

Robert Davis

Alarm Clock of the
Future

Stake Holders

- ◆ Corporate Employees

- ◆ Blue Collar Workers

Research Into the Issues

- Interviewee #1's issues with today's alarm clocks
 - Easily put on snooze and continued sleep missing work
 - Simply use sound to wake the user up abruptly
 - Wakes the user but do not require any

Research Into the Issues

- Interviewee #2's issues with today's alarm clocks
 - Easily put on snooze and continued sleep missing work
 - No use outside of alarm function
 - Alternatives are expensive with no added value over using your phone's alarm

POV Statement for Corporate Employee

Corporate employee needs an alarm clock that is more effective than a phone alarm, requires some sort of effort to turn off the alarm, gradually wakes you up from your sleep, and will eliminate their fear of not waking up for work when they set their alarm.

Problem Statement

The issue of unreliable alarms that blue collar workers and corporate employees use causes them to not wake up for work if they do wake up for work its with a sudden loud noise adding stress at the beginning of their day. A successful solution would be to provide them a dedicated alarm clock that wakes them up gradually, requires you to use your brain to turn off, and to be the most reliable alarm clock on the market when it comes to waking up the customer.

Design Criteria

Design needs to include the following features:

- ◊ A light source
- ◊ A interactive screen
- ◊ A speaker
- ◊ Inexpensive but reliable shell

AHP

The AHP table developed for this design

Numbers 1,2,3,4 represent:

1. Ability to wake you up
2. Innovative Technology
3. Cost
4. Modern Design

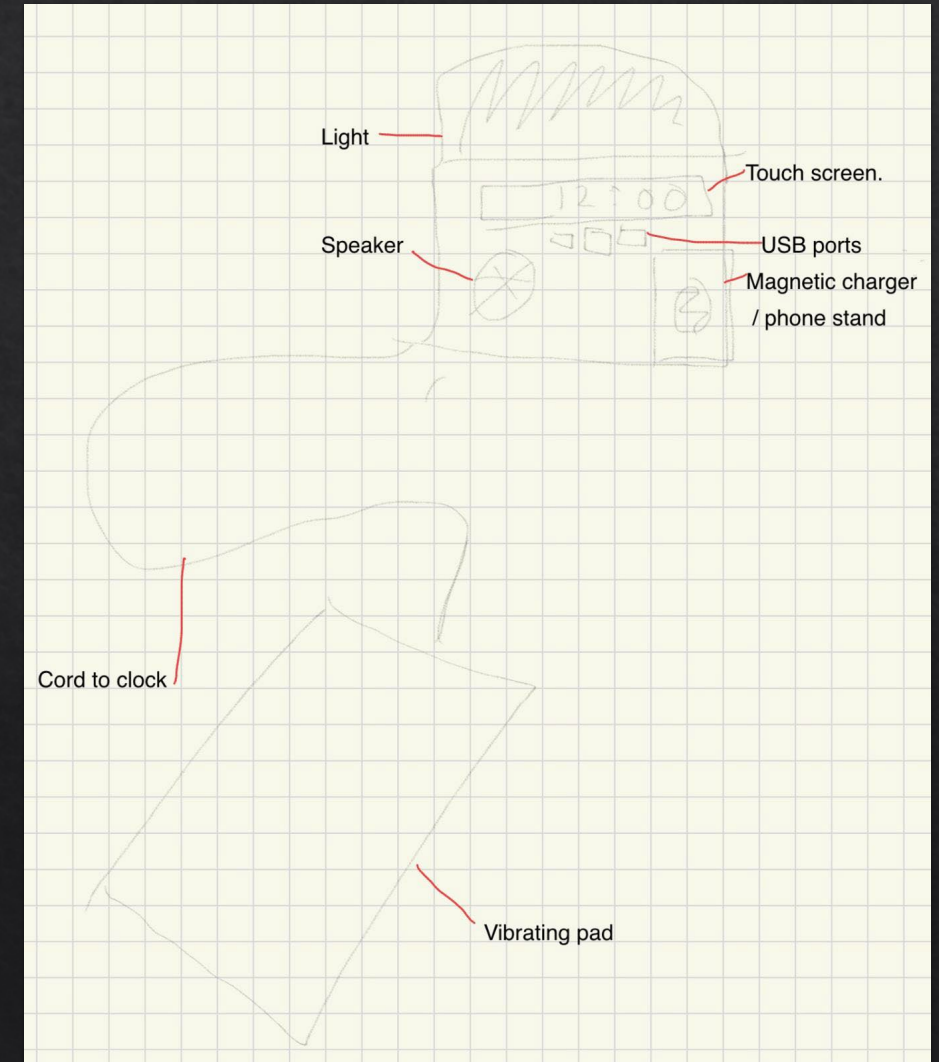
#1 had the most weight at 54 percent.

	1	2	3	4	
1	1	5	5	3	14
2	$\frac{1}{5}$	1	3	$\frac{1}{2}$	4.7
3	$\frac{1}{5}$	$\frac{1}{3}$	1	1	2.5
4	$\frac{1}{3}$	2	1	1	4.3

Design Sketches

Design A

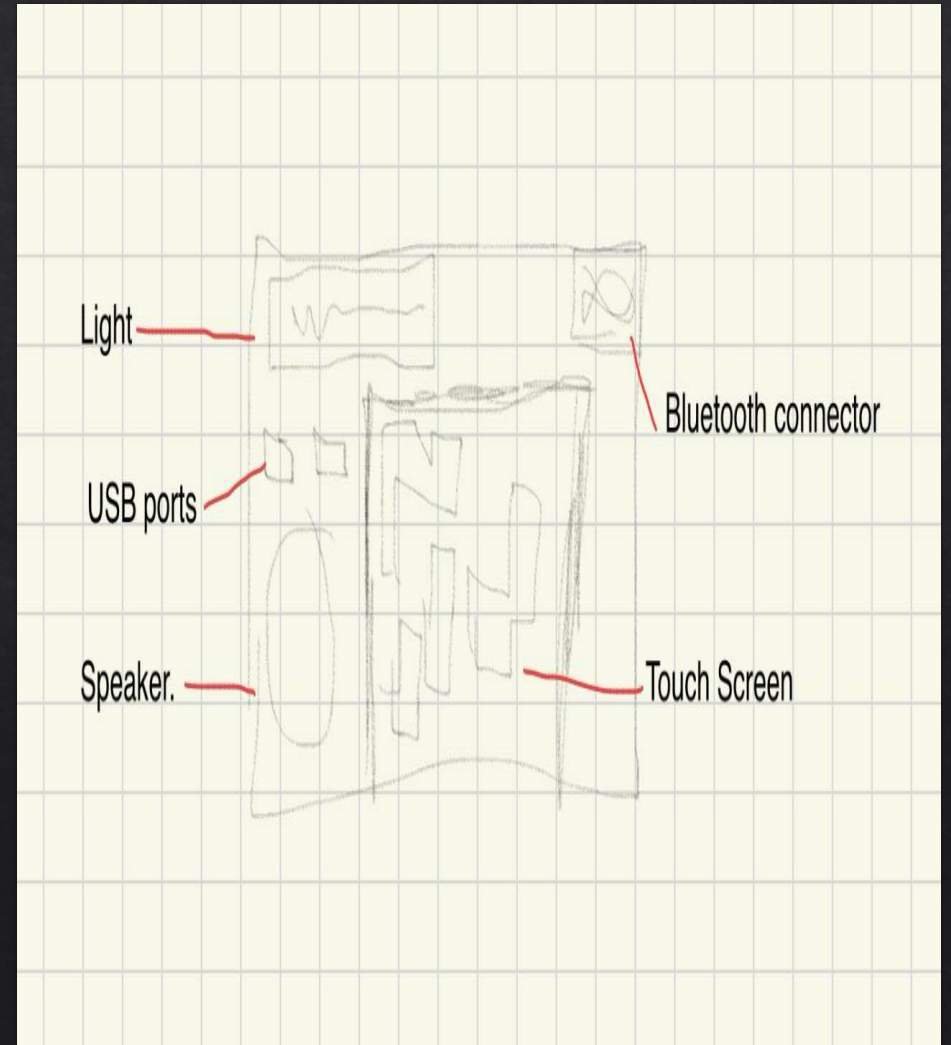
This design was the most complex with a pressure sensitive mat that would require you to get out of bed to turn off the alarm. This design had the most features but was too complex/expensive when it came to the process of elimination using the decision Matrix.



Design Sketches

Design B

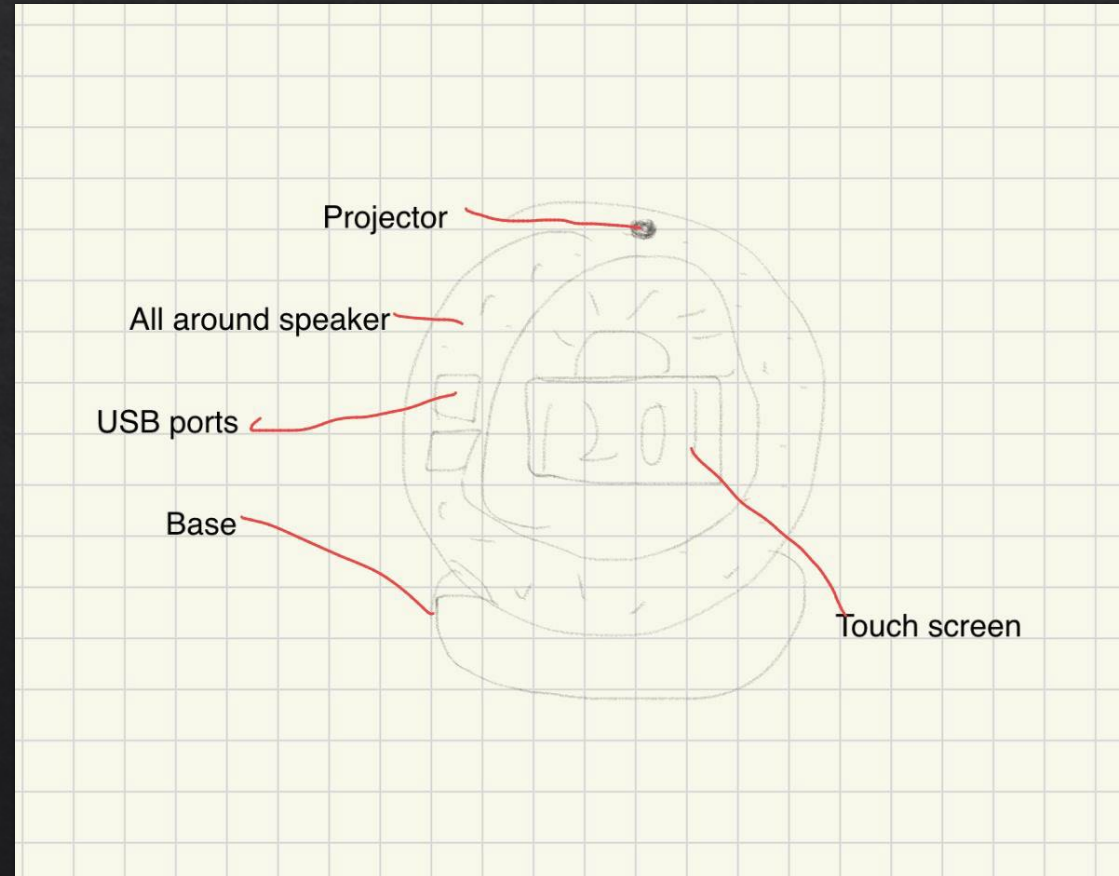
This design was the puzzle design and focused on using puzzles and a touchscreen to disable the alarm causing the customer to wake up and focus on the task at hand. In the end it lost out to design C.



Design Sketches

Design C

This design was the all around winner according to the decision matrix. This design featured a very modern spherical projector design that was the closest to achieving all of the customers criteria.

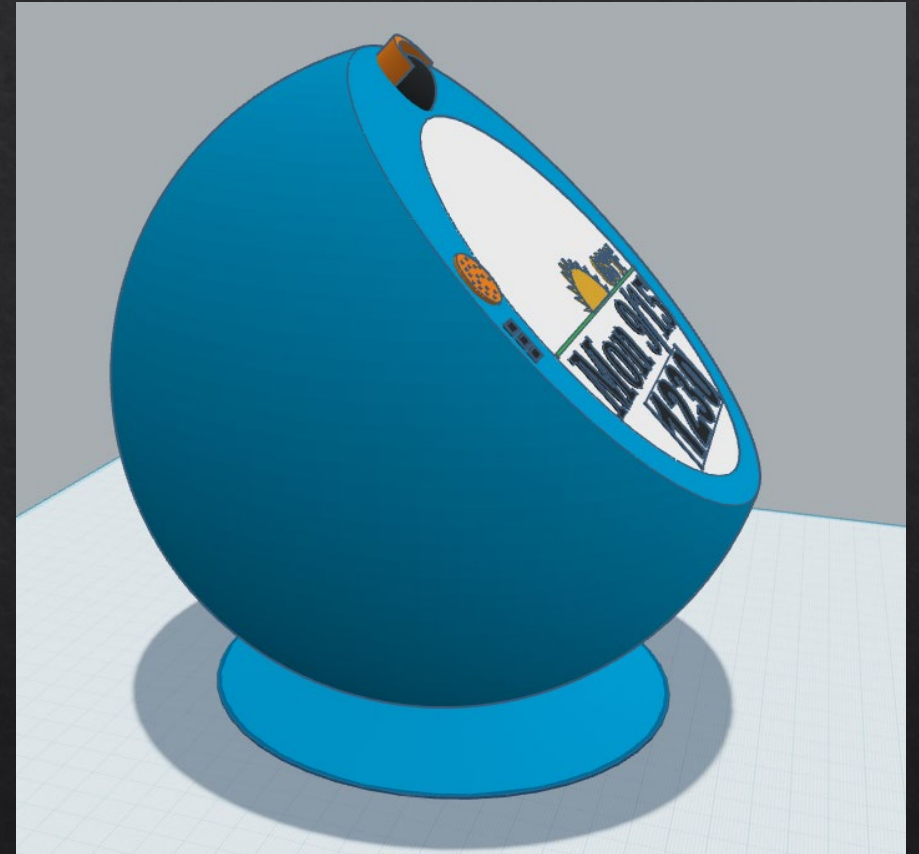


Decision Matrix

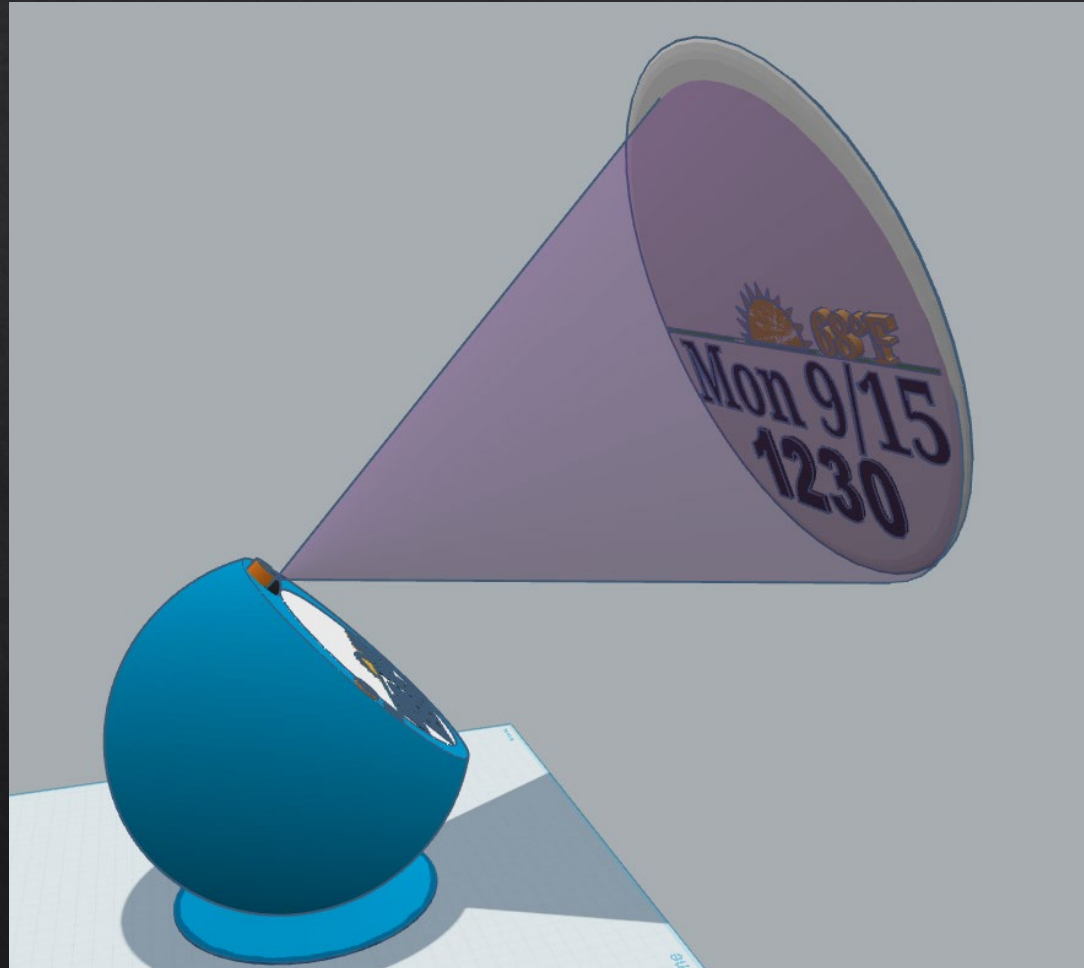
This Decision Matrix was used to narrow down the design choices to Design C who barely came out ahead at a score of 7.84 compared to Design A's 7.68. The largest weight was put on the ability to wake the customer. This makes sense as we are developing an alarm clock for our users. Overall, the Decision Matrix was an efficient deciding tool on what design to use for the final product.

Criteria	Weight	Design A		Design B		Design C	
Ability to wake you up.	0.54	Rating	Score	Rating	Score	Rating	Score
		10	5.4	7	3.78	9	4.86
Innovative Technology	0.18	8	1.44	6	1.08	7	1.26
cost	0.17	2	0.34	4	0.58	6	1.02
Modern Design	0.10	5	0.5	6	0.6	7	0.7
Total			7.68		6.04		7.84

CAD Design



CAD Design Cont



Design Function

- ◆ Design functions in the following ways:
 - ◆ LCD Touchscreen used to set up home screen and alarm functions
 - ◆ When alarm goes off the projector slowly turns on simulating the rising sun
 - ◆ At a set point a user selected sound starts to play waking the customer
 - ◆ Customer then must use the screen to disable the alarm
 - ◆ Alarm Clock will also display and inform the user of today's weather or any information the user prefers the display to show.

Design Meets Customers Needs

- ◆ This Design meets our defined goal and problem statement by developing a product that is:
 - ◆ Far more likely to wake you up from sleep
 - ◆ Wakes you up gently feeling refreshed
 - ◆ Causes you to use your brain to disable the alarm using stimulation and reward of disabling the alarm to start the morning right.
 - ◆ This product overall allows the customer to wake up ready to face the day, and not worry about sleeping through an alarm causing them to be more productive and have a clearer mind during their busy days.

Design Materials

- ◆ Made up of a plastic spherical shell with a rubber bottom for added grip to the surface
- ◆ LCD touchscreen making up the main display
- ◆ Simple projector utilizing a simple lens and bulb design

-Products price point comes out to \$60 USD making it affordable for the customer to purchase

Summary

- ◆ In conclusion these are the following skills I learned during this project
 - ◆ Acquiring an entrepreneurial mindset
 - ◆ How to interview for a product need
 - ◆ How to develop a project statement
 - ◆ Utilizing a Decision Matrix
 - ◆ How to use CAD
 - ◆ How to write a technical document
 - ◆ How to make a presentation