVE

No push notifications, suppressed app counter, and morning digest

While in Quiet Mode, users won't receive any push notifications from iA. The app counter on the iOS App Store will also be suppressed.

To reduce FOMO, teens can catch up on activity they missed via a digest mail sent in the morning, when Quiet Mode turns off.

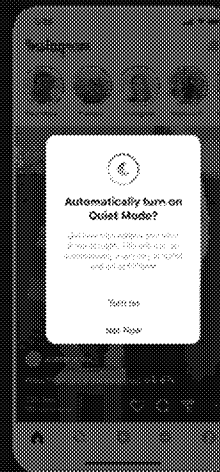


QUIET MODE DEEP DIVE

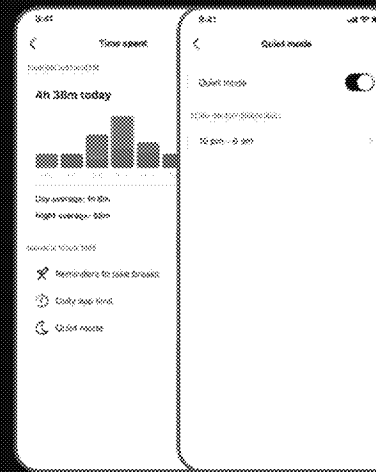
Upsell, entry-point & customization

Quiet Mode will be contextually upsold to targeted users that exhibit potentially PU behavior during late night hours.

In Settings, anyone will be able to turn the feature on/off and customize start and end time.



Targeted late-night quiet introduction



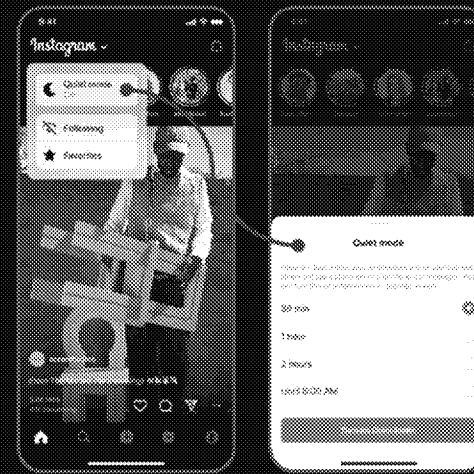
For manual entry/exit - time adjustment

QUIET MODE - FUTURE**A scalable system for all quiet needs**

As we move towards a Permission world where audio on and entertaining reels will be the primary elements of the IG experience, we want to give people ways to control how they consume content in Home, and have a less stimulating experience if they choose so.

Concepts include:

- Permission Quiet Mode
- Dimmed screen brightness when in QM
- Auto off when in QM
- No high/urgent feedback



Controlling Quiet Mode controls

One-off quiet mode session

Awareness Bumpers

Time-based interventions designed to help teens develop usage awareness, and let them decide how to use the app late at night.

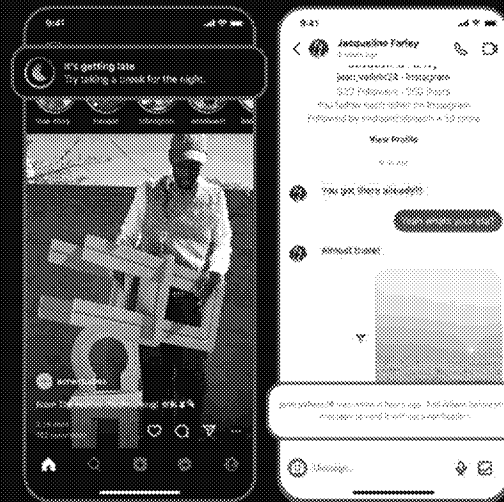
AWARENESS BUMPERS

Surface agnostic

Lightweight message shown on any surface as a top item. Triggered only late at night. Can have an action or be just informative.

Surface specific

Targeted intervention for specific surfaces with detailed insights.



On app home page (not aggregated)

On home page (not aggregated)

AWARENESS BUMPERS - FUTURE

In-feed sleep-focused content

Notepad with resources reminds users to start winding down.

This includes experts-backed content developed in partnership with external services and creators.

⚠️ While we are very excited about this concept, we will have to wait for Parvianant to finalize before introducing new features in feed. We can potentially start content creation before any implementation if needed.



In-feed Notepad



Optimized content

Discussion

DISCUSSION TOPIC #1

Alignment Check-in

Feedback needed

1. Are leads aligned with our focus on late night use?
2. Are leads aligned on the proposed big bets for H2 especially "Quiet Mode"? What about "Awareness Bumpers"?

Considerations summary

1. We have a Communities Po goal to "Reduce behaviors associated with problematic use - test 3 PJ interventions and launch at least one with an external drumbeat narrative"
2. We recommend Quiet Mode as a hero product for late night use, intervention and propose phased test + launch with onscreen moment
3. We've aligned with concerns that Quiet mode addresses external concerns - often re: "addiction" to our products - from parents, policymakers and teens, especially if we default teens into them or include strong cues

DISCUSSION TOPIC #2

Adoption strategy

Feedback needed

1. The team is interested in opting early teens into Quiet Mode by default. Any guidance from leads on this and guardrails to help us avoid decision chum?

Considerations highlights

1. TikTok mutes notifications for all teens at night by default
2. We are still evaluating our adoption strategy (opt in/out, triggers) and believe an "opt out" strategy might be warranted, at least for early teens
3. Last half, ID/WB leads showed that the bar for defaults is high requiring either regulation, compelling test data or strong user need. Testing opt out was also blocked due to concerns that its a "one-way door"
4. Ecosystem Impact for Quiet Mode even with just opt-in might be non-trivial, opt-out even more so. Given the org's focus on driving engagement, and just guttural, some early signal on whether testing opt out is an option would be helpful

Quiet mode is not necessarily a hard-blocking experience (like Take a Break) and is not designed to push people off the app

DISCUSSION TOPIC #3

Overlap with OS

Feedback needed

1. Are leads aligned that Quiet Mode is sufficiently differentiated from OS "focus features", and that the two can coexist without being mutually exclusive? Any feedback or concerns?

Considerations summary

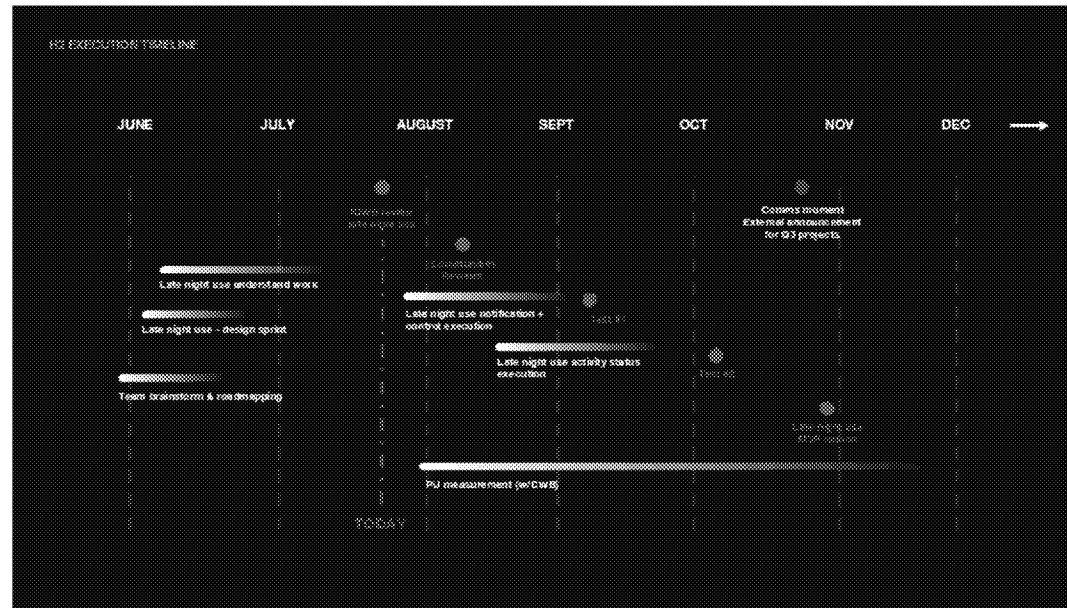
1. iOS and Android offer a suite of focus features with the ability to configure notifications, distractions, and home screen.
2. IG's "Quiet Mode" differentiates itself primarily through custom in-app experiences that help individuals, and the overall IG community, achieve healthy night norms.
 - a. Key features not offered by the OS include: in-app public cues like "Night Mode On" indicators, direct auto-reply, and morning digest, and potentially sound off/dimmed screen in the future.
 - b. Muting notifications and app badge/counter suppression directly overlap with OS, but are required for us to control the end-to-end experience, especially for people that don't adopt OS tools but only IG ones.
3. Long term, we see opportunities to integrate with Apple's wellness API once we have a basic framework in place.

The team has considered how this impacts our product portfolio and how to invest further in PU. We landed on some principles to help us proceed -

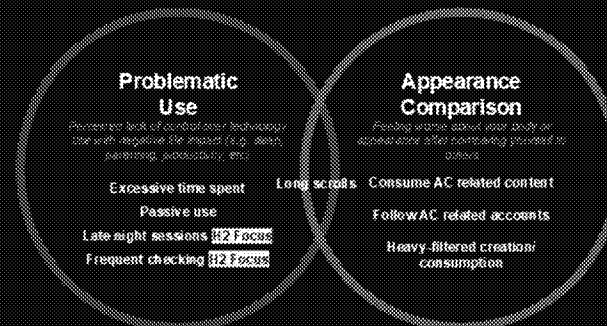
1. Our preference is to build products that solve a real user need and are distinct from anything OS/competitors offer
2. We may build similar products where there is a strong user need. This helps us address IG-specific problems, have more control over the solution and avoid relying on teens adopting OS features
3. We use OS features to our advantage and build on top of them to offer robust solutions (e.g. Focus API)

Appendix

Quiet Mode deep dive, additional concepts



Overall Landscape



Competitive Considerations

Feature	IG (Teens)	TikTok (Teens)	iOS
Daily usage limits	Yes	Yes	Yes
Take a break reminder	Speed Test	Tool	No
Late Night interventions	No	Awareness videos Auto-silenced notifications Night use insights	Sleep mode (opt-in)
Frequent use interventions	No	Insights	Insights Tools
Time spent insights	Total usage	Day usage Night usage	Advanced insights
Brightness/colors	Dark Mode	Dark Mode	Night shift

OS offerings X IG integration

Feature	IG's Quiet Mode	iOS (Focus, DnD, Sleep)	Android (Focus, DnD, Bedtime)
Push notifications muted	Yes	Yes	Yes
App badge counter muted	Yes	Yes	Yes
Catch up digest	Yes (IG specific)	Yes (scheduled summary)	Yes
Dark mode	Tentative	Yes	Yes
In app active indicator suppressed	Yes	No (Yes with IG integration)	No
In app status/night icons	Yes	No (Yes with IG integration)	No
Auto reply in IG	Yes	No (Yes with IG integration)	No
Daily schedule	Tentative	Yes (also supports other triggers like location)	Yes
Dim screen	ProactiveP	Yes	Yes (user also set grayscale)
Audio off	ProactiveP	No	No

Have in app toggle

Integrate with OS - instead of us switching it on on IG, but enable based on OS status

Framework and solutions explored

	Awareness	Control	Norm Setting	Behavioral changes	Support	External perception
	Understand where time is spent on mobile and how it impacts productivity	Understand where & how the time spent on mobile devices	Understand how/when/where/for what the device is required	Understand how/when/where/for what the device is required	Understand how/when/where/for what the device is required	Understand how/when/where/for what the device is required
Default mode	●	●	●	●	●	●
Usage awareness buttons	●	●	●	●	●	●
Reels + right insights canvas	●	●	●	●	●	●
Work ending at night	●	●	●	●	●	●
Screen dimming at night	●	●	●	●	●	●
Audio off at night	●	●	●	●	●	●
Carried Quakes	●	●	●	●	●	●
Weekly time spent digest	●	●	●	●	●	●

Quiet Mode feature list (MVP test vs MVP launch)

Sub-Feature	Exists Today	Required for MVP test 1	Required for Launch
Push notification muting + app icon badge suppression	Yes	Yes	Already built in MVP
Active indicator (green dot) suppression	Yes	Yes	Already built in MVP
Direct in-thread auto reply	No	No	Yes
Quiet mode indicator (profile)	No	Stretch goal	Stretch goal
Quiet mode indicator (direct)	No	No	Yes
Activity digest push	No	Yes	Already built in MVP
iA-wide dark mode	Yes	Stretch goal	Stretch goal
Screen dimming	No	No	No
Sound off	No	No	No
Quiet Mode customization	No	No	Yes + Auto start/end only
Auto turn on/off (bundle)	No	Yes	Already built in MVP
Auto turn on/off (popup)	No	Yes	Already built in MVP
Ad-hoc turn on/off (bundle)	No	No	Yes

Why is 12AM-4AM late night?

- Previous research which linked problematic Facebook use to late-night use, has been associated with both later bedtimes and rising times and with insomnia. Because of the association between PU and lack of sleep, the fraction of sessions that occur late at night (12AM - 4AM) was used for this paper.
- 12AM-4AM is the approximate time period associated with higher negative affect in Golder & Macy 2011.
- On TikTok all teens do not receive notifications at night by default:
 - 13-15 yrs old - notif muted starting at 8PM
 - 16-17 yrs old - notif muted starting at 10PM
- Apple defaults Focus Mode/Do Not Disturb to 10PM - 7AM daily

PU Behavioral Proxies

We are currently collaborating with CWB on a "ground truth" measurement survey of problematic use on Instagram, and expect to have a PU prevalence estimate by end of H2 (see [understand plan](#)).

In the meantime, we can leverage behavioral proxies identified in a Facebook study to estimate PU on Instagram. That study found that 12.5% of FB app users worldwide experience PU based on user self-report ([link](#)) and identified the following metrics as PU proxies:

1. No-engagement late night sessions
2. Late night high volume product switching
3. No-engagement repeat sessions (Less than 10 min from end of prior session)
4. High volume of short sessions (<15 sec)
5. High Frequency notifications checking

Using these signals, plus late night long sessions (since displacing sleep is one of the negative life impacts of PU), we estimate that 18.3% of IG teen users exhibit behaviors associated with PU.

Late night use x teens (13-17)

Late Night Problematic Behavioral Proxies

1. Late night sessions

Stated teen/non-teen	Avg late sessions late night	P90 total sessions late night	P75 total sessions late night	P50 total sessions late night	P25 total sessions late night
non-teens	0.9	2	0	1.0	1
teens	1.1	2	0.5	1.1	1

1. Late night high volume product switching

Stated teen/non-teen	Avg product switches late night	P90 product switches late night	P75 product switches late night	P50 product switches late night	P25 product switches late night
non-teens	3.5	7	3	4.4	1
teens	5.7	9	5.5	4.0	1

1. Late night long sessions (since displacing sleep is one of the negative life impacts of PU)

Stated teen/non-teen	Avg Late night time spent (min)	P90 Late night time spent (min)	P75 Late night time spent (min)	P50 Late night time spent (min)	P25 Late night time spent (min)
non-teen	5	5	5	5	5
teen	5	5	5	4	5

VO: This is a large proportion of teens, however reducing late night time spent for teens is seen as non-controversial net positive, therefore we should look at different thresholds to understand the overall sizing of teens with any kind of time spent late at night.

Late night use x teens (13-17)

Late Night Problematic Behavioral Proxies by FCI Countries:

With p95 set by the global average this is the % of WAU by Country(FCI):

FCI Country	% of total WAU teens with at least 1 PUJ behavior	# WAU Teens with at least 1 PUJ behavior
US	11.74%	1,622,838
Australia	6.07%	75,118
Brazil	8.10%	861,713
France	10.02%	296,601
Germany	5.14%	107,208
India	3.05%	1,436,068
Japan	7.01%	427,645
Korea		290,495
UK	4.82%	186,842

This could indicate that there are key differences in markets in terms of either norms or problematic use, which remains to be seen by further research.
If we were to set thresholds based on the market it would like this:

FCI Country	Late Night Total Sessions (Teens) p95	Late Night Minutes spent (Teens) p95	Late Night Product Switches (Teens) p95	% of Total WAU teens with at least 1 PUJ behavior
Global	5	18	16	7.4%
US	10	18	13	7.1%
Australia	5	12	10	7.8%
Brazil	5	21	24	7.8%
France	9	18	13	8.0%
Germany	5	15	10	7.4%
India	2	11	14	8.8%
Japan	8	19	13	7.7%
Korea	10	20	16	7.3%
UK	5	9	12	7.8%

Sizing/Severity Late Night Use

- 43.3% (77.9M) of WAU teens have at least 1 late night session* L7
- WAU teens L7 with at least 1 session:
 - >10 min: 13.6% (24.5 M)
 - >30 min: 3.24% (5.8M)
 - >1 hr: 0.59% (1M)
- 67M Sessions (0.4% of total teen sessions) >10 min late night L7 for teens
- 4.6% of WAU teens have 1 or more sessions every night L7
- 33% of teen sessions between 12 am and 4 am start due to a notif (26% receive and click after midnight)

*Late night timeframe defined as 12 am to 4 am, sessions > 0 seconds

67M Sessions (0.4% of total teen sessions, 6.33% of total teen late night sessions) >10 min late night over one week for teens

Sizing/Severity Late Night Use

For Users with Late Night PU Behaviors.

- An average of 40% of teen's sessions, start from a notification or an app badge.
 - 18% of dau start a session from a notification that was sent and clicked within 12 am and 4 am
 - 43% are direct text notifications
- Users who start a session organically have a higher daily average time spent in reels, compared to users who start a session from notifications/app badge whose daily average time spent is higher on direct.

Session start attribution is organic				Session start attribution is notification or app badge			
Surface	Daily avg minutes	Daily mean minutes	Daily p95 minutes	Surface	Daily avg minutes	Daily mean minutes	Daily p95 minutes
reels	3.9	2.2	28.2	home	6.4	3.1	23.8
home	3.9	1.4	16.5	direct	6.1	2.3	17.7
profile	3.5	0.8	15.9	reels	6.6	1.9	29.3
explore	5.7	0.7	23.1	profile	3.7	1.3	13.5
saved	3.3	0.7	15.1	Stories			
direct	3.4	0.4	10.7	creation	2.7	0.5	11.6
				saved	2.5	0.6	11.6

Ecosystem Impact Estimates

Feature	Metric	Estimated Regression	Material Threshold	Assumptions
Awareness bumps	IG Time Spent	-0.25%	0.20%	Bump trigger (total time spent over a single night): 20 min Bump honor rate: 1% % of overall time spent that is late night: 8% Bump is shown to everyone who meets the trigger criteria
Night mode	IG Foreground Sessions, IG Time Spent	-0.24%	0.20%	Feature enable rate: 0.40% % of notifications clicked the next day: 40% Night mode only blocks push notifications; activity feed still accessible

Other relevant metrics that could be affected:

- Feed impressions
- IG Revenue
- Stories Impressions
- Reels intentional plays
- Foreground sessions

[Full analysis](#)

Well-being suggestions should focus on teen and guardian empowerment, which translated into a visibility level means that Well-Being options should be promoted with roughly the same level of visibility as promotions.

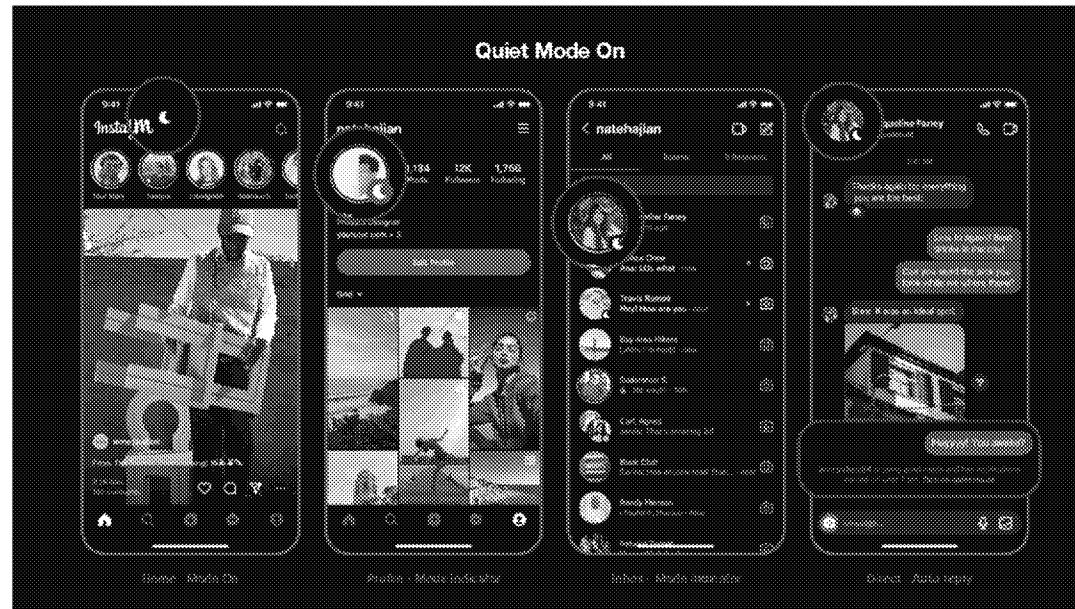
Second, to go beyond empowerment into truly opinionated products about user behavior, we should hold a much higher bar. We would only consider these product options in one of the following three scenarios:

1. There is a specific policy / legal requirement for changing defaults or persistent notifications.
2. Behavioral (i.e. experimental) data shows that a majority of users use the product / option promoted by us.
3. Declarative (i.e. survey) data suggest that a majority of users (or guardians depending on age group) would support a given product.

Framework for Defaults

#	Visibility Level	Product Type	Example	WB Product Example
1	Promotion	Empowerment	Ads, OPs	Take a Break: Feed Take a Break: Reels Topic Nudge
2	Product Feature		Interstitial OP	
3	Out of Product Reminder	Opinionated	Notifs, Persistent Banner	
4	Opt Out			Teen Privacy Settings

The image displays four sequential screenshots of the Instagram mobile application interface, illustrating the 'Status Quo' of the app's design. The first screen shows the main feed with a post by 'natehajian'. The second screen shows the profile page of 'natehajian'. The third screen shows the 'Reels' tab for 'natehajian'. The fourth screen shows the 'Stories' tab for 'natehajian'.



Dashboard + Night Insights

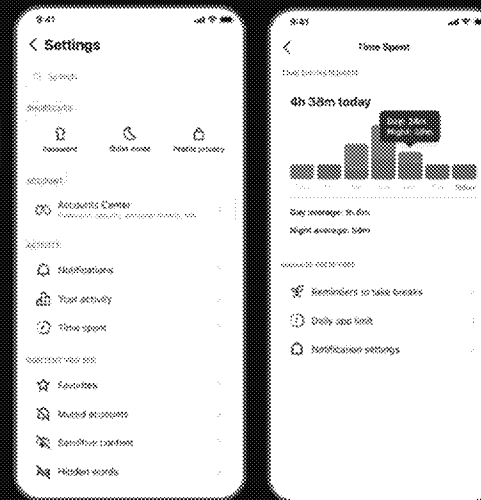
Expand Your Activity to include night stats

1. Night vs day usage

Create clear visual comparison
between the two

2. Targeted products for night users

Upsell high-usage products for in-need cohorts



Weekly summary with time spent usage

1. Trigger point to access Time Spent

Weekly reminder to help people be aware of their time spent

2. Emphasize uncommon patterns

Use language that calls out abnormal behaviors, especially at night

