

# Augmenting Devices to be Less Addictive

Helen Dun

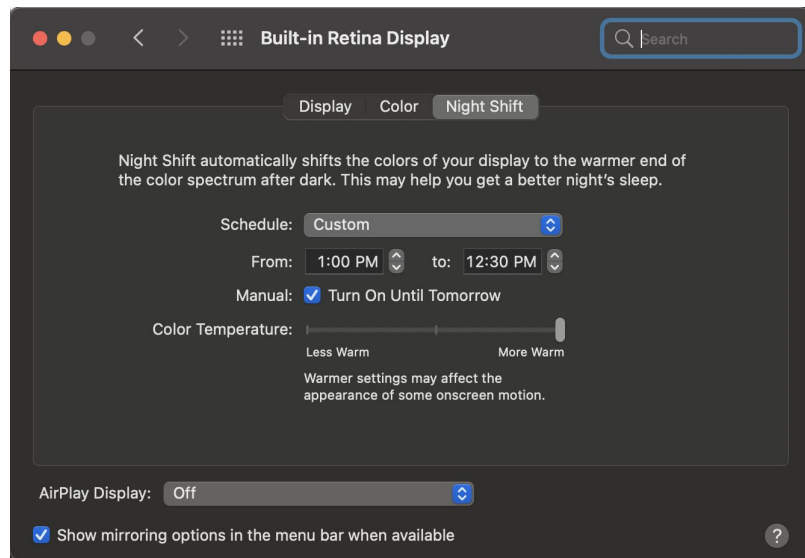
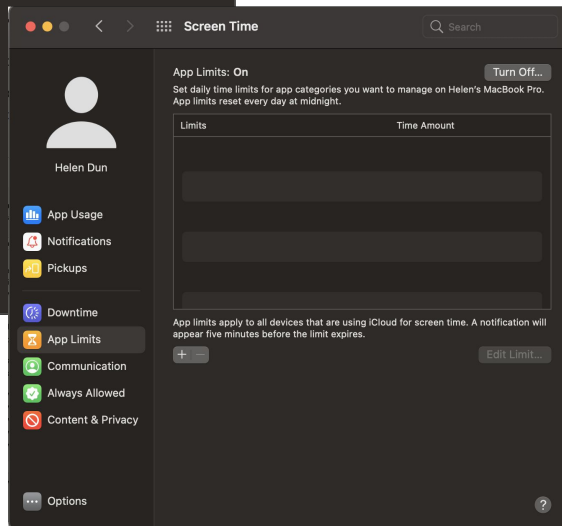
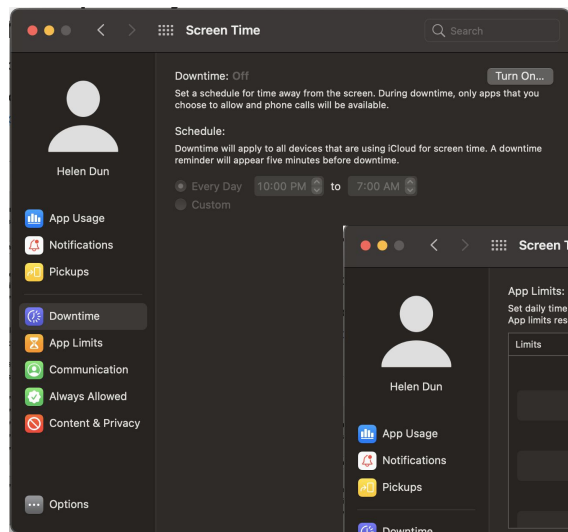
A dark blue diagonal gradient bar that starts from the bottom left and extends towards the top right, covering the lower half of the slide.

# The Problem?

## Staying up way too late



# Research



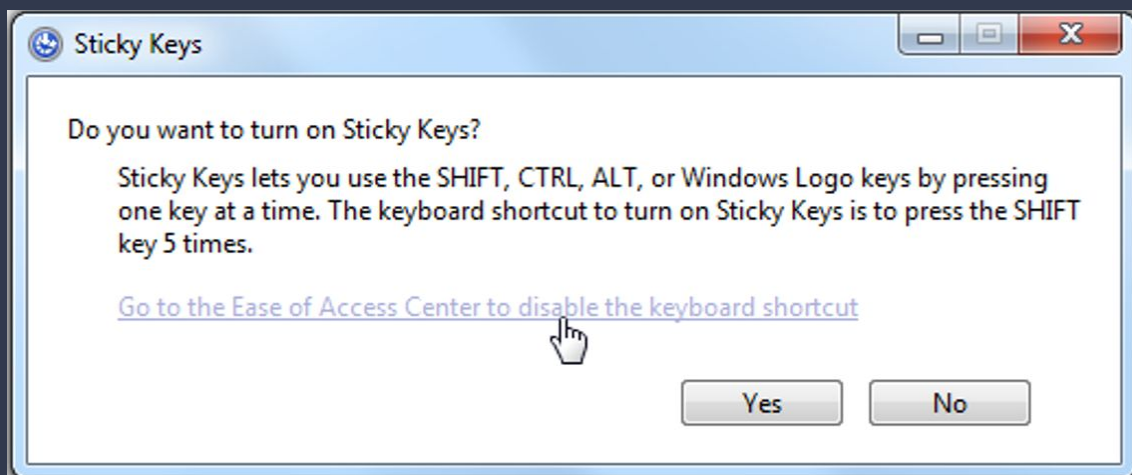
# Research



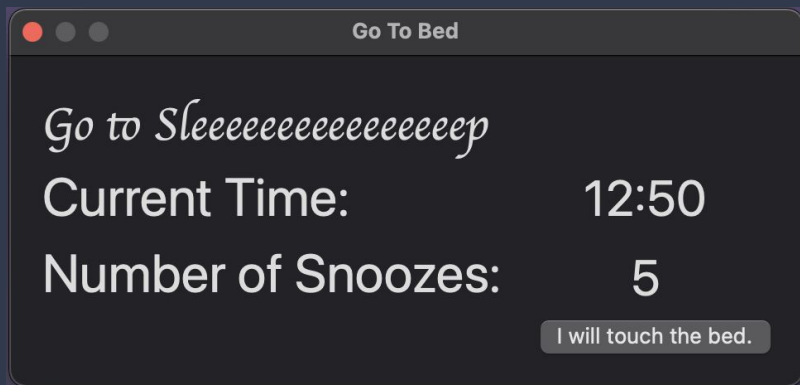
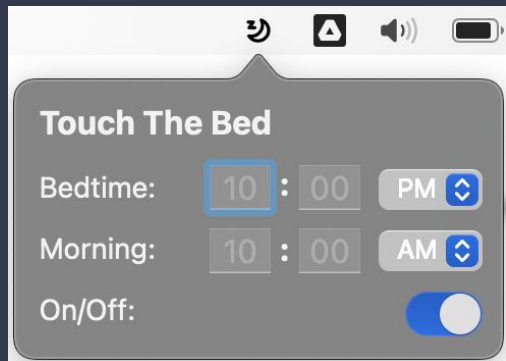
Thumbnail by Youtuber Max K. Alexander

<https://youtu.be/N5-pO7Bkh8I>





# The Solution



# Touch The Bed Application

1. Simply runs in the background
2. Detects night time activity and activates
3. Pings user to go to bed every so often
4. Disrupts cue and routine steps of the Habit Cycle
5. Makes device-use annoying

# Experiment

## Week 1

Don't use application

Record natural behavior

## Week 2

Use application

Record augmented behavior

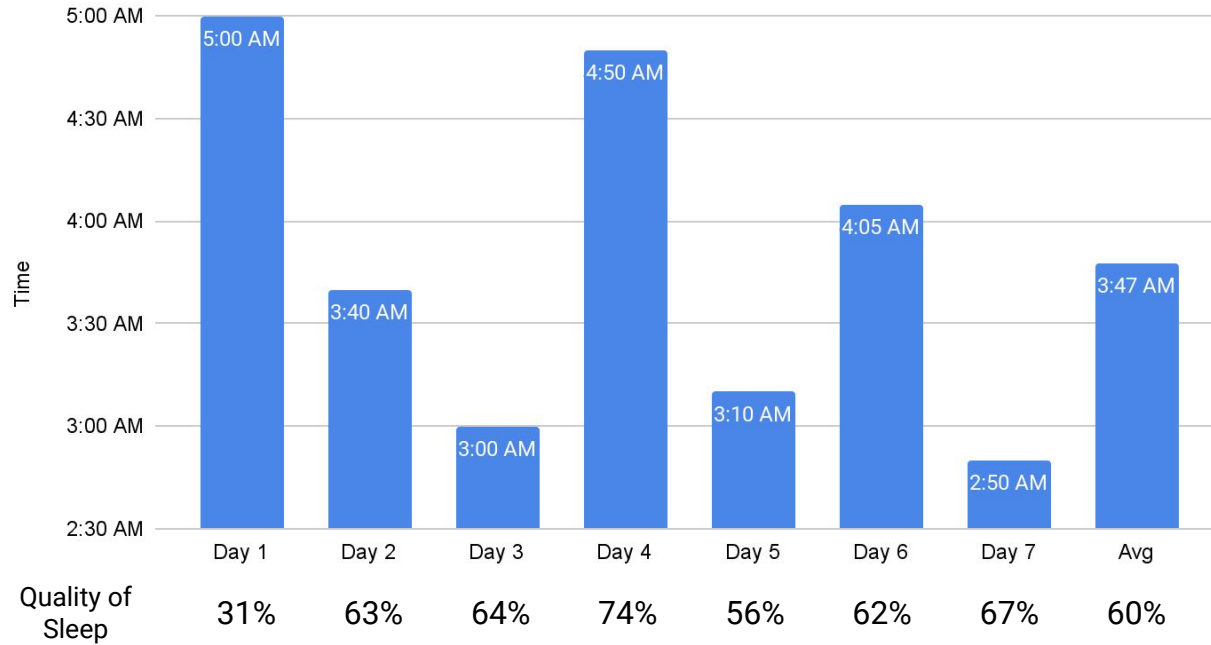
## Hypothesis

Actual bedtime will be earlier  
during Week 2.

Every day, record the following:

1. actual bedtime
2. length of time on smart device
  - a. for play
  - b. for work
3. number of times hit snooze
4. quality of sleep (using Sleep Cycle app)

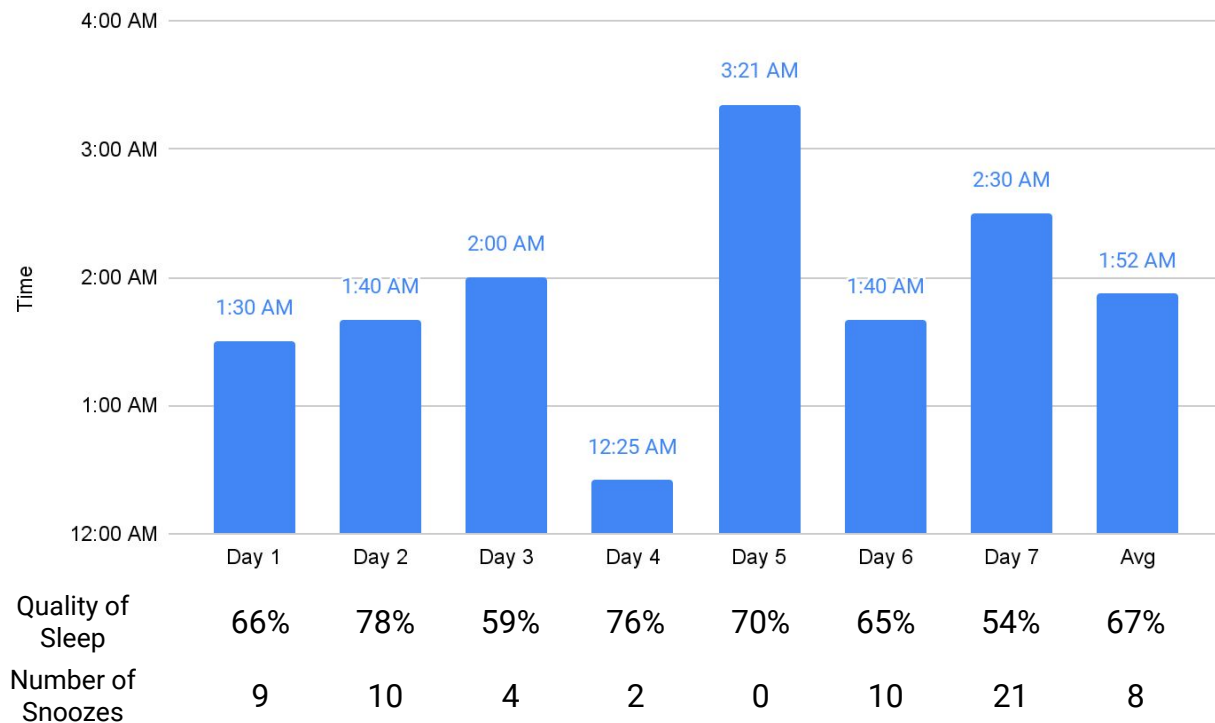
## Natural Bedtime



Without the application; Just a normal week in the nightly life of Helen



## Augmented Bedtime



With the TouchTheBed application running in the background

# Conclusion

## Average Actual Bedtime

Week 1: 3:17 AM

Week 2: 1:52 AM

85 minute difference

## Average Quality Of Sleep

Week 1: 60%

Week 2: 67%

## Average of 8 Snoozes of the App Per Day

## Hypothesis:

Week 2 better average bedtime  
than Week 1

## Null Hypothesis:

Week 2 did not have a better  
average bedtime than Week 1

## Paired 1-Tailed T-Test:

0.02224

# Conclusion

Because the p-value is smaller than 0.05, the null hypothesis is rejected and the experiment confirms the hypothesis that the application causes an earlier bedtime.

## Challenges

- Deciding how often the application should create a pop-up
- Recording actual bedtime (especially for Week 1)
- Coding the application

## Threats to Validity

- Creator Motive

wanting my application to be successful might have inflated the results

- Long-Standing Duration

the user may begin to habitually turn off the pop-up and not even notice it

- Hectic Schedule

my schedule between Week 1 and Week 2 varied drastically

Thank you!