

New - Age Gold Jewellery

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176130013 | ID 2017-19



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Approval Sheet

Industrial Design Project 02
New – Age Gold Jewellery

by
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M.Des Industrial Design 2017-19
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is approved as a partial fulfilment of requirement of post graduate degree in Industrial Design.

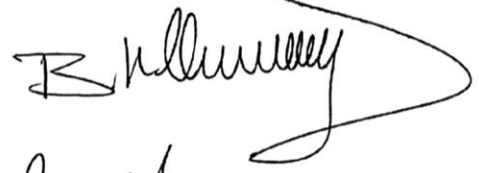
Professor Purba Joshi:
[Project Guide]

A handwritten signature in black ink, appearing to be 'Purba Joshi', written over a horizontal line.

External Examiner:

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Internal Examiner:

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Chairperson:

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Declaration

I declare that this written submission represents my ideas in my own words and where other ideas or words are included, I have adequately cited and referenced the original sources.

I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea / data / fact / source in my submission.

I understand that any violation of the above will be cause for disciplinary action by the institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.



[Signature]

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Date: 12th 11th 2018

Acknowledgment

I would like to sincerely thank my project guide Professor Purba Joshi for her time, support and guidance throughout my project.

I am also grateful to Professor B. K. Chakravarthy and the other faculty for their valuable inputs during the project presentations.

Large credit goes to my friends and batch mates for their help and support.

I am thankful to IDC, IIT Bombay for providing me with the infrastructure and support of all kind.


XINGBO LOUIS JOSEPH SWAMY
12.11.2018

Abstract

New – Age Gold Jewellery

The project explores the design of a 3 piece collection of ‘new-age’ Gold Jewellery for urban women in India.

The visual language of the range was defined by studying and forecasting the upcoming trends in the Jewellery industry. The manufacturing processes and techniques used in the making of Gold jewellery were looked into in order to exploit the usage of Gold based on its properties as a material. With this in mind, formal exploration was done with novelty being the prime focus, yet with the semantic associations one has with jewellery.

The collection has different types of wearables – a neckpiece, a collar clip and a brooch – each paired up with a different style of attire. To make jewellery ‘functional’ and to appeal to the young tech-savvy user group, a Bluetooth Headset was integrated with each of the wearables.

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All That Glitters

Gold in India

Though majority of the population live meagrely, Gold is still an integral part of our lives. Over the years our infatuation with Gold has grown stronger – India accounting for most of the Gold consumed globally. This is so because Gold has a deep rooted significance in our culture, a few facets of it being:

Religious Connotation

Gold is a prominent part of religious ceremonies, regardless of religion - be it purchasing Gold for religious occasions or donating to temple funds.

Family Heirloom

Gold is part of every Indian household, passed on from generation to generation – sentimental to keeping the family legacy alive.

Auspicious Gifts

Gifting gold is considered auspicious, forming an integral part of all ceremonies from child births to weddings.

Status Symbol

From the time of the Raj, there has been no bigger status symbol than Gold and modern India has imbibed this, be it the politicians, businessmen or the common man.

Investment

Purchasing Gold is considered the safest long-term investment, a notion reflected by the amount of Gold Indians own.

Gold as a Material

Properties

- Gold is a very soft material and hence it is highly **malleable** (beaten into thin sheets) and **ductile** (drawn into thin wires)
- To combat its softness, it is generally **alloyed for hardness** and strength when used in jewellery.
- Since it has a high density, it is a **heavy** material and sparingly used .
- Like other metals, it is a very **good conductor** of heat & electricity and used widely in the electronics industry.
- Being a **very stable** element and less chemically reactive, it is found in its pure state while extraction.
- Its **resistance to corrosion** and tarnish has what made Gold the most sought after the world over.
- With polishing, It can render itself to be highly **reflective**

Gold as a Material

Purity

Pure gold is too soft for jewellery and everyday wear and hence it is alloyed with metals to give it strength and durability. Karat, denoted by 'k', is the unit used to measure the purity of gold used - the higher the karatage, the purer the gold.

24k is composed of 99.95% Gold and mainly used for making Coins & Bars, Electronics & Medical Devices,. However it is too soft to be used for Jewellery.

22k is 91.67% Gold, the remaining part composed of alloys like Silver, Zinc, Nickel, etc. and used mainly for Plain Gold Jewellery.

18k comprises of 75% Gold and alloyed with Copper or Silver, and used for Studded Gold Jewellery.

14k is made up of 58.33% of Gold and is used for everyday jewellery as it is sturdy enough to resist the wear and tear.

BIS Hallmark Jewellery - Bureau of Indian Standards (BIS) has made it mandatory to emboss a hallmark on all standardized gold jewellery.

Gold as a Material

Colour

Alloying can also be used to change the colour of Gold, the colour depending on the type and percentage of metal alloy used.

Yellow Gold

Natural gold and colour-saturated alloys - an expert mixture of copper, silver and pure gold - give yellow gold jewellery its rich shine and signature warmth.

White Gold

The addition of Nickel or Palladium along with rhodium plating is what gives gold a silvery white character.

Rose Gold & Green Gold

A pink hue is obtained by using a copper alloy, whereas the addition of zinc and silver renders the gold green.

Unusual colours such as blue, purple and black are obtained by the addition of oxides on the alloyed surface. Dual tones can be achieved by soldering together differently coloured gold pieces or by selective rhodium plating of the whole piece.

Gold Jewellery

Solid Gold Jewellery

Considered the best and crafted out of solid gold with a mark of quality, it is hypoallergenic and a great investment due to its resale value.

Hollow Gold Jewellery

The jewellery is made hollow to reduce the amount of gold used and hence cheaper and lightweight. It is stamped like solid gold jewellery and with the same resale value. However it can bend especially with everyday usage.

Gold Plated Jewellery

The cheapest by far, Gold is electroplated as a thin layer over materials such as brass and copper. With the plating containing little gold and wearing off quickly, this type of jewellery has no quality mark.

Gold Filled Jewellery

Gold is plated over non-precious materials, though the layer is comparatively thick and long-lasting. Though its mark of quality shows the amount of gold present with respect to the total weight, it does not have resale value as the gold is difficult to separate from the base metal.

New Materials

To keep up with the 21st century, jewellery has been developing and improving to push the boundaries of the traditional.

Introduction of new technology and cutting-edge materials [Fig. 04, 06 & 07] have lead to an aesthetic transformation.

The constant search for novel, everyday or unusual, natural [Fig. 08] or man-made materials have allowed for outlandish combinations and the juxtaposition of the precious [Fig. 05] and the commonplace [Fig. 01, 02, 03].



Fig. 01 - Ceramic

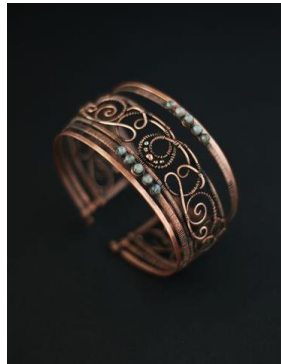


Fig. 02 - Copper



Fig. 03 - Leather

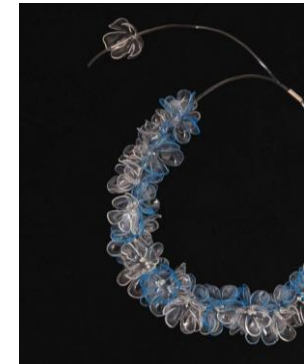


Fig. 04 - Plastic



Fig. 05 - Silver



Fig. 06 - Stainless Steel



Fig. 07 - Resin



Fig. 08 - Wood

Context

User

The rise of the IT industry fuelled the tech-savvy working women's desire for luxury products as well as their purchasing power.

With the variety in the Traditional [Fig. 09 & 12] and Modern Indian [Fig. 10 & 13] corporate attire, fashion is key to how women present themselves at the workplace - accessories being a prime part of that expression.

With urban women increasingly up-to-date with western fashion trends [Fig. 11 & 14], the new-age jewellery line will be targeted at Indian corporate women to take advantage of the large and growing market segment.



Fig. 09

Traditional Indian Wear



Fig. 10

Contemporary Indian Wear



Fig. 11

Western Wear



Fig. 12



Fig. 13



Fig. 14

Wearable Tech

Wearable Tech is an umbrella term for IoT devices worn on the body and exchanging data by short-range wireless systems, the most common shown in Fig. 15 – 22.

Euromonitor forecasts that “Wearables will become the best-selling consumer electronics product after smartphones.”

GlobalWebIndex reports that 2/3 of internet users have worn a piece of tech or are keen to do so.

To appeal to the tech-savvy corporate women, and to reinvent jewellery as being ‘new-age’, technology will be incorporated to add function to the wearables.



Fig. 15 – Bluetooth Headset



Fig. 16 – Fitness Tracker



Fig. 17 – Smart Watch



Fig. 18 – Smart Sportswear



Fig. 19 – Head-Mounted Display



Fig. 20 – Smart Jewellery



Fig. 21 – Smart Textiles



Fig. 22 – Implantables

Case Study

Armill by Christophe & Co.

- This product is unique as it comes in three models, each catering to different price segments.'
- It does not rely on traditional charging, having a Kinetic Energy Generation System with rotors to charge batteries by the motion of one's wrist.
- It explores a combination of various materials - the carbon fibre inner frame ornamented with 18k Gold, high-tech ceramic and precious stones along with leather padding on the inside [Fig. 23 & 25].
- By making the embedded hardware module [Fig. 24] upgradable to update the tech components, it has positioned itself as an investment.



Fig. 23



Fig. 24



Fig. 25

Case Study

Leaf Series by Bellabeat

- The product comes with accessories to be worn as a Bracelet [Fig. 27 & 28], Necklace [Fig. 26] or Clip, thus allowing the women to accessorize differently.
- The product is optimised for Women by having features to track sleep, activity, meditation, stress and menstrual cycle.
- It uses new-age materials like wood composite and stainless steel, with the casing having no interface - only operated by a smartphone app.
- It does not rely on daily charging - having a replaceable coin cell battery which can last around six months with daily usage.



Fig. 26



Fig. 27



Fig. 28

En Vogue

Trend Forecast

To understand the current and upcoming trends in jewellery, the studies of several prominent outlets such as 'Trendvision Jewellery + Forecasting', 'Vogue' and 'Harper's Bazaar' were referred to.

The 'Swarovski – Jewelry Trend Study 2019' was taken as reference for the project.

Of the four major trends, 'Sleek Simplicity' was chosen as it's minimal language of refined shapes and volumes best fit with the aesthetic of the corporate women.

A. Sleek Simplicity

Reflections
Kinetic Art
Feelables
Interlinked Geometries
Extravagant Lines
Modern Tennis
Lariat Necklace
Maxi Minimalism
Spiral Design

B. Self-Expressive Statements

Disco Glam
Sculptural Aesthetics
Tutti Frutti
Mix 'N' Match
Hybrid Pieces
Rainbow Metals
Enamel Mania
Refined Hardware
Ultimate Hoops

C. Handcrafted Nature

Earthy Look
Tactile Textures
Natural Touch
Refined Utility
DIY & Craft
Beach Comber
Plastichic
Suspended Florals
Watery Look

D. Extreme Extravaganza

Embellished Opulence
Bib Necklace
Precious Headbands
Earring Hooks
Perfume Mementos
Lucky Charms
Keepsake Coins
Vintage Garden
Religious Symbols

Trend Forecast

'Swarovski – Jewelry Trend Study 2019' listed several languages by which the 'Sleek Simplicity' trend can be articulated, six of which were chosen to be looked into based on personal affinity for the aesthetic.

The six were grouped into pairs [Fig. 29 & 32, Fig. 30 & 33, Fig. 31 & 34] based on their visual compatibility to create three distinct styles which were explored by creating mood boards.



Fig. 29

Reflections
+
Extravagant Lines



Fig. 32



Fig. 30

Kinetic Art
+
Interlinked Geometries



Fig. 33

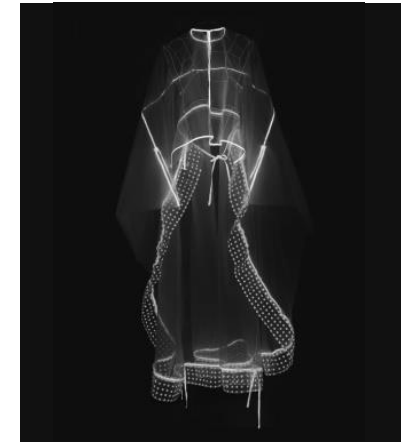


Fig. 31

Feelables
+
Maxi Minimalism



Fig. 34

Mood Board

The first mood board is based on the synthesis of the trends 'Reflections' and 'Extravagant Lines'.

The following keywords articulate various aspects of the depicted mood.

- Dynamic [Fig. 35]
- Expressive [Fig. 36]
- Fluid [Fig. 37]
- Polished [Fig. 38]
- Rhythm [Fig. 39]
- Sculptural [Fig. 40]

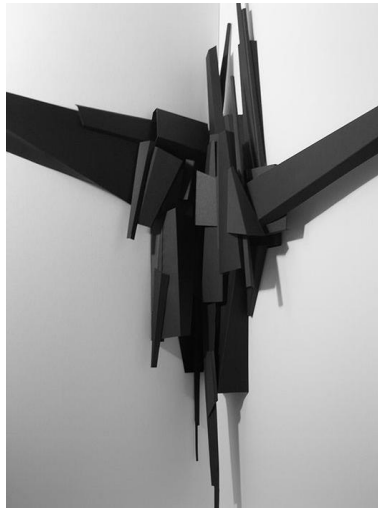


Fig. 35

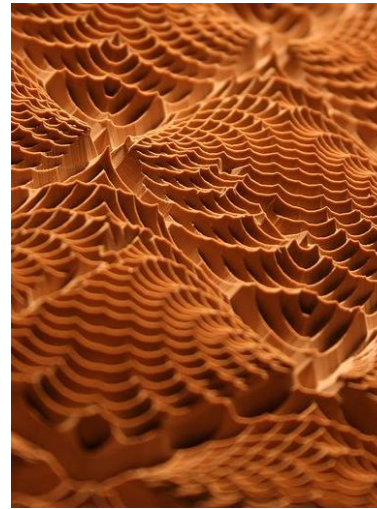


Fig. 36



Fig. 37



Fig. 38



Fig. 39

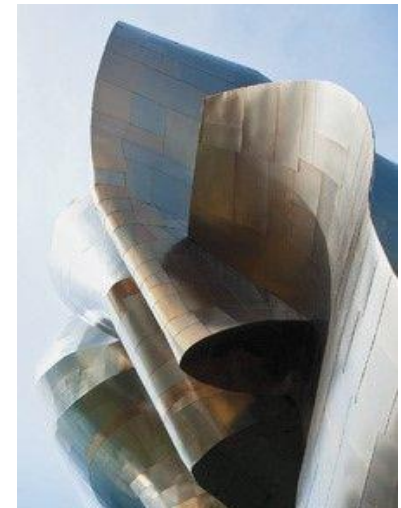


Fig. 40

Mood Board

The second mood board is based on the synthesis of the trends 'Kinetic Art' and 'Interlinked Geometries'.

The following keywords articulate various aspects of the depicted mood.

- Balance [Fig. 41]
- Delicate [Fig. 42]
- Light [Fig. 43]
- Minimal [Fig. 44]
- Precise [Fig. 45]
- Repetitive [Fig. 46]



Fig. 41



Fig. 42



Fig. 43



Fig. 44



Fig. 45



Fig. 46

Mood Board

The third mood board is based on the synthesis of the trends 'Feelables' and 'Maxi Minimalism'.

The following keywords articulate various aspects of the depicted mood.

- Bulky [Fig. 47]
- Contrast [Fig. 48]
- Layered [Fig. 49]
- Monolithic [Fig. 50]
- Organic [Fig. 51]
- Transparency [Fig. 52]



Fig. 47



Fig. 48



Fig. 49



Fig. 50



Fig. 51



Fig. 52

Formal Exploration

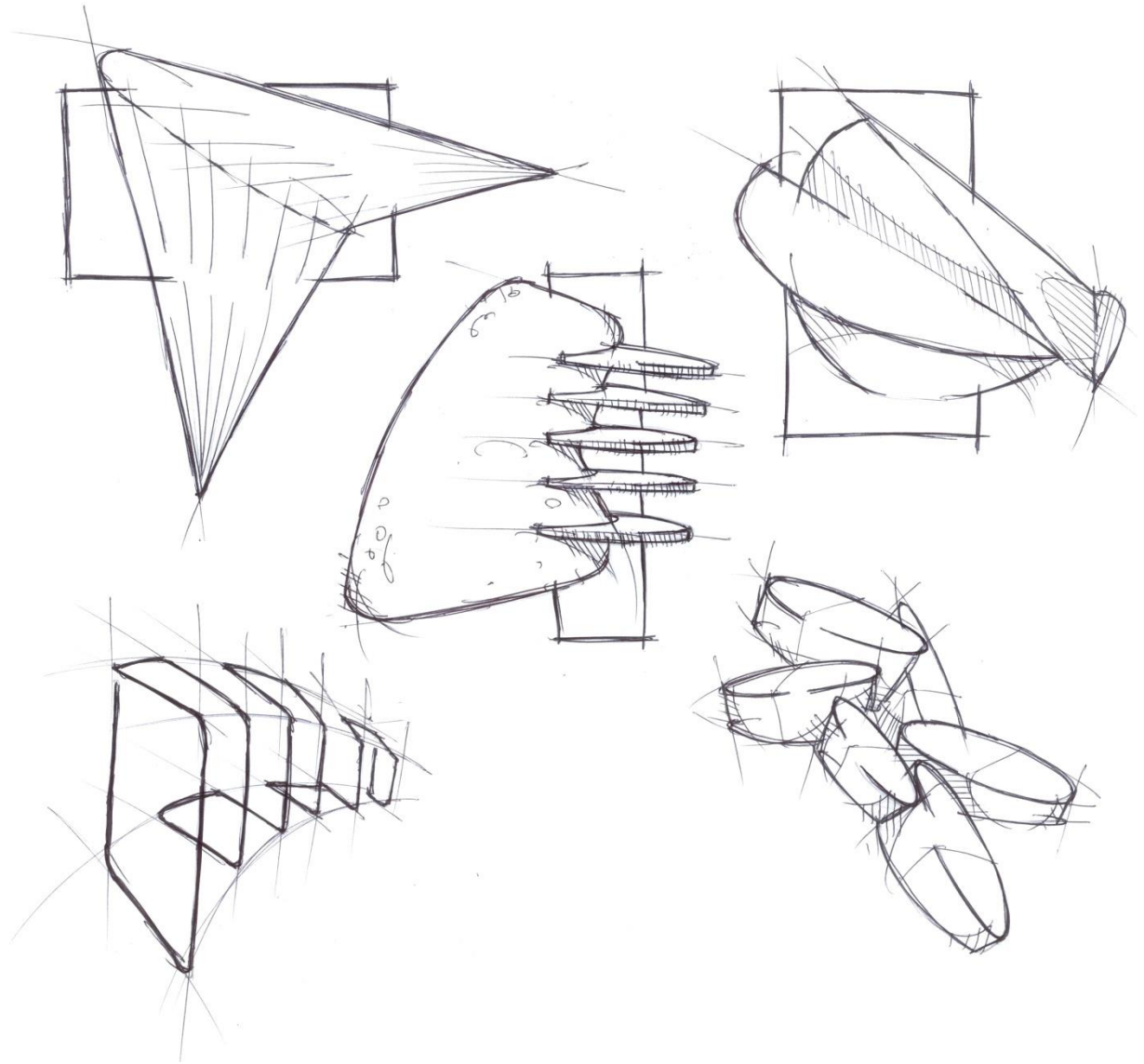
Form Sensitization

To translate the mood boards to a more concrete language that can be explored upon, the trends **'Reflections'** and **'Extravagant Lines'** were depicted visually by forms that were dynamic and sculptural and characterised by flowing or divergent lines.



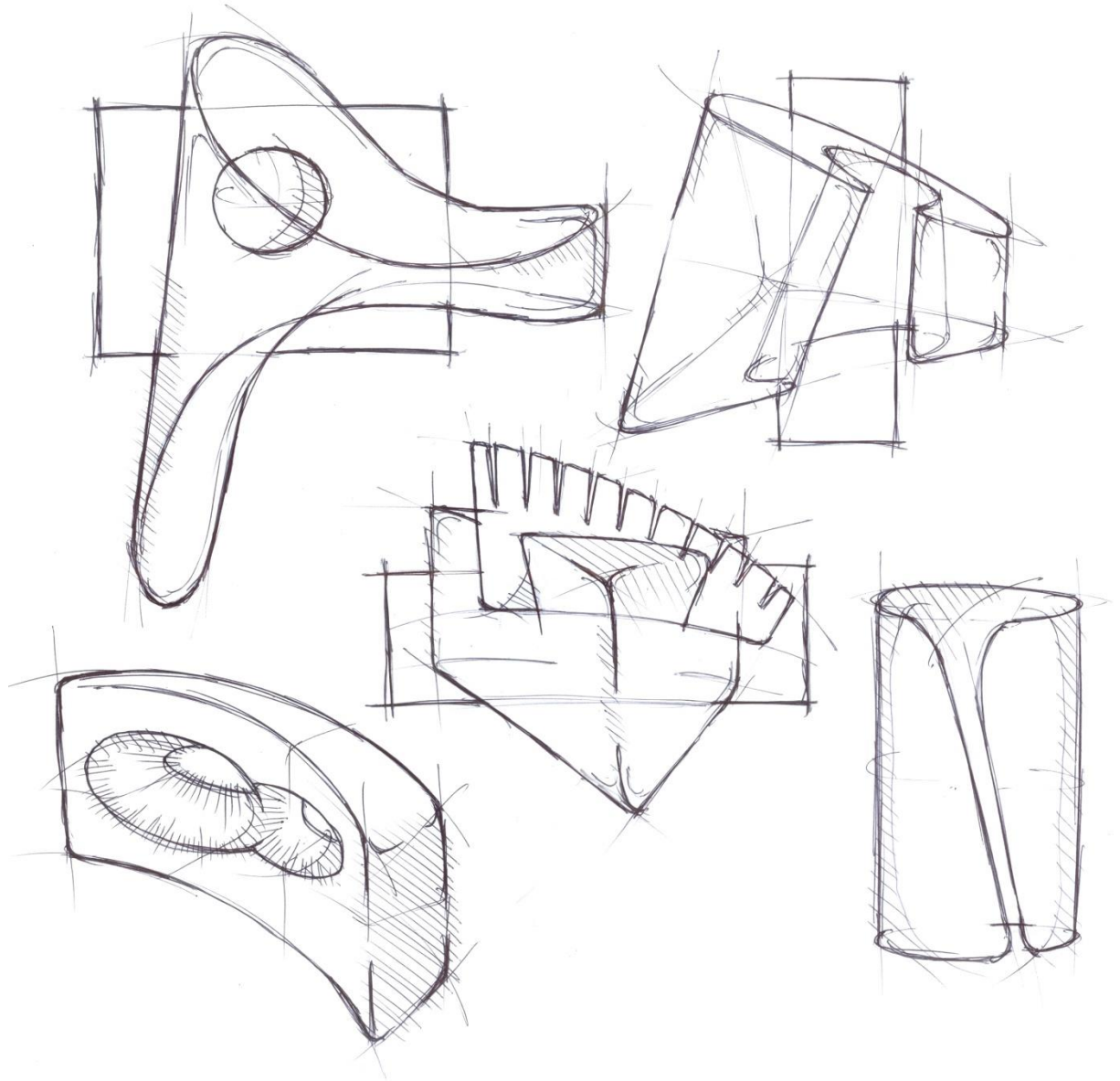
Form Sensitization

To translate the design language of the trends “**Kinetic Art**” and “**Interlinked Geometries**”, minimal forms that were derivative of the repetition and intersection of platonic shapes and solids were explored upon .



Form Sensitization

The trends 'Feelables' and 'Maxi Minimalism' were translated into forms that were monolithic - simplistic and bulky solids that were characterised by their texture and transparency and playing on the heaviness of the volume and the lightness of the voids.

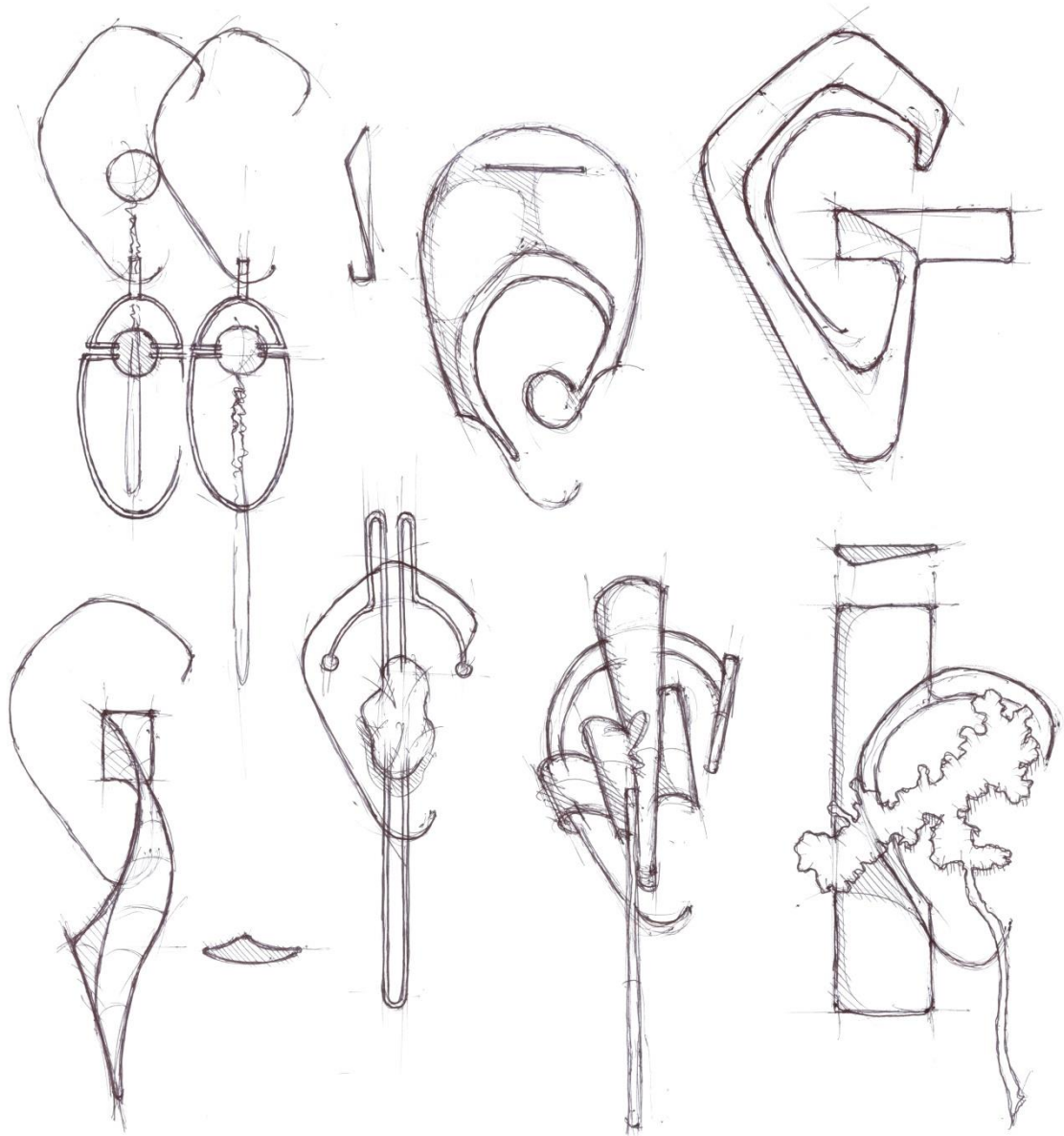


Formal Ideation

Earpiece

The bluetooth headsets were reimagined as earrings of various kinds – either those that rest over or in the ear itself.

The earrings could be mix 'n' match, one being a statement piece while the other an accent.

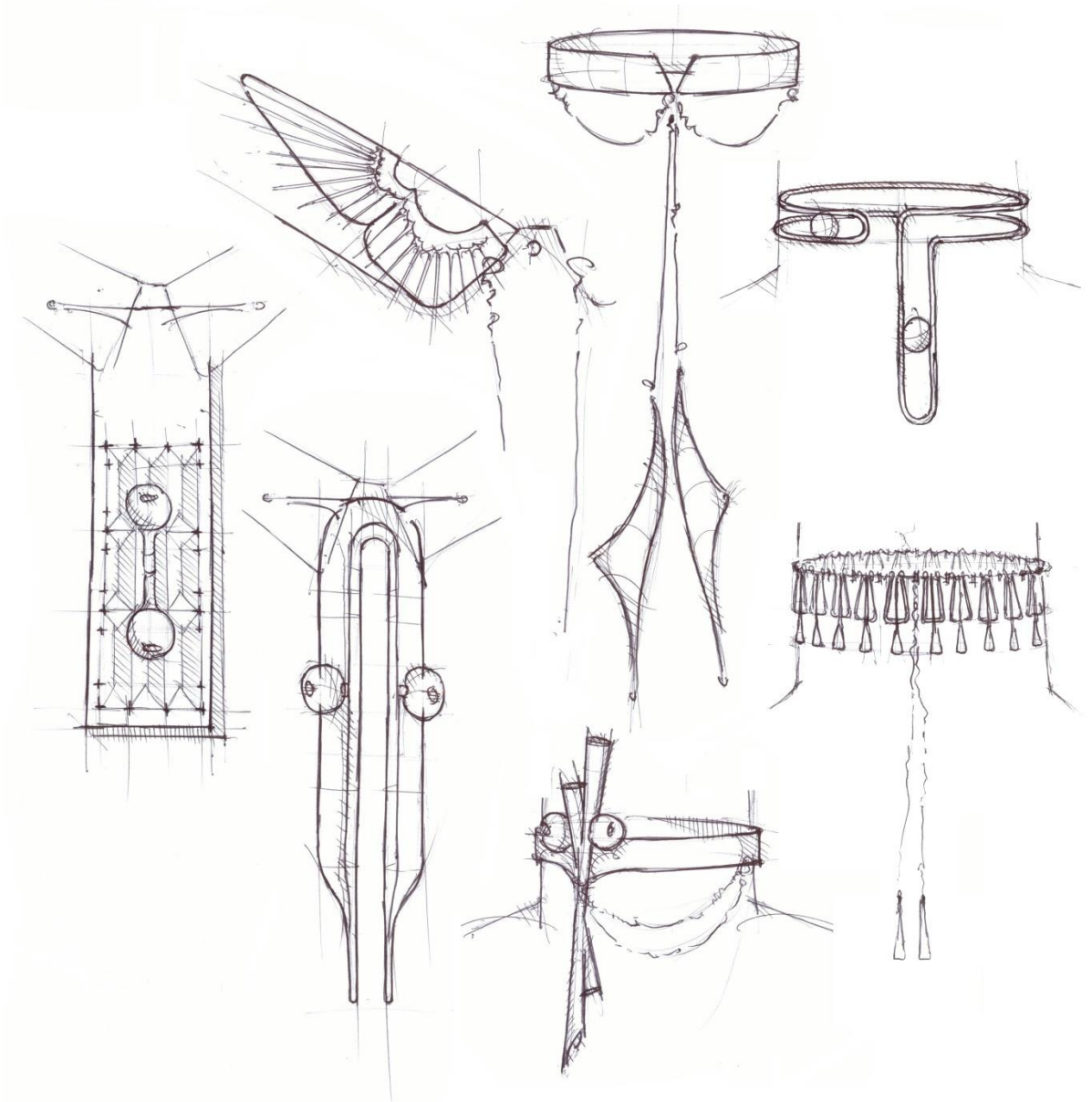


Formal Ideation

Neckpiece

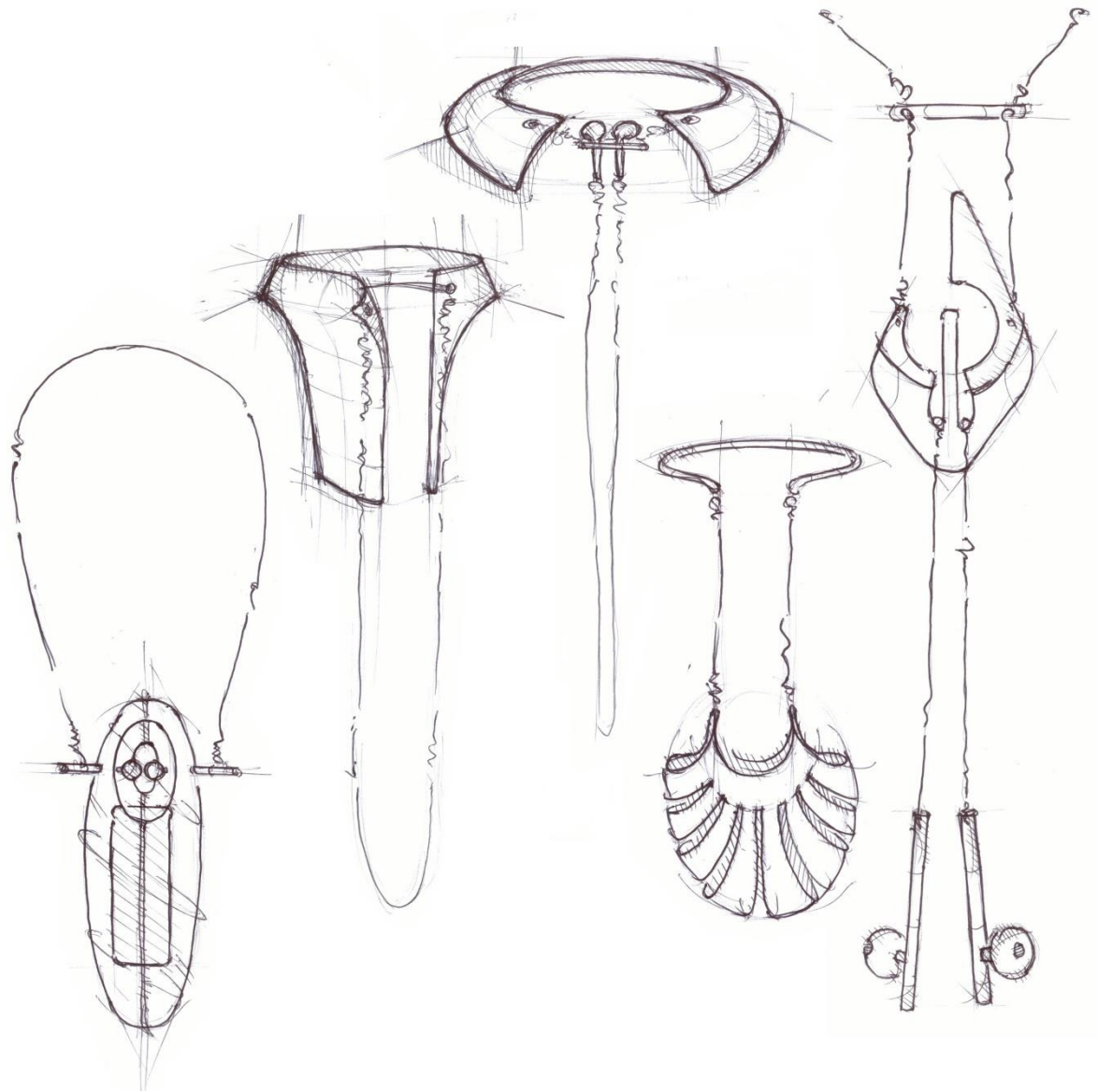
The headset was also explored as a clip to be worn on a collar, front pocket or neckline as well as an addition to a choker.

The earpieces could also be suspended or attached to each other using gold chains.



Neckpiece

These neckpieces could mount the headsets in a variety of ways – from magnetic attachments to an in-built pouch.

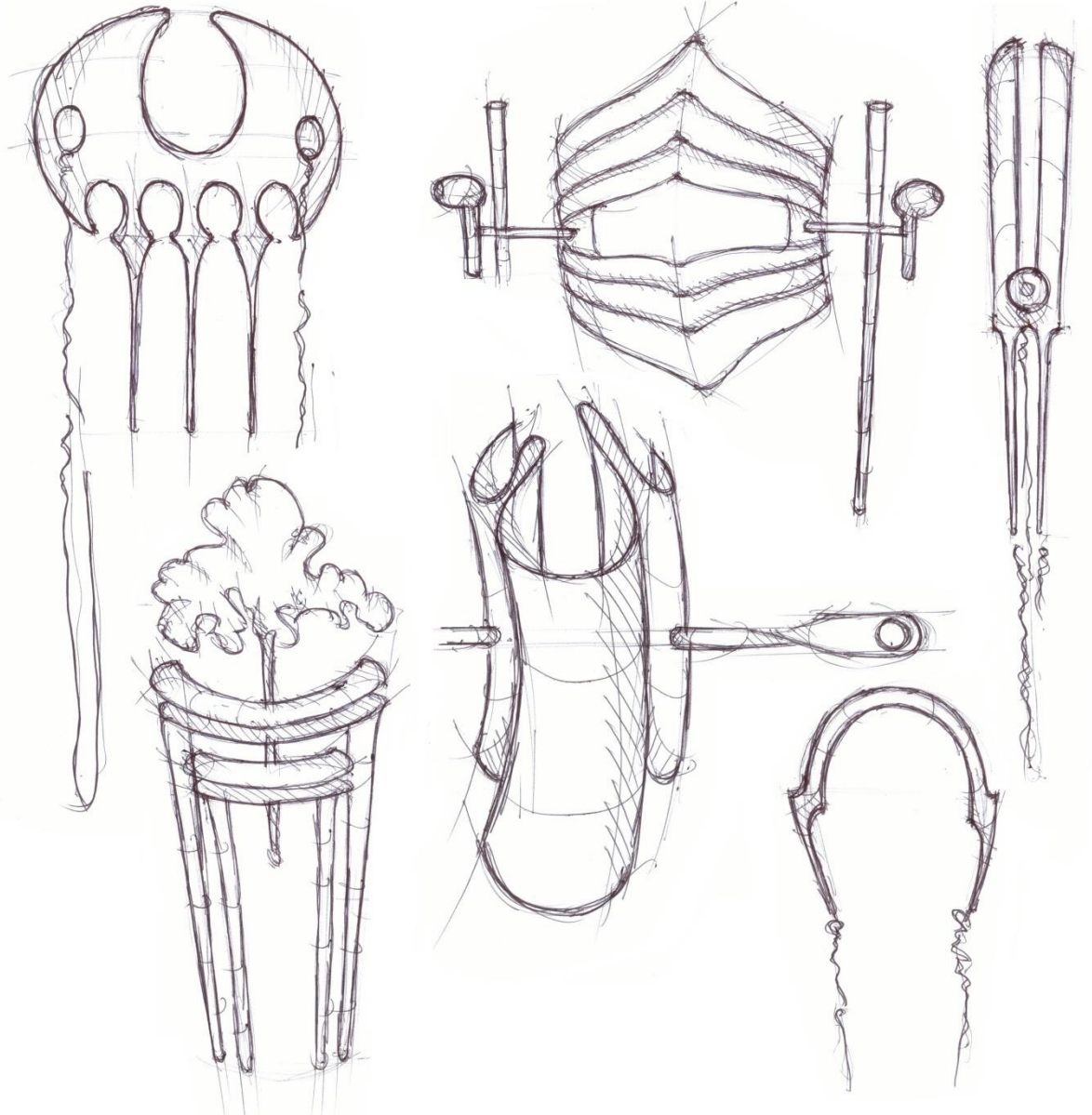


Formal Ideation

Hairpiece

The headsets were remodelled as a part of or mounted on an hair accessory,

The hairpieces could be of various types – hair clips, hair bands, hair pins or hair sticks – a range of wearables depending on the type of hairstyle sported by the women.



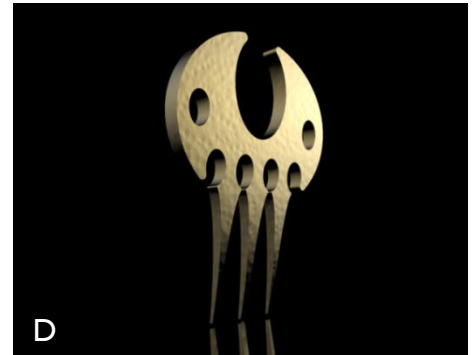
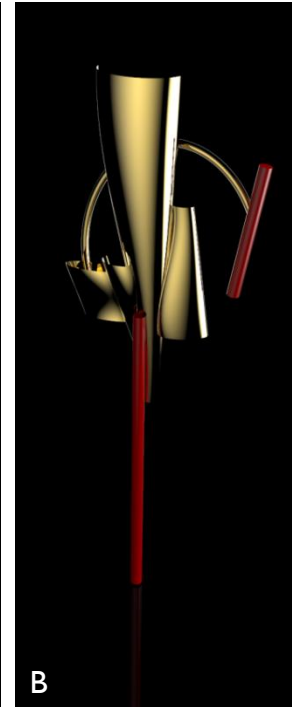
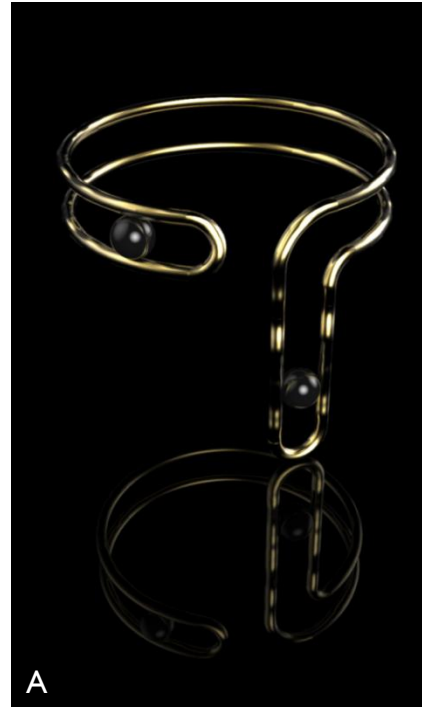
Survey

Based on the formal ideation, four were chosen such that they were four different types of wearables with different formal expressions.

A survey was conducted with 25 women in the age group of 20-40 to rank the ideas based solely on the novelty of the form.

Idea 'A' was ranked the highest closely followed by 'C'.

'A' was chosen to be carried forward as it was novel as well as minimal, elegant and visually light – apt to suit the target user group.



Process

Design Framework

Design Statement

To design a range of new-age jewellery pieces in Gold for corporate woman in India.

Design Brief

- The jewellery pieces must be familiar to use / wear.
- The wearable should be lightweight and comfortable to wear in various weather conditions.
- The wearables should allow for upgrading technology when required.
- The Gold used must resist wear and tear to allow for everyday usage.
- The tech components should be held in a water-proof casing.
- The wearables should be a luxury product to appeal to the user group.
- The jewellery will be a 3 piece range - each being a different type of accessory.

Initial Concepts

The first piece in the collection is 'Rouge' – a slip-on neckpiece.

The four ends of the hollow section are bent such that the wearable does not slip off the neck.

The profile of the lower pipe allows it to rest comfortably over the shoulder.

The vertical arrangement of the smaller pipes adds a layer of interest and intricacy especially when the hair is tied up.



Initial Concepts

The second piece in the collection is 'Voix' – a clip-on collar piece.

The four ends of the hollow section are arranged such that fabric can slip between them to hold the wearable in place.

The two larger sections are bend to accommodate vertical arrangement of smaller pipes in the front to add visual interest when worn on the neckline or the front pocket.



Initial Concepts

The third piece in the collection is 'Amour' – a lapel pin brooch.

One of the ends of the hollow section accommodates a pin and a cover for the tip to hold the wearable and fabric together.

The piece is articulated linearly to sit well on the flaps of a blazer suit, with smaller extrusions arranged only on the sides.



Initial Concepts

To attach the earpieces to the wearables, a holder that snap-fits to both the hollow section and the earpiece will be present.

The form of the holder was ideated on:

'A' is articulated as a folded circular plate.

'B' incorporates the same language of the wearable by using hollow sections.

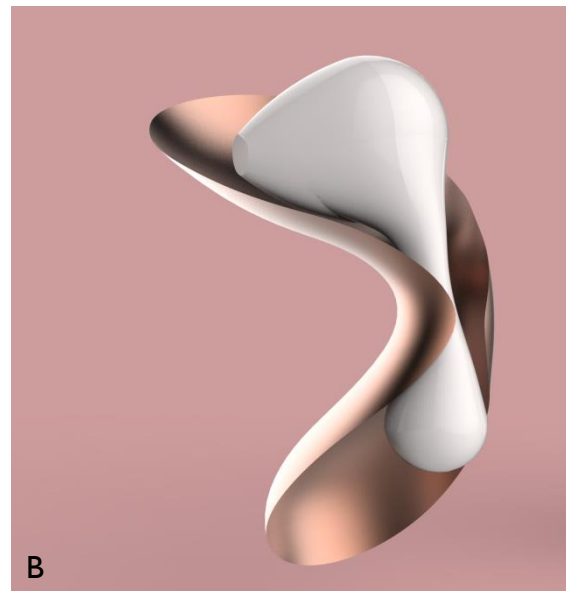
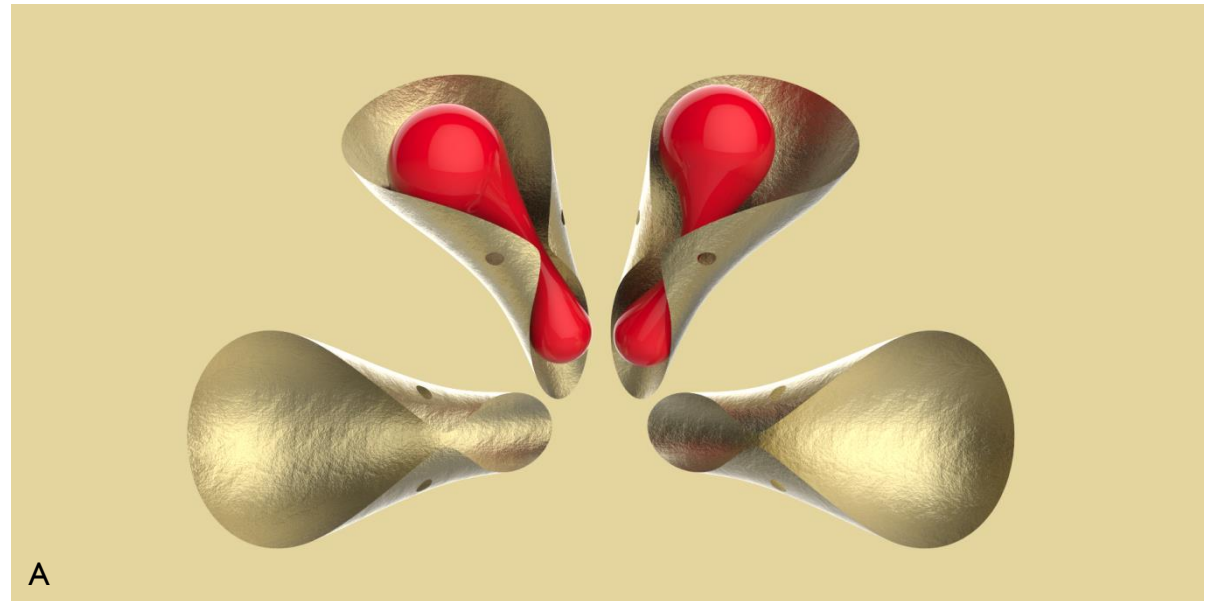
'C' is a hand-beaten highly polished gold sheet that assumes an organic form.



Initial Concepts

Another variation of the holder was to bend a stamp-cut sheet of Gold by hammering over a mould. The earpiece will be held within these organic forms [B].

The arrangement of the holders could be done so as to have semantic associations to natural forms like that of a flower [A] or a butterfly [C]. The texture and colour scheme of these holders were also explored.



Critical Evaluation

- The design of the jewellery range gravitated to a more unisex appeal – the femininity not really showing through.
- The product forms lacked the semantics, intricacies and embellishments needed to bring out the jewellery-ness of the pieces to communicate with the target user group.
- The comfort of the user wearing the jewellery needs to be prioritized by reworking the terminations of the hollow sections along with the size and proportion of the pieces.
- The integration of the earpieces with the wearables seemed more of an afterthought and not a glorified feature of the design.
- The usage of Gold in the jewellery did not exploit its properties as a material and did not explore the variety of manufacturing processes and techniques available.
- The amount and effective usage of Gold was to be looked into, to keep the pieces lightweight as well as to keep the costs down.

Final Concept

The collection is a range of three types of wearables: a slip-on neckpiece, a clip-on collar piece and a lapel pin brooch, with a pair of bluetooth earpieces and charger.

The form of the wearables are defined by their placement on the body while glorifying the technology it holds as its main feature. Hollow circular Gold sections articulate the form around the earpieces and reduces both weight and cost. For the sections to resist the wear and tear of everyday use, powder coated stainless steel core is introduced which reveals itself whenever the Gold is hidden from view when worn.

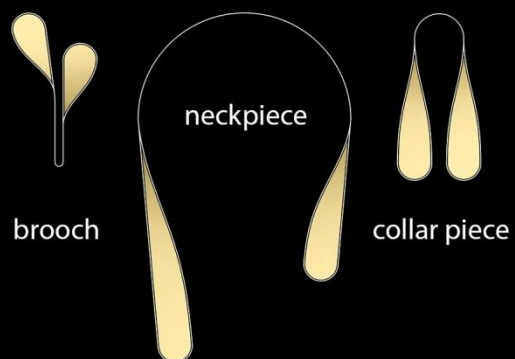
The earpieces are shaped to resemble buds - an ode to traditional jewellery and also to reimagine semantic forms in the contemporary minimalist era. They are held and locked in place by hemispherical cups to add to the resemblance of flower buds, only revealing itself when the headset is in use.

The range is branded as 'Belle de Jour', literally meaning 'Woman of the Day' or 'Everyday Beauty', and is available in off-white and black variations. With a muted pairing of off-white with the yellow of 14K Gold, the jewellery has a subtler character. Opting for black gives the Gold richness and attention to make it a statement piece.

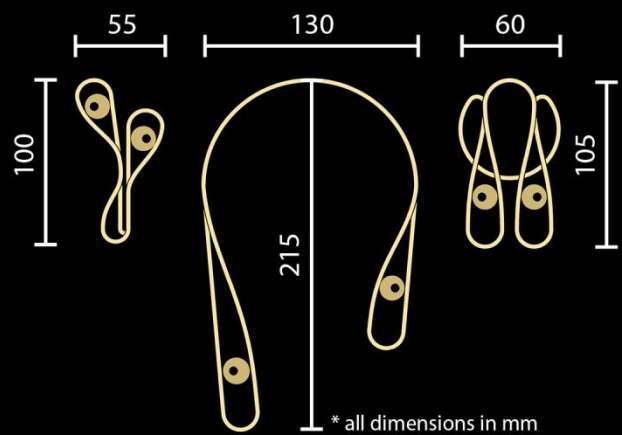
{ form defined by type of wearable
+
incorporating mango motif in form }

{ articulating with bent hollow sections
+
locating earpieces and holders within frame }

{ exposing ss core when hidden
+
transition marked by coiled gold wire }



- 1 -



- 2 -



- 3 -

form development

{ brooch }

{ neckpiece }

{ collar piece }



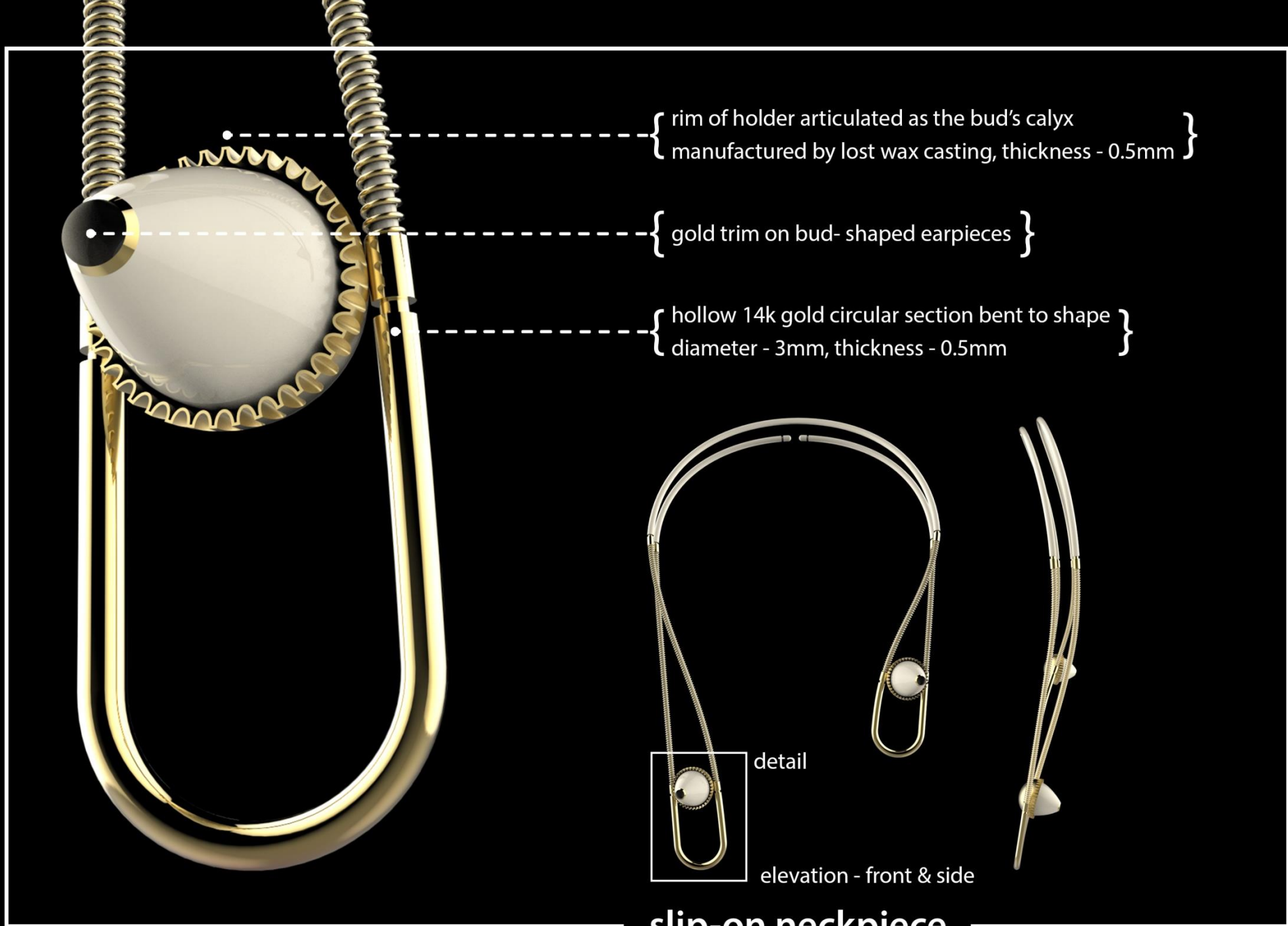
wearables



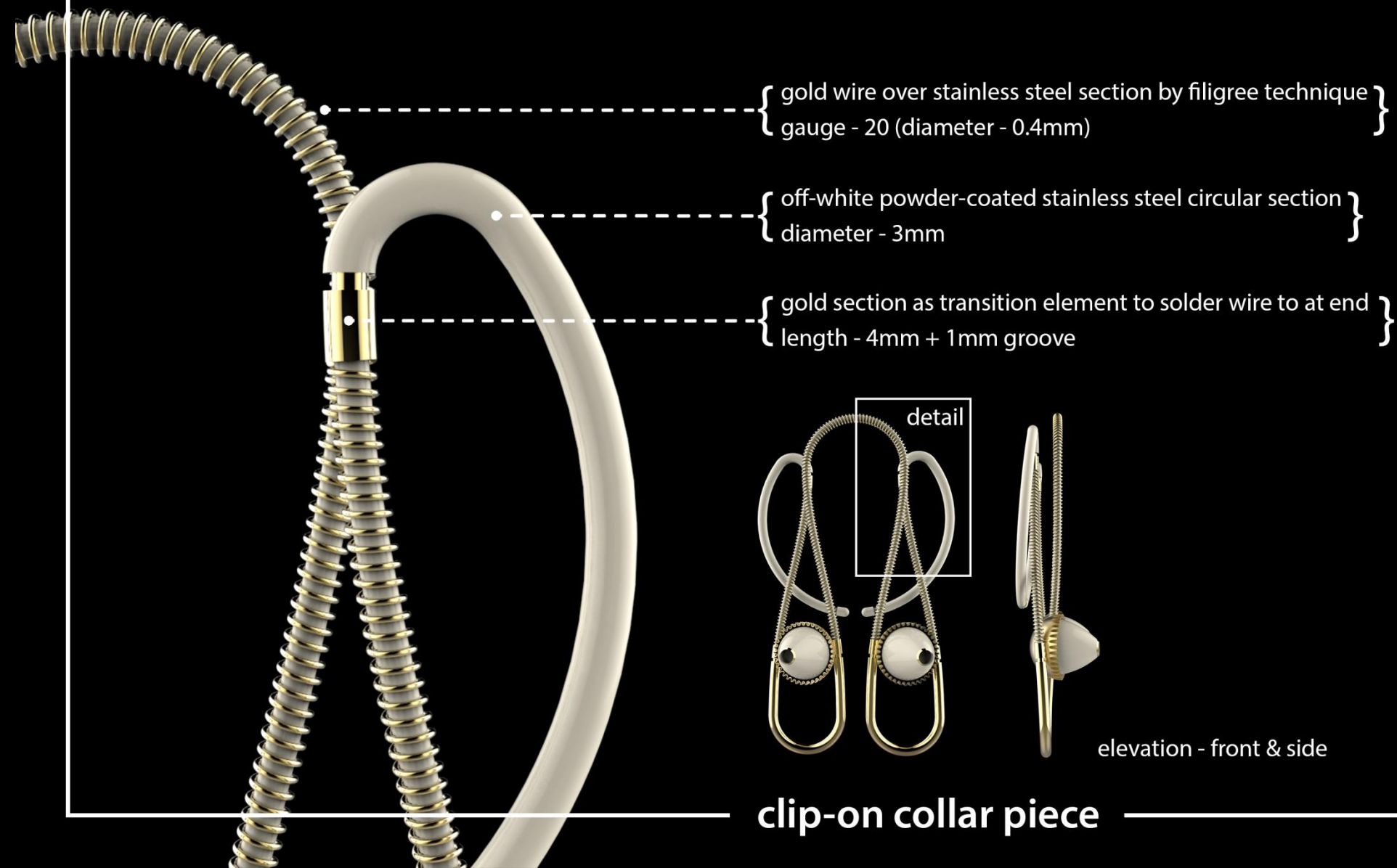
belle de jour
the collection



belle de jour
the collection



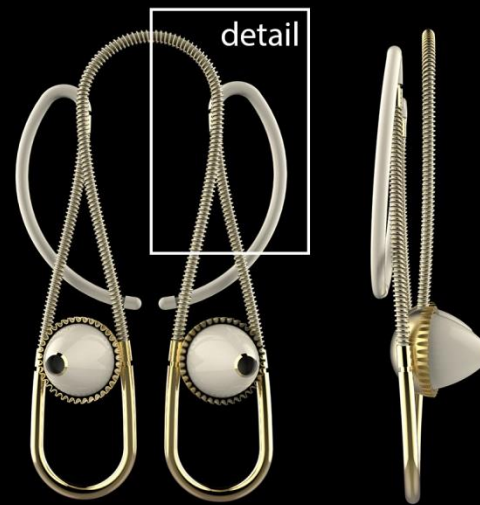
slip-on neckpiece



{ gold wire over stainless steel section by filigree technique }
gauge - 20 (diameter - 0.4mm)

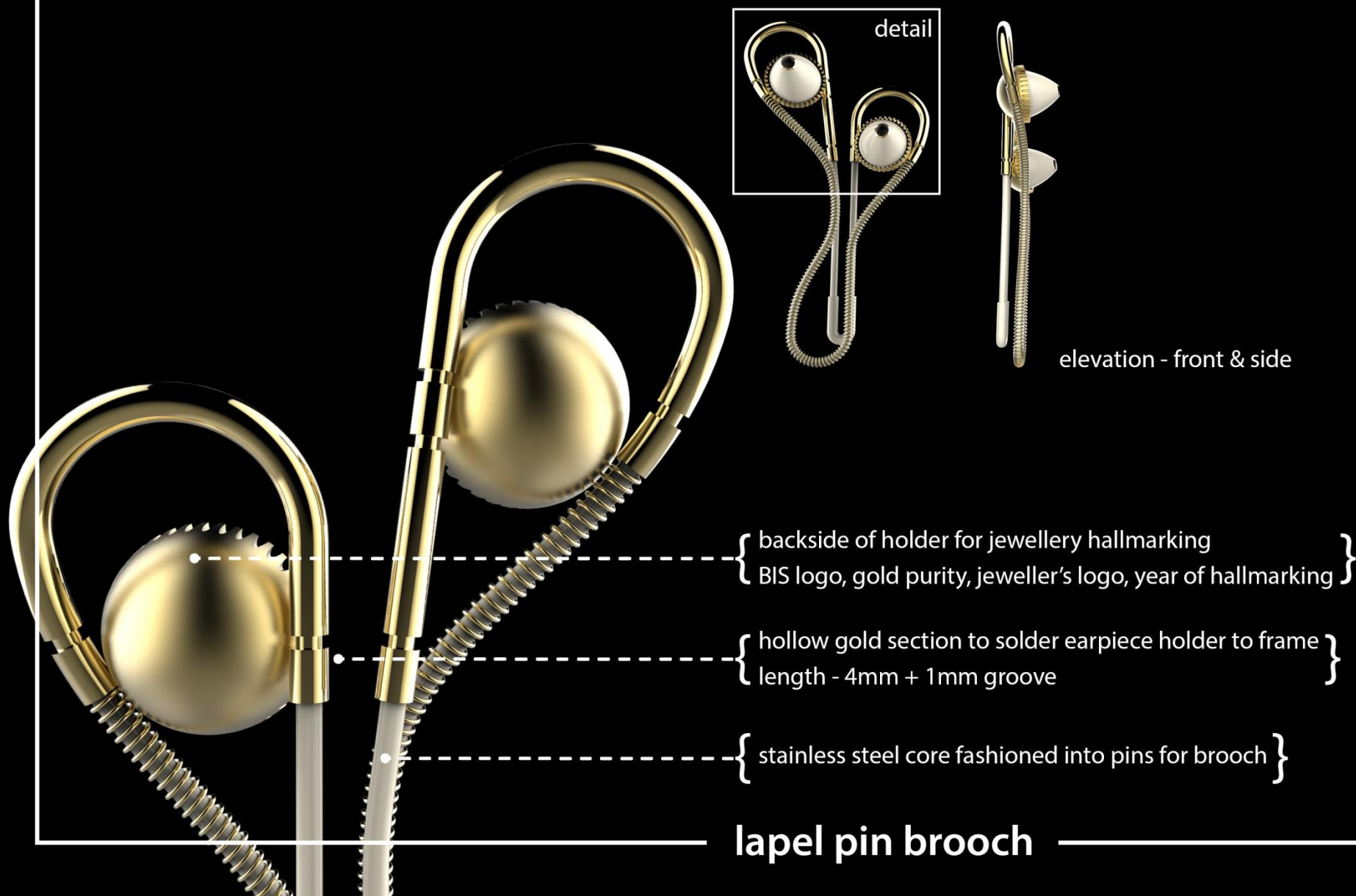
{ off-white powder-coated stainless steel circular section }
diameter - 3mm

{ gold section as transition element to solder wire to at end }
length - 4mm + 1mm groove



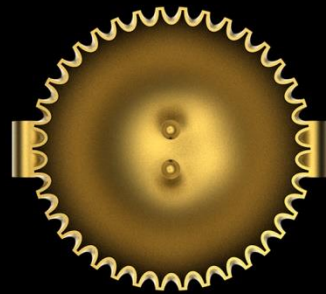
elevation - front & side

clip-on collar piece

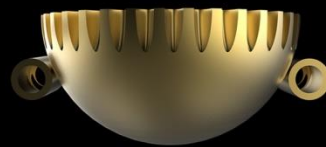


lapel pin brooch

{ holder - plan & elevation }



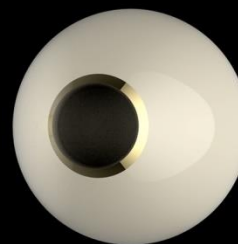
19



9.5



4 4



{ earpiece - plans & elevation }

{ insert earpiece in holder and
turn 90° to lock/unlock }

16

20



*all dimensions in mm

earpiece & holder

Learnings

Working on this project for the past three months has allowed me to look beyond the traditional scope of product design to more uncharted fields.

- With aesthetics playing a major role in jewellery design, thorough explorations on decorative form and ornamentation allowed me to understand the 'jewellery-ness' of a product.
- Incorporating jewellery with wearable technology allowed me to conceptualize a new product for the market while offering new perspectives for existing jewellery to become more user-centric in terms of comfort, context and taste.
- Understanding the current and forecasted trends allowed me to break preconceptions and mould my aesthetic sensibilities to new and appropriate design languages.
- Working with a new and precious material like Gold allowed me to use materials with constraint and by understanding its properties in order to translate it into unique forms.

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