

# MINUTE UTE BOX

FA/YSDN 3010 Winter 2016  
Project 3: Package *RE*design  
Package Design  
Aline Nguyen

# 01 | About Minute Box

## MINUTE BOX

Alarm Clock & Calendar

Minute Box is a multi-purpose alarm clock set designed to help people manage their time. The package includes a retro twinbell alarm clock (available in yellow or black) and nine calendar cards with fun facts about the history of clocks and time. Easy-to-assemble, the package has a second life as a calendar or as storage for stationary items.

### Is it Eco-Friendly? Yes!

Minute Box's packaging is eco-friendly because it does not require one drop of glue to be assembled. Its flat-pack design makes it efficient for shipping and it also has a second life as a calendar/stationary storage box. No waste is produced when converting the Minute Box packaging into a calendar/stationary storage box.

### Available in Two Versions:

#### Red Package:

Includes calendar cards in bright primary and secondary colours and a yellow clock.

#### Brown Package:

Includes calendar cards in monochromatic brown colours and a black clock.



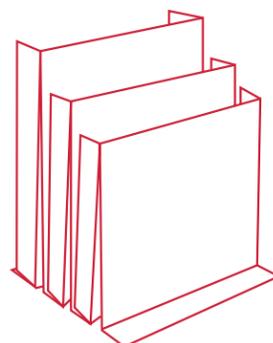
## THE COMPONENTS:



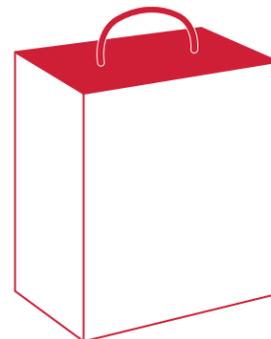
Alarm Clock  
(Black or Yellow)



Calendar Cards  
(Colour or Brown)



Box Divider  
(Brown or Red)

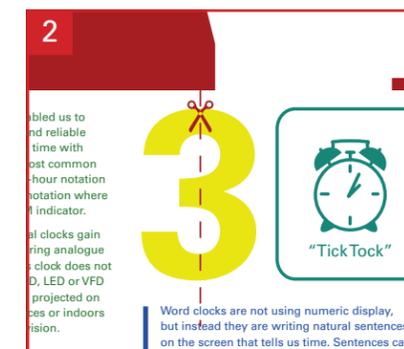


Minute Box  
(Packaging Box)

## HOW TO ASSEMBLE CALENDAR



Remove all contents from package.



Cut incisions where indicated on the box and fold in flaps.



Assemble divider as following.



Slide in the divider with calendar cards in place. Congratulations, You are done!



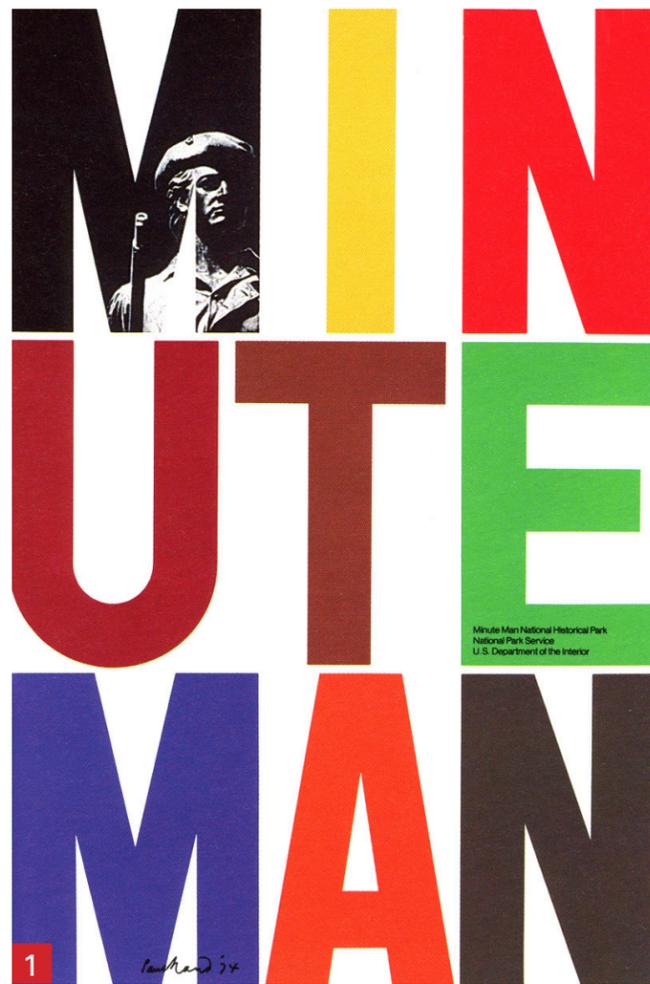
Minute Box ( Brown Version ) Diecut



Minute Box ( Red Version ) Diecut

## 02 | Inspiration

The overall look and mood of Minute Box's design was inspired by the work of Paul Rand and Shigeo Fukuda. Both of these designers are well-known for their distinctive fusion of beauty and utility by merging text and image. I wanted Minute Box to embody the same distinctive style and so I looked at several of Paul Rand's and Shigeo Fukuda's work such as the IBM Logo ( Figure 2 ) and the UCC Coffee Poster ( Figure 5 ) as inspiration. I also found this very charming box ( Figure 7 ) that came with one of my Totoro figurines I bought from FanExpo last year that had a very interesting layout of type to use as inspiration for the layout of type that is patterned around the Minute Box's surface.



### Locking Mechanism Inspiration

One of the challenges of this project is to design a package that is eco-friendly. Minute Box avoids using glue, a highly toxic material that is bad for the environment, by using a locking mechanism borrowed from this Pocky Container ( Figure 8-9 ) that I found at the supermarket.



# 03 | Research

I visited several stationary stores and toy stores to gather research on the different ways existing alarm clocks are packaged. I was surprised to see the variety of colors, shapes, and sizes of clocks that are available. In terms of packaging, majority of these clocks are packaged in a similar manner with just a rectangular cardboard box with a cut out to reveal the face. Usually a pattern of some sort, such as bees or flowers, is used to cover the surfaces of the box. I took this as an opportunity to explore different ways I can utilize this space better.



# 03 | Research (Cont'd)

I continued to visit other stores that sold alarm clocks and I happened to come across a store that sold wrist watches and discovered some very nice displays of very beautiful packaging. I took more photos to use as visual reference and inspiration for Minute Box.



## Brief Clock History Timeline:

### Ancient times

Even though sundials were discovered and initially developed in Ancient Babylon, it was Egypt and Greece where this timekeeping device received the most attention. Sadly after the fall of Roman Empire, sundials and other simple time measuring devices received only limited use. Change came in 12th and 13th century when trade expeditions of early Renaissance brought to the Europe knowledge of Islamic clocks and Chinese intricate water clocks. This provided European inventors with a basis to produce their own improved designs.

### Pre-1600s

Mechanical watches first started appearing in second half of 14th century, but they had a problem of weak power sources – weights. However after the invention of first mainspring in late 1200s and small portable clocks by German locksmith Peter Hele, clocks finally started spreading across Europe. Even though they were had to make, imprecise and easy to break, they created basis for all future watches and enabled spreading of watchmaking industry across the world. After main spring, the most important invention that was made pre 1600s were introduction of gears, which enabled manufacture of much smaller and compact watches.

### 1600-1675

During this time, clocks and watches entered into “Age of Decoration”. They changed very little in the mechanical sense, but their high production cost attracted the attention of wealthy people, nobility and royalty all across the Europe. Extravagant design and use of precious stones and metals made watches desirable object for every person of high status. During that time, Italian custom of separating one day into 24 separate pieces (hours) spread across the world.

### 1675 – 1700

Introduction of Balance Spring (pendulum) finally eliminated one major flaw of watches – low accuracy. With this invention, clocks finally started measuring hours very accurately, and only fractions of minutes become lost to the mechanical inefficiencies. Because of this great increase in accuracy, minute hand finally became standard into all watches. As for fashion, this 25 year period became known as a first time that men

- Tall and slim stone structures whose shadow enabled easy reading of time from circular segmented horizontal disc that was placed on the ground around it
- From it, discovered longest and shortest days (summer and winter solstice), exact point of “midday”, introduced 10 hour daylight system and much more
- 
- Sundials eventually sent to Greece and Rome empires, where they were welcomed and improved dramatically, enabling creation of smaller and portable sundials
- Because of their precision and reliability in sunny weather, remained in use even while Europe was developing mechanical clocks
- When those mechanical clocks finally provided accurate measurements of time, only did Sundials became obsolete for governments and commerce industry (mid 1800s)

## Water Clocks (Alarm clock)

- First mechanical watches used water as their power source
- Even though Greek and Roman engineers tried to perfect this type of clock even in 1<sup>st</sup> millennium BC (Pluto famously created first water based alarm clock), it was Chinese polymath Su Song who devised first mechanical water clock that worked on the principle of escapement.
- Su Song’s water clock never found popularity outside China, but its mechanical engineering proved to be basis for modern European and Islamic clocks created during following centuries

## European Mechanical Clocks

- European mechanical clocks (not powered by water) started appearing in 13<sup>th</sup> and 14<sup>th</sup> century, but weight and complexity made them usable only by scientists who created them
- Moment that finally enabled mechanical analogue clocks to function correctly came with Jacob Zech of Prague in 1525, and were greatly expanded with works of Galileo and Galilei and Christiaan Huygens who introduced pendulum.

## Modern Clock

- Historically speaking, first modern clock created by German inventor Peter Henlein who introduced Spring-driven clock around 1511.
- Henlein’s crude device which often lost several hours over one day of work proved to be instrumental starting point for other inventors, who quickly focused their minds on solving problem of creating small, sturdy, easy to use and most importantly precise clock

### Analog Clocks



Analog clocks are most often using famous clock face - moving hands of hour and minute handles over the arrangement of fixed numbered dials that are placed in a circle that signifies 12 hours of one day. Shorter hour hand can make exactly 2 revolutions in one day, and longer minute hand makes one revolution every hour. Sometimes (but not always) the long but very thin "seconds" hand makes one revolution per minute. Through our

history, clocks briefly used different configurations – 10 hour clock during French Revolution and 18th century Italian 6 hour clock. Both designs were abandoned in favor of standardized 24 hour analog dial.

Sundials can also be considered as analogue clock. With over 5 thousand years long tradition of using sundials (3500 BC – 1850s AD), this type of clock represent the longest lasting clock design of our history. By following sun's shadow that is recorded by sundial's gnomon, but many problems of this clock use are one of the main reasons they are not used today (inability to be absolutely accurate, manual calculation of daylight saving time, seasonal changes, inability to work during night and cloudy weather).

### Digital clocks

Rise of the digital era enabled us to gain access to very precise and reliable electronic clocks that display time with numeric displays. The two most common display formats are 24-hour notation (from 00-23) and in 12-hor notation where clock must also show AM/PM indicator. With each passing year, digital clocks gain ground over slowly disappearing analogue clocks. Display surface of this clock does not need to be inside of small LCD, LED or VFD screens, but they can also be projected on either very large public surfaces or indoors for persons with imperfects vision.

### Electronic Word clocks



Word clocks are not using numeric display, but instead they are writing natural sentences on the screen that tells us time. Sentences can be recorded either via software or with hardware.

### Auditory clocks

Clocks that used recording of human voice or computer generated voice to tell time. Alternatively, instead of voice time can be presented as auditory codes. This type of clocks is often used for announcing time in large areas (church bells that tool specific number of times at the start of each hour), telephony or for blind people.

### Tactile clocks

People with imperfect vision or blindness can also use clocks that are producing physical representation of the numbers on their surfaces, either as standard numbers or in blind text code.

### Multi Display clocks

This type of clock can be either analogue or digital, and their main feature is ability to show multiple time zones, have multiple faces, or use several time standards.

### Sources:

<http://www.historyofwatch.com/clock-inventors/who-invented-clock/>

### How to Make Sundials:

- <https://www.youtube.com/watch?v=lcL2f-KInWI>
- <http://hilaroad.com/camp/projects/sundial/sundial.html>
- <http://www.wikihow.com/Make-a-Sundial>



calendar front + inside

<http://3.design-milk.com/images/2014/12/2015-Cal-Inkello-Matchbook-600x600.jpg>

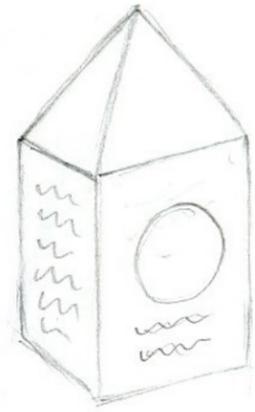
<http://www.creativebloq.com/graphic-design/calendar-design-812541>



[http://s3images.coroflot.com/user\\_files/individual\\_files/original\\_469025\\_E\\_RFJcQZh9Gyonslo0QoKtLrQ.jpg](http://s3images.coroflot.com/user_files/individual_files/original_469025_E_RFJcQZh9Gyonslo0QoKtLrQ.jpg)

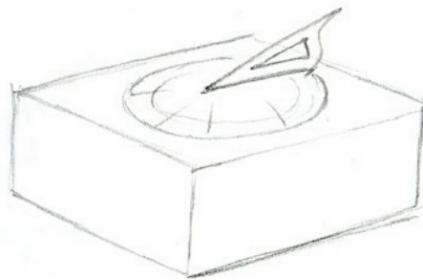
# 04 Ideas & Sketches

I explored several different ideas concerning what is "time" and how we record "time". Most of my sketches are very rough. I am still working on my style of sketching. I also did some additional research on the history of the clock and the calendar.

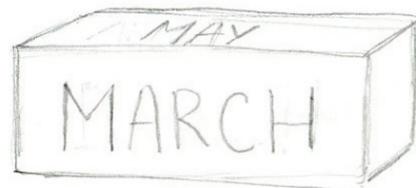
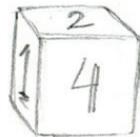
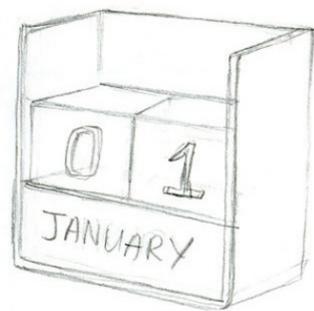


obelisk?

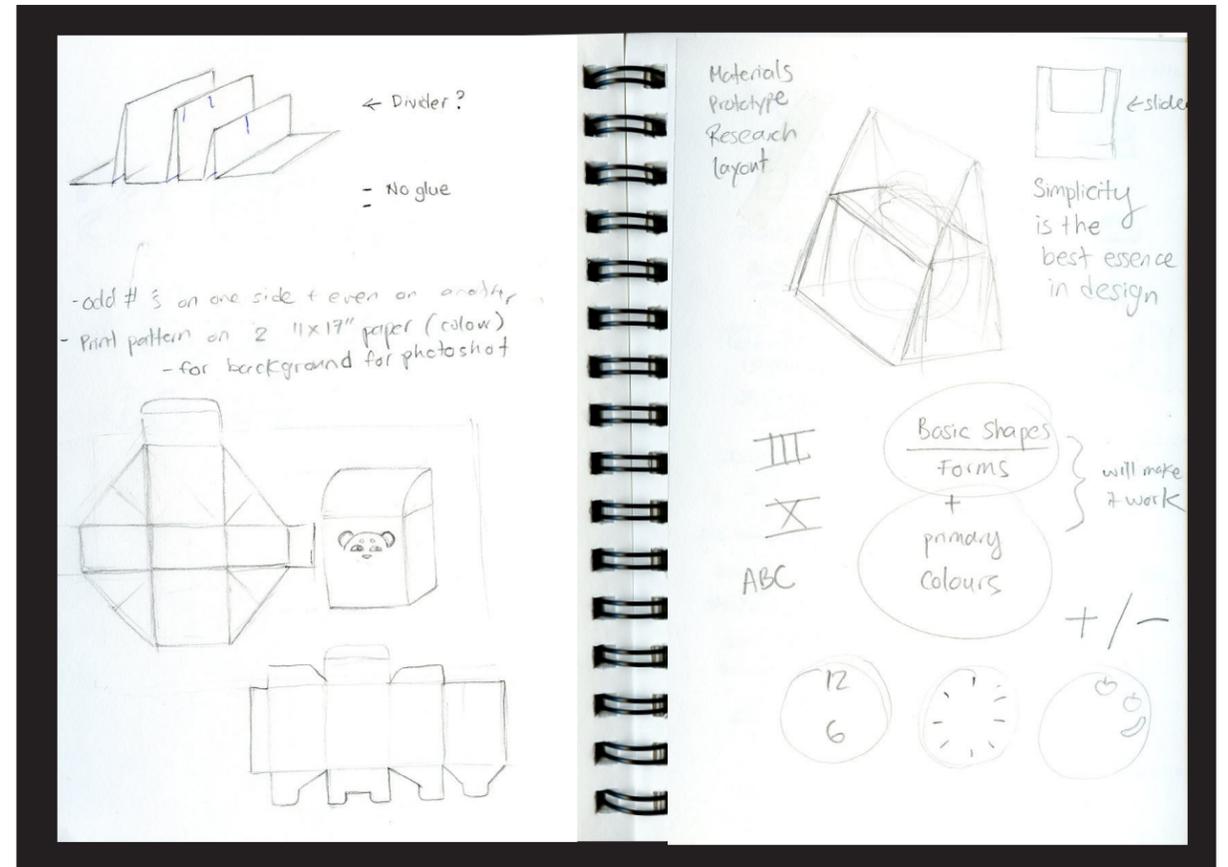
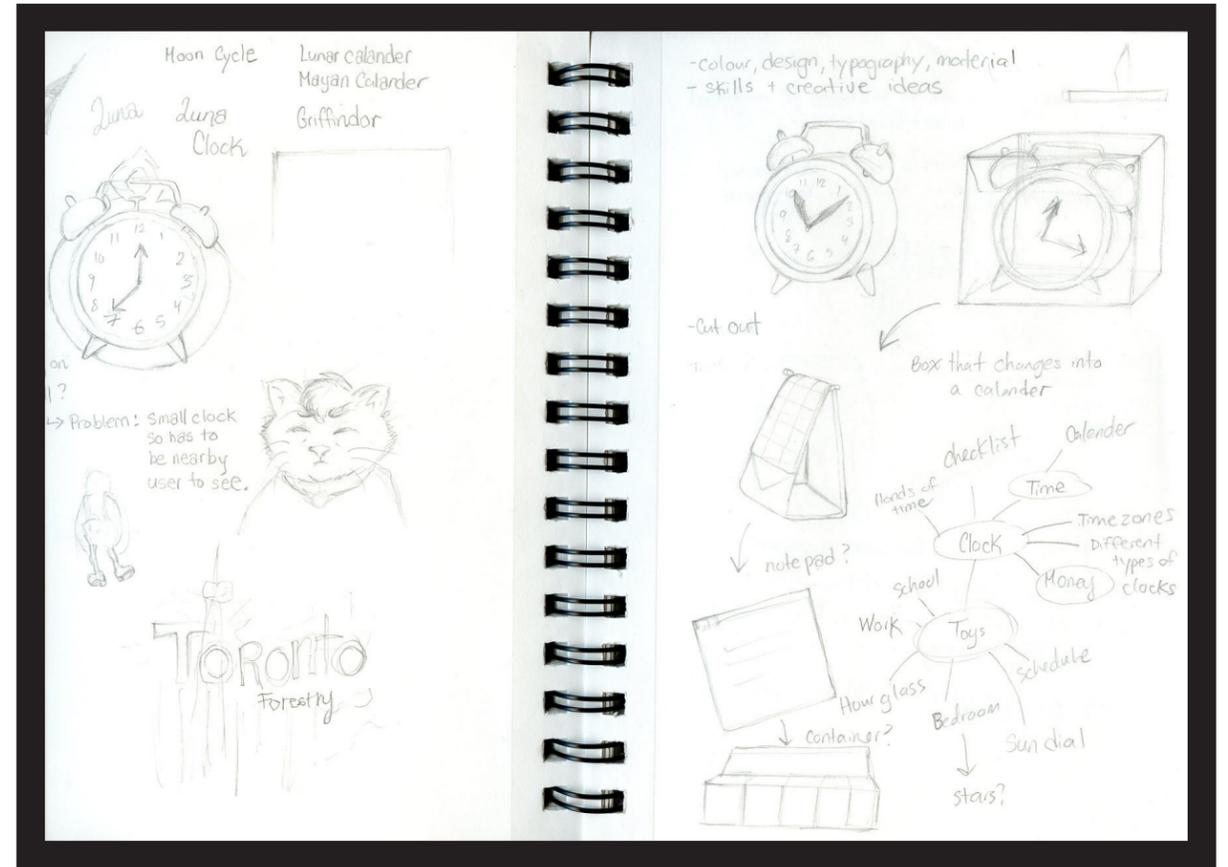
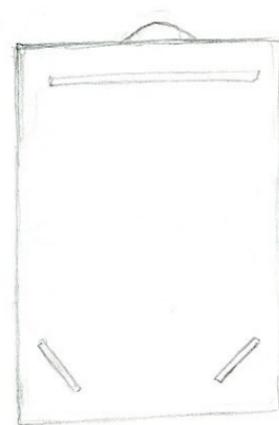
Big Ben?

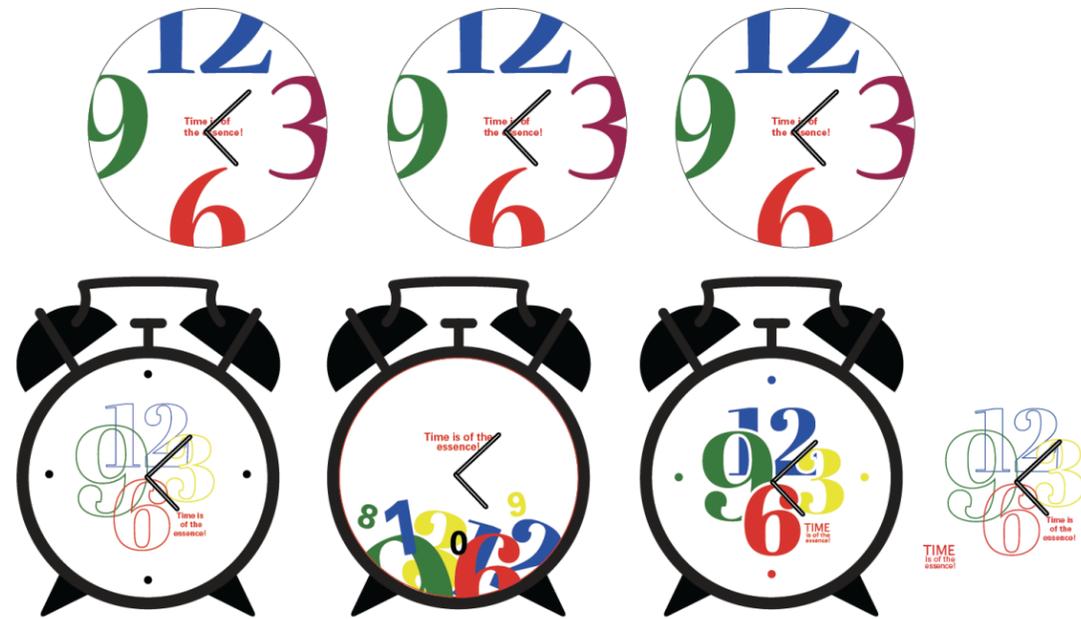


Sundial



- Rough layout  
- Brand name





Wednesday	Sunday	2	2	6	?
Thursday	Vacation Day	3	3	7	?
Monday	Friday	0	0	4	8
Tuesday	Saturday	1	1	5	6

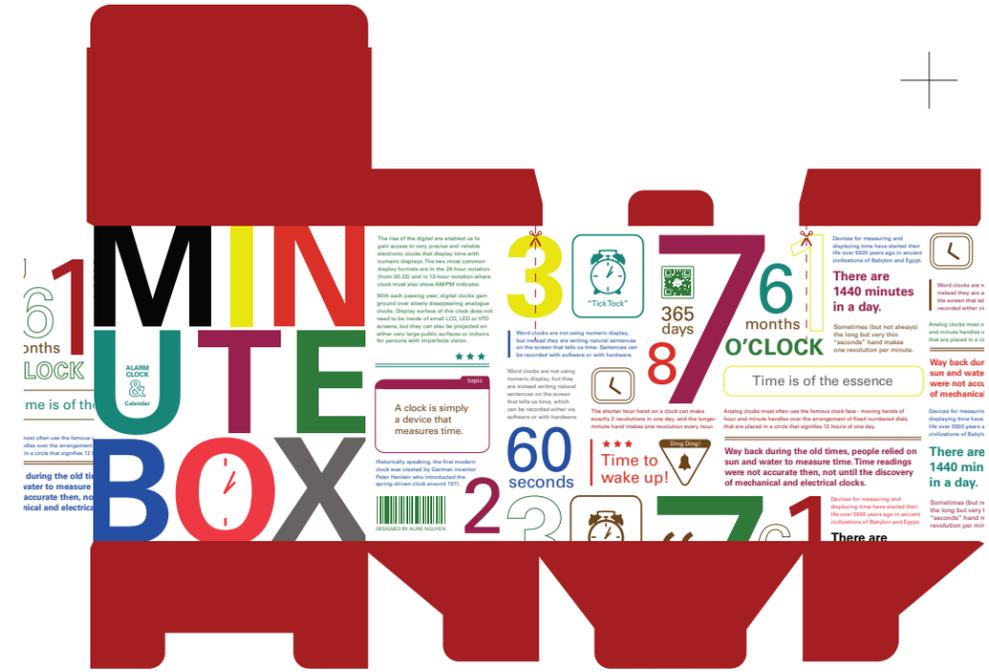
March	July	November
April	August	December
January	May	September
February	June	October

Wednesday	Sunday
Thursday	Vacation Day
Monday	Friday
Tuesday	Saturday

2	2	6	?
3	3	7	?
0	0	4	8
1	1	5	6

Wednesday	Sunday
Thursday	Vacation Day
Monday	Friday
Tuesday	Saturday

2	2	6	?
3	3	7	?
0	0	4	8
1	1	5	6

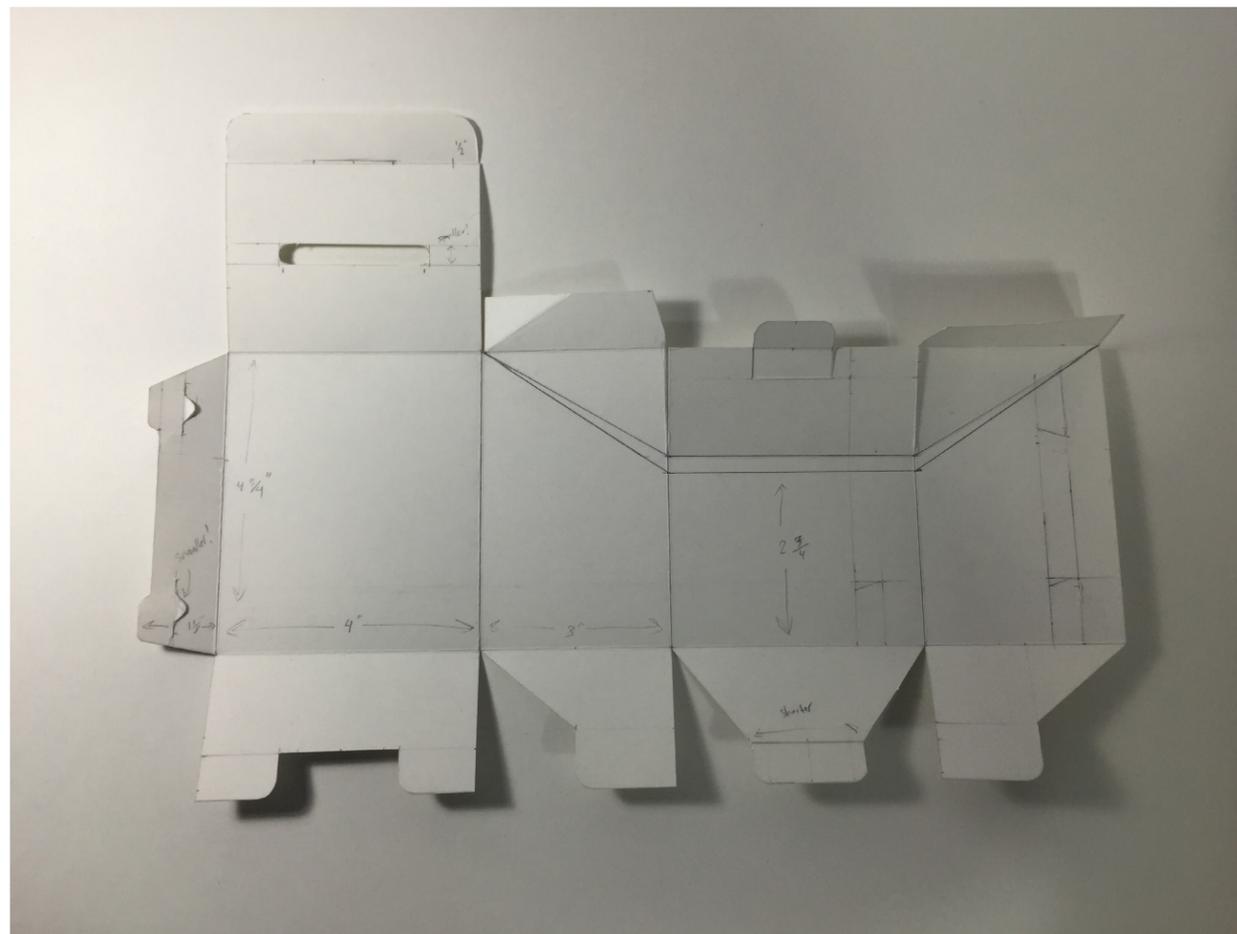




# 06 | The many, many prototypes.....

## Minute Box Alarm Clock & Calendar

I created many prototypes of Minute Box to test what weight of paper, type of paper, and proportions of the box would best suit for packaging my alarm clock and calendar. Ideally, I wanted to use 100 pound paper for my final prototype but due to availability and printing issues, I had to settle for 80 pound paper. My final prototype in 80 pound paper is thinner and flimsier than how it would be if it were in 100 pound.



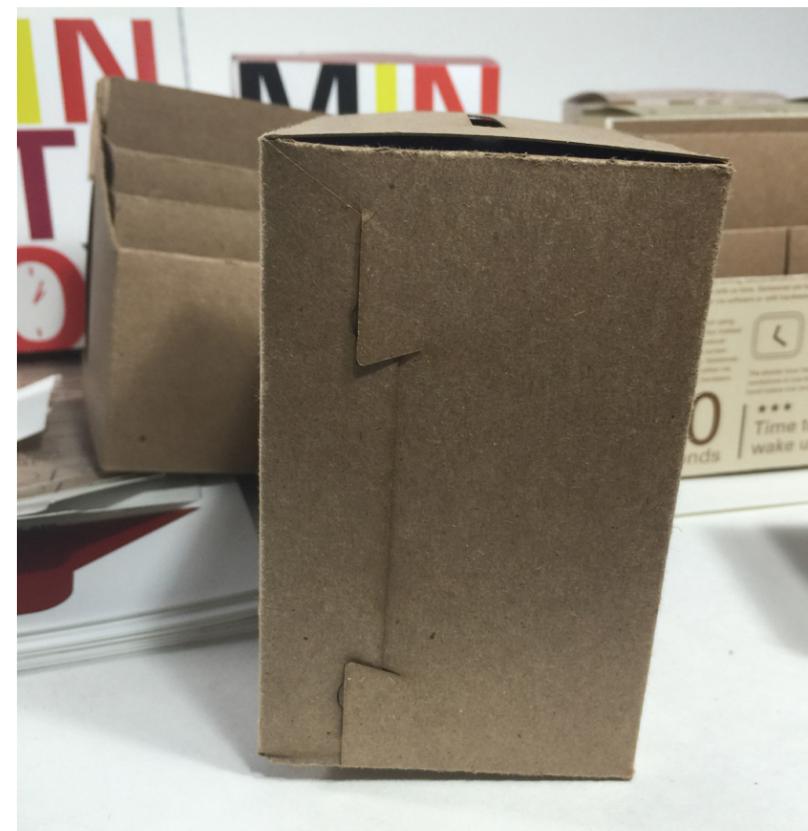
Each prototype is covered with scribbled notes on how to improve the layout and the proportions of the container. I probably made more than 20 prototypes for Minute Box.



The various prototypes from the early stages to the final.

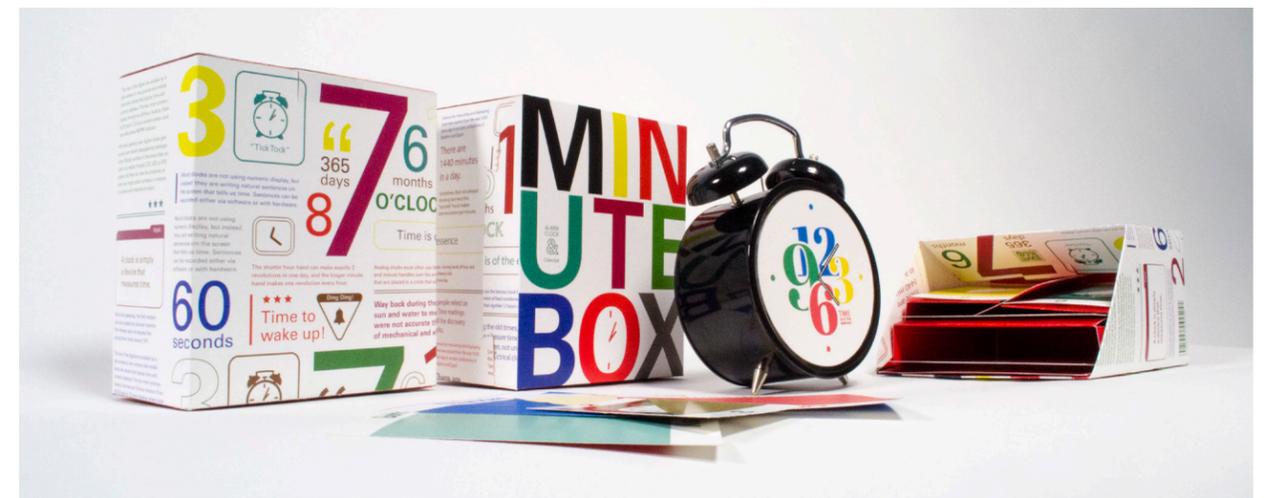
## 06 | Prototypes (Cont'd)

I encountered printing problems on several occasions and many test prints were made to get the colours right.



The locking mechanism of Minute Box underwent several adjustments depending on the weight of the paper used. At first the closing tabs were off by a few millimetres and caused the box to be slightly warped when closed. Thus, I had to go back several times to re-adjust those tab measurements until they fit perfectly without a problem.

Minute Box  
Alarm Clock & Calendar



# 07 | Photoshoot

## Minute Box Alarm Clock & Calendar



