



DCG STUDENT ASSIGNMENT

2023

EXAM NUMBER: 132751

Made on SolidWorks 2020

OUTPUT 1.1

EXAM NO: 132751



Hemispherical Clock

Shape & Form

- Shape: the 2D external form or outline of something.
- Form: the 3D shape and form of an object.
- Older alarm clocks generally have a rounder shape
- Nowadays, alarm clocks can be square, rectangular, or even spherical



Circular/Cylindrical

Materials

- Alarm clocks used to be most commonly made of metal, with a glass face
- Now they come in many different materials
- Alarm clocks can now be made of plastic, wood, or even entirely of glass
- This affects their aesthetic and durability



Plastic Clock



Wooden Clock



Glass Clock



Metal Clock

Analogue

- "Analogue, aka mechanical, clocks use moving hands to indicate the current time" – sciencing.com
- Analogue clocks generally only show time and only in 12-hour format, by means of 3 or 4 hands that rotate around the face
- The first clocks were powered by many interlinking cogs that moved the hands
- However nowadays, they can be run by electricity through a cable, batteries or solar panels

Digital

- "This type of clock shows numbers to display the time in a digital format... This can be in both 12 and 24-hour formats" – twinkl.ie
- Digital alarm clocks are run mainly by electricity but can also be powered by batteries
- Most digital clocks show more stats than just time, and don't have hands
- They can also show date and time of alarm







EXPLORATION OF BRIEF

Brief

Bedside alarm clocks are primarily designed to wake people from their sleep at a particular time. They come in **analogue**, **digital** and more recently in **smart form**. Their **shape and form** is underpinned by a wide variety of **geometry** and they are available in a range of **materials** and **colours**. Some alarms clocks can be turned off in **innovative** ways. Design features of a bedside alarm clock may include **time display**, **snooze buttons**, **programmable alarm options**, **Bluetooth**, etc.

(a) Carry out a design investigation of existing bedside alarm clocks in **graphical format**. Your investigation should include an analysis of physical forms and shapes, geometry, materials, innovation, etc.

and

(b) Show **graphically** how you would physically modify a chosen bedside alarm clock to improve its overall design.

or

Develop and graphically communicate a new concept design for a bedside alarm clock based on a selected theme or target market.







Smart

- "A wireless clock connected to the internet for time and information" - encyclopedia2.thefreedictionary.com
- Smart alarm clocks are very modern and have plenty of useful features
- Their face usually displays the time in digital format
- They can show temperature, weather, weather forecast, humidity, date and more
- Some smart alarm clocks can also be used to control your thermostat

Soldier-Shaped Clock



Geometry

- This refers to the shapes that make up the design
- Alarm clocks can now be made in any shape you want
- They can be made to look like cartoon characters, figurines and bikes, for example
- This influences their aesthetic and appeal to target markets



Bike-Shaped Clock



Number-Shaped Clock

Rooster Clock



Innovation/Novelty

- Alarm clocks now come with innovative ways to turn them off
- They can be designed to force you to get out of bed, waking you up thoroughly
- Some alarm clocks have wheels and roll around the room when they go off
- Others have a propeller blade that allows them to fly around the room
- Many have uniquely shaped snooze buttons and different sounds to wake you up



Flying Clock



Transforming Clock



Coloured Face



Coloured Cases

Colours

- Colour affects the aesthetic and appeal of alarm clocks
- They are available in a wide variety of outer case colours and face colours
- This allows people to pick their preference and gives them options

OUTPUT 1.2

EXPLORATION OF BRIEF

EXAM NO: 132751

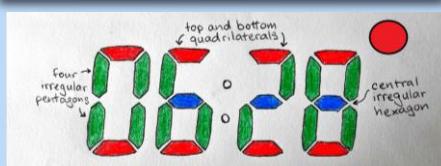


Projected Digital Display



Time Display

- The manner in which the time is displayed is very important and now comes in many different forms
- There was originally just an analogue display with rotating hands to show the time
- Now there are also digital displays in a variety of colours
- Some smart alarm clocks can digitally display an image of an analogue face
- Others can even project the time onto the ceiling
- The numbers on digital clocks are all formed from a series of irregular hexagons



Digital Display Sketch



Analogue Displays

Electrohome
Since 1907

iHome™

SonicAlert

Popular Brands

- Sonic Alert
- AcuRite
- Philips
- Electrohome
- Sony
- iHome

ACURITE

PHILIPS

SONY



Radio Clock

Colour-Projecting Clock



Time Projector with USB Ports and Music Streaming



Smart Display with USB Ports

Features

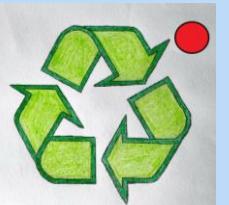
- Alarm clocks can have a wide variety of extra features
- They provide aesthetic value, convenience and sometimes humour
- Many digital alarm clocks come with USB ports or a radio
- Other have charging ports (wired and wireless), colour/time projectors and customisable backgrounds
- They can display not only time, but also temperature, humidity, radio station, and many other values

This clock is recycled from a computer motherboard



Environmentally Friendly

- In recent years many alarm clock manufacturers have tried to make their products in ways that negatively impact the environment as little as possible
- This can be done through using recycled metals and plastics, reducing energy consumption and increasing durability
- There are options to decrease the brightness, lower the volume and switch between a power cable and battery for both analogue and digital clocks
- Old clockwork alarm clocks with a wind-up mechanism don't use any batteries or electricity, and so are very environmentally friendly



Twistable Dials on Analogue Clock



Dials and Switches on Analogue Clock

Programming Options

- All alarm clocks come with the option to set the time that you wish to be woken up
- Analogue alarm clocks can be adjusted using little dials on the back that control the current time and alarm time
- Digital clocks can be programmed using buttons on the top, back or sides
- Some alarm clocks have a touchscreen face, where you can modify settings such as brightness, volume and display colour
- Nowadays you can also customise the sound of the alarm's ringing. Options include songs, tones, nature sounds and many more

Digital Programming Buttons



Programmable Screen Brightness



Analogue Snooze Button



Digital Snooze Button

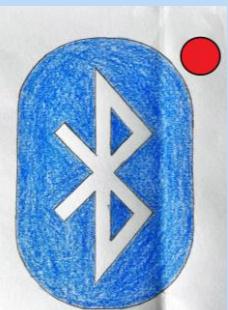


Rolling Snooze Button



Snooze Buttons

- Older twin bell alarm clocks could be turned off by winding the time forward
- Modern digital clocks or even some analogue clocks have a bar or button on top that temporarily stops the alarm
- Newer smart alarm clocks have touchscreen buttons for snooze, either on the face or the top
- As mentioned before, some alarm clocks are designed to move around the room, forcing you to get up to press the snooze button



Bluetooth

- Modern alarm clocks can be paired with mobile devices wirelessly via Bluetooth
- They can display stats from the phone, such as battery percentage and notifications
- They can also act as Bluetooth speakers, streaming music from your phone
- Many of these clocks with Bluetooth connectivity can also wirelessly charge your phone

OUTPUT 1.3

DESIGN FEATURE COMPARISON

EXAM NO: 132751

Shape & Form

- This clock has the typical shape and form of an analogue “bell and hammer” alarm clock
- The face is circular, as is most of the clock, and the general body is based on a cylinder
- The bells are hemi-spherical in shape, and are secured by bolts made up of hemispheres and hexagonal prisms



Dimensions

Diameter: 51mm
Depth: 18.9mm
Height: 78.5mm

Aesthetics

- The clock has an appealing design, with a silver metal outer casing and a cartoon image of an M&M character behind the hands
- The colours and pictures are vibrant and suitable for all ages
- The M&M design would most likely appeal to children or those who like the chocolates

Time Display

- The time is displayed in 12-hour analogue format
- The current time is shown by 3 metal hands, while a fourth hand displays the alarm time
- The numbers 1 to 12 are part of the picture on the face
- The numbers form a circular rotating pattern around the face, similar to the Roberts Clock’s rotating dials



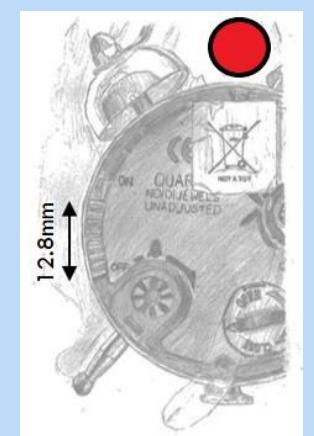
M&M Analogue Clock

Details

- It's an M&M-themed analogue alarm clock from M&M World in London
- It's powered by a battery in the back
- Price: €14.95

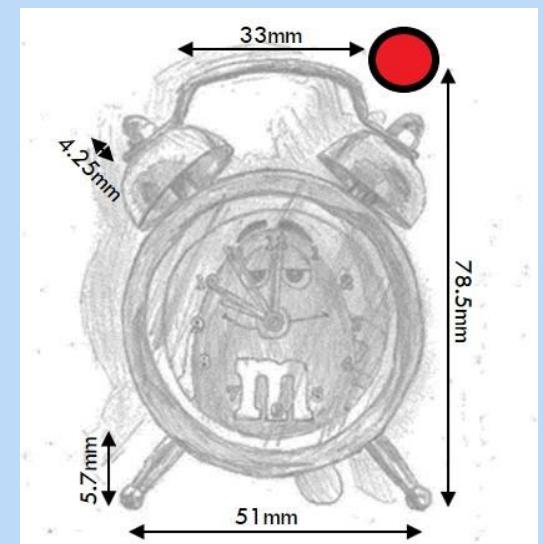
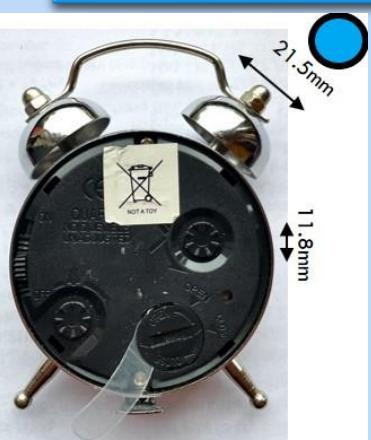
Snooze Button

- The alarm rings from an electronic speaker inside the clock
- It can be turned off or snoozed by an “ON/OFF” switch on the back
- The switch also rotates a certain distance, like the Roberts Clock’s dials
- Although it's less accessible, it would force you to get up and turn off the switch, hence more effective in waking the user



Features

- As with most analogue alarm clocks, this one doesn't have extra features, unlike the Roberts Clock
- It can simply display the time and be used as an alarm to wake you up in the morning
- You can adjust the alarm time and current time via two dials on the back
- The dials are circular and rotate similarly to the Roberts Clock



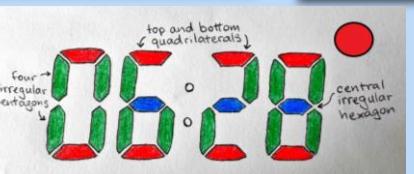
Roberts Digital Clock

Details

- Brand: Roberts
- Model: ChronoLogic VI
- Power consumption: 5.5W
- It can be powered by either electricity through a power cable, or by a battery
- Price: €29.95

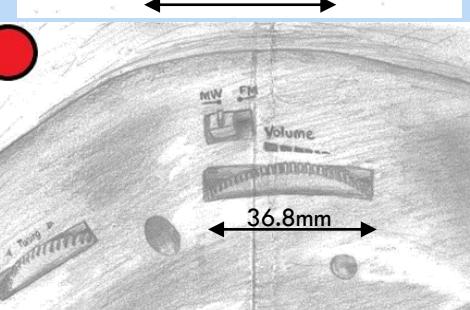
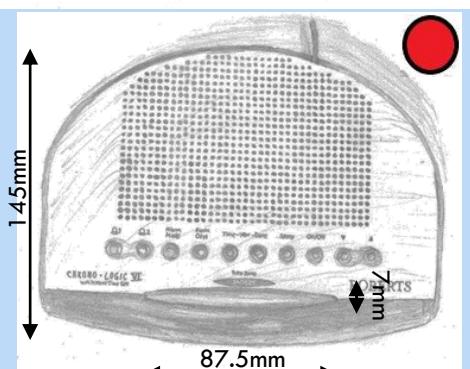
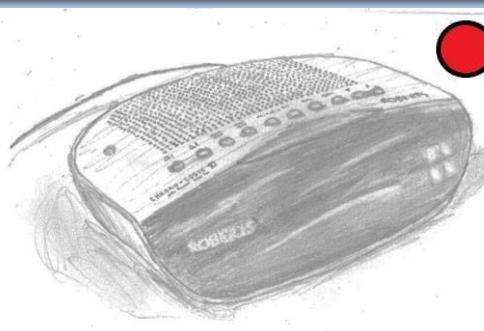
Snooze Button

- The ringing sound of the alarm comes from the many speaker holes on top
- It can be “snoozed” via a large button along the top of the clock
- It's the biggest button on the clock, providing easy access for when you're tired in the mornings yet is less effective in waking the user
- The snooze button is elliptical in shape



Time Display

- This clock is digital so the time is displayed on a rectangular screen in the front
- It's shown in LED digital format and the numbers are green, this makes it easier to see
- The numbers are all formed from a series of irregular hexagons
- Visibility is enhanced further by the light emitted by the display, which is useful at night when it's dark



Features

- Being digital, this alarm clock has many more features than the M&M one
- It has an FM radio that receives signal via an antenna in the back, with dials to control the frequency that rotate like the analogue clock's hands
- It can display the date as well as the time
- There are different alarm options and modes to choose from
- There is a headphone port in the back to listen to the radio without disturbing others, making it more modern than the M&M Clock

Final Decision

In the end, I chose the Analogue M&M Clock as my final existing artefact. I found it to be more challenging, more aesthetically pleasing in shape and design, and a more effective alarm than the Roberts Clock.

Shape & Form

- This clock has quite an irregular yet sleek shape and form, composed mainly of irregular rectangles
- The front outline is made up of a rectangle with rounded edges, unlike the circular theme of the M&M Clock
- This theme carries on into the form, where it resembles a round-edged cuboid
- The buttons and speaker holes are circular and form similar linear patterns

ROBERTS

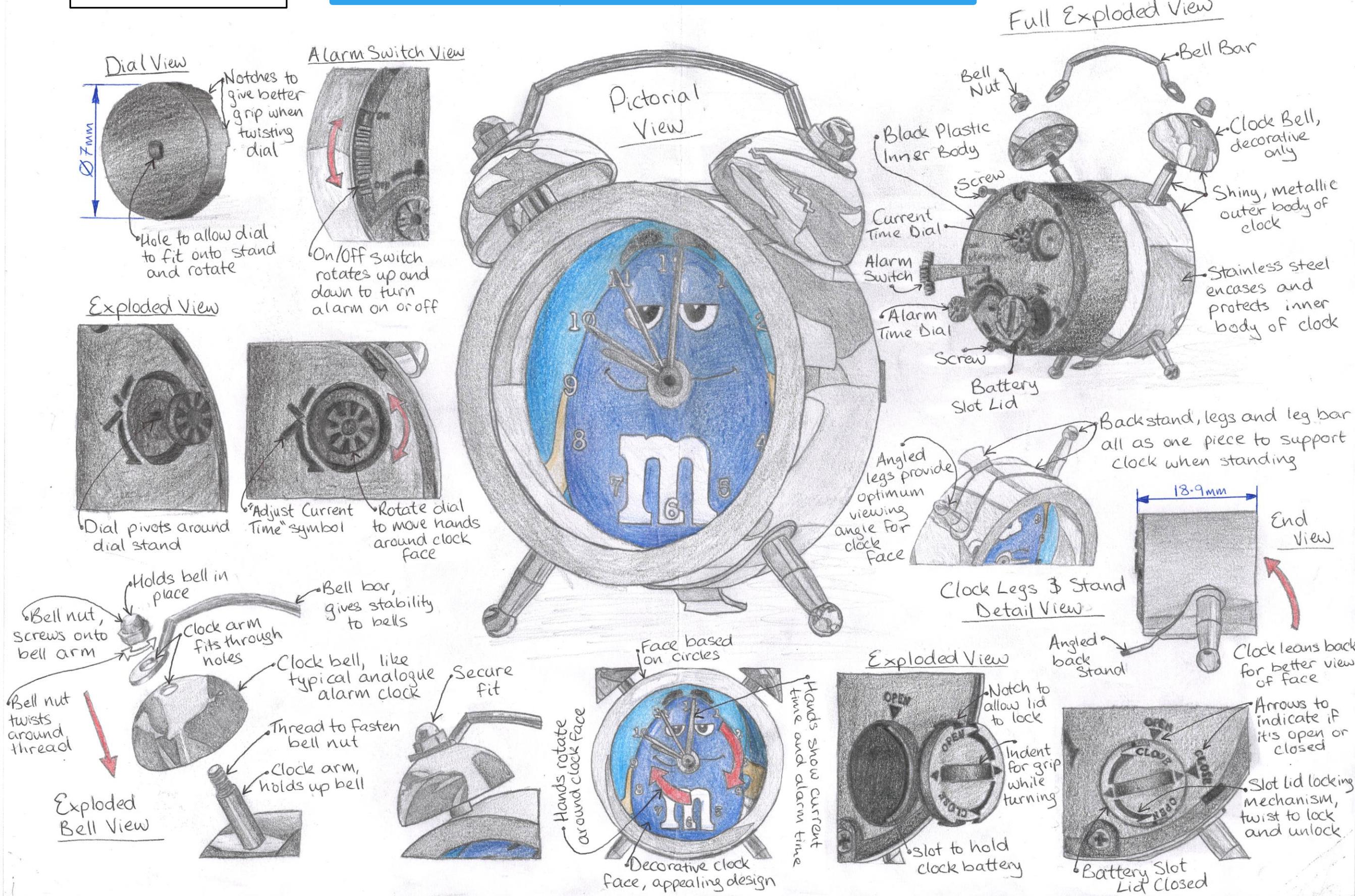
Dimensions
Width: 175mm
Depth: 145mm
Height: 60mm

- ### Aesthetics
- This clock is generic and quite dull in appearance
 - It's white, grey and black, keeping to neutral colours
 - Unlike the M&M Clock, it has no particular appeal to a specific target market

OUTPUT 2

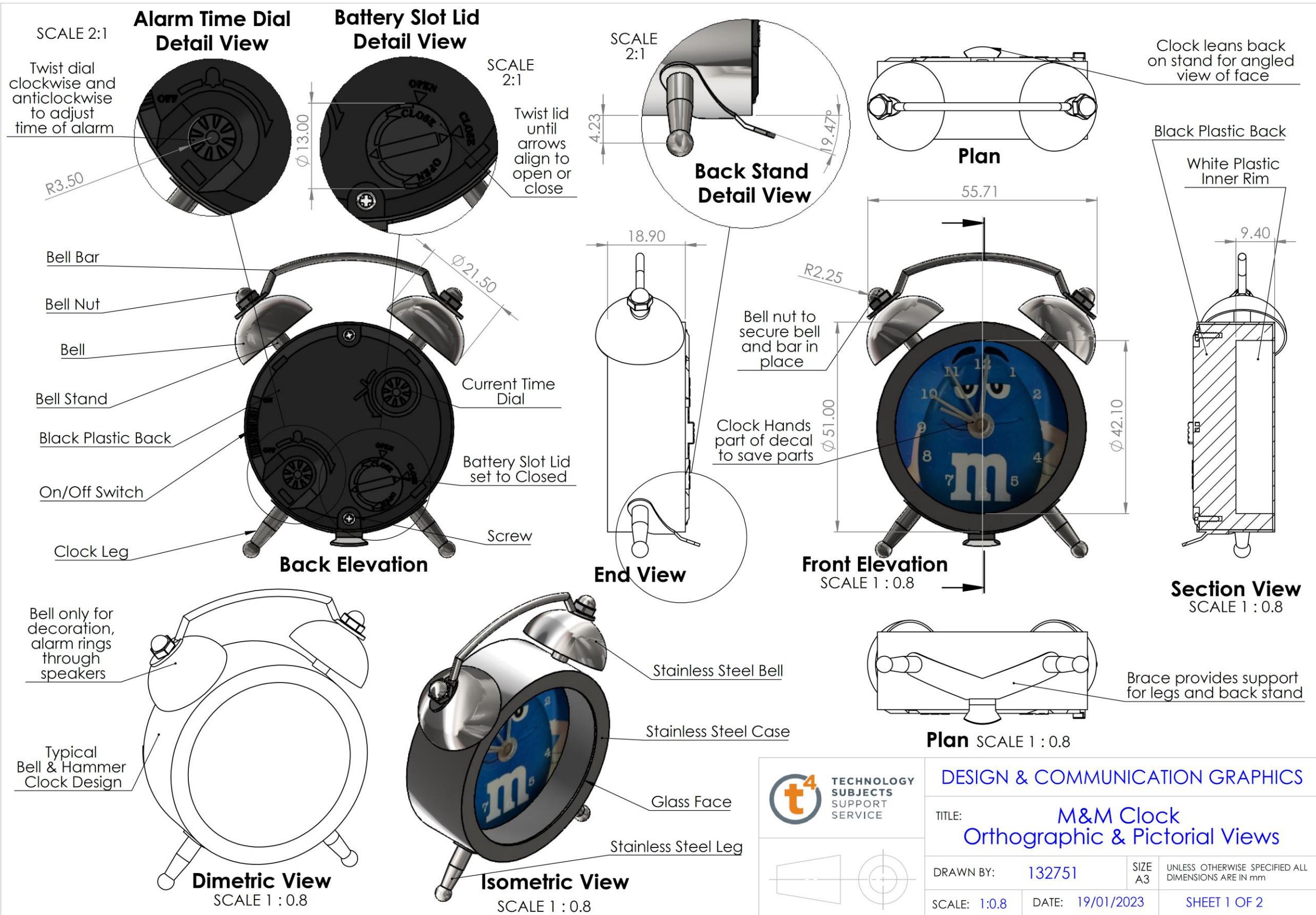
GRAPHICAL REPRESENTATION

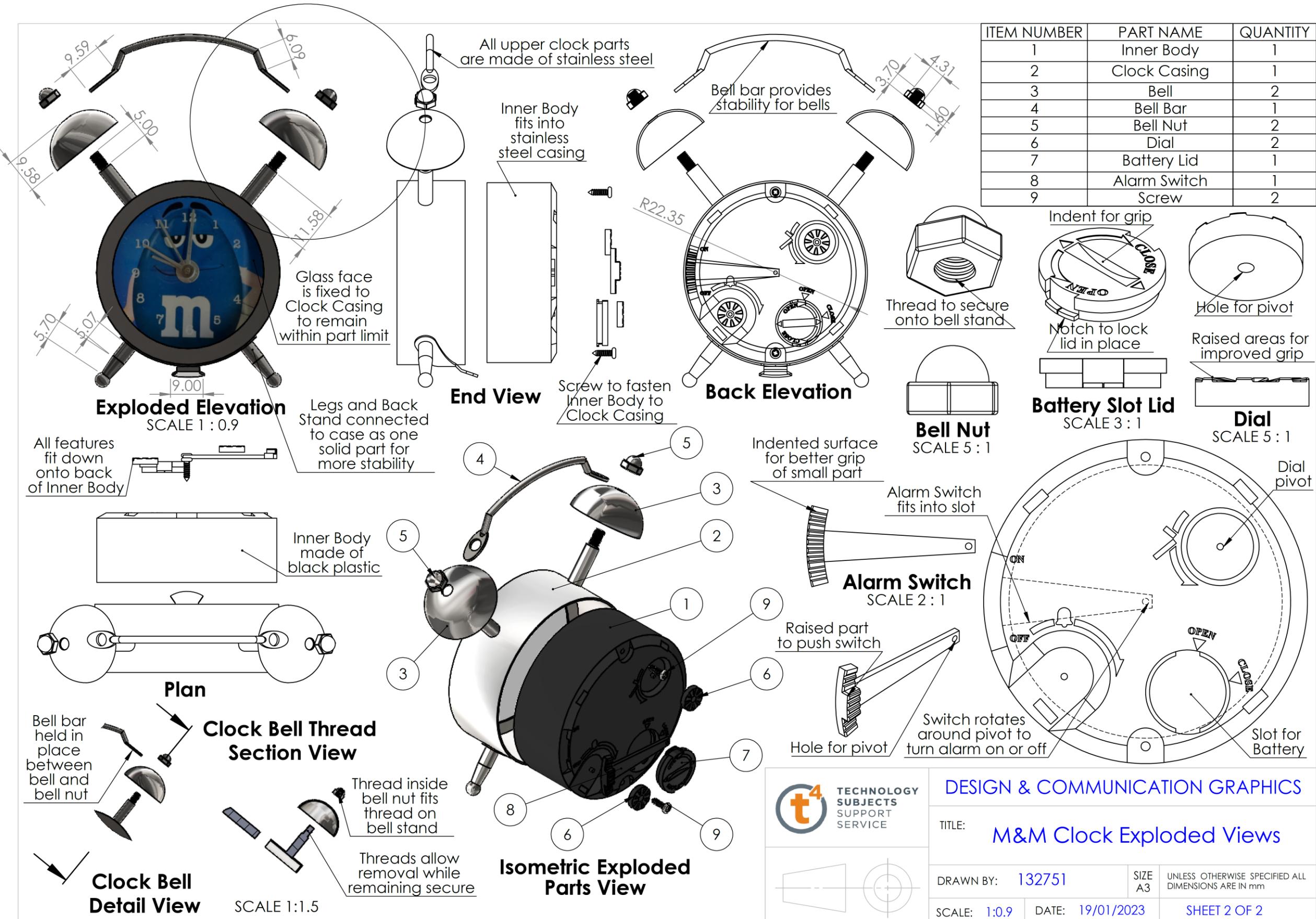
EXAM NO: 132751



OUTPUT 4.1

SOLIDWORKS HARDCOPY OUTPUT

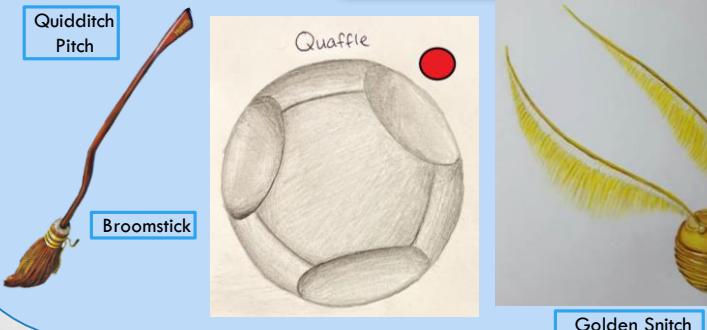




EXPLORATION OF DESIGN SOLUTIONS



Quidditch Pitch



Quaffle

Golden Snitch

Flying Ford Anglia

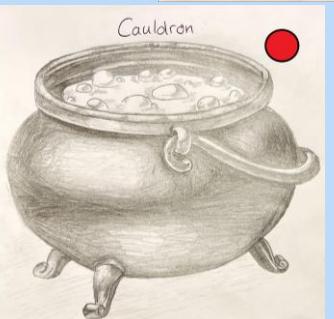


Pensieve

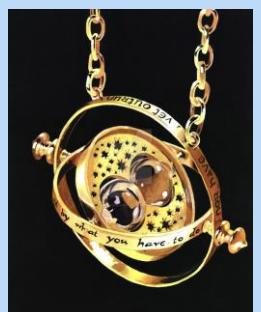


Magical Objects

- Magic is obviously at the centre of the Harry Potter franchise
- Magical objects are seen in every corner of the Wizarding World, with many different functions
- Many are as detailed and intricate as magical creatures, hence presenting a great challenge in terms of design
- However they are an integral part of the world of Harry Potter and can therefore not go unmentioned. For example, objects like the Time Turner and the Flying Ford Anglia are made up of complicated shapes and multiple tricky little parts
- On the other hand, simpler shapes can be found in Harry Potter's cauldrons, potion vials, crystal balls and Remembralls. They're all based on circles and spheres which I find much easier to work with and much more visually appealing.



Potion



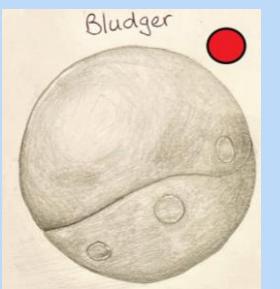
Time Turner



Remembrall



Bludger in Use



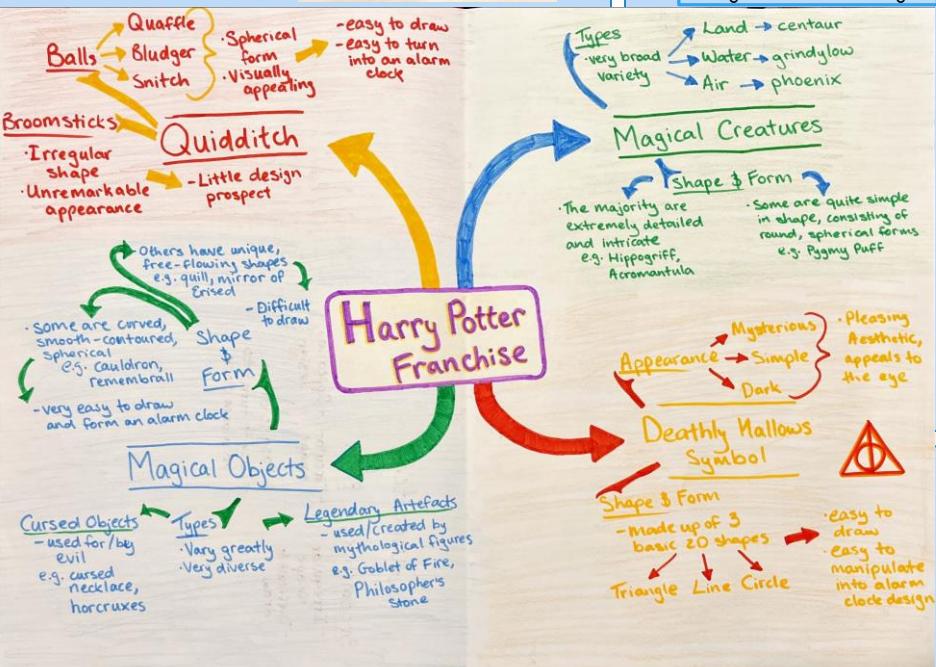
Bludger



Salamander



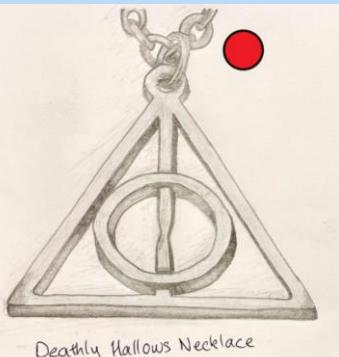
Hungarian Horntail Dragon



Niffler

Thstral

Pygmy Puff



Deathly Hallows Necklace



Elder Wand

Resurrection Stone

Deathly Hallows Symbol

- Like the Golden Snitch, the Deathly Hallows symbol is another well-known logo associated with the Harry Potter franchise
- It has incredible importance in the last few films and appears very often
- I like the symbol for its simplicity in terms of shape. It's made up of three basic shapes; a triangle, a circle and a vertical line.
- Each shape represents a powerful magical object. The triangle stands for the Invisibility Cloak, the circle is the Resurrection Stone, and the line is the Elder Wand.
- A 3D version of the design is seen in the background of one of the films, hence being composed of a pyramid, a sphere and a cylinder. This brings more difficulty to the design, adding to its aesthetic whilst still remaining relatively uncomplicated.

Theme

I chose the Harry Potter Franchise as my theme. I've always loved the world of Harry Potter in the books and films and found this theme to be very broad and diverse. There are so many possible design ideas and I knew that I would enjoy researching a topic I'm actually interested in.

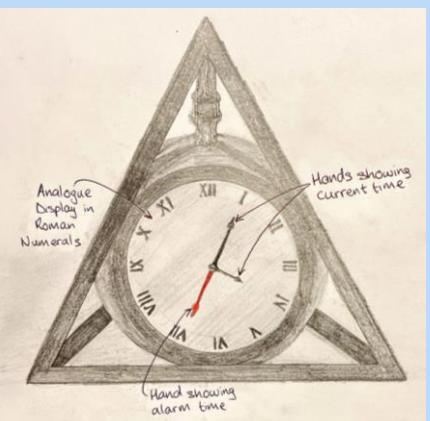
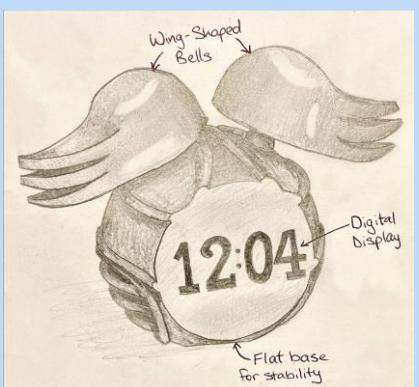
Possible Design Solutions

**Crystal Ball Alarm Clock**

- My first design solution was based on the crystal balls used in divination classes in Harry Potter's school, Hogwarts
- The time is displayed digitally on the face of the crystal ball
- Three buttons on the base are used to control the current time, alarm time and snooze
- I found this design very elegant and visually appealing
- However the elephant designs on the base are quite complex and would be very challenging to model

Golden Snitch Alarm Clock

- My second design idea was a Quidditch-themed alarm clock in the shape of a Golden Snitch
- Like the crystal ball clock, this one has a digital display on the front
- I modified the shape of typical alarm clock bells to resemble the wings of a Golden Snitch
- The clock would be flat on the bottom to allow it to stand on its own
- This design is just as pleasing to the eye as the previous one
- But it's also far less complicated whilst still presenting a challenge

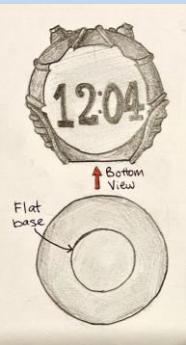
**Deathly Hallows Alarm Clock**

- My third solution involved the Deathly Hallows Symbol from the final few books of the Harry Potter series
- I took the 3D replica seen in the background of one of the films and put an analogue clock face in place of the sphere
- The time is displayed in Roman Numerals, with two hands for current time and one for the alarm time
- The design is perhaps too simple, being made up of only basic shapes; a pyramid, a sphere and an irregular cylinder
- It also lacks the aesthetic appeal of the other two solutions

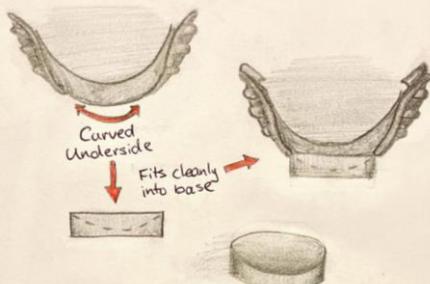
Chosen Design Solution

- I decided to go with the Golden Snitch design
- I felt it was most balanced in terms of level of difficulty to draw and model, and level of visual appeal
- However, changes needed to be made in order to comply with the design brief

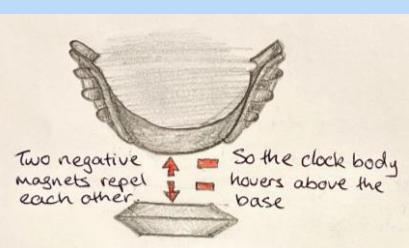
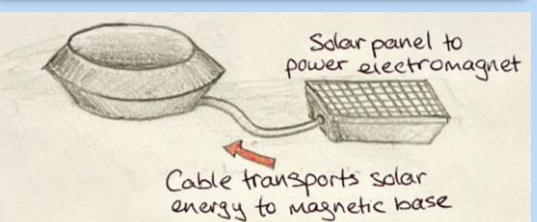
Development of Chosen Design



I had initially planned on allowing the clock to stand on a flat face on its underside. But I later decided that I preferred to fit it into a little concave dish and keep its rounded form. This helped to improve the alarm clock's stability.

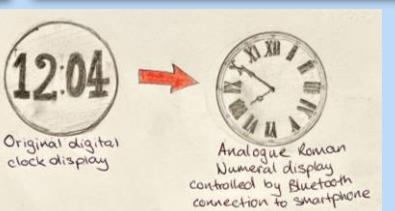
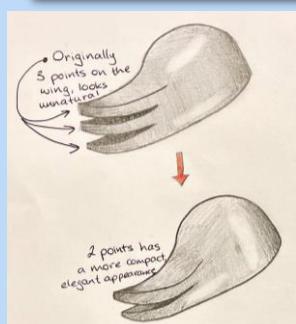


This base's resemblance to a UFO reminded me of Maglev train systems. According to Wikipedia, "Maglev (derived from magnetic levitation), is a system of train transportation that uses two sets of electromagnets: one set to repel and push the train up off the track, and another set to move the elevated train ahead".



With the recent talk of climate change and pollution, I wanted to power my electromagnets as cleanly as possible. My first idea was to attach a solar panel to the base using a cable. However I found this unoriginal and unsightly.

Instead, I chose to attach a solar panel to the sloped top surface of the base. It looks sleeker and more compact whilst also eliminating unnecessary hassle. The upward-facing direction of the solar panel would also be more effective in absorbing sunlight.

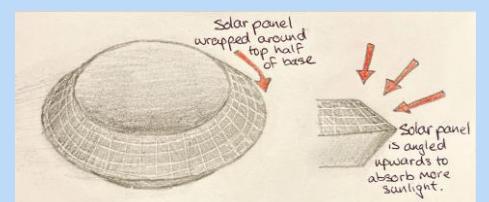


Lastly, I wasn't satisfied with the appearance of the wing bells. I thought the three-pointed wing looked out-of-place and unrealistic. So I reduced it to only two points, which fitted much better with the design.

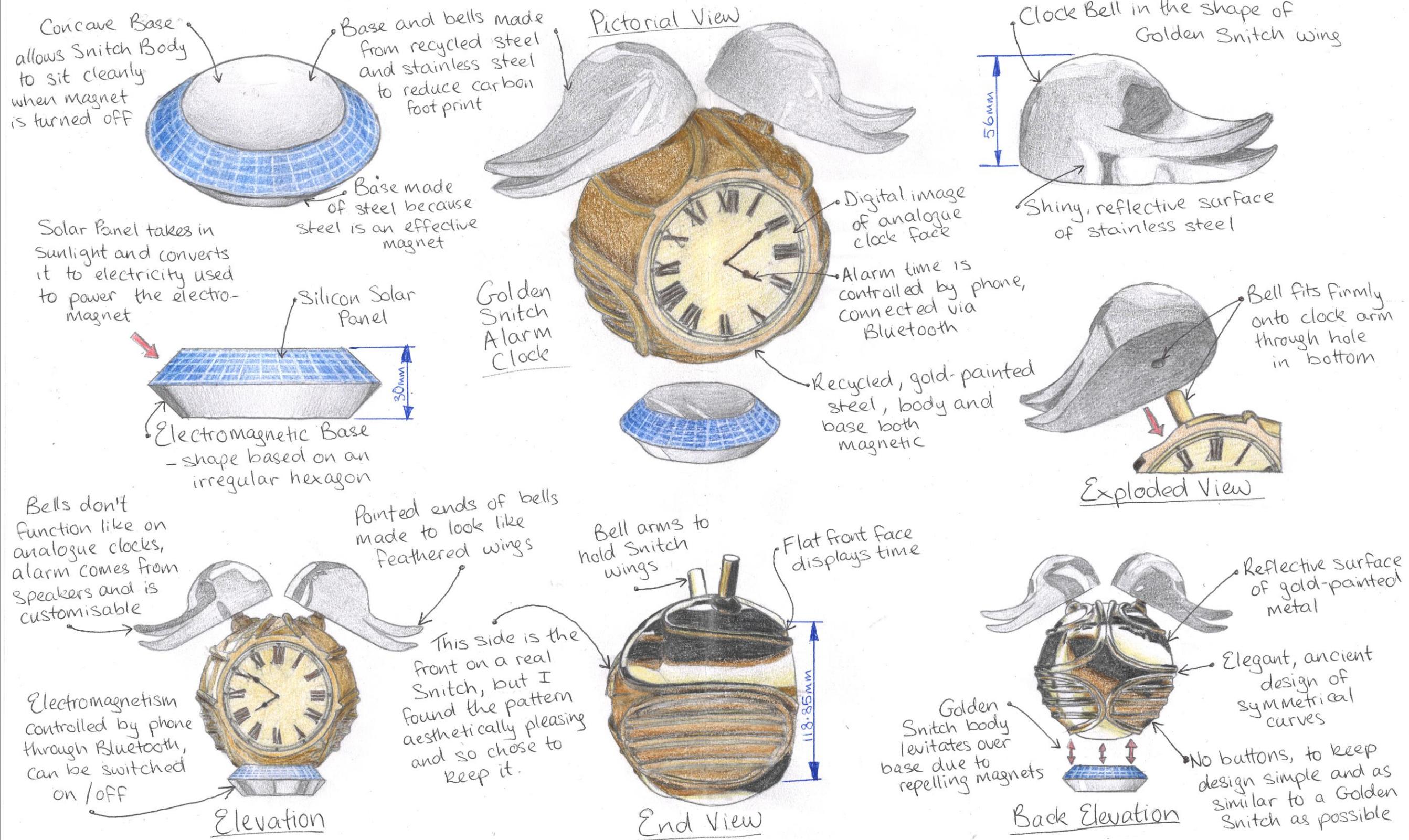
I found my original dish-shape too simple and instead developed a base with sloping edges, similar to a UFO. The elevation of this design consists of an irregular hexagon. I like the distinctiveness of this shape much more.

I took this idea of repulsive electromagnets and incorporated it into my design.

Both the clock body and base would be made of magnetic metal of the same magnetic charge. This way, the magnets would repel each other and the snitch body would levitate above the base, looking as if it were flying just like Golden Snitches in the films.



I felt that the clock's digital display didn't match its old-fashioned aesthetic. I therefore changed the face to a more suitable analogue display in Roman Numerals, like the Deathly Hallows Alarm Clock. The face would still be digital though, as the display would simply be an image of an analogue clock. The clock can be connected to a smartphone via Bluetooth, where features such as current time, alarm time, alarm tone and electromagnetism can be adjusted or toggled on/off. I decided to use a decal for the face in SolidWorks to save time and unnecessary hassle.

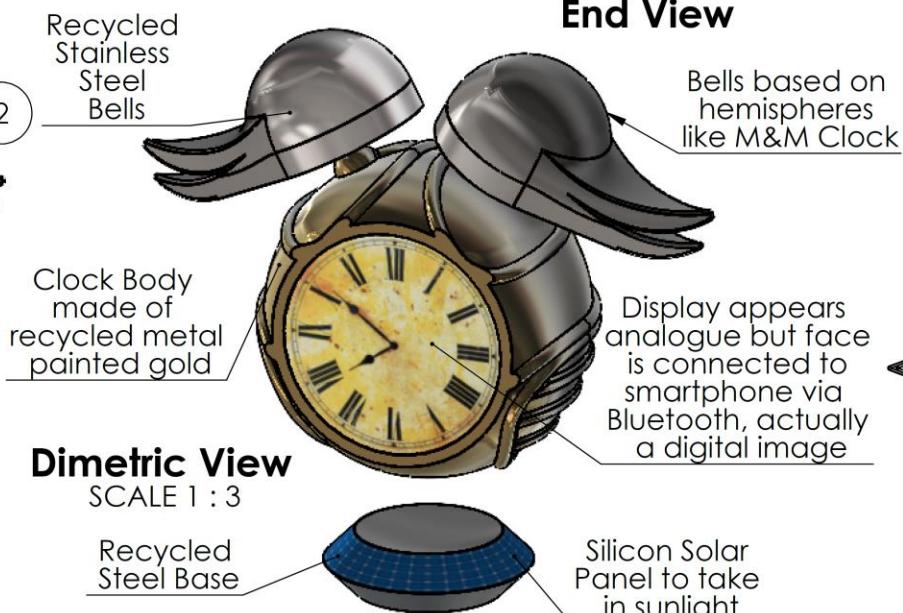
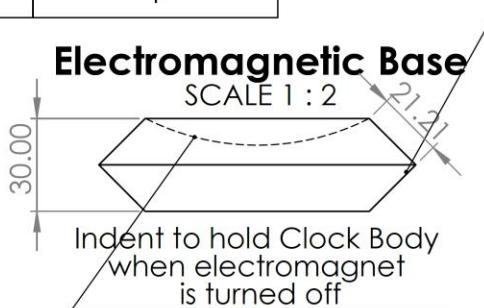
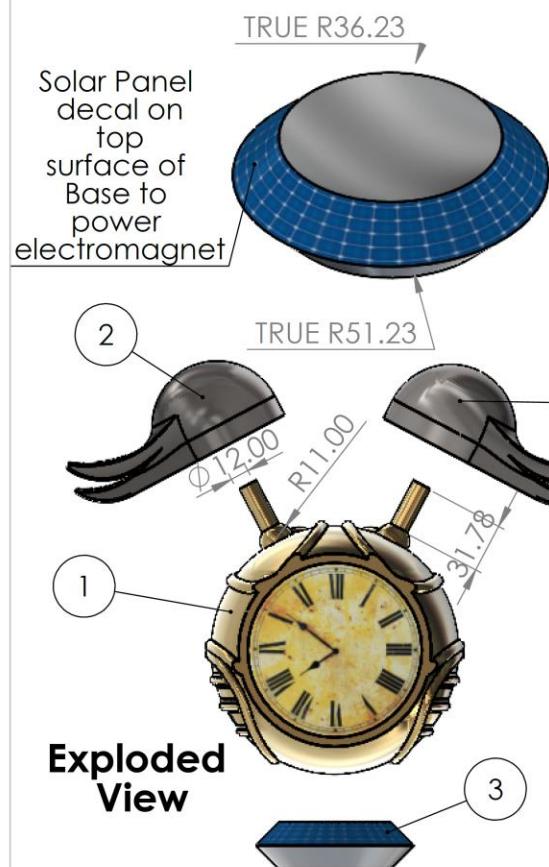


OUTPUT 7.1

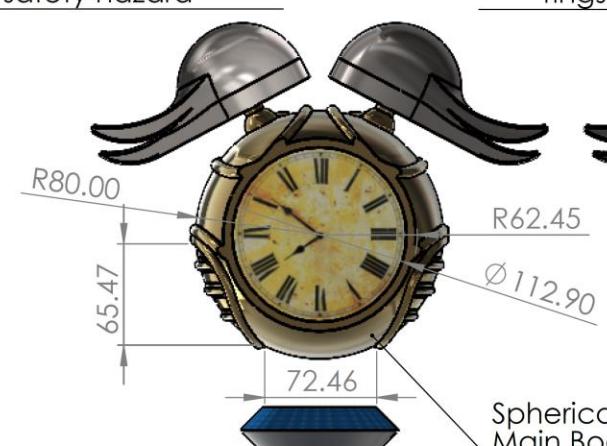
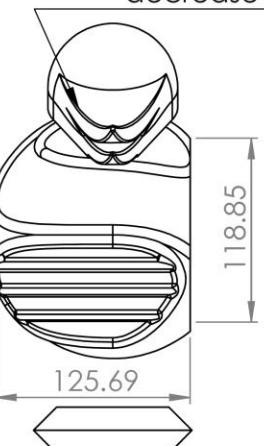
SOLIDWORKS HARDCOPY OUTPUT

TITLE: Snitch Clock Orthographic, Pictorial & Exploded Views
 DRAWN BY: 132751 SIZE A3 UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN mm
 SCALE: 1:4 DATE: 20/01/2023 SHEET 1 OF 1

PART NUMBER	PART NAME	QUANTITY
1	Main Body	1
2	Bell	2
3	Electromagnetic Base	1



Fillet on edges to reduce sharpness, decrease safety hazard



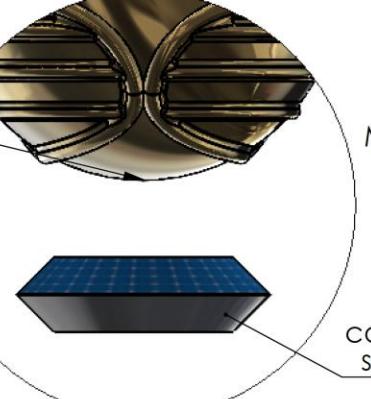
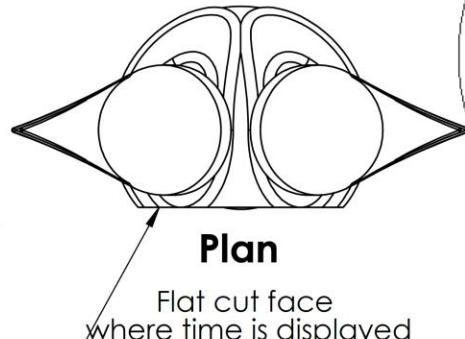
Wings for aesthetic purposes, alarm rings from speakers digitally



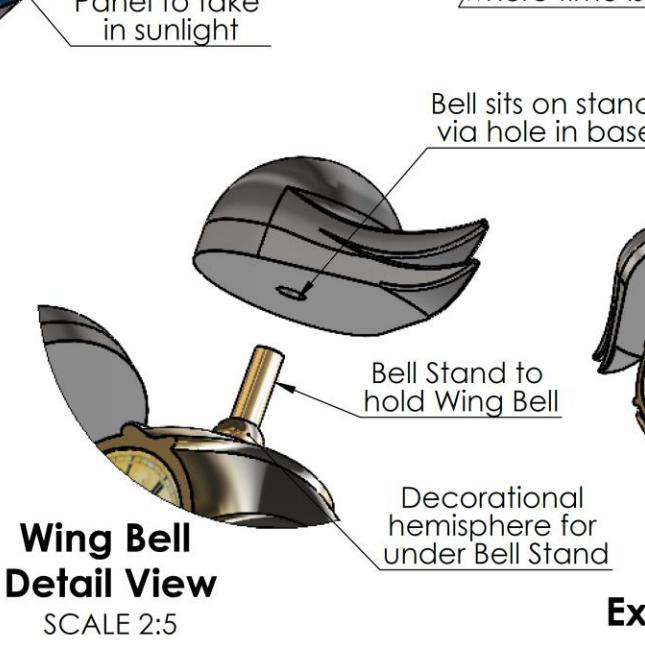
Unique shape for aesthetic value

End View

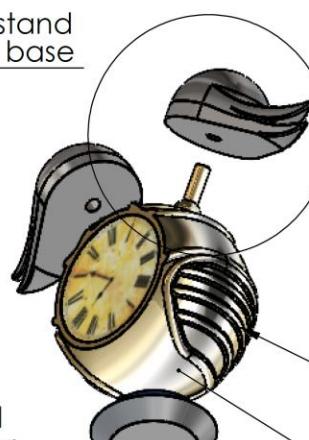
Identical Magnets in the Base and Clock Body repel each other, making the clock levitate



Magnetism in Base can be turned on/off through Bluetooth connection to smartphone



Bell sits on stand via hole in base



Intricate pattern on side, identical to Golden Snitch in Harry Potter films

Smooth, rounded underside to fit into Electromagnetic Base

REFERENCES

EXAM NO: 132751

Key



Student Photograph



Personal Sketch

Page 2: Exploration of Brief

Shape & Form

- <https://camelcamelcamel.com/BioBrite-Sunrise-Clock-Advanced-Model/product/B00196LFGW>
- <https://mirelojeria.com/en/alarm-clocks/3779-alarm-clock-qhe130w.html>
- <https://hardwareheaven.ie/wp/product/akai-bluetooth-radio-alarm-clock/>
- <https://snooze.blog.is/blog/snooze/image/544505/>

Materials

- <https://gingkodesign.com/product/flip-click-clock/>
- <https://www.amazon.it/Ikea-Dekad-Sveglia-bianca-002-703-94/dp/B082DJ4KBB>
- <https://futonland.com/product/645-643-cooper-tabletop-clock>
- <https://www.kmart.com.au/product/alarm-clock-42298298/>

Analogue

- <https://www.amazon.it/Braun-BNC002BK-Sveglia-classica-quadrata/dp/B004XK1L7Y>
- <https://www.walmart.com/ip/Sharp-Twinbell-Quartz-Analog-Alarm-Clock/16513316>

Digital

- <https://www.manomano.it/p/sveglia-multifunzionale-6-regolazione-della-luminosita-2-display-dellora-doppia-sveglia-con-design-snooze-doppia-doppia-porta-usb-2-metodi-azionati-led-orologio-per-casa-soggiorno-camera-da-letto-uso-quotidiano-portatile-27007206>
- <https://www.wildberries.ru/catalog/18594189/detail.aspx>

Smart

- <https://www.amazon.com/SMARTRO-Projection-Professional-Thermometer-Temperature/dp/B09JYQ8MTB>
- <https://www.amazon.it/Sveglia-digitale-temperatura-ricarica-luminosit%C3%A0/dp/B09JZH6M9P>
- https://www.familyhandyman.com/wp-content/uploads/2020/06/shutterstock_1089452843-scaled.jpg?resize=700,466

Geometry

- <https://m.facebook.com/rachelsvintageretro/photos/1980s-sergeant-major-alarm-clock-bugle-call-20/1711975095523347/>
- <https://www.amazon.it/creativa-bicicletta-creativi-decorazione-4J08-Rosso/dp/B08TR3MCXC>
- <https://allegro.pl/oferta/duzy-zegar-scienny-cyfrowy-led-elektroniczny-kolor-12405599043>

Innovation/Novelty

- <https://www.bol.com/be/nl/p/kukelende-haan-wekker/9200000071902099/>
- <https://www.eirespares.ie/flying-digital-alarm-clock-for-heavy-sleepers>
- <https://it.aliexpress.com/item/4000109338906.html>
- <https://www.uday.ie/en/product/3ZURBNP60-clocky-alarm-clock-on-wheels-original-extra-loud-for-heavy-sleeper-adult-or-kid-bed-room-robot-clockie-funny-rolling-run-away-moving-jumping>

Colours

- <https://it.dreamstime.com/fotografia-stock-sveglie-variopinte-image64657580>

Page 3: Exploration of Brief

Time Display

- <https://www.uday.ie/en/product/1PWGMLYO-sharp-home-led-digital-alarm-clock-swivel-base-outlet-powered-simple-operation-alarm-snooze-brightne>
- <https://www.amazon.it/R%C3%A9veil-veilleuse-avec-projection-dheure/dp/B01E7KUXFA>
- <https://www.androidauthority.com/amazon-echo-spot-india-858780/>

Popular Brands

- <https://zh-cn.manuals.plus/%E5%AE%B6%E7%94%A8%E7%94%B5%E5%99%A8/r35-montrose-%E5%94%B1%E6%9C%BA%E6%89%8B%E5%86%8C#axzz7kRYaqh3p>
- <https://images.squarespace-cdn.com/content/v1/5c24eda529711415bc095a11/1577983197122-4ALU6K45CDXAO4NQJ3C0/iHome%2BLogo%2Bblk-01.jpg>
- <https://www.crunchbase.com/organization/sonic-alert>
- <https://www.eatfirst.com/de-de/reviews>
- <https://www.ardenmktg.com/brand/10-phillips>
- <https://hu.manuals.plus/ezoimgfmt/manuals.plus/wp-content/uploads/2021/10/ACURITE-logo.png?ezimgfmt=rs:368x96/rsb1/ngcb1/notWebP>

Features

- <https://www.amazon.it/QHYTL-Batteria-radiosveglia-compatta-sintonizzazione/dp/B0B5XP977L>
- <https://www.amazon.it/orologio-proiezione-retroilluminazione-Calendario-Termometro/dp/B07C1W4GBT>
- <https://www.amazon.co.uk/Projection-Bedside-Charger-Display-Adjustable-White/dp/B09S5RWC79>
- <https://www.uday.ie/en/product/1U3QB92-digital-clock-large-display-led-electric-alarm-clocks-mirror-surface-for-makeup-with-dimming-mode-3-l>

Environmentally Friendly

- <https://ecoidee.effettoterra.org/riciclare-parti-del-computer/>

Programming options

- <https://www.amazon.it/Sharp-Twin-Bell-sveglia-Retroilluminato/dp/B08TB22P29>
- <https://www.amazon.it/CHARON-Luminosit%C3%A0-Regolabile->

Adattatore-Trasmissione/dp/B07XXVKQSN

- <https://www.amazon.co.uk/OCUBE-Digital-Bedside-Adjustable-Operated/dp/B08GKDVKB7>

Snooze Buttons

- <https://it.dreamstime.com/fotografia-stock-svegnere-una-sveglia-image20288390>
- <https://www.joe.ie/fitness-health/this-is-why-you-should-never-hit-the-snooze-button-before-getting-up-in-the-morning-553988>
- <https://www.amazon.it/Nanda-Home-CLKYb-CLOCKY-Parent/dp/B004MSMUGI>

Bluetooth

- <https://www.amazon.eg/-/en/computer-wireless-Bluetooth-mini-card-subwoofer/dp/B09698R6QY>

Page 3: Design Feature Comparison

- <https://www.pinterest.com/pin/543528248757889507/>
- <https://www.enniselectrical.ie/roberts-chronoplus-2-fm-mw-dual-alarm-clock-radio/>
- <https://www.audiomativ.de/roberts/>

Page 8: Exploration of Design Solution

Quidditch

- <https://fandomania.com/ten-fictional-sports-you-wont-see-on-espn/>
- <https://www.pinterest.ie/pin/71557982827738779/>
- <https://freepngimg.com/png/23767-harry-potter-broom-transparent-background>
- <https://wallpaperaccess.com/snitch-harry-potter>
- https://aminoapps.com/c/harry-potter/page/blog/my-quidditch-team/mMTk_ueoPPPNTJDwrVMVqqlpGikm6R

Magical Creatures

- https://aminoapps.com/c/harry-potter/page/blog/002-hungarian-horntail/1QT6_uZoLdM3MpjeEoGM4GGBo0DnYhm
- <https://harrypotter.fandom.com/wiki/Thestral>
- <https://www.pinterest.ie/pin/601793568934182749/>

Magical Objects

- <https://www.her.ie/motors/famous-cars-of-the-big-screen-flying-ford-anglia-from-harry-potter-202982>
- <https://github.com/idin/pensieve>
- <https://www.deviantart.com/alexbuechel/art/Time-Turner-97375987>
- <https://br.pinterest.com/pin/836614068278487670/>
- <https://www.pinterest.ie/pin/352969689540630743/>

Deathly Hallows Symbol

- <https://www.brianorndorf.com/2011/04/blu-ray-review-harry-potter-and-the-deathly-hallows-part-1.html>
- <https://www.ibtimes.co.uk/invisibility-cloak-thin-harry-potter-fabric-design-finally-possible-using-dielectric-materials-1510113>
- <https://wallpaperaccess.com/elder-wand>
- <https://www.distractify.com/p/why-does-harry-drop-the-resurrection-stone>