

POVs, HMIWs, Solutions & Prototypes



Twilight Taskforce



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Q Presentation Roadmap



Additional Needfinding

1

Bradley

Bradley, a **school custodian and single parent** who worked night shifts at a school for 5 years in New York.



“It’s sometimes lonely...
you would walk down
these big corridors that
were just completely
empty”

Q Says

- Worked **5 years on night shifts** before switching to day shifts to **spend more time with his daughters**
- Night shifts provided a **stable income, crucial for raising his daughters** as a single parent
- The **peacefulness and quietness** of working at night were appreciated, but it could also be **lonely**
- Faced challenges such as parking and carrying his daughters into the house
- Experienced **health issues like diabetes** later in life
- Emphasizes the **importance of paying the bills.**
- **Happy** to have a job and **prioritized** taking care of his **children over social life**
- Describes his **schedule as inconsistent** but emphasizes the **importance of earning money for his family**
- Mentions that he found it **difficult to adjust to daytime sleep patterns** after night shifts

Q Thinks

- Social life is a nice to have but **caring for his family is a priority**
- Money for family over sleep and wellbeing
- It's his **duty as a parent** to financially support his family
- It's **important to put in extra effort/time** to earn extra money
- Work itself is somewhat **manageable and flexible**
- **Wishes** he could **spend more time with his daughters**
- **Loneliness and boredom** are things that can be alleviated (chatting with co-workers, watch vids on games)
- He should **take better care of his health**
- **"It is what it is"** mentality to his night shift work and schedule
- It's ok even if his schedule is "all over the place" **as long as his work is paying the bills**

Q Does

- Worked from 3 to 11:30 PM, arriving home around 1:30 AM
- **Chats** with co-workers, often chatting even with people he wasn't particularly fond of
- Him and his colleagues **would leave the radio on to add some life** to the school at night
- Relies on **caffeine** from soda to stay awake
- Takes **naps** in break room
- **Watches videos** on his phone to **stay entertained**
- Would **work overtime whenever** available to earn extra money
- Uses **blackout curtains** for sleeping during the day
- Uses **eye mask** for sleeping
- Used to take **naps on public transportation** on the way home, which helped him **stay alert**

Q Feels

- A **sense of duty** to financially support his family
- Overall **satisfied** with work conditions and flexibility
- **Grateful** to have a job that can support his family
- **Accepting** of sacrifices (lack of social life) made for his family
- A **sense of responsibility** to work extra hours to earn extra money
- **Exhausted** after work in the morning
- **Appreciates** peace and quiet during work hours
- Sometimes **lonely** from emptiness of school halls
- Sometimes **depressing** since less people are around at night
- Occasionally **scared** from noise in corridors at night
- A **sense of camaraderie** with his co-workers
- A sense of **yearning / wistfulness** to be more involved with daughters' lives and spend more time with them

Q Says

- Worked **5 years on night shifts** before switching to day shifts to **spend more time with his daughters**
- Night shifts are **crucial** for his family
- Night shifts are **parenting** and **working** at the same time
- The **peace and quiet** of night but also **lonely** and sometimes **depressing**
- Faced **challenges** carrying **late** shifts
- Experienced **the** **importance of earning money for his family**
- Emphasized **the** **importance of earning money for his family**
- **Happy** to have a job and **prioritizes taking care of daughters** over social life
- Described **the** **importance of earning money for his family**
- Mentions that he found it **difficult to adjust to daytime sleep patterns** after night shifts

Appreciates **peace and quiet** of night but also **lonely** and sometimes **depressing**

Evelyn Hur

Happy to have a job and **prioritizes taking care of daughters** over social life

Evelyn Hur

Q Thinks

- Social life is a nice to have but **caring for his family is a priority**
- Money for family over sleep and wellbeing
- It's **"It is what is" mentality** - **accepting** of situation to support his family financially
- It's **Loneliness and boredom** are things that **can be alleviated** (chatting with co-workers, watch vids on games)
- Work **is** **important** for his family
- **Wisdom** to support his family financially
- **Loneliness and boredom** are things that **can be alleviated** (chatting with co-workers, watch vids on games)
- Watch **TV** to pass time
- He **is** **happy** to have a job and **prioritizes taking care of daughters** over social life
- **"It is what is" mentality** - **accepting** of situation to support his family financially
- It's **ok** even if his schedule is **all over the place**

"It is what is" mentality - **accepting** of situation to support his family financially

Evelyn Hur

Loneliness and boredom are things that **can be alleviated** (chatting with co-workers, watch vids on games)

Evelyn Hur

Q Does

- Worked from 3 to 11:30 PM, arriving home around 1:30 AM
- **Challenges** of night shifts
- Him **radiating** energy
- Relies on **radio** at work, chats with co-workers, watches vids on phone to pass time
- Takes **overtime** or **fills in** for co-workers' shifts to earn extra money for his family
- **Watches** **TV** to pass time
- Works **overtime** or **fills in** for co-workers' shifts to earn extra money for his family
- Uses **radio** at work, chats with co-workers, watches vids on phone to pass time
- Uses **radio** at work, chats with co-workers, watches vids on phone to pass time
- Uses **radio** at work, chats with co-workers, watches vids on phone to pass time
- **aler**

Various methods to "add life" to work: turns on radio at work, chats with co-workers, watches vids on phone to pass time

Evelyn Hur

Work overtime or fill in for co-workers' shifts to earn extra money for his family

Evelyn Hur

Q Feels

- A **sense of duty** to financially support his family
- Over **the** **importance of earning money for his family**
- **Grateful** for job that supports his family, **despite sacrifices** made in sleep and social life
- **Accomplished** for job that supports his family, **despite sacrifices** made in sleep and social life
- A **sense of duty** to financially support his family
- **Exhausted** from night shifts
- **Appreciative** for job that supports his family, **despite sacrifices** made in sleep and social life
- Some **challenges** of night shifts
- Some **challenges** of night shifts
- Occasional **challenges** of night shifts
- A **sense of camaraderie** with his co-workers
- A **sense of yearning / wistfulness** to be more involved with daughters' lives and spend more time with them

A sense of **yearning / wistfulness** to spend more time with daughters

Christina Ba

A sense of **gratefulness** for job that supports his family, **despite sacrifices** made in sleep and social life

Evelyn Hur

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- It's **ok** even if his schedule is his **air over the place**

"It is what is" mentality - **accepting** of situation to support his family financially

Evelyn Hur

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- Relies on **radio** at work, chats with co-workers, watches vids on phone to pass time
- Takes **radio** at work, chats with co-workers, watches vids on phone to pass time
- **Works** overtime or fill in for co-workers' shifts to earn extra money for his family
- Uses **radio** at work, chats with co-workers, watches vids on phone to pass time
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Evelyn Hur

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- **Accomplishment** for job that supports his family, **despite sacrifices** made in sleep and social life
- A **sense of duty** to financially support his family
- **Exhaustion** from working long hours
- **Appreciation** for job that supports his family, **despite sacrifices** made in sleep and social life
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Christina Ba

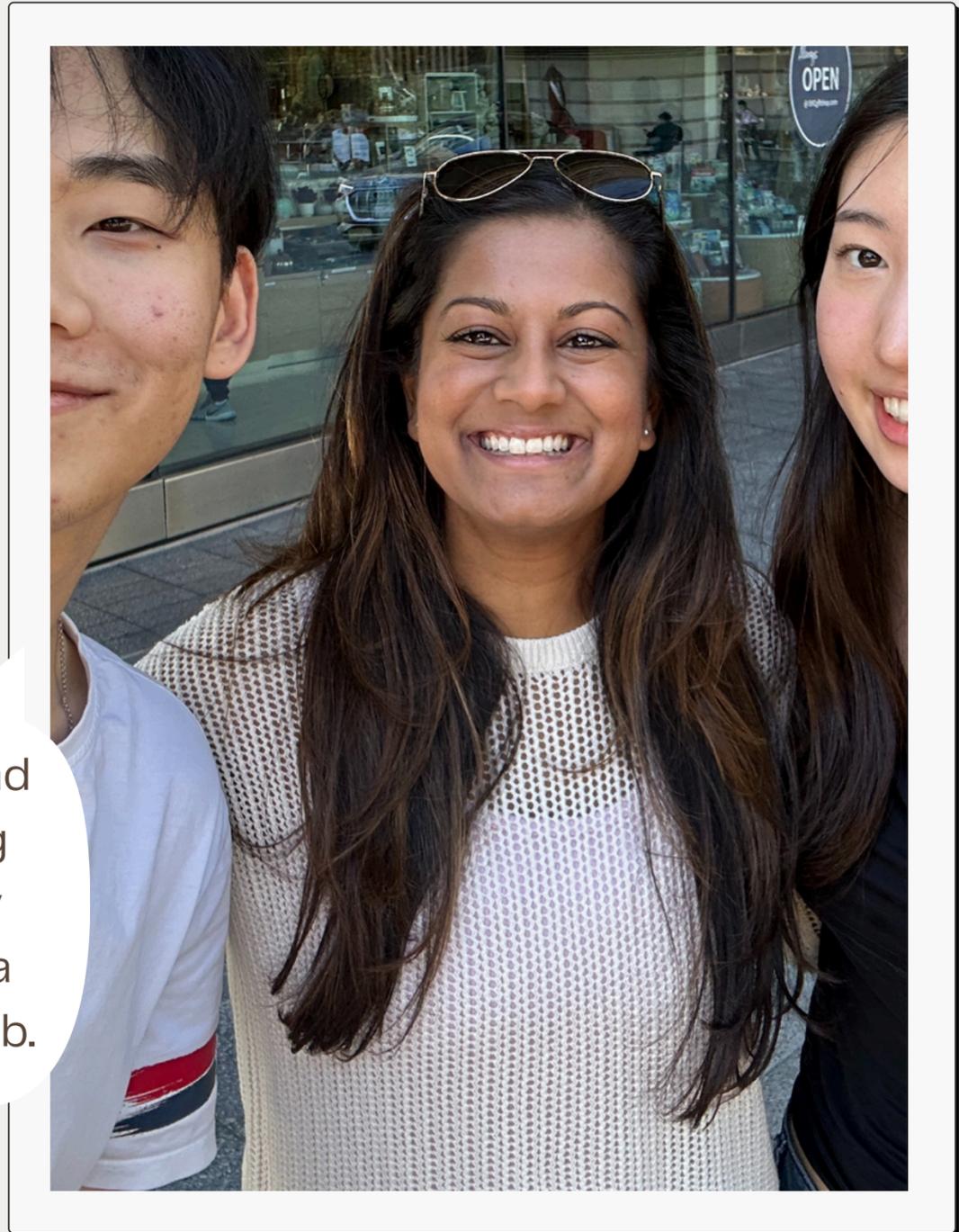
A sense of **gratefulness** for job that supports his family, **despite sacrifices** made in sleep and social life

Evelyn Hur

Pooja

Pooja works as a **Stanford physician and nocturnist** in the Internal Medicine Department

“I enjoy it, but I’ve had problems managing personal and family **relationships** with a full-time night shift job.”



Q Says

- Worked on night shifts for the past **two years**, for **12 hours**, 7 PM to 7 AM
- Says that the hardest part is “adjusting—it's hard on your body after even doing it for a while.”
- Initially expected it to be easy, but didn't see “how **exhausting** it could be doing it full-time/long-term.”
- “It takes an **hour or two** to get to sleep, even when I'm on the bed” and may wake up in the middle of the day “due to the noise outside”
- Complains how it's hard to “coordinate with **family and friends** during the night shift.”
- **Nutrition** and eating patterns are “completely off” which makes it difficult health-wise
- “I've had **headaches** and **migraines** during the day because I should be asleep but I'm awake.”
- She says “relationships are **difficult to manage**” when her partner doesn't understand.

Q Thinks

- Pooja interestingly thinks that the night shift job is relatively **satisfactory**, given the flexibility and the fact that she only
- She also likes the **tranquility of the hospital** at night compared to the chaos that usually ensues during the day (because the work itself is already packed with adrenaline).
- She still finds it difficult to **balance** her personal life with her night shift schedule.
- She didn't anticipate how much night shifts would affect her health in the **long term**.
- Adjusting between night and day schedules takes longer than she expected, making it a constant challenge.
- Despite problems with health and relationships, the flexibility makes it an **overall net positive** for her.
- Although she appreciates the flexibility of her schedule, she realizes that working night shifts full-time might not be sustainable forever.
- Pooja thinks that she could **track her sleep** more closely, but doesn't feel the need to.

Q Does

- She stays up from 2–5 AM watching Netflix on my off days because her body is still on **night mode**.
- She's had trouble **coordinating** things like dental appointments because of schedule.
- “I don't track my sleep, but I try to get a **good number** of hours.”
- During her night shift she can get a **little nap** in, but she sets an alarm for 30 minutes later.
- Works **3–4 night shifts** a week, with 3 days on, 1 off, then 3 days on.
- Wraps up her night shift by 6 AM and clocks out by **7 AM**.
- **Groups night shifts** so she can spend more time with family and friends later in the month.
- Sleeps for five hours during the day after a shift, though it's hard to flip back to normal.
- Tries to plan her sleep so that she can still attend day **events and appointments**.
- Struggles with **eating** during her shift—has lunch around 2 AM.
- Juggles **household chores** like laundry and dishes on her days off, though things get staggered.

Q Feels

- Feels **adrenaline** during the night shift due to constant emergency calls (no need for caffeine)
- A **sense of calm** during night shifts because the hospital is **quieter** at night.
- She feels **supported** by her fellow hospital workers who understand her difficult schedule.
- Frustration at not being able to attend social or family events due to her schedule.
- A **sense of disconnection** from family and friends (especially those in New York with a time difference) due to the difficulty of making time for them.
- Isolated because not many people outside of the medical field **understand** her challenges. She's sad that she had to break up with previous partner due to her schedule.
- She feels grateful for the **flexibility** to group shifts together for time off, but also aware of the toll it takes.
- Constantly overwhelmed by how difficult it is to manage **personal relationships** with such an irregular schedule.

Q Says

- Worked on night shifts for the past **two years**, for **12 hours**, 7 PM to 7 AM
- Says that the hardest part is “adjusting—it’s hard on your body after even doing it for a

Eats lunch at 1-2 AM, so **nutrition** and **sleeping patterns** are completely off

She actually **enjoys** working a night shift, mainly because she works only **12 days a months**

Has lots of **flexibility** with her night shift, she can group all at once or spread them out

- Sejoon Chang
- She says “relationships are **difficult to manage**” when her partner doesn’t understand.

Q Thinks

- Pooja interestingly thinks that the night shift job is relatively **satisfactory**, given the flexibility and the fact that she only
- She also likes that
- She still finds it
- She didn’t anticipate
- Adjusting between
- Constant challenge
- Despite problems
- Although she appreciates the flexibility of her schedule, she realizes that working night shifts full-time might not be sustainable forever.
- Pooja thinks that she could **track her sleep** more closely, but doesn’t feel the need to.

Was surprised to see how **exhausting** it was in the long term after doing it for two years

Despite problems with health and relationships, the flexibility makes it an overall **net positive** for her

- Sejoon Chang
- Sejoon Chang

Q Does

- She stays up from 2-5 AM watching Netflix on my off days because her body is still on **night mode**.
- She’s had trouble
- “I don’t track
- During her night
- Works **3-4** nights
- Wraps up her
- **Groups night**
- Sleeps for five
- Tries to plan her
- Struggles with **eating** during her shift—has lunch around 2 AM.
- Juggles **household chores** like laundry and dishes on her days off, though things get staggered.

Groups night shifts so she can **spend more time** with family and friends later in the month

Tries to **plan her sleep** so that she can still attend day events and appointments, but it’s difficult

- Sejoon Chang
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Q Feels

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- A
- S
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- Constantly overwhelmed by how difficult it is to manage **personal relationships** with such an irregular schedule.

Feels **adrenaline** during the night shift due to **constant emergency** calls (no need for caffeine)

Disconnected from **family and friends** due to the difficulty of making time for them

Sad that she had to **break up** with previous partner due to her schedule

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Has lots of **flexibility** with her night shift, she can group all at once or spread them out

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- She says “relationships are **difficult to manage** when her partner doesn’t understand.

Q Thinks

- Pooja interestingly thinks that the night shift job is relatively **satisfactory**, given the flexibility and the fact that she only
- She also likes that it doesn’t **interfere** with her personal life, which usually
- She still finds it **exhausting** in the long term after doing it for two years
- She didn’t anticipate how **exhausting** it was in the long term
- Adjusting between work and home is a constant challenge, but she finds it **positive** for her
- Despite problems with health and relationships, the flexibility makes it an overall **net positive** for her
- Although she appreciates the flexibility of her schedule, she realizes that working night shifts full-time might not be sustainable forever.
- Pooja thinks that she could **track her sleep** more closely, but doesn’t feel the need to.

Was surprised to see how **exhausting** it was in the long term after doing it for two years

Despite problems with health and relationships, the flexibility makes it an overall **net positive** for her

Q Does

- She stays up from 2-5 AM watching Netflix on my off days because her body is still on **night mode**.
- She’s had trouble **grouping** night shifts so she can **spend more time** with family and friends later in the month
- “I don’t track my sleep, but I try to **plan her sleep** so that she can still attend day events and appointments, but it’s difficult
- During her night shift, she works **3-4 nights** a week, wraps up her shift, and sleeps for five days
- Works **3-4 nights** a week, wraps up her shift, and sleeps for five days
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- **Groups night shifts** so she can spend more time with family and friends later in the month.
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- Tries to plan her schedule
- Struggles with **eating** during her shift—has lunch around 2 AM.
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Groups night shifts so she can **spend more time** with family and friends later in the month

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- She feels **disconnected** from family and friends due to the difficulty of making time for them
- She feels **sad** that she had to **break up** with her previous partner due to her schedule
- She feels **overwhelmed** by how difficult it is to manage **personal relationships** with such an irregular schedule.

Feels **adrenaline** during the night shift due to **constant emergency** calls (no need for caffeine)

Disconnected from **family and friends** due to the difficulty of making time for them

Sad that she had to **break up** with previous partner due to her schedule

POV's



2

POV #1: David



We met...

David, who is a current night-shift worker at Stanford Hospital. He has been working there since 2012, which is when he transitioned from working for RD&E.

We were surprised to realize...

David has a **“it is what it is” mentality**, considering his **personal life practically non-existent**

We wonder if this means...

David’s sense of financial dependency for his job makes him believe **work and personal life can’t go hand in hand**

It would be game-changing to...

Help David **manage the smaller tasks in life** so he has more time to care for his personal life.

POV #2: Rena



We met...

Rena, a physician and Nocturnists Section Chief at Stanford Hospital. She worked night shifts for 7 years, then transitioned to day shifts and part-time night shifts for 3 years.

We were surprised to realize...

Rena says she's in good control of her health, but still **often experiences daytime fatigue** even 3 years out of full-time night shifts

We wonder if this means...

Rena perceives her health based on **individual efforts** made rather than **objective health improvement**

It would be game-changing to...

Encourage Rena to be **more aware of and take actions to improve her wellbeing**, even if she thinks she feels "OK".

POV #3: Ryan



We met...

Ryan, working a 6-month graveyard shift for the Stanford Police Department. This is his eighth month in the department, and he switches between night and day shifts twice a year.

We were surprised to realize...

Despite struggling to adjust early in his shift, Ryan **refuses to touch any sleep or wake aids**, such as caffeine, even when others in his cohort are heavily reliant on such substances.

We wonder if this means...

Ryan is **confident in his long term health and adjustment strategies** as opposed to short term relief from wake aids, having seen firsthand coworkers substance dependent.

It would be game-changing to...

Help night-shift workers to be in **better control of their substance habits** when it comes to sleep or wake aids.

HMW Questions

3

HMW #1

David

HMW integrate personal health data to provide feedback on managing sleep and health?

HMW we allow a user to schedule calls with FAF in accordance with their schedule?

HMW rethink what creates connection between someone and their FAF?

HMW allow a user to schedule multiple appointments at once?

HMW remove the frustrations of scheduling an appointment?

HMW allow users to complete errands without needing to be physically in the space?

HMW introduce a social community outside of FAF to connect with?

HMW group together completing errands to optimize for time and efficiency?

HMW allow a user to schedule appointments after business hours?

HMW provide alternate ways of checking in with their friends and family?

HMW automate scheduling routine tasks and errands?

HMW #1

David

HMW integrate personal health data to provide feedback on managing sleep and health?

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HMW automate scheduling routine tasks and errands?



HMW #2

Dr. Rena

HMW create a positive reinforcement cycle for maintaining healthy habits?

HMW track nutrition over the duration of someone's shift?
When they're not working their shift?

HMW connect her to a community to recommend methods for adjusting?

HMW give someone a more holistic run-down and look at their scheduling for the month?

HMW create an accountability tool to keep her consistent with her routine?

HMW recommend optimal times to sleep, eat, and exercise?

HMW prepare her for day to night (or vice versa) schedule switch/reset?

HMW offer suggestions for new healthy habits based on individual routine?

HMW make her feel more refreshed and alert during work hours?

HMW personalize her routine based on most alert hours and schedule?

HMW #2

Dr. Rena

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HMW offer suggestions for new healthy habits based on individual routine?

HMW make her feel more refreshed and alert during work hours?

HMW personalize her routine based on most alert hours and schedule?



HMW #3

Deputy Ryan

HMW enable night shift workers naturally regulate their sleep cycle without sleep aids?

HMW remind officers throughout their shift to engage in healthy habits?

HMW establish support from the police department to provide institutional night-shift transitory resources?

HMW reduce dependency on caffeine for graveyard shift officers?

HMW document the deputy's tested adjustment methods and adapt them for wider use?

HMW provide alternative attention techniques throughout the shift to encourage focus?

HMW foster a supportive community of officers for developing healthier habits?

HMW provide an actionable plan to help with the initial transitory period?

HMW provide non-substance-based energy management techniques during off shift?

HMW reduce understaffing to prevent officers from having to work consistent overtime?

HMW improve holistic wellness, like eating and exercising well, within night-shift workers to improve attention on shift?

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Final HMWs

1

HMW allow users to complete errands without needing to be physically in the space?

2

HMW prepare users for day to night shift (or vice versa) reset?

3

HMW share user tested adjustment methods for wider use?

Solutions

4

1 HMW allow users to complete errands without needing to be physically in the space?

A grocery delivery box outside of someone's house to allow for secure, refrigerated groceries to be delivered

A grocery system that pre-packages groceries for pick-up in lockers after hours.

At-home vital testing system (blood pressure, heart rate, etc.) to get vitals tracked before any doctor appointment

An app that recommends recipes for meal prepping based on the groceries you order / have in your house

An app that calls/makes appointments in the day for you based on user-inputted details

An app where you can input your available times so if daytime workers cannot reach your cell during sleep, your voicemail will list times for scheduling

An app that will automatically remind you and schedule appointments for you (groceries, appointments)

Any pick-up errands (groceries, prescription, packages) are bundled together into one central location for convenience

An app that allows you to schedule appointments after hours without needing to consult a real person.

An app that allows for users to hire someone to help run their errands for them, for example getting groceries and picking up medications.

2 HMW prepare users for day to night shift (or vice versa) reset?

App that tells you ideal sleep and wake up time when switching/resetting day to night shift

App that helps you rewind and practice healthy habits before bed

Use wearables to detect optimal time to wake up and sound alarm

Create a community that shares methods/schedules for day to night shifting/reset

App that tells you optimal alertness periods to help plan your switch day (when to wake up, run errands etc)

Calendar that gives overview of switch days to help schedule/prepare ahead

App that personalizes reset routine based on your level of tiredness and other surveyed factors

An app that allows users to set a sleep transition goal and follow a process to gradually adjust their sleep schedule.

Using haptics or any wearables to remind a user to follow healthy goals, such as standing up or drinking water.

An app that reminds you of healthy habits for transitioning from daytime to nighttime schedules or vice versa.

3 *HMW* share user tested adjustment methods for wider use?

Mentorship Q&A platform where new night shift workers can ask about proven techniques to stay energized

Create a digital pamphlet or module based on the user's adjustment methods for distribution through the Police department.

A dynamic sleep adjustment app that takes into account user's existing caffeine, exercise, and tracks use and timing of each factor.

Fostering development of peer-to-peer resources to encourage growth of community and sharing of tips for adjustment.

Enlist the user and any other regular night shift workers to create video tutorials to educate new night-shift workers on how best to adjust.

Provide online modules or in-person workshops within the police department to go over how best to adjust to night shifts.

A platform that provides real-time notification tailored to a night shift schedule, reminders for reduced caffeine intake or break time alerts.

Develop a platform where night-shift workers can share their own strategies that were effective, users can try, comment, upvote.

Use wearable devices to sync their sleep schedules through shared database, automatically sharing sleep routines based on night shift times

Feature stories and highlights of night shift workers on a community platform to motivate others and adopt similar approaches

Top 3 Solutions

1

An app that finds open appointment times automatically based on user availability input

2

An app that gradually prepares users to transition day/night shift routine before bed for better recovery and reset

3

A platform to foster development of peer-to-peer resources to encourage growth of community and sharing of tips for sleep adjustment.

Experience Prototypes

Solution 1: Experience Prototype

Key Assumption: Users want to have appointments scheduled for them based on their availability

How we tested it: We requested participants select schedule availability on a pre-filled Google Form. Then, we sent them hypothetical appointments throughout their day based on their schedule. Users accepted or rejected the appointment. At the end, they filled out a survey about their experience.

Test Setup

Insights



- Adjustment: Have been working 2 years. "Definitely a weird feeling getting up when everyone's going to bed". It's a mindset thing — even scheduling this interview was a time and communication challenge.
 - Hard to set things up with day schedulers

Schedule Input

Section 1 of 2

Prototype 1

B *I* U

Please indicate the times you would be available for an appointment. Imagine that this appointment is open at all listed hours, and you have transportation during the time.

What time are you available for an appointment on Monday? *

- 7:00 AM - 8:00 AM
- 8:00 AM - 9:00 AM
- 9:00 AM - 10:00 AM
- 10:00 AM - 11:00 AM
- 11:00 AM - 12:00 PM
- 12:00 PM - 1:00 PM
- 1:00 PM - 2:00 PM
- 2:00 PM - 3:00 PM
- 3:00 PM - 4:00 PM
- 4:00 PM - 5:00 PM

Appointments

Appointment with Smile Clinic with Dr. Priya made on 10/17 3:30pm based on your availability. Send 'Y' to accept and 'N' to cancel

Y

Schedule service with the nearest plumber sometime this week

Appointment with Menlo Park Plumbing made on 10/11 9am based on your availability. Send 'Y' to accept and 'N' to cancel

Y

Testing Insights



Devin

Deputy who works a **graveyard shift** in patrolling



- 1 Devin said this would “reduce lots of **mental stress**” from **manually** looking for non-conflicting slots
- 2 Providing a scheduled time has its pros and cons: it helps **reduce clutter**, but it might also **take up free time** that the user wants to use for something else.



What worked?

- Made head feel **free of clutter** after graveyard shift, thinking about errands and available times
- **Easy** to accept/cancel appointments
- It was user-friendly in that a time was just given



What didn't work?

- Some appointments could not consider external factors. Even if the user was available at that time, it was a **time they wanted to block out (to rest, get ready, transit time, etc)**. User said he was technically free one of the times, but **would've wanted to rest**.



Going Forward

- Rather than hypothetical scenarios, potentially actually **book** the appointment **for** the user
- Need a way we can know when they are not working but **preferably** would want to block out to rest

Solution 2: Experience Prototype

Key Assumption: Users will consistently and accurately follow recommended times for sleeping and waking up.

How we tested it: Create a goal sleep schedule, gave it to someone newly adjusting to a night shift, and evaluated the results

Test Setup

Instructions

Summary

Thank you for participating in our experience prototype survey! This survey requires **at least 7 days of sleep data** and **must be completed by Thursday (10/10) 11pm.**

Instructions

1. **Input** your nightshift details into [this calculator](#) to get recommended times for sleep
2. **Screenshot and save** the recommended times from the calculator. Example:
3. **Write and save** actual times you **sleep and wake up** each day
 - a. E.g. Thurs: Woke up at 6pm, Slept at 8am
4. **On Thursday (10/10) 11pm,** please fill out [this form](#) so we can learn more about your experience

Feedback

Prototype 2: Nightshift work sleeping schedules

Link to [instructions](#)

evhur@stanford.edu [Switch account](#)

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.

* Indicates required question

Please upload a screenshot of your recommended sleep schedule from the nightshift calculator *

Upload 1 supported file. Max 10 MB.

[Add file](#)

Please upload a screenshot/picture of your sleep/wake up time log *

Upload 1 supported file. Max 10 MB.

[Add file](#)

Were the recommended sleep and wake up times helpful? *

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Did you follow the recommended sleep and wake up times. Why or why not?

Your answer

In the future, how likely are you to follow the recommended sleep and wake up times?

- Very Likely
- Somewhat likely
- Neutral
- Somewhat unlikely
- Very unlikely

What did you like about this experience?

Your answer

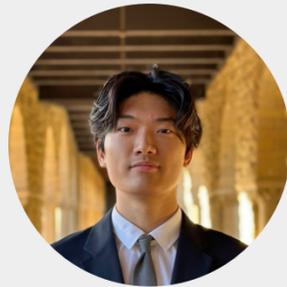
What did you NOT like about this experience?

Your answer

Please provide any additional insights from your experience

Your answer

Testing Insights



Brian

Stanford senior
who sleeps at 5-7
AM on weekends



What worked?

- User felt that being told recommended times helped **him be more aware of his poor sleeping habits, motivating him to set goals**
- **Felt more refreshed** after following recommended sleep time when possible, even if he thought it been a **placebo effect**



What didn't work?

- Even if he wanted to sleep at recommended times, he had work to finish. Some recommended times were **not realistic**.
- Recommended sleep times were **not suitable for his body**

- 1** User liked how the proposed sleep schedule put sleeping habits and **wellbeing top of mind** for him
- 2** User realized there were **significant differences** in his current sleep schedule to an ideal one
- 3** User felt the recommended times were sometimes **unrealistic** given his variable schedule



Going Forward

- Consider recommendations as a **guide** to make users more self-aware of their wellbeing
- Focus on **personalized goal setting** instead of following given generalized recommendations
- Reconsider a solution that makes an individual's **body feels "best"** rather than putting it in generalized conditions

Solution 3: Experience Prototype

Key Assumption: New night shift workers are willing and able to adopt existing methods that are proven to work.

How we tested it: We created a pamphlet documenting Deputy Ryan's transition methods and evaluated adoption of tips on new night shift workers. Then, we collected feedback on helpfulness and willingness to adopt the tips.

Test Setup

Insights



Robison M Rieger <rrieger@stan...> Tuesday, October 8, 2024 at 12:10 AM

To: Christina Ba; Sarah Jade Yao; Cc: Evelyn Hur; +2 more

Hello Christina,

The **technique** that I use to adjust to night shift involves **slowly staying awake later and later each day** leading up to my first night shift. For example, if my first night shift is on a Saturday, I will force myself to stay awake until midnight on Wednesday. On Thursday I will stay awake until 2am. On Friday, I will stay awake until 4am, and then hopefully I will have an easier time staying awake the entire night on Saturday for my first night shift.

Some of the deputies I work with will **force themselves to stay awake** when they are adjusting to night shifts by using coffee and energy drinks.

One of my partners who also works night shift, Emerson Stewart who I cc'd in this email, uses a different strategy to adjust. In the days leading up to his first night shift, he will take a **nap late in the evening**, (e.g. 8pm - midnight), and then he will try and stay awake until the morning. Feel free to reach out to Emerson as well, he said he is happy to meet with you and answer questions.

Please let me know if you need anything else.

Thank you very much,

Rob Rieger
Stanford University Department of Public Safety (SUDPS)
Dep. #123
Phone: 650-924-3251

Pamphlet

CS 147: Introduction to Human-Computer Interaction
Insights from Deputy Ryan

How do you **adjust to starting a period of night shifts**?

- A week before, start sleeping at 2 am
- Five days before, sleep at 4 am
- Four days before, sleep at 5 am
- Two days before, sleep at 7 am
- Day before sleep at 8 am

Throughout all of this, increment time of wake to the same schedule.

What are some **methods you use to help sleep during the day**?

- Eye mask
- Ear plugs
- Fan
- Blackout curtains/blinds
- Working out before work: helps with circadian rhythm
- Portable AC
- Most important: regulate light, heat, and sound

How do you **stay awake throughout the shift**?

- Don't use caffeine if you have a long period of transition: can gradually shift your sleep schedule if you start early enough
 - Or try to reduce caffeine intake
- Stay consistent: even on off days, keep your night-shift sleep schedule

What are some **practices to avoid when working night shifts**?

- Using energy drinks: short term wake assist, bad long term health implications
- Eating unhealthy (too much sugar, heavy foods etc): can cause sugar crashes or drowsiness from heaviness
- Try to avoid switching back and forth sleep schedules if possible

Feedback

Deputy Experience Prototype Feedback

Document
guidelines: https://docs.google.com/document/d/14pevxBca1_Pis95o1th6398ZgmCDTh5Q8TCv1fzigc/edit?usp=drive_link

cba1@stanford.edu [Switch account](#)

* Indicates required question

Email *

Record cba1@stanford.edu as the email to be included with my response

Did the guidelines in the document introduce **any new ideas** to help adjust to night shifts? If so, what? *

Your answer

Which tip was **most helpful** to you? Were you able to adopt it into your daily life? *

Your answer

Would you adopt the tips in this guide over the course of your long term sleep schedule adaptation? Please explain your answer. *

Your answer

Testing Insights



Andrew

Student that regularly sleeps at 7 AM

Partially validated



What worked?

- Giving the user a **visual** of what a **general adjustment plan** would look like
- Listing highly **specific** non-chemical sleep aids the deputy used



What didn't work?

- Thought that deputy's recommended **sleep times were not applicable** to his personal schedule
- Felt it was **hard to stick to a consistent sleep routine** due school work and his usual **biphasic sleep pattern**



Going Forward

- Test over a period of a **few weeks** instead of a few days for **concrete results analysis**
- Provide tips that are **actionable within a week**, instead of having to be adopted over more time
- Incorporate more **flexible tips** applicable to diverse users' situations

- 1** User was most drawn to the tip about **sleep aid tools** – eye masks, fans, etc **for daytime sleep**
- 2** User was somewhat inspired to create his own **concrete, comprehensive plan** to follow
- 3** User mentioned that specific sleep times weren't as helpful since he has his own **biphasic sleep schedule**. His schedule is more subject to **spontaneous changes due to school work**

Prototype Summary

- 1 Users felt **motivated and inspired** seeing a **concrete plan**, but adoption of exact recommended plan was difficult for those with **inconsistent schedules**
- 2 Users stated that they became **more aware of own sleeping habits and wellbeing** when they saw a recommended sleep schedule
- 3 Users liked having appointments scheduled for them because it helped with **reducing brain clutter, especially after work**. They found the system of accept/cancel **easy and intuitive**
- 4 **Moving forward?** Based on our additional needfinding with Bradley and Pooja + prototype testing, **Prototype #1** addresses the most pressing issue and was the most successful based on feedback

Ethical Considerations

Solution 1

Ethical Analysis

Communities Designed For

Night-Shift workers on a **consistent schedule**

New to night shifts; difficulty **accomodating** for **regular life**

Communities Excluded/Inaccessible

Workers with frequent **last-minute** scheduling **changes**

Workers with a regularly **inconsistent** schedule

Other Points

Difficult to create realistic times especially since majority of people work 9-5

Solution 2

Ethical Analysis

Communities Designed For

Workers with **part time** night shifts

Users who are used to following a **routine** and specific schedule

Communities Excluded/Inaccessible

Workers with **full time** night shifts, **including weekends**

Workers who are mentally challenged and **find consistency/ routine difficult**

Users who have **additional work beyond work hours**

Other Points

Solution doesn't account for **follow-through** with plan, adoption could vary across communities

Solution 3

Ethical Analysis

Communities Designed For

Full-time
night shift
employees

Beginner night-
shift workers
unsure of
where to start

Communities Excluded/Inaccessible

Students and
temp workers
with **variable**
schedules

Those
financially
unable to
accomodate
physical tools

Other Points

As pamphlet was
created from **one**
person, what
works for him
might be skewed
to his role and
specific
demographic

Appendix

- Prototype 1 Document
- Prototype 2 Document
- Prototype 3 Document
- Interview Questions
- Bradley Interview Transcript
- Pooja Interview Transcript

That's a wrap!

Thank you for
listening.