

Digital Lifestyle Products :

Digital Personal Accessories

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01 Project Objective

The objective was to explore possibilities of Digital Lifestyle Products, **"Fusion Products"**

Designing traditional personal accessories like purses, eye ware, bracelets, pendants, earrings, belts having **digital layer** inside to enhance them in terms of

- **form**
- **style**
- **emotion**
- **expression**
- **functionality**
- **intelligence.**

The Project involved **multiple** disciplines of design combining **Interaction Design** along with **Fashion** and **Product Design**.

The output of this project is a set of accessories designed for **social communication** at **"touch and feel" emotional** level.

02 Introduction

The project involved exploring wearable computing from the **point of view of**

- social acceptance,
- community structures,
- human relationships,
- emotional requirements,
- suitability of functions for wearable computing and
- suitability of wearable computing for a particular function.

Future computing :

- Miniaturization,
- Ubiquitous computing,
- Nanotechnology,
- Quantum computing and
- DNA computing.

The project started with

some technology trends,
some assumptions and
some thoughts about future computing.

Started with the thought that...

In future the lifestyle products and personal accessories will no more remain only the fashion statements or minimal functional accessories...They will be **Things That will Think!**

02 Introduction

Digital transformation of products is already started and happening... This will **transform lifestyles** of people

Today's gizmos are going to be part of our **culture tomorrow...**

Futuristic, Contemporary products today are going to be 'current', 'cultural' things tomorrow. It is the '**Fusion Phase**' of digital technology with existing products.

The digital layer will be lesser and **lesser in size...**

But more and **more powerful...**

It will be more and **more subtle... invisible...**

The **digital and the physical** layers... the **bits and the atoms** will **coexist** harmoniously, improving each others performances.

03 About the project process and development

The project started with some thinking which is not currently implemented.

The project is for **future**, based on **concepts, vision** and **thoughts** about **future trends** in computing.

It **does not have a live context**, live users, live product base. It is based on innovation and revolution in terms of the usual functionality of the personal accessories.

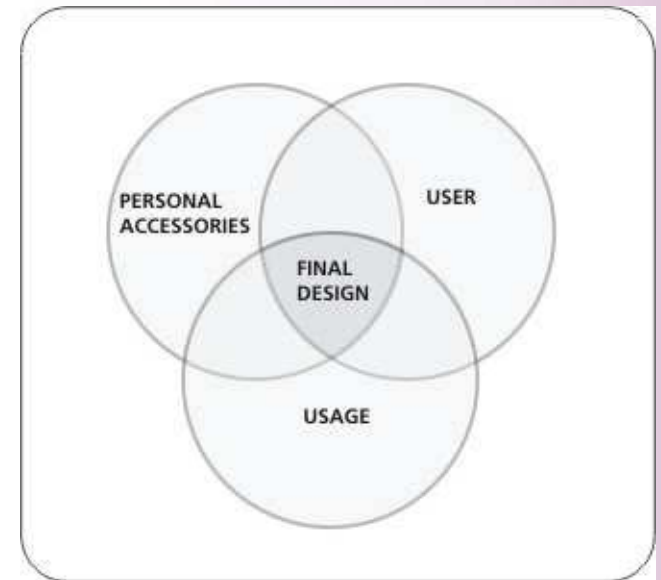
It has to work out from **three ends** of the system namely **existing personal accessories**, the **possible users** of it and **usage** of it.

The three aspects are studied in **parallel** here and not in a sequence.

And most **feasible**, most **logical**, most **socially acceptable** combinations are made in terms of the design concepts.

After some **concept generation**, in terms of the user's need, product form, functionality and the interaction, the concepts were taken to the users to **evaluate and taking feedbacks**.

This provided them some **model or base on which they could think**, imagine and give suggestions and opinions.



04 Media Study

The first step towards the project was **understanding** Lifestyle Products, **analyzing** them and **finding out the features** or **characteristics** of them which make them “**lifestyle products**”.

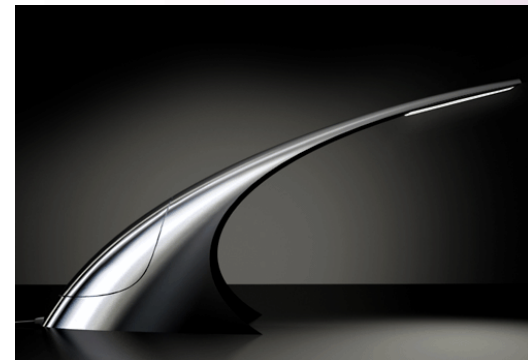
Understanding Lifestyle Products, Brands and Places

Visiting shopping malls in Mumbai, brand stores, jewelry shops, designer stores.

Study from **internet search**... visiting product websites, reading the literature they write about their products, the pseudo values they create.

Watching **TV commercials, fashion shows, movie characters**... and tried finding out **the thread which connects** them together.

Examples of lifestyle brands: Swarovski, Aasmi, De beers. Waterman, Mont Blanc, Longinis, Cartier, Nokia VERTU, iPod, Bose music systems, BMW mini, Harley Davidson, Porsche, the New Beetle, Café coffee day, Crossroads, Nirmal Lifestyles, Fabindia, Domino's Pizza, McDonalds, Barista etc.



Analysis: Features of Lifestyle Products

From studying the lifestyle products and places, some of the important features were figured out which makes them “a lifestyle product”.

Style and Fashion: Example, Some Nokia Handsets,

Statement: Example, Fashion brands like Versace, Gucci, Armani, Provogue.

Status Symbol: Example, a Mercedes car.

Strong Emotional Value: Example, Waterman pens.

Experience Design: Example, a Ferrari car.

Brand Identity: Example, Cartier Accessories.

Precious materials: Example, Nokia's VERTU handset.

Exclusive designs: Example, a Porsche, a Jaguar or a BMW car.

Character: Example, Alessi Products or Karim Rashid's products



Excellent finishes: Example, Swiss Watches like Longinis, Rado

Celebrity Brand Ambassadors: Example Cindy Crawford associated with Omega Watches.

Fan cults and product collectors: Example, Harley Davidson Bikes, Zippo Lighters

Association with my project:

Amongst all the above, the most important properties are **Strong Emotional Value** attached to the products, **Experience** it gives to the users, and **the Style or Fashion element** into it, which I am **carrying forward** as inherent properties in my products.

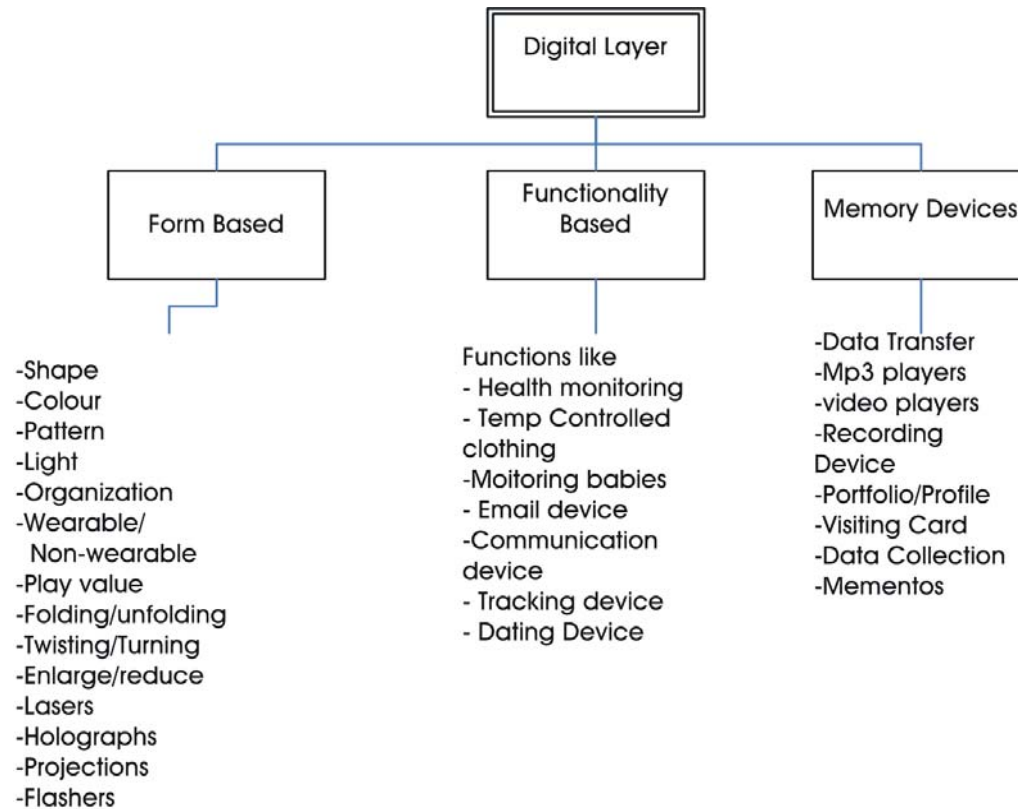




Projects / competitions

As part of the media exploration, I looked into various interaction design projects and competitions across the world. I studied research work in the field of wearable computing, social computing, ubiquitous computing, technological advancements, emotional design and psychological aspects of computing.

05 The Digital Layer

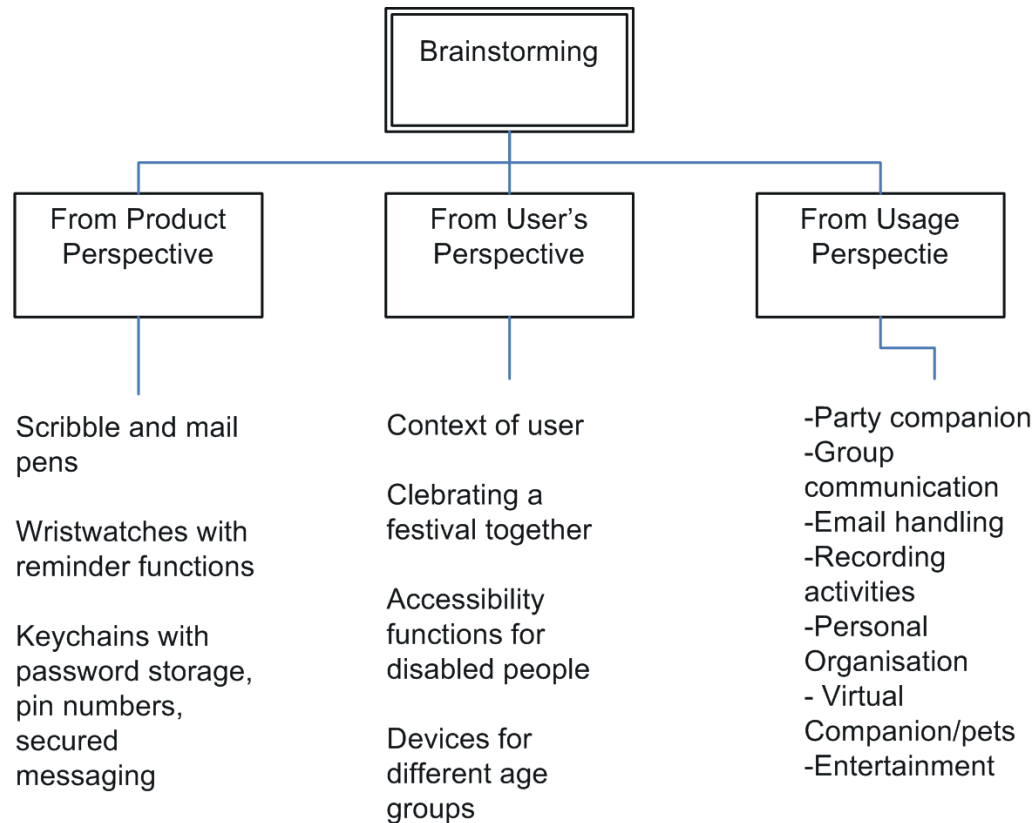


It was now time to look into the **things people wear** as part of the **tradition or current culture** and thinking about what could an **addition of a digital layer** do to them in terms of **enhancement** from the existing features of those products.

The digital layer can enhance the products in three different categories:

Form Based
Functionality based &
Memory Based Devices

06 The 3 Approaches for idea generation



Brainstorming was done for idea generation using the 3 approaches.

From product's perspective:

Working out from Products to usage and towards user needs.

Choosing personal accessories people use and finding out how the digital layer can enhance it.

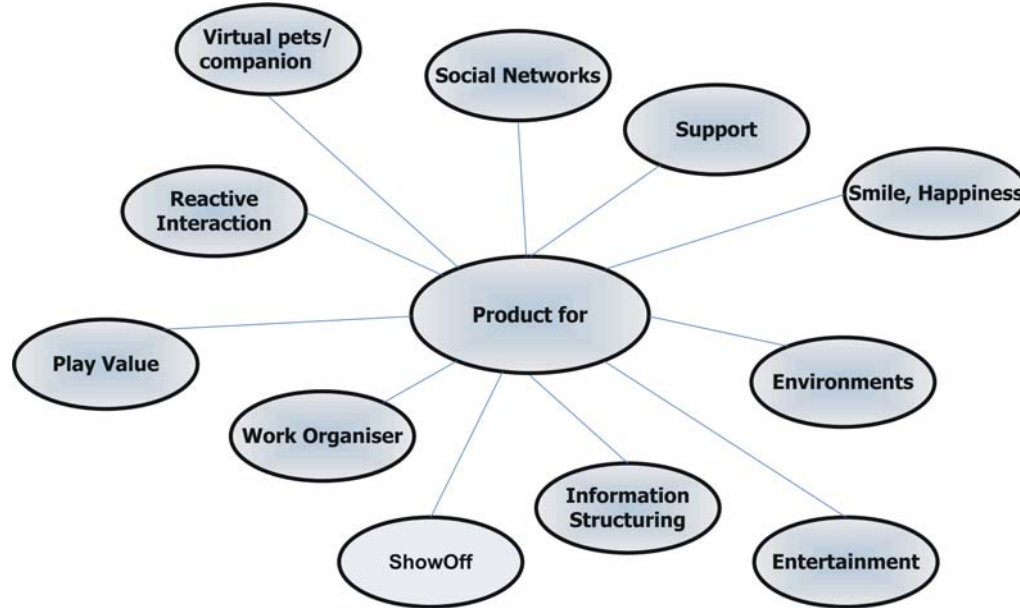
From User's perspective:

Taking a User Context, devising user need and mapping the solution in terms of the personal accessories.

From Usage's perspective:

The starting point is a function or usage here. The function is decided, then the user group and a particular accessory.

07 Contextualizing product



To proceed further, there was a need to **contextualize** the project further into a particular domain.

Initially **brainstorming** was done based on the possibilities of **work areas** and **previous brainstorming for idea generation**.

Researches across the world in different institutions on **wearable computing** and **social aspects** of it were considered while contextualizing the product domain.

For taking decision on choosing a particular context, further **study of wearable computing and its constraints** were studied, to find most **suitable functions** and **suitable work areas** for wearability.

08 Features / Constraints of Personal Accessories / Wearables

Suitability of human body parts:

The figure shows suitability of human body parts for carrying wearable product. It is based on the **comfort** level, **surface area** available, places where **flexible joints** are **not** present in the body, places where products **does not cause restrictions** on the body movements the body parts which can **bear the weight** of the device

Social aspects of wearability:

Important reactions from people which gives direction to my project:

- "I feel self-conscious having people see me wear this device"
- "I feel the device moving on my body."
- "I feel some pain or discomfort wearing the device."
- "I feel awkward or different wearing the device."
- "I feel that the device affects the way I move."





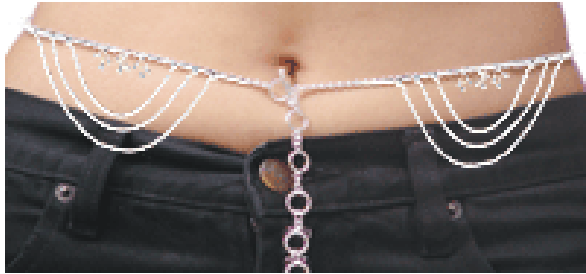
How to make these products friendlier, desirable, comfortable and socially acceptable?

For that I looked into the **products people currently wear** other than clothing.

- **Non-traditional new products**
- **Traditional products like jewelry.**



The images show non traditional products which people have already started wearing (non jewelry):

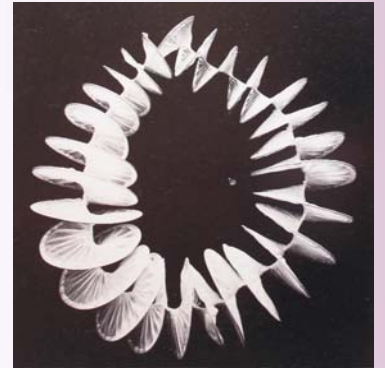


Traditional products like jewelry:

Jewelry is the most **sustained** throughout hundred thousands of years from the civilizations of harappa.

The Features that made it sustainable:

- **Comfort** while wearing:
- Use of **inert** metals.
- **Loose** fitting on body
- Weatherproof and washable.
- Causes **minimum obstructions** to the body movements
- The **lifestyle statement**
- Symbol of **status** and prestige.
- It **increases the beauty** of the wearer
- Representation of **Style and Fashion**.
- **Variety, exclusiveness and aesthetics in the design**
- **Emotional, cultural and traditional values** attached
- Related **community formation, relationships, human values**.



Jewelry in harappa civilization

Jewelry of a Jaypur queen

Modern jewelry

Contemporary Jewelry as an abstract art form

From this, we can say that **Wearable Computing can be based on sustainable systems like jewelry** to make it socially acceptable.

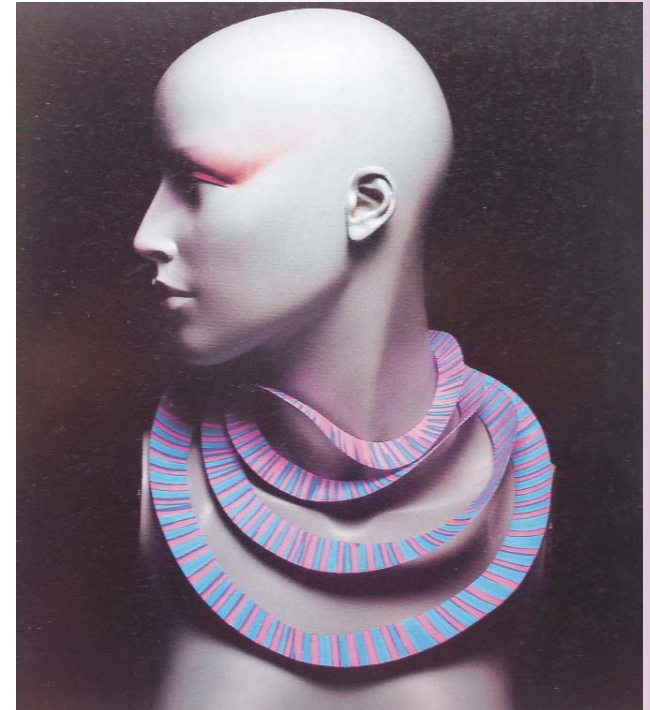
Some added requirements of wearable computing:

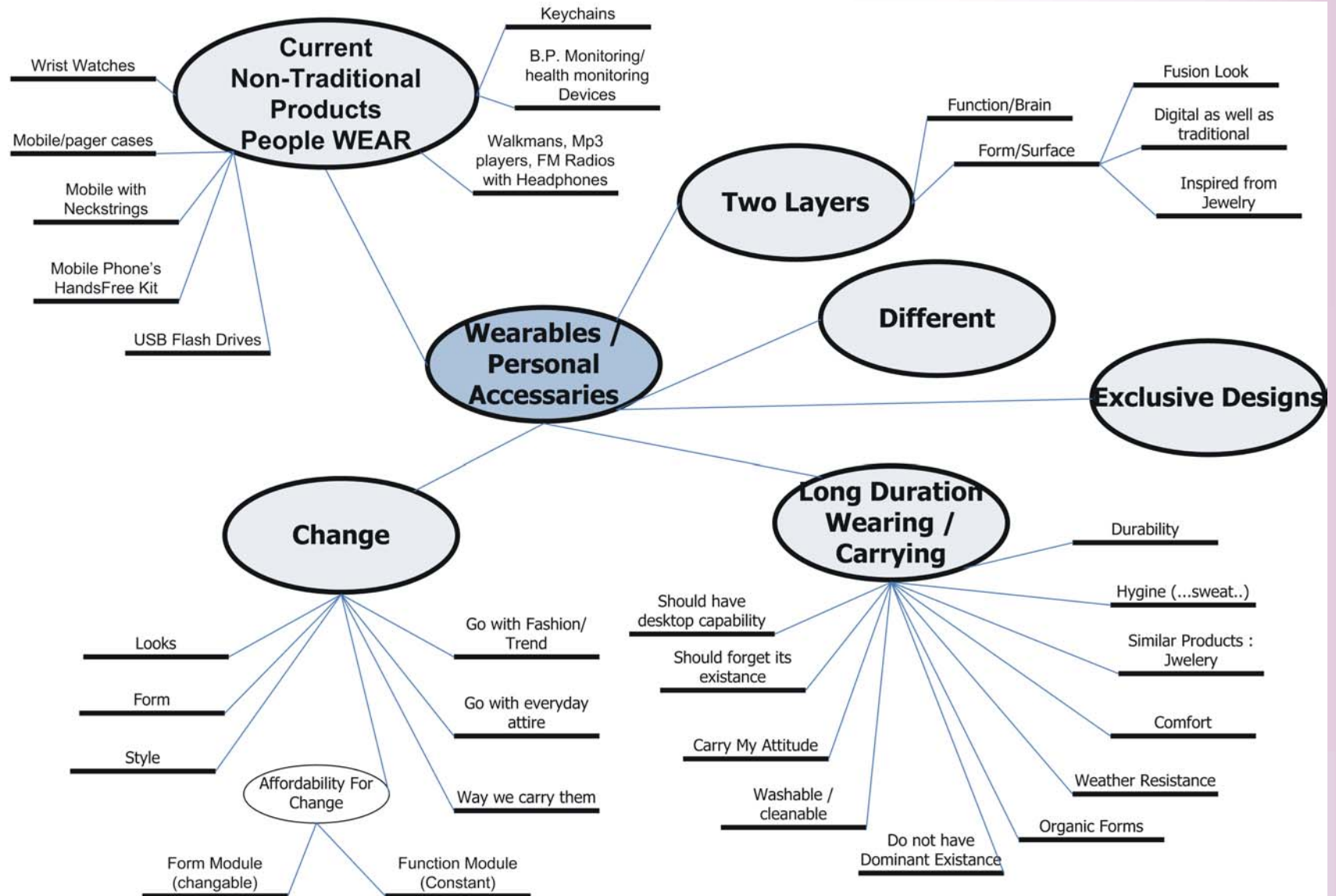
- They should not have a **dominant existence**. Example Wristwatch
- **subtle and unobtrusive** interaction
- **"Fusion Form"**

By incorporating **Wearables into fashionable** accessories we seem to be more accepting of them.

This stylization and packaging makes **"the users feel comfortable by providing something familiar."**

Technology is not an excuse for looking abnormal nor does one need to be unfashionable to wear Wearables.





09 Suitable functions for wearable products/personal accessories

The next step was to find out the constraint put up by the form on interaction design and further focusing down on to a particular product area.

Form Constraints:

- Long duration consistent use
- Close to body
- Small physical dimension
- Form factor

Hence,

Suitable for **Casual and simple** functions with **subtle** interactions rather than complex and with very specific interaction needs.

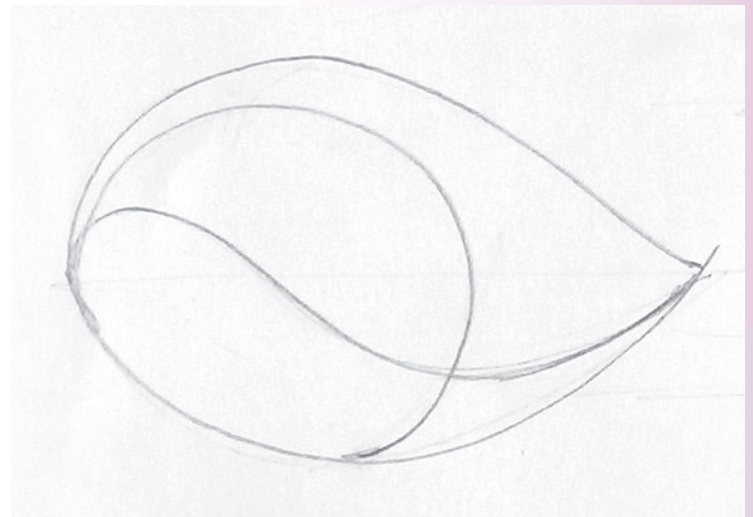
Users should develop an **emotional attachment to the products.**

So, my viewpoint towards the digital lifestyle products is:
"People may buy these products casually without any particular reason."



10 From sketchy ideas to product concepts

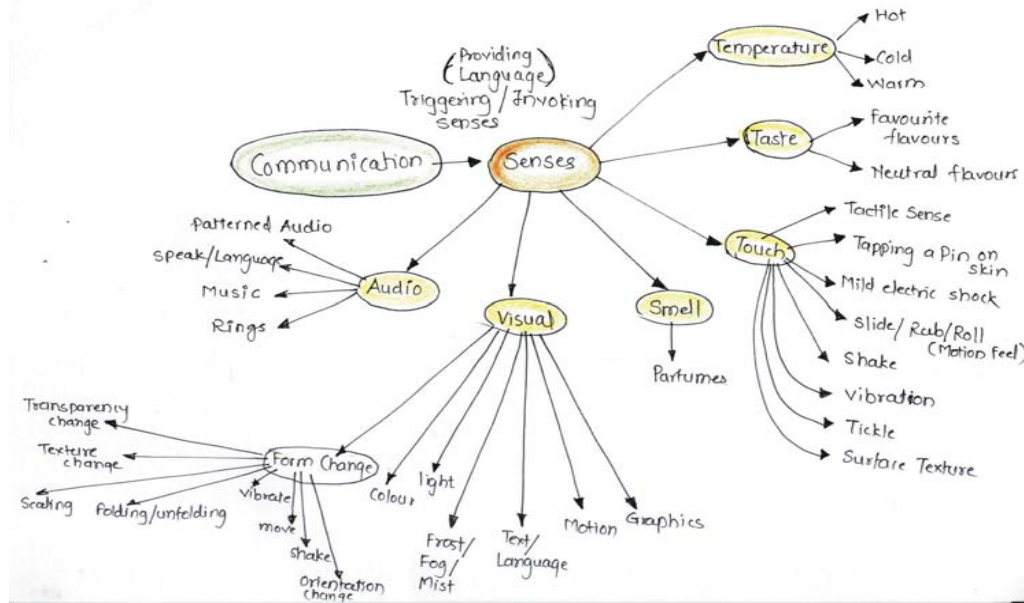
Social communication, personal utilities



Interaction Language:

An interaction between a human and a product is done by establishing a language between the product and him.

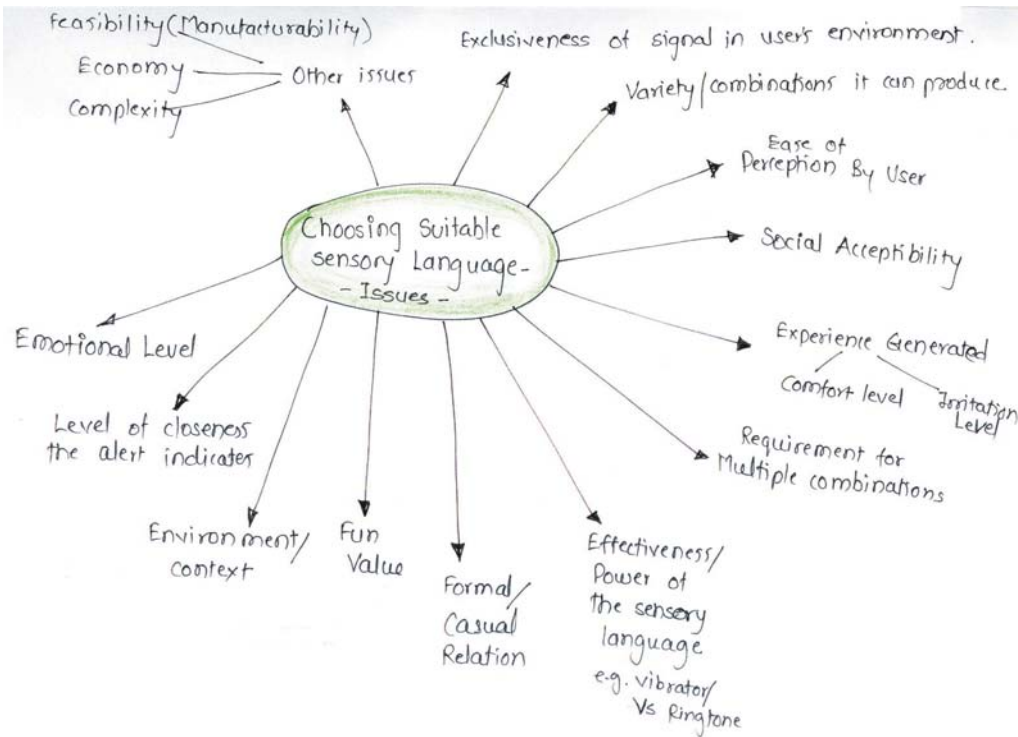
The diagram shows explorations of the interaction language .



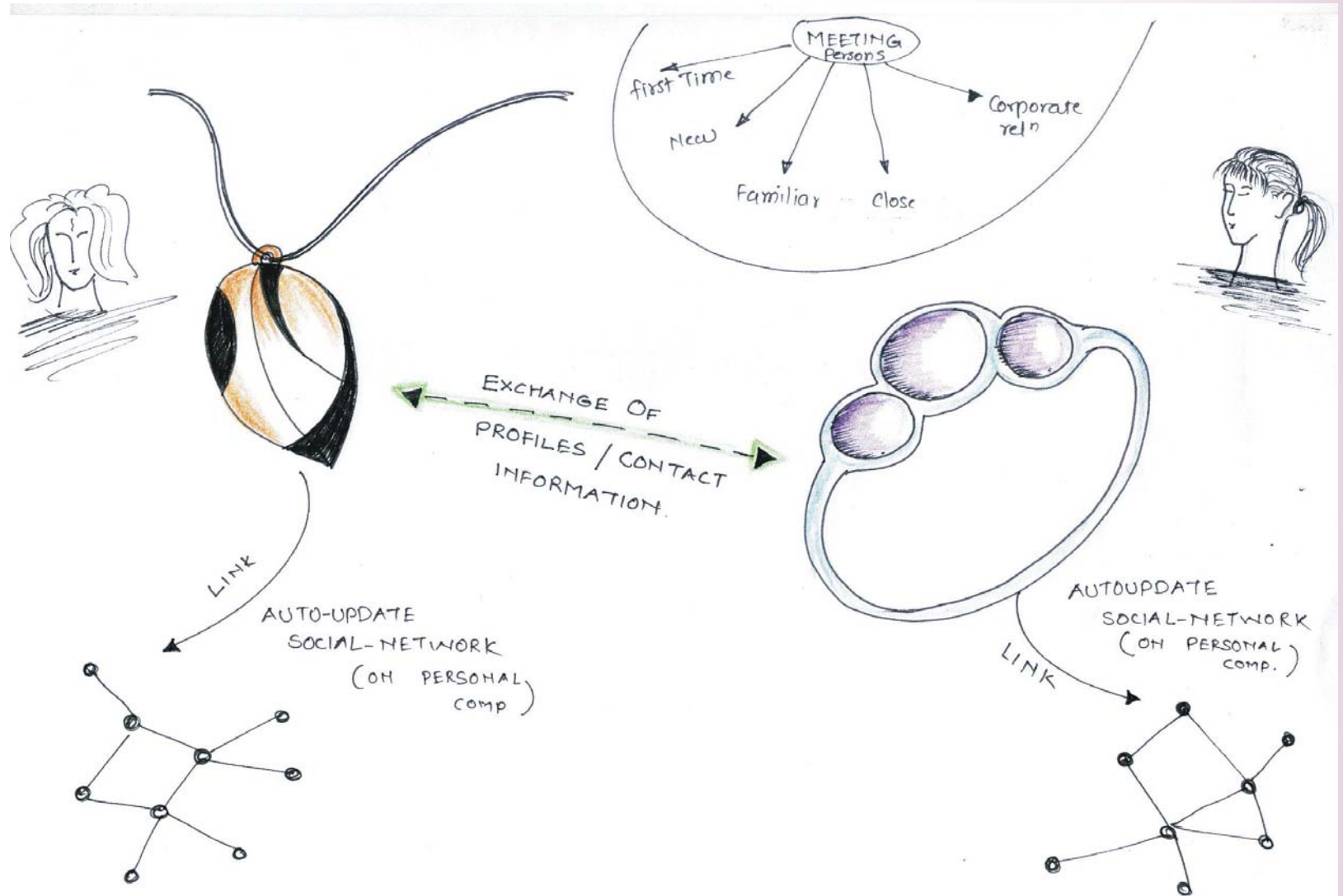
Choosing a suitable Interaction Language:

Next step was to find out issues on the basis of which the suitable sensory language can be chosen according to the context of the product and user.

The diagram shows those issues in detail.



Concept 1: Device to manage increase social network:

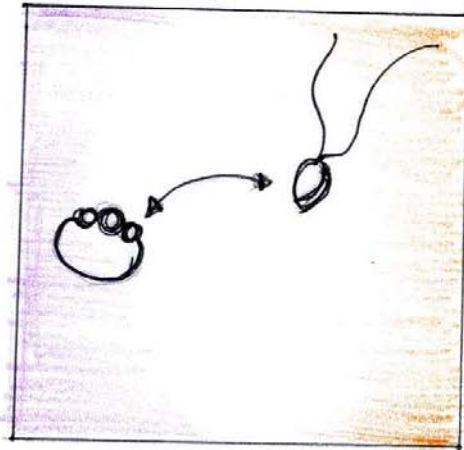


Concept 1: Device to manage increase social network

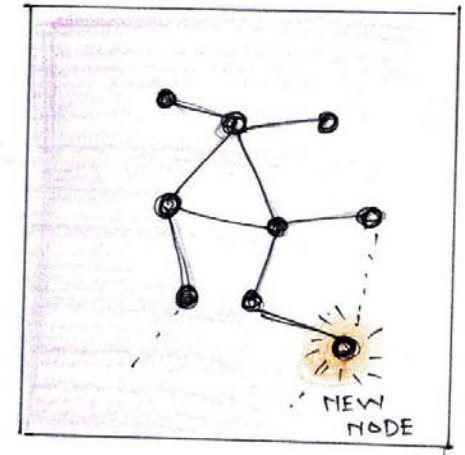
Scenario:



MEET NEW
PEOPLE.

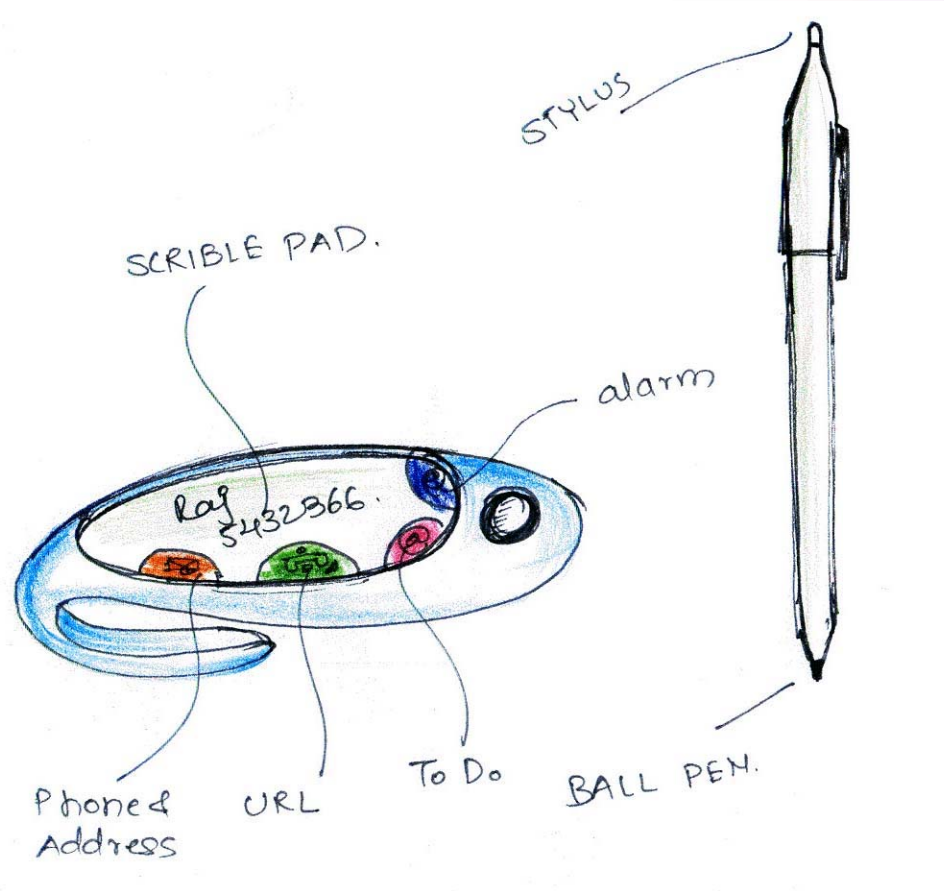


EXCHANGE OF
INFORMM.
CONTACT INFO.,
PROFILE, VISITING
CARD.



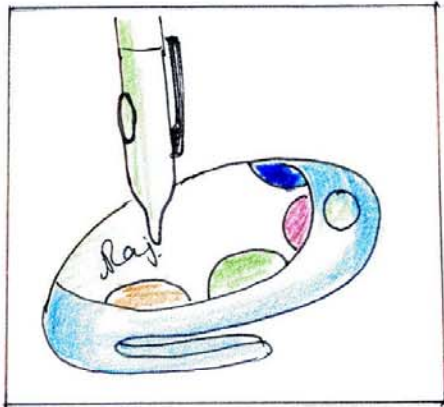
UPDATION OF
SOCIAL NETWORK.

Concept 2: Digital Notepad

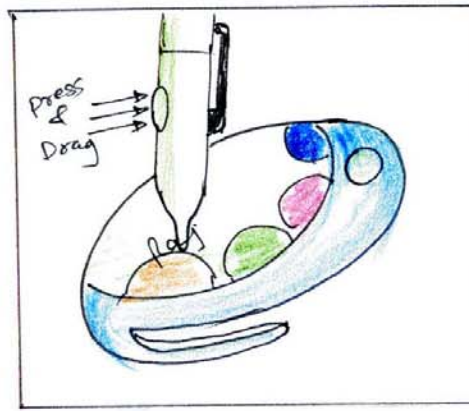


Concept 2: Digital Notepad

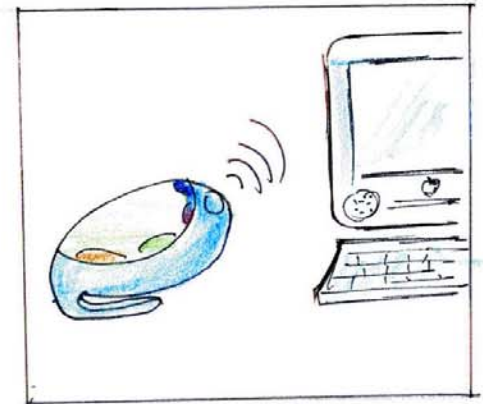
Scenario:



1) Scribble Note on
display surface.



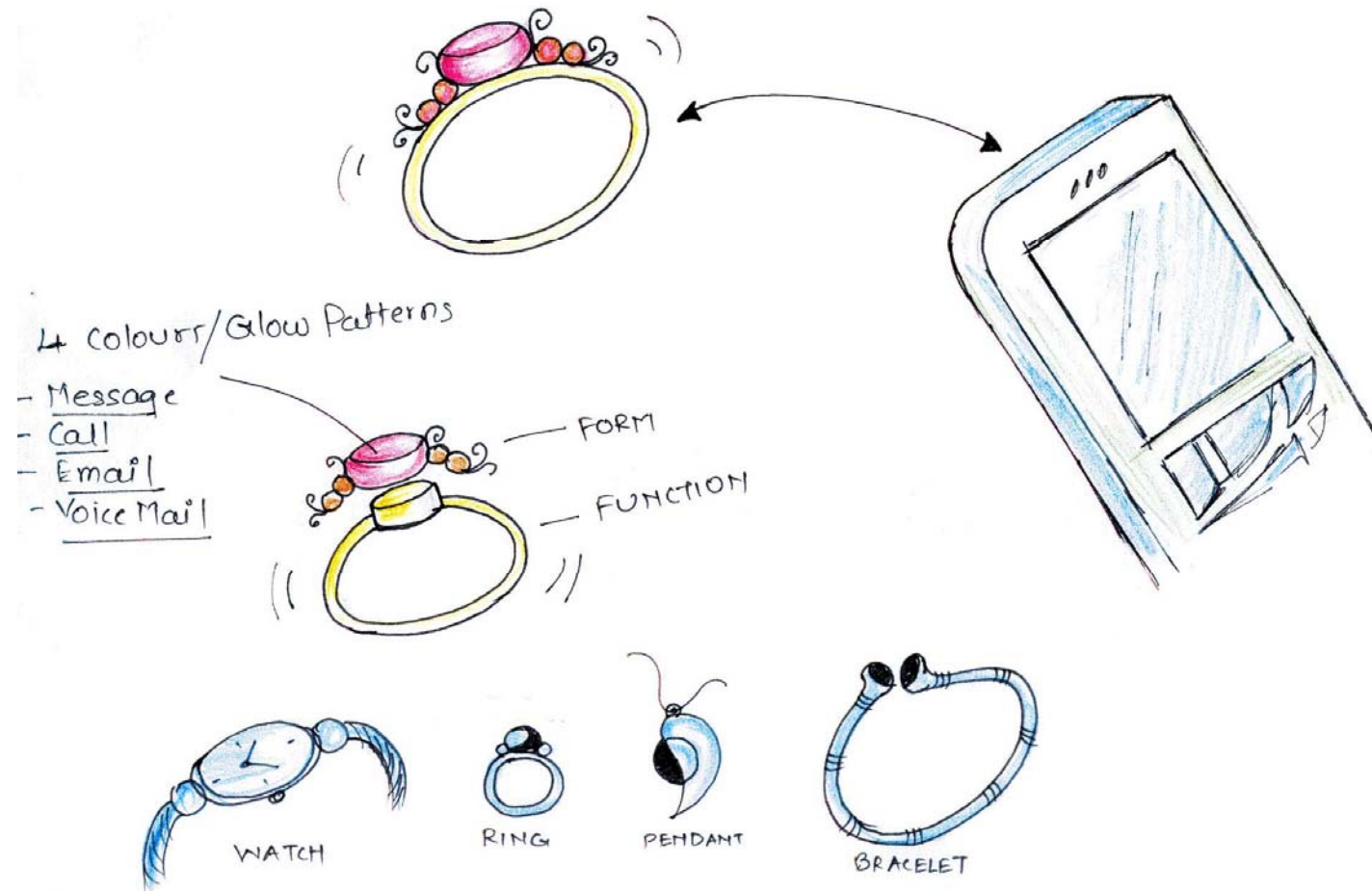
2) Press the "Drag"
Button on Stylus
3) Drag Note into
relative category.



4) Transfer to PC.
5) Auto sorting.
6) Searching by
scribbling on
scribble Pad.

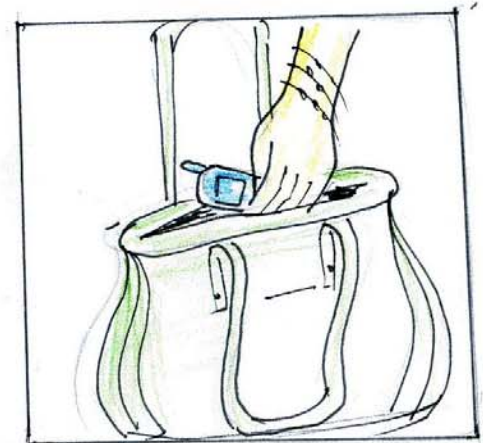
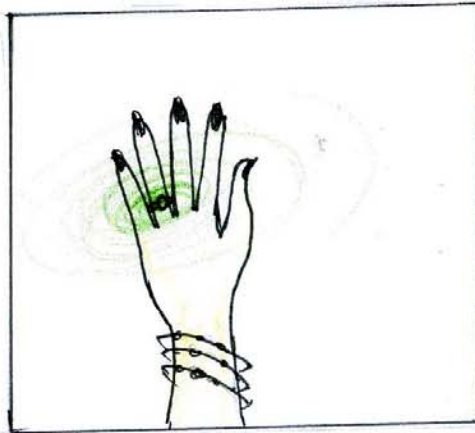
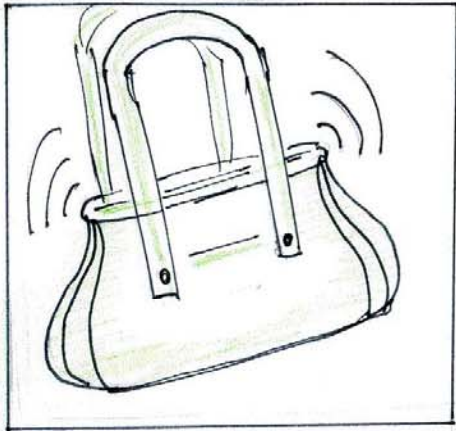
Concept 3: Extension to mobile alert function

EXTENSION TO ALERT FUNCTION



Concept 3: Extension to mobile alert function

Scenario:



- 1> Nina keeps her mobile in her purse
- 2> She does not have pockets in her dress !

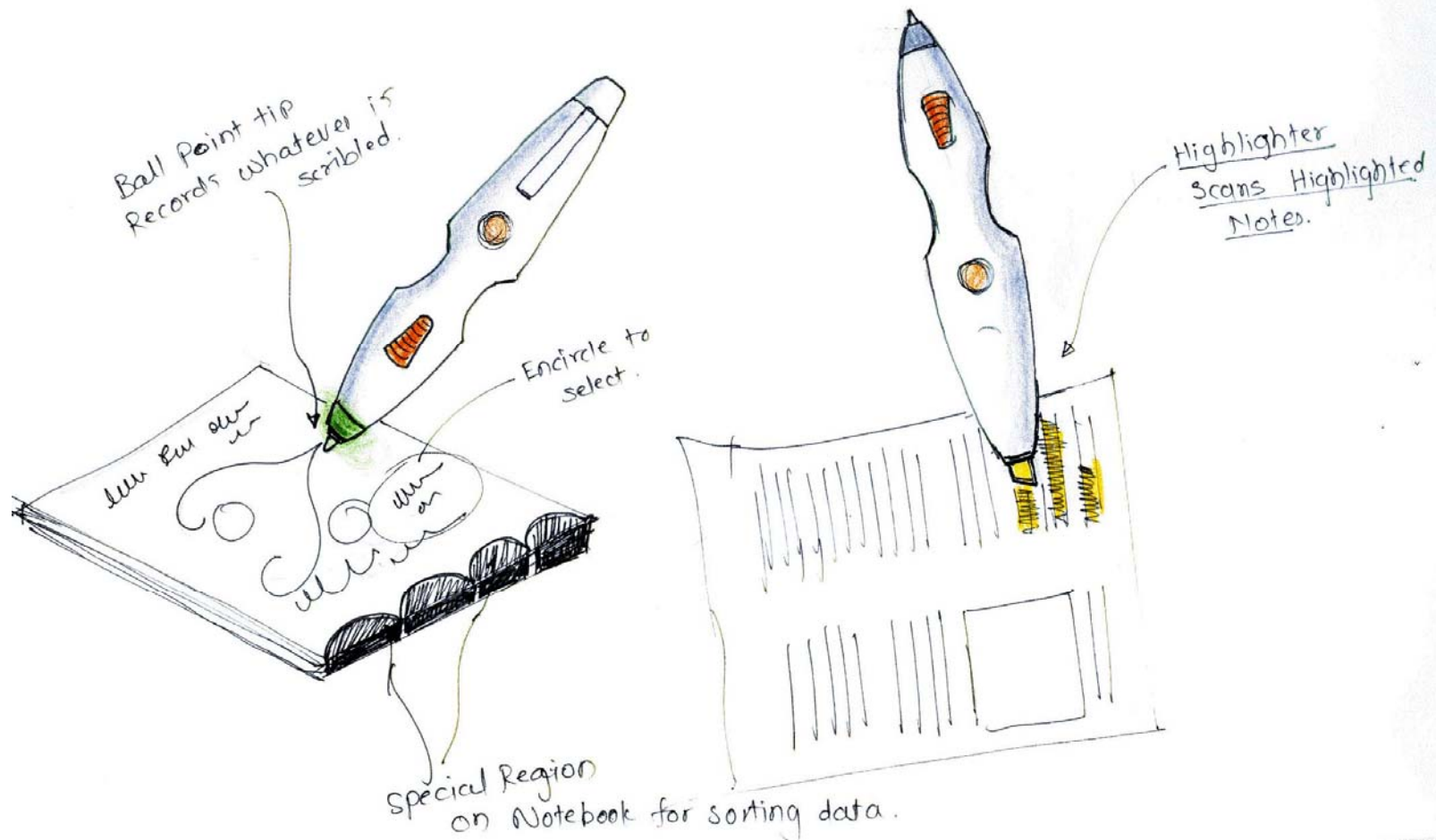
- 3> A green light with vibration is felt in her ring .
- 4> Its a phone-call.
- 5> She did not miss it !

- 5) Picks up the phone, talks, keeps back in the purse.
- 6) Phone is safer in her purse rather than carrying in hand.

Concept 4: Digital note taking pen

Scenario:

DIGITAL NOTETAKER



11 Final Concepts

Theme: Social Communication at subtle level

- 1. Communication device for Lovers**
- 2. Communication device for Working Parent and Lonely Child**

Based on "Touch and Feel" communication, Simple interaction, Simple functions, suitable for wearability and repetitiveness

Theme : Social Emotional Communication at subtle level

Communication device for Lovers

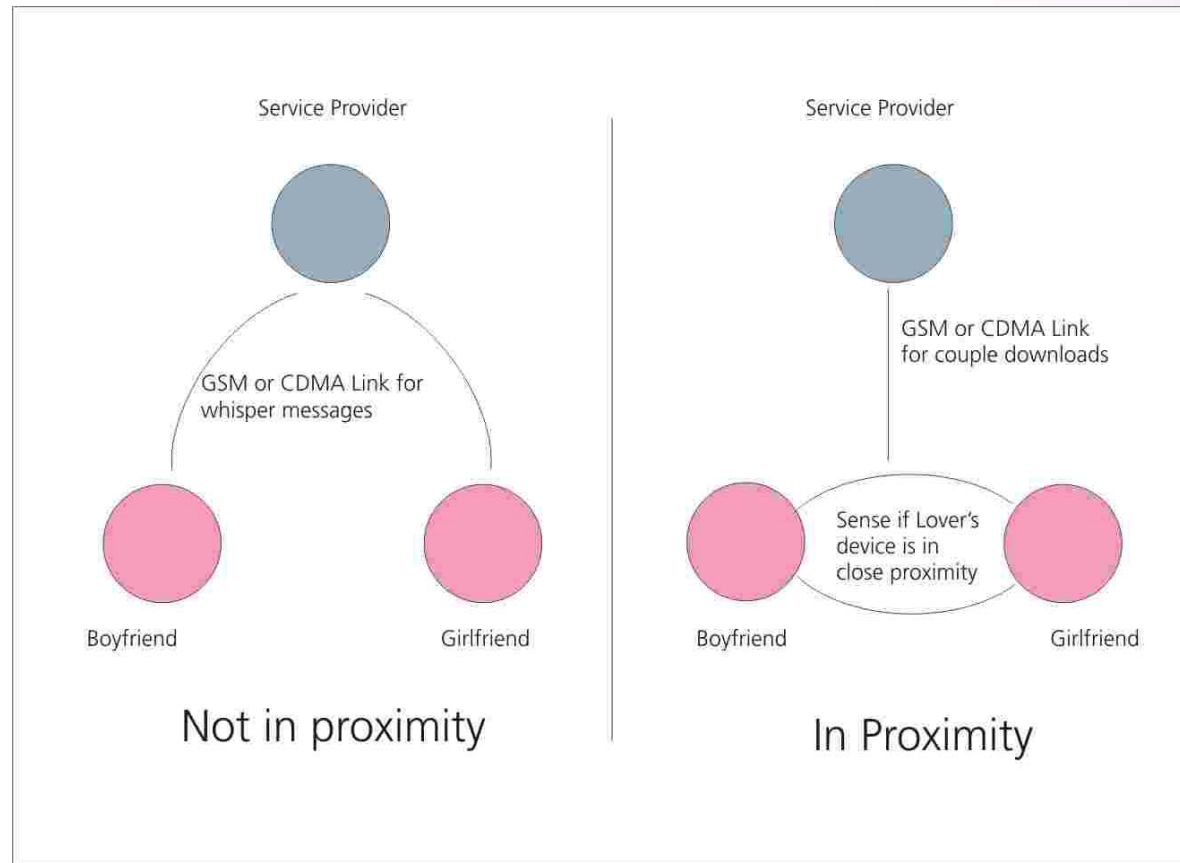
Based on “Touch and Feel” communication, Simple interaction, Simple functions, suitable for wearability and repetitiveness

The inspiration was Love, and associated metaphors like
Flowers,
Buds,
Blooming,
Hugging and
Whispering.

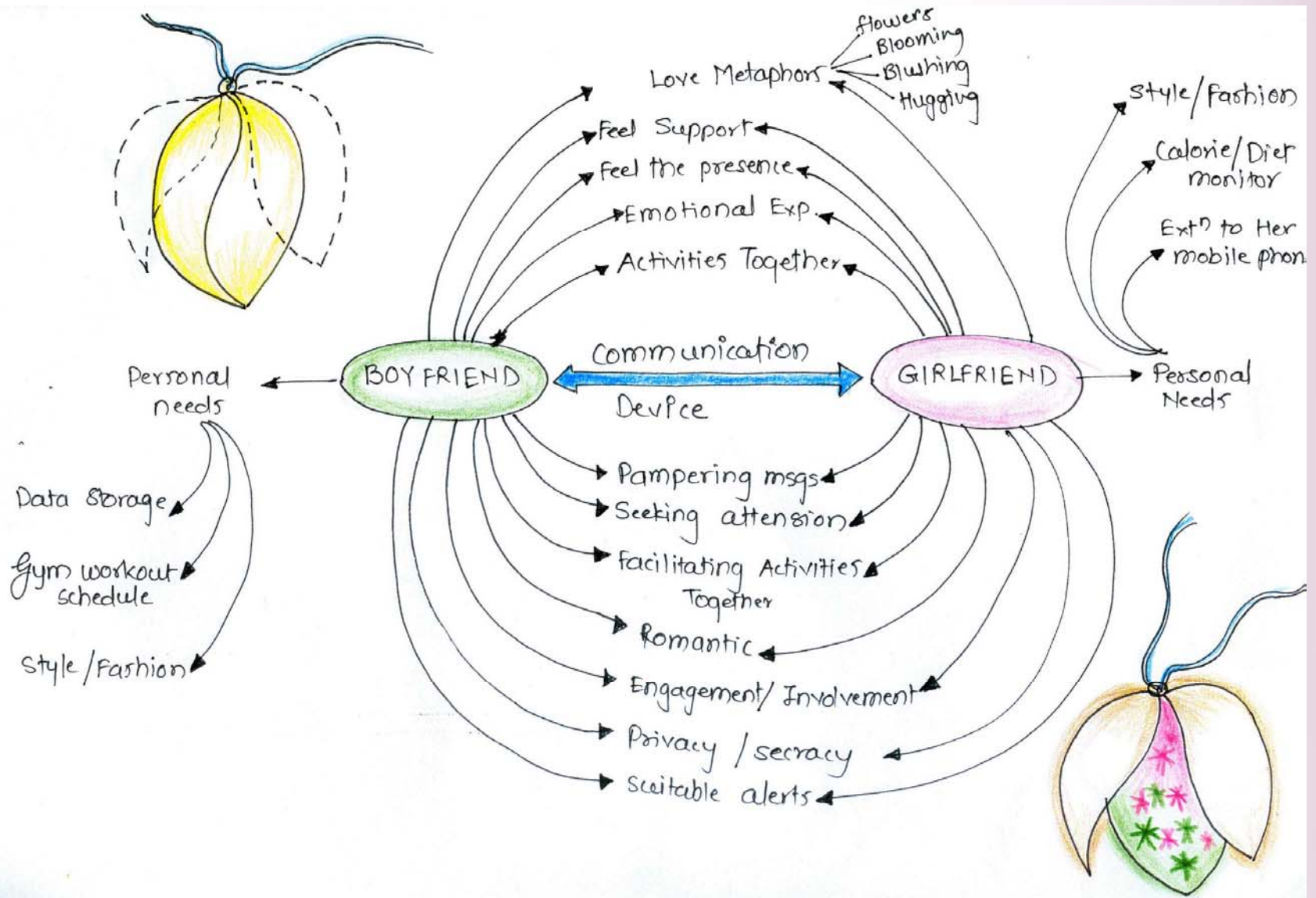


Communication device for Lovers

Media and Technology



Communication device for Lovers : System



User Feedback / queries

Almost all the feedbacks were positive

People liked the idea of “touch and Feel” kind of device

Emotional Interaction level achieved is good

Don't put any other “functionality” like data storage etc. Let it be “dedicated”

Do I always have to replay if my lover sends me 'triggers' ?

- ~Messages that requires reply

- ~Message that does not require reply.. For example, a greeting card

Form for Boyfriend... little masculine??

Communication device for Lovers : Scenario



Rajat and Naaz... they mate at a friends party six months back... now they are in love...



Rajat and Naaz... they met at a friends party six months back... now they are in love...



Whenever they miss each other... they give missed calls to each other... they meet on weekends...



One day Rajat was in a long discussion with his Boss... Naaz gives him so many missed calls... not a single reply from him...



Naaz doesn't speak with him for next 2-3 days... Rajat is thinking on some idea to patch up with her...

ers in
car loans

February 2005

SUN

MON

TUE

WED

THU

FRI

SAT

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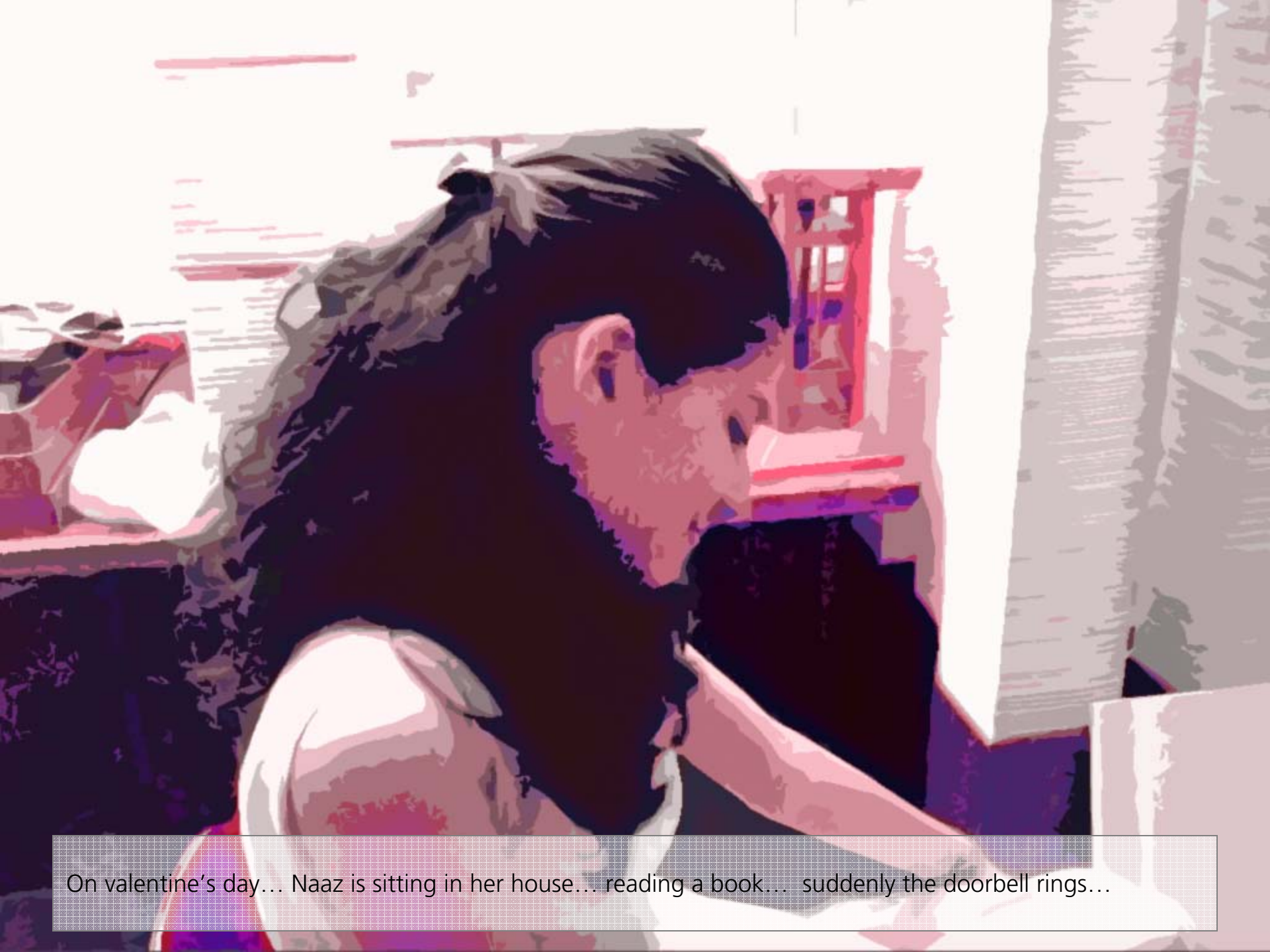
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16

It's a valentine's day tomorrow... I must do something... Rajat thinks...



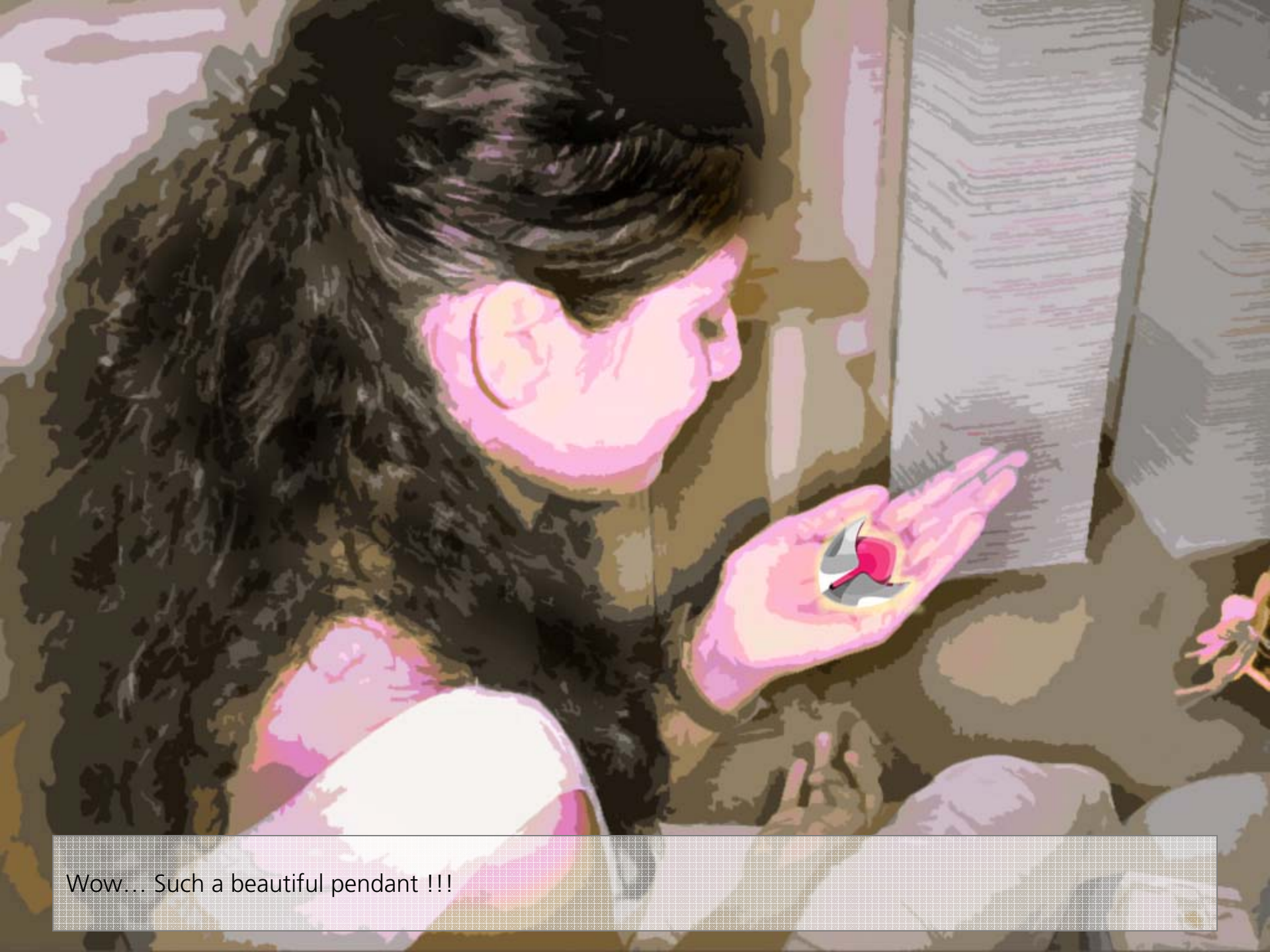
On valentine's day... Naaz is sitting in her house... reading a book... suddenly the doorbell rings...



It's a flower delivery boy... He hands over a small gift box with the flowers to her... She wonders... who must be this? Is it Rajat?



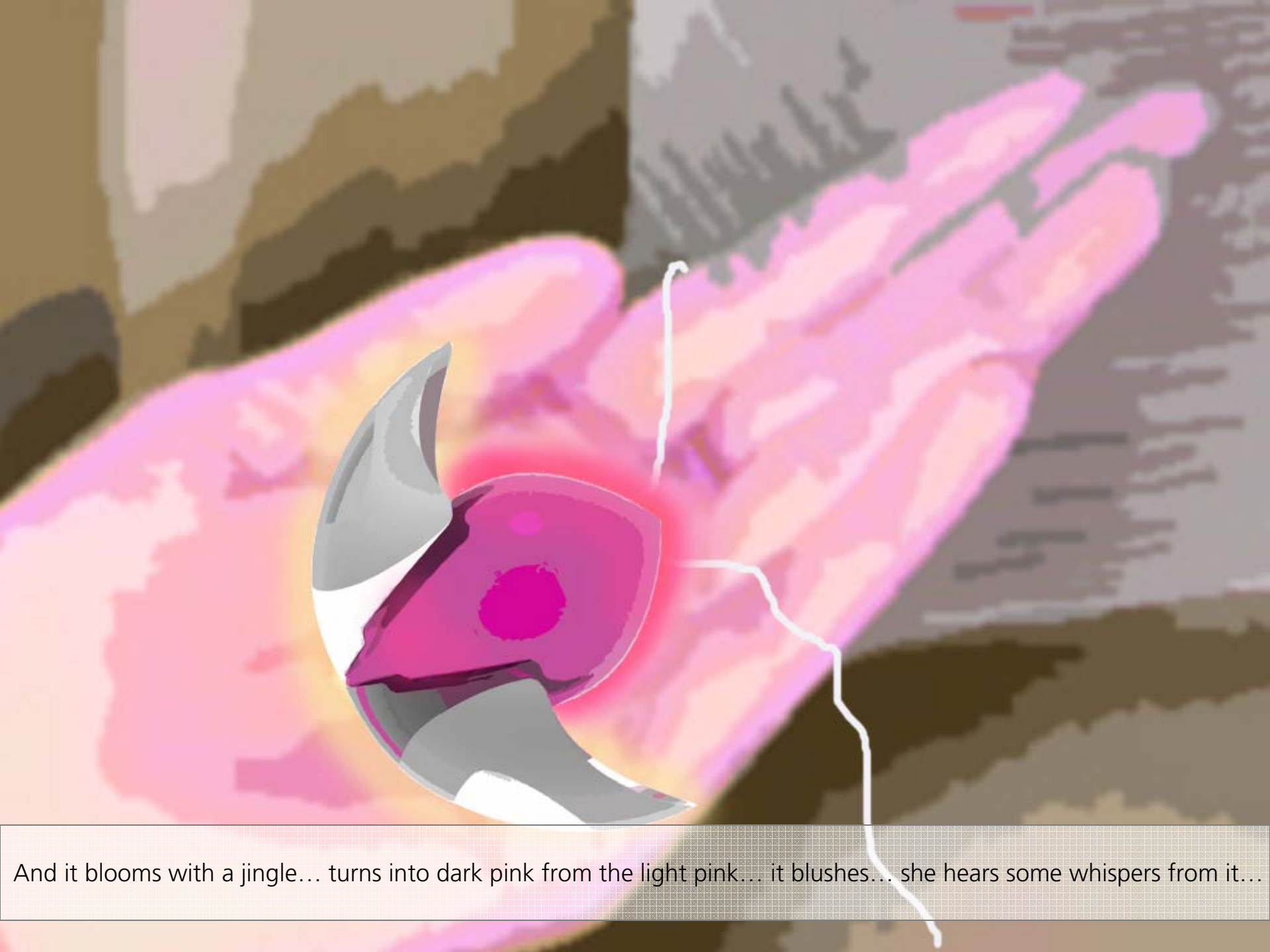
She opens the gift box...



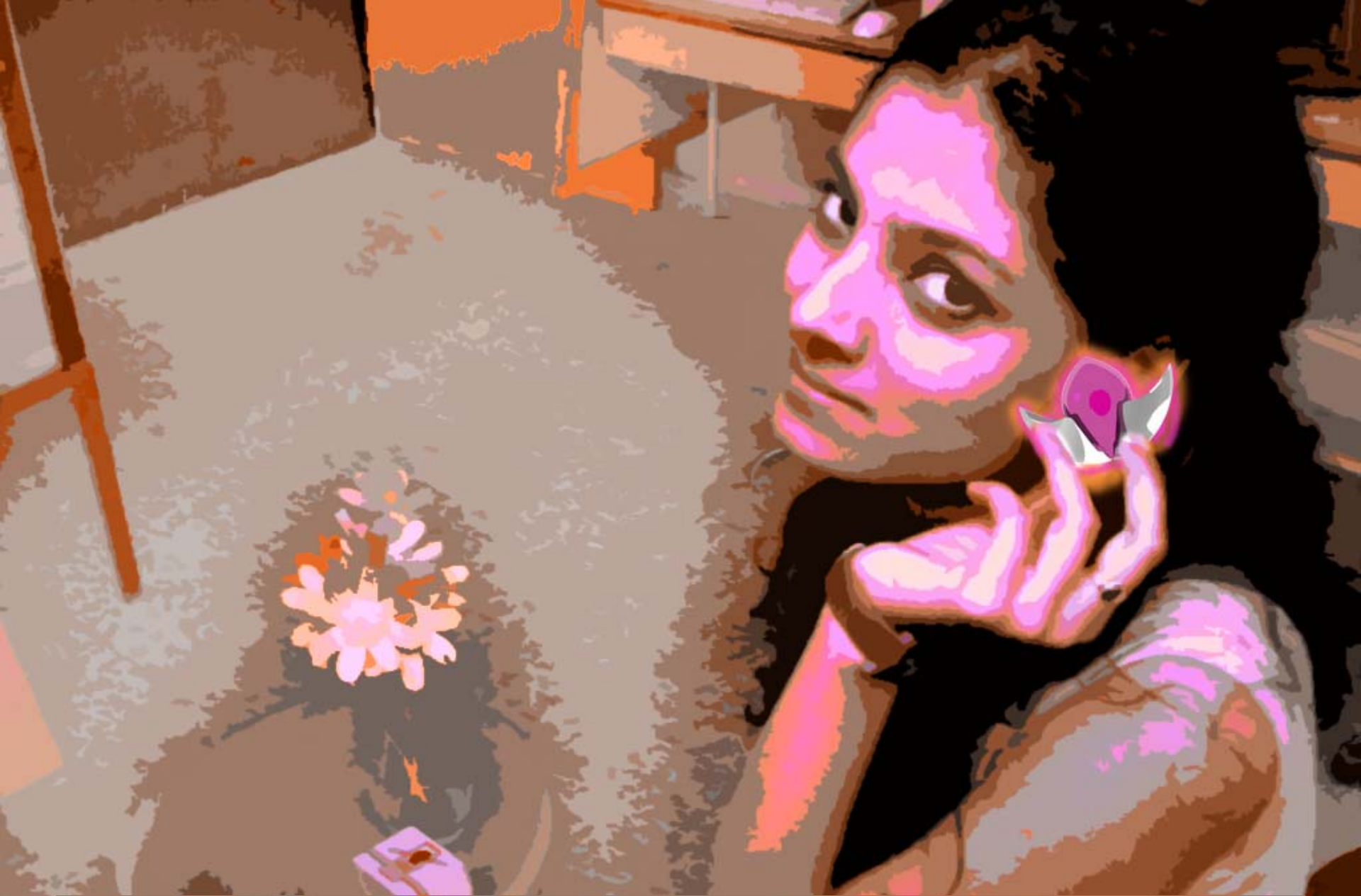
Wow... Such a beautiful pendant !!!



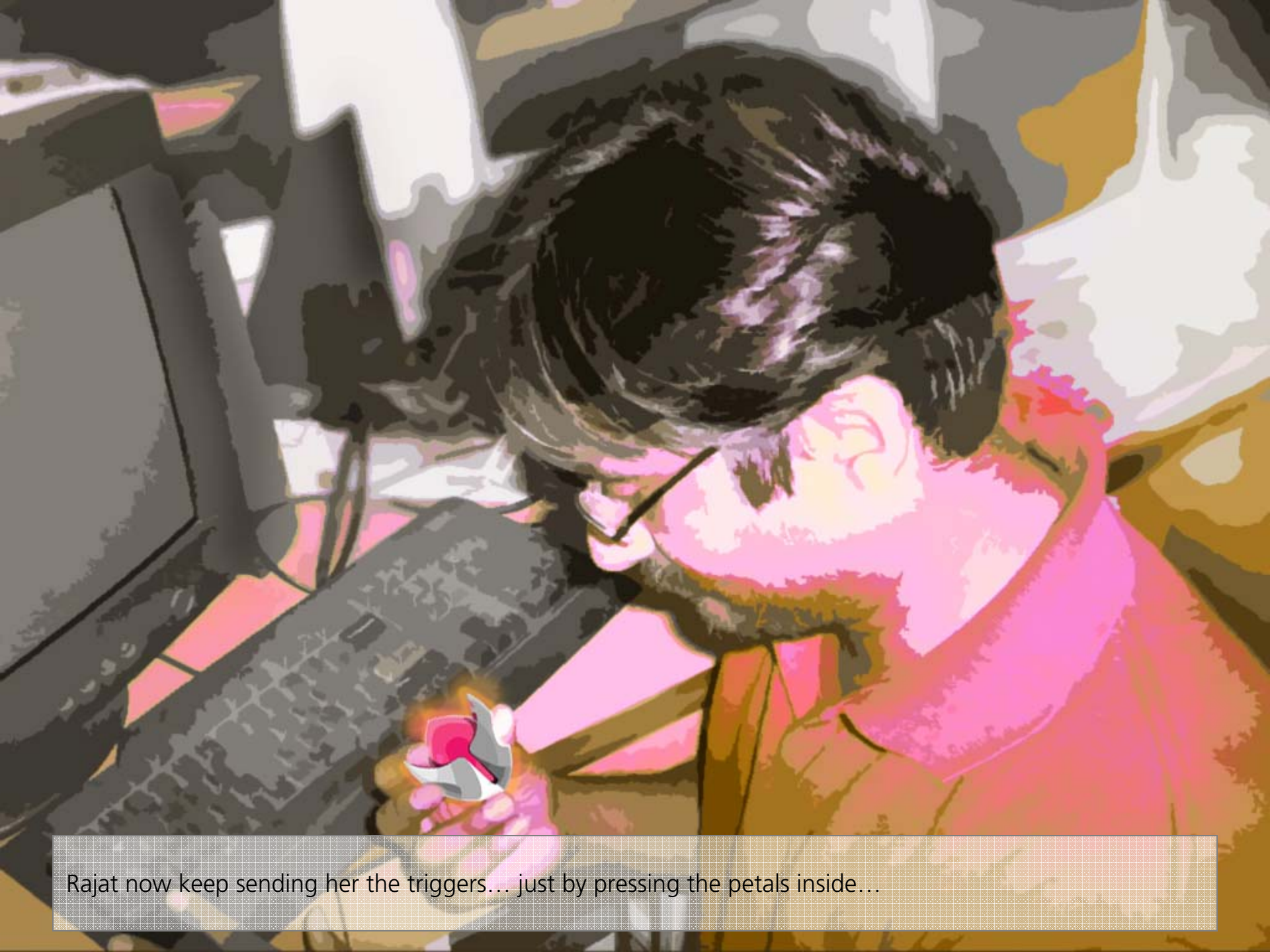
Suddenly the pendant starts glowing with subtle vibrations...



And it blooms with a jingle... turns into dark pink from the light pink... it blushes... she hears some whispers from it...



She holds it near her ear... its Rajat's voice... he says... " I am really sorry naaz.. Please please forgive me" ... Little convinced though....she... is still not very sure with it..



Rajat now keep sending her the triggers... just by pressing the petals inside...



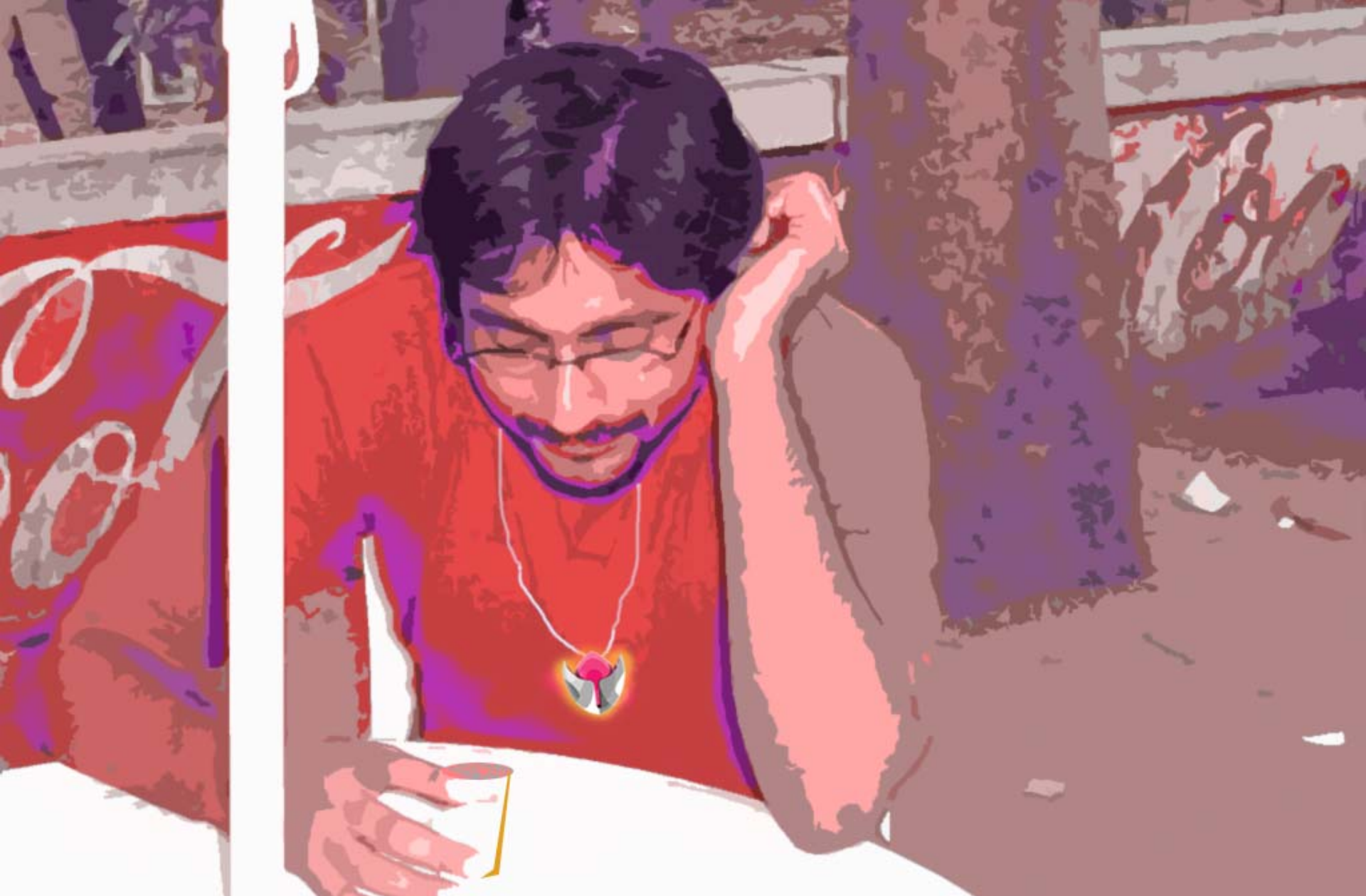
It sends subtle vibrations and glows on her pendant



After some time.... The Rajat's pendant blooms with a jingle...



... She asks him to meet her in the coffee shop where they went on their first date...



Rajat reaches first as usual... waiting... eager to meet her...



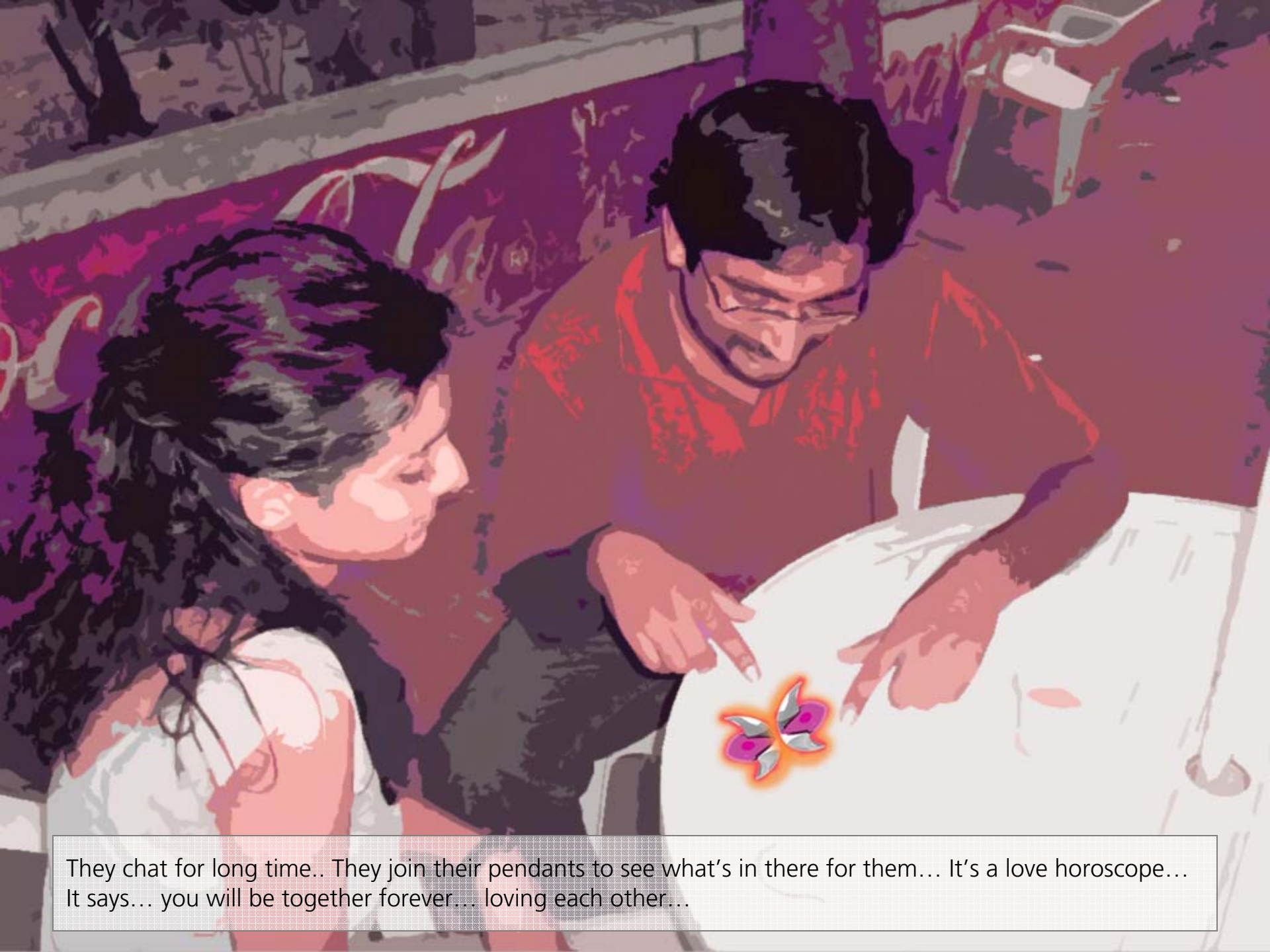
After some time.... Rajat's device blooms with showing random graphics on it...
...She must be nearby... he thinks...



And here she comes... he stands up...



He says sorry... then... she says sorry...



They chat for long time.. They join their pendants to see what's in there for them... It's a love horoscope... It says... you will be together forever... loving each other...



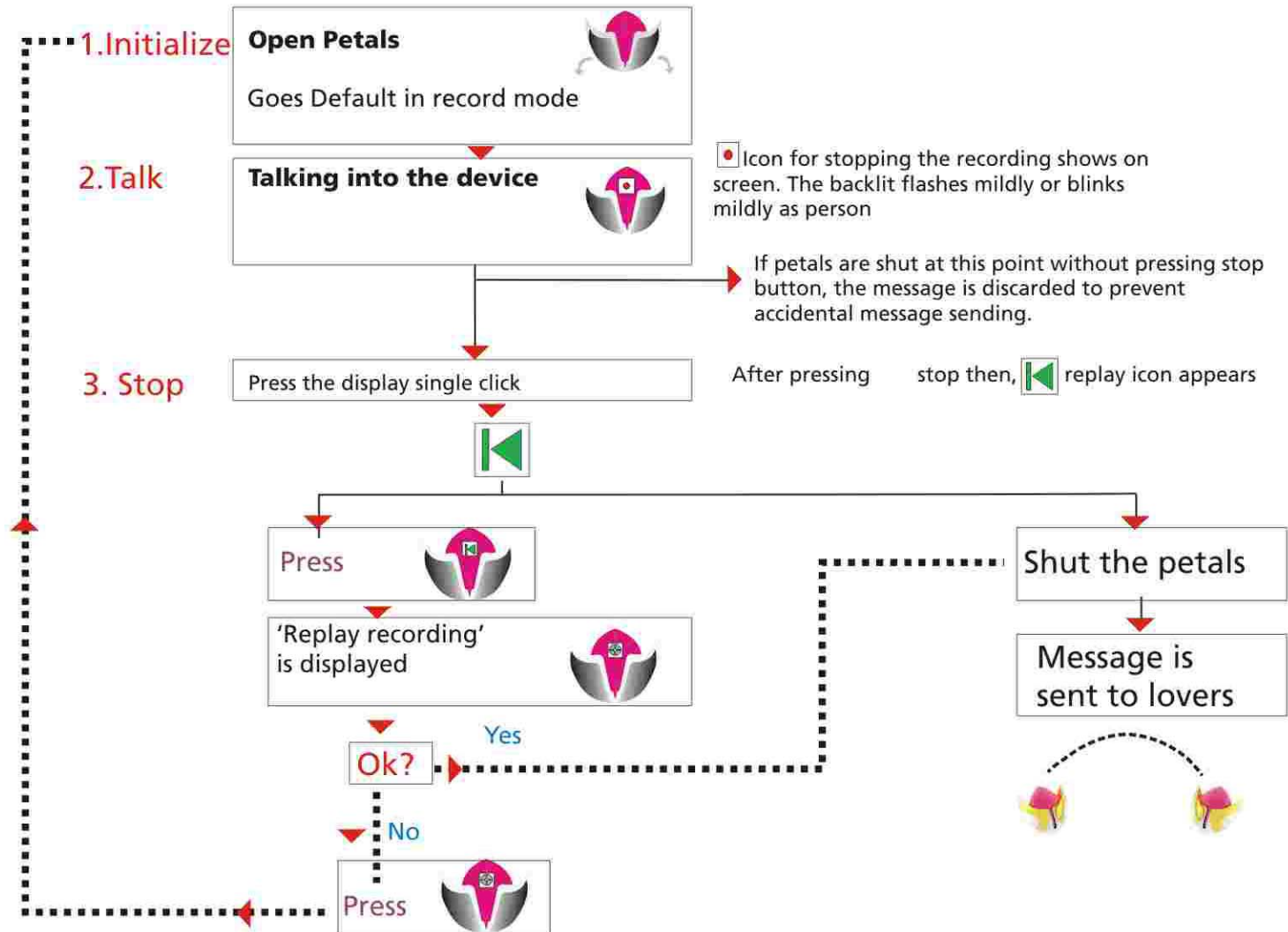
And this is what they wanted... to be with each other... forever...



They again become the happy cuddly couple...

Interface Detailing:

Wisper mode



Form:

**A viewpoint :
Jewellery Forms for Men.**



Form:

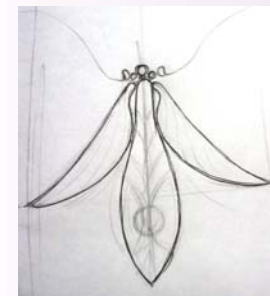
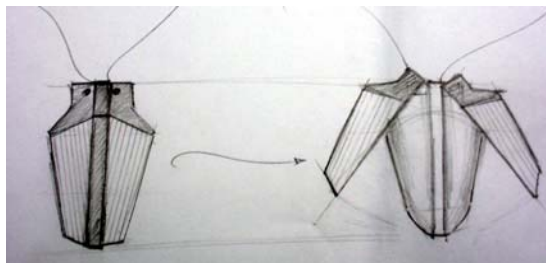
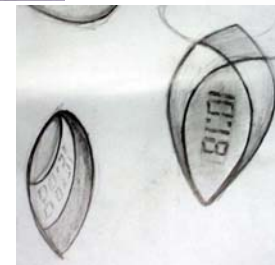
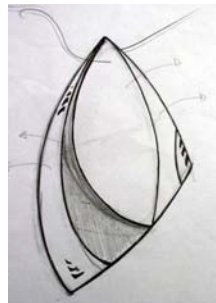
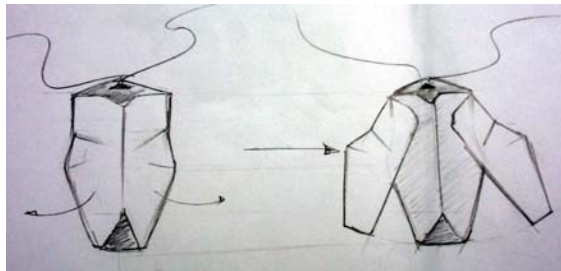
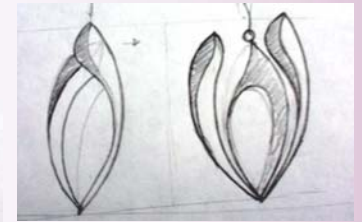
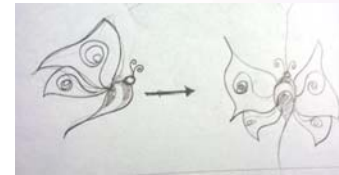
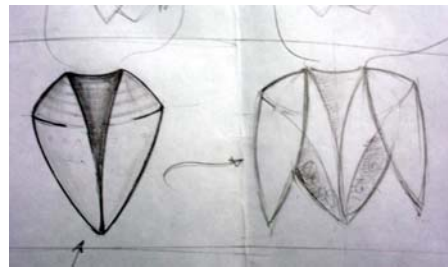
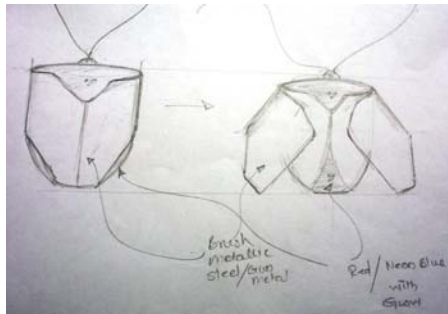
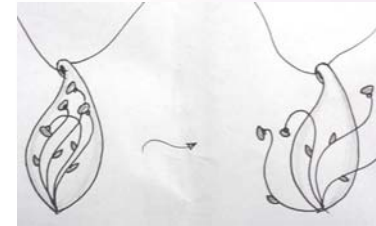
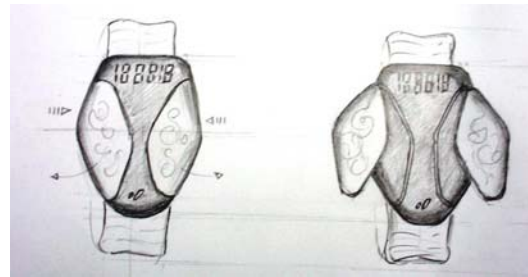
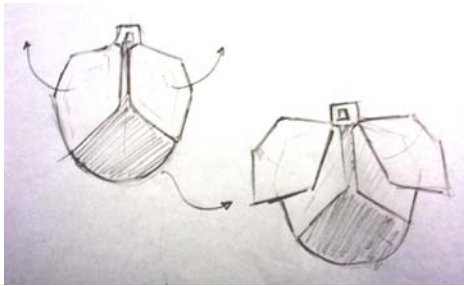


Form:



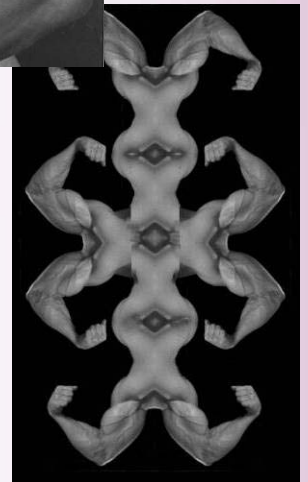
Form: Metaphor : Blooming

Masculine to Feminine, Robotic to decorative, "Fusion" Forms



Form:

Flowers as Metaphor



Final Form: Renderings

For Him and Her...

Has some feminine as well as some masculine character

For her it's an image of him...

For him its an image of her...



Final Form: Renderings



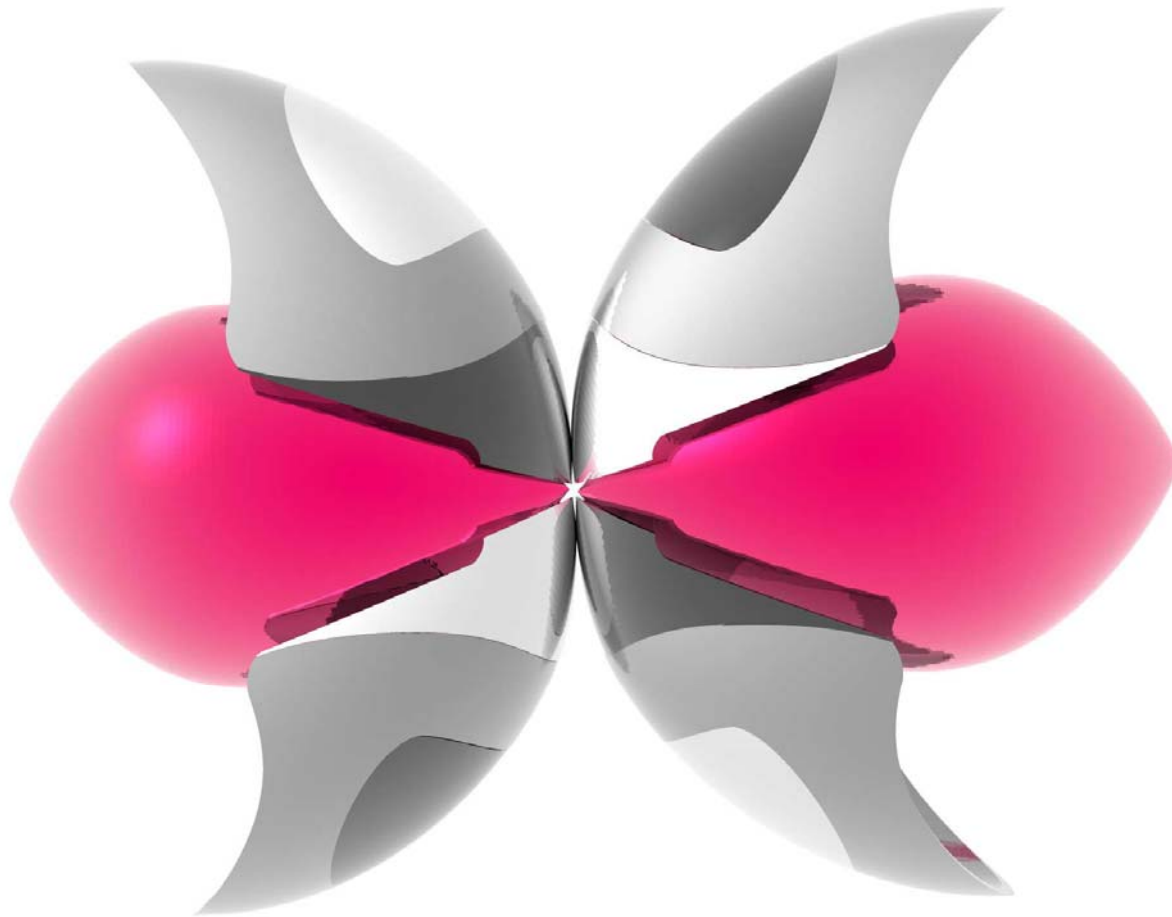
Final Form: Renderings

Blooming



Final Form: Renderings

Couple Pendent



Form: Renderings

Colour variations



Form: Renderings

Colour variations



Form: Renderings

Colour variations



Form: Renderings
Colour variations



Form: Renderings

Colour variations... This scores the best.



Theme : Social Emotional Communication at subtle level

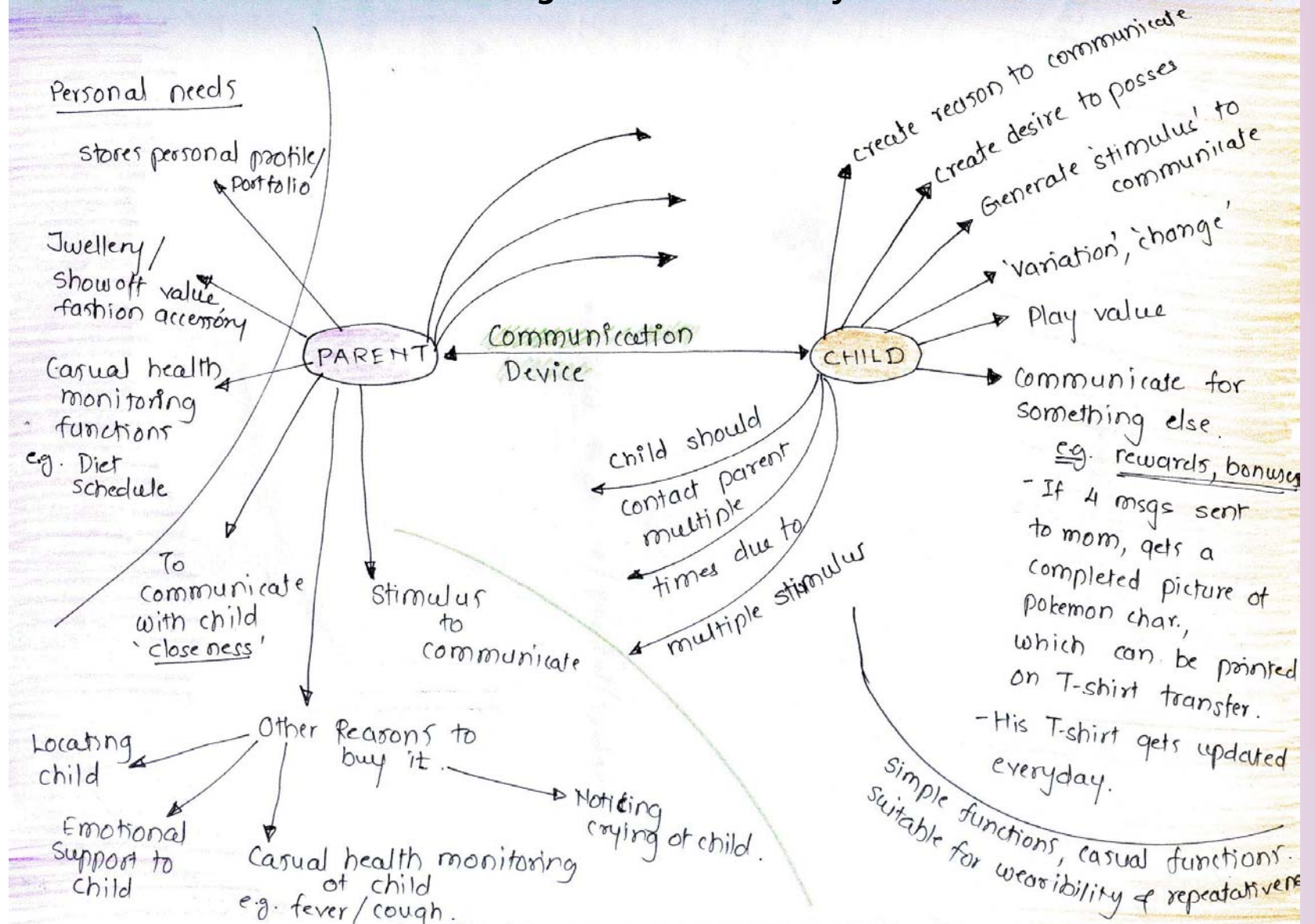
Communication device for Working Parent and Lonely Child



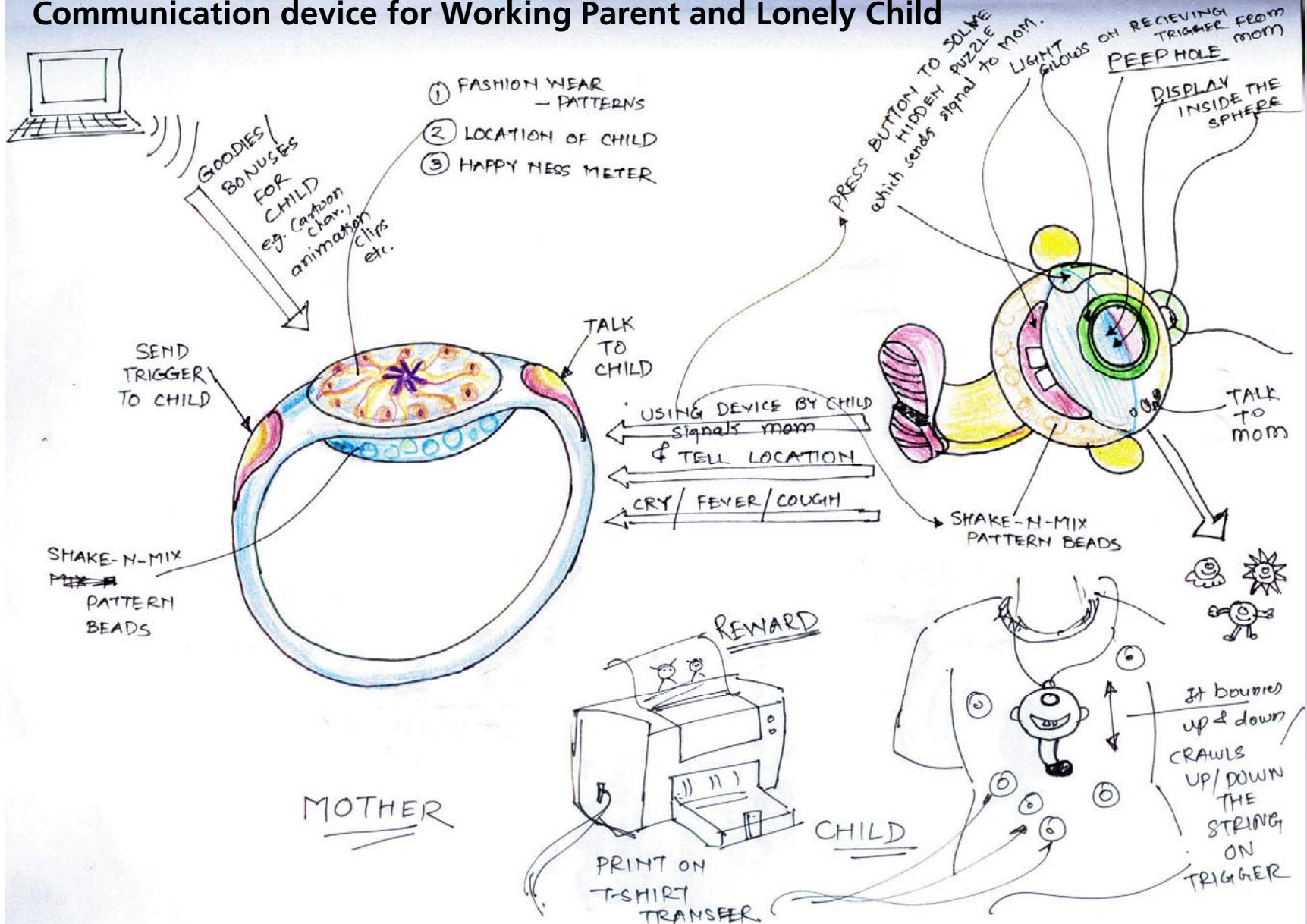
● WILL PROVIDING AN AID FOR COMMⁿ
FACILITATE THE COMMⁿ?

● WHY WOULD THE USERS AT BOTH END
KEEP USING THE DEVICES?

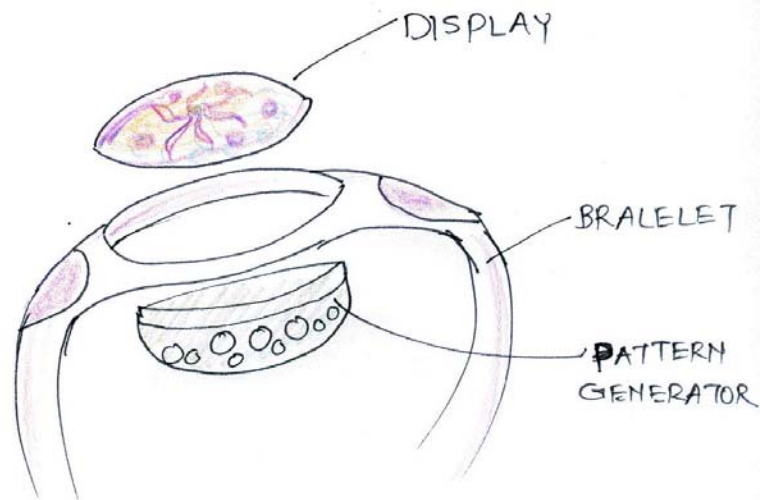
Communication device for Working Parent and Lonely Child



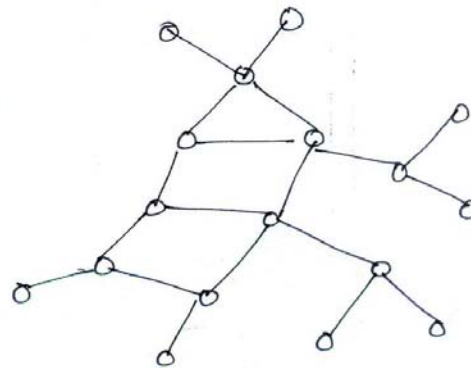
Communication device for Working Parent and Lonely Child



Communication device for Working Parent and Lonely Child



- PROPERTY
BEADS .
- COLOUR
 - PATTERN
 - LIGHT
 - GRAPHICS



User Feedback

Device for the Father too.

Security Issue ... ???

Who is the other end child?... Child may temporarily give it to his friend

The device at child's end should not look totally like a toy...

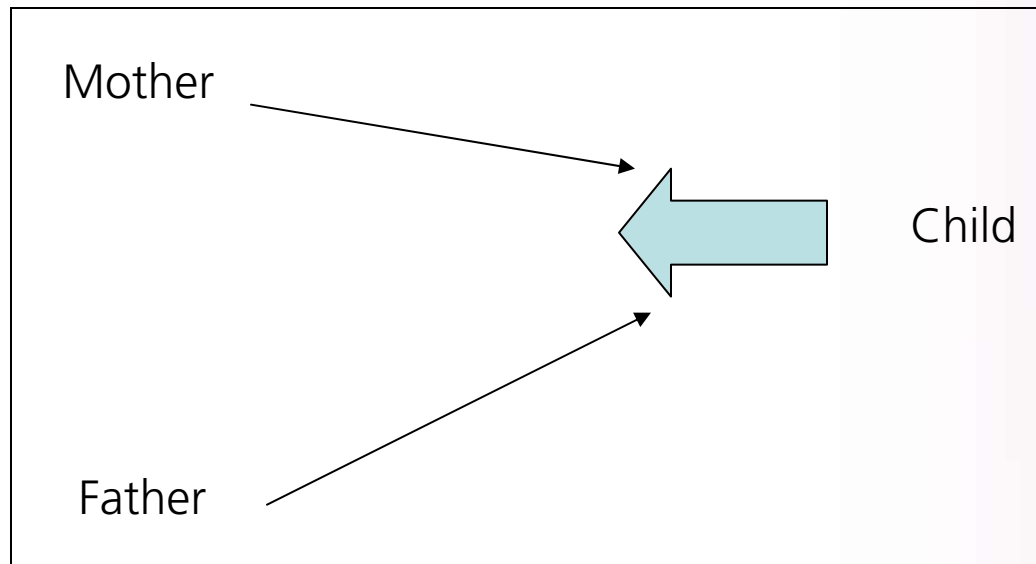
Some modifications

Device for the Father too.

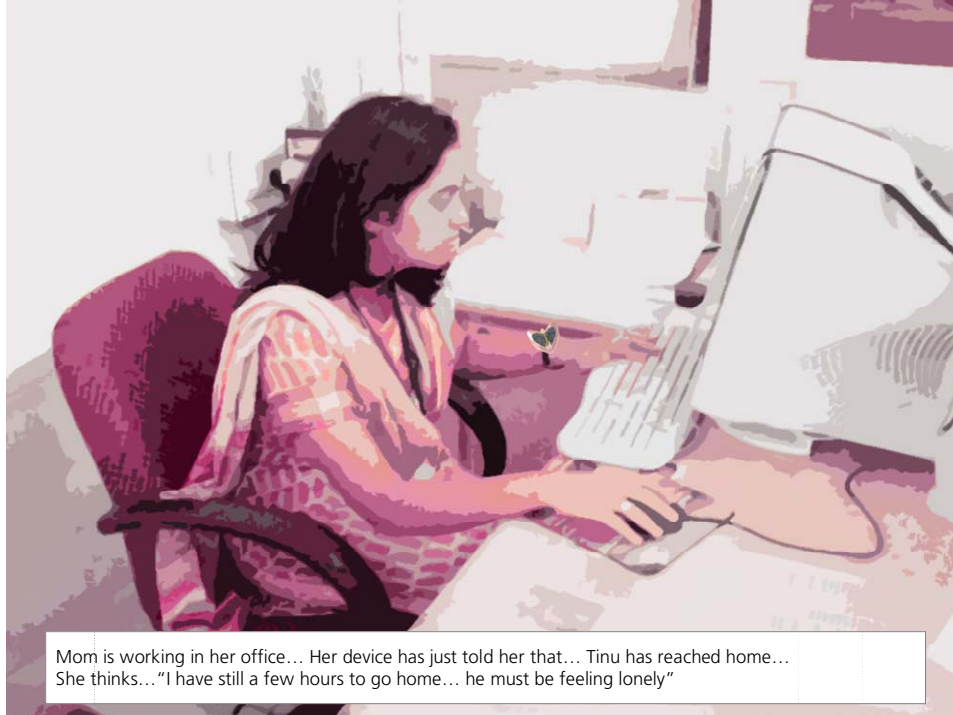
Providing a device for mother, a **device for father** and a device for the child.

Adding Father's device without putting extra burden of distinguishing the signals by child.

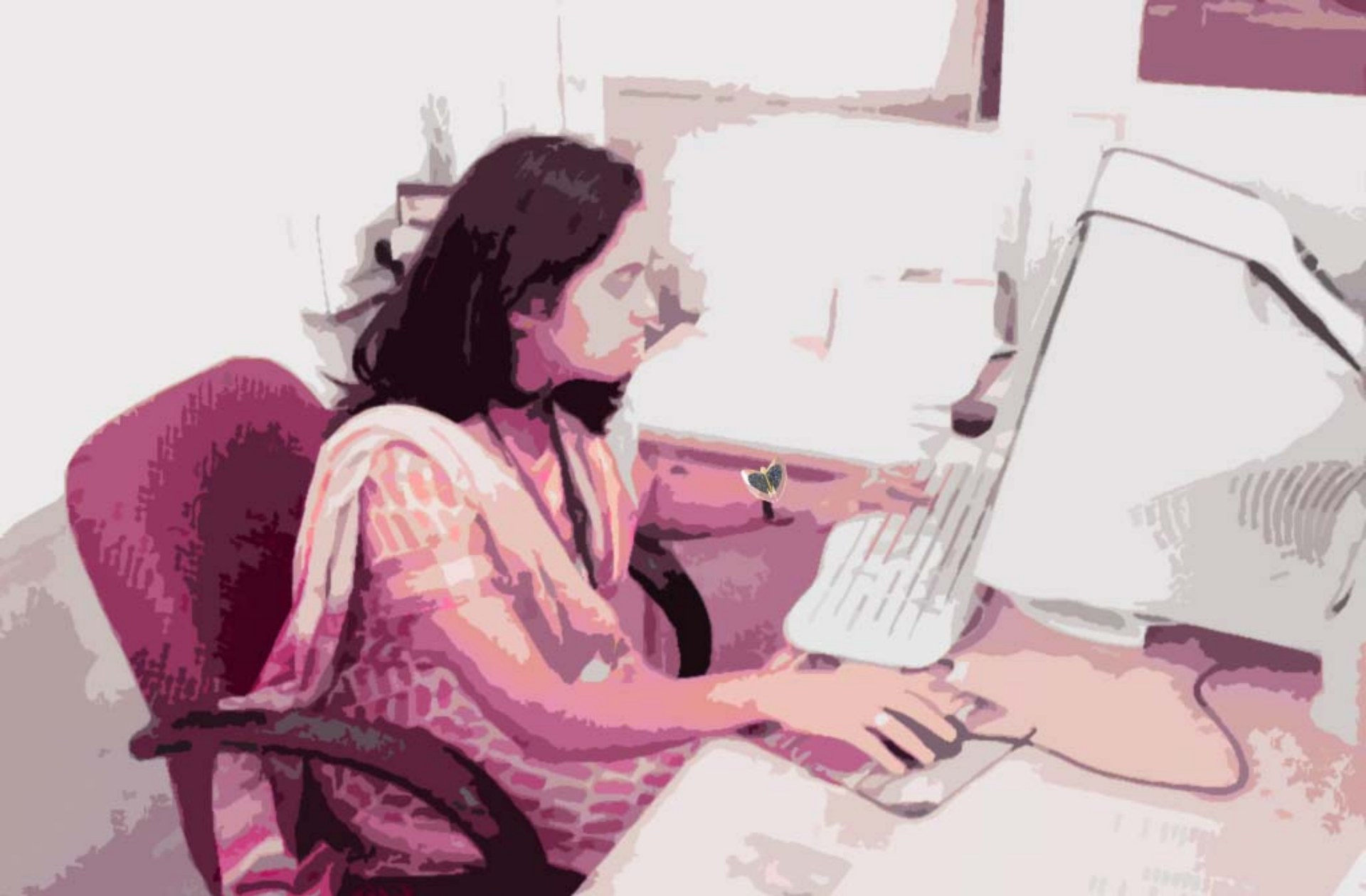
Identifying the child in unobtrusive way. Child may not have to do the identification specifically.



Communication device for Working Parent and Lonely Child : Scenario



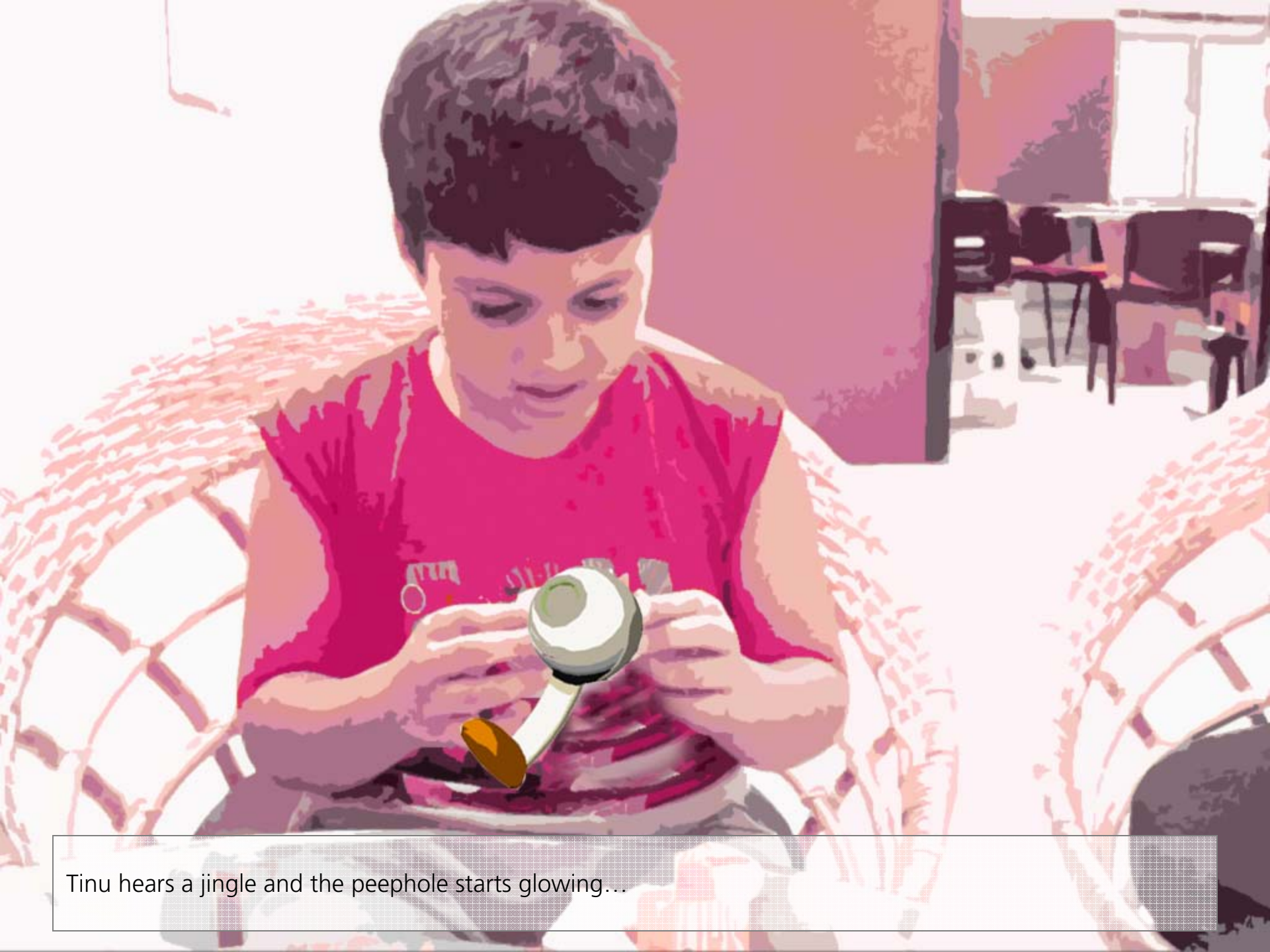
Mom is working in her office... Her device has just told her that... Tinu has reached home... She thinks... "I have still a few hours to go home... he must be feeling lonely"



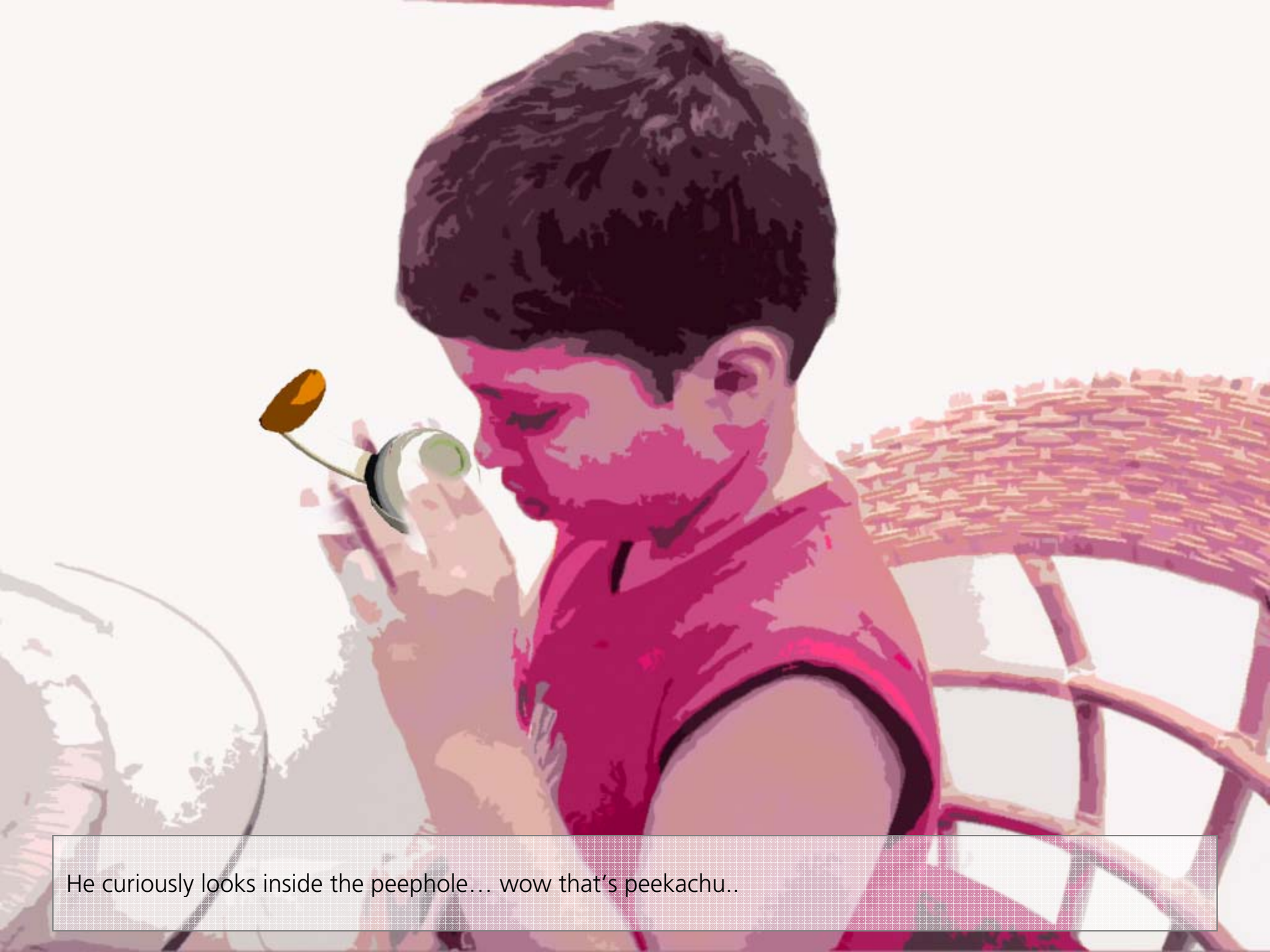
Mom is working in her office... Her device has just told her that... Tinu has reached home... She thinks... "I have still a few hours to go home... he must be feeling lonely"



After some time she receives a pokemon cartoon on her device... She just presses the screen...and it is Sent to tinu... "he will love this" ... she thinks.



Tinu hears a jingle and the peephole starts glowing...



He curiously looks inside the peephole... wow that's peekachu..



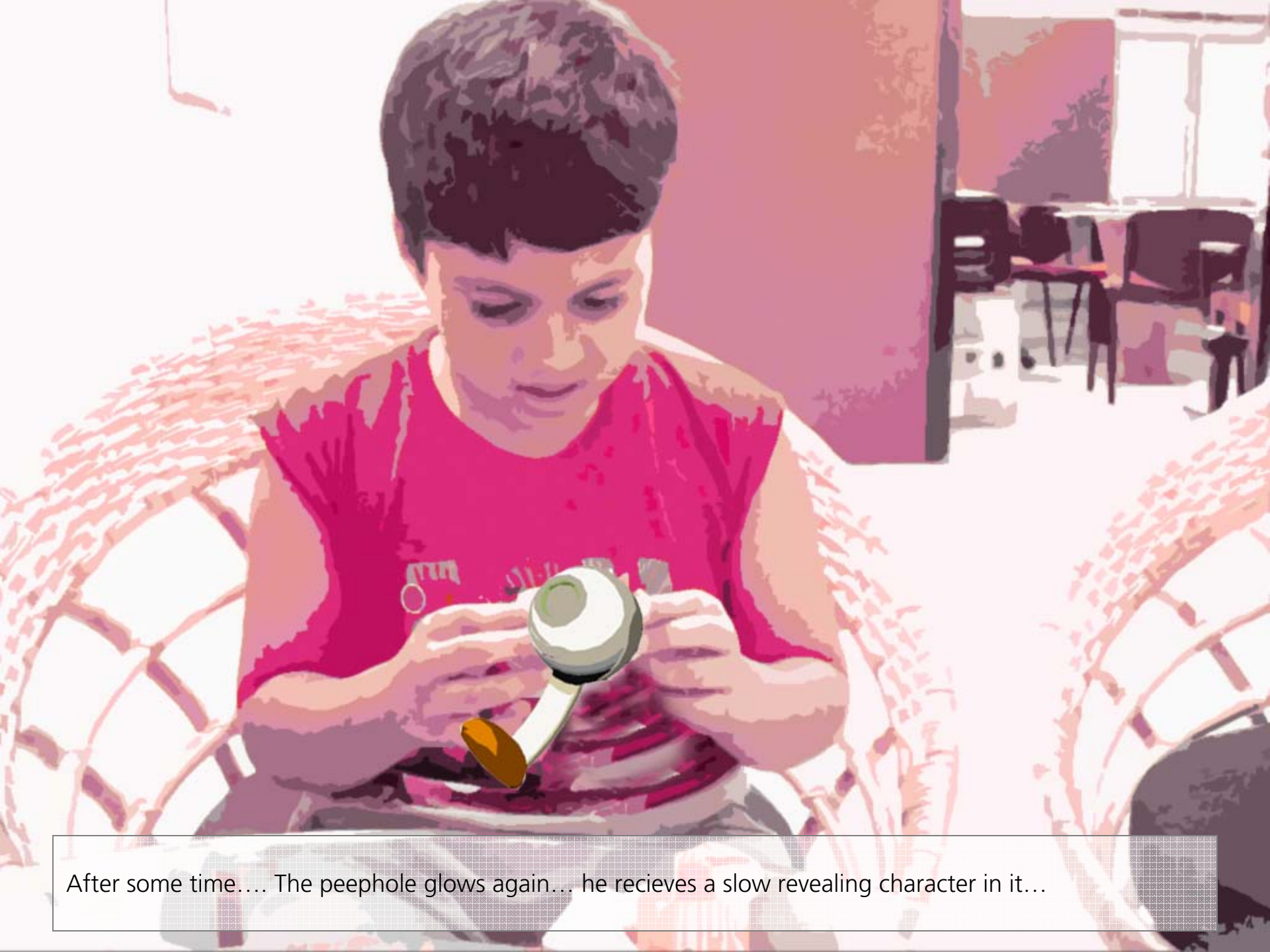
Now he starts playing around it...



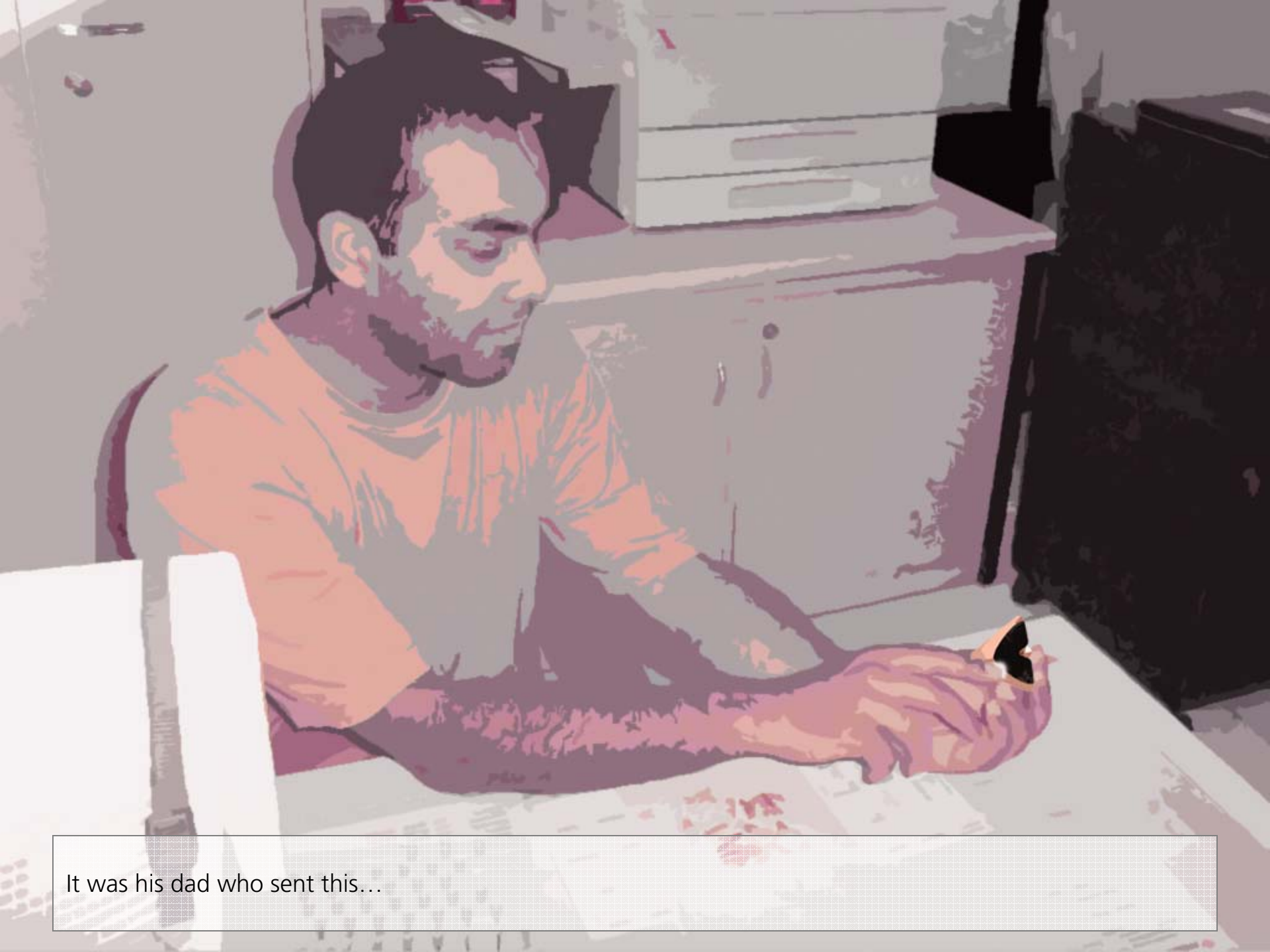
As he shakes the device... different cartoons and animations are shown randomly inside...
He keeps playing with it...



As he plays... mom receives vibrations and glow on her device... Happiness index on her device goes high
The graphics start playing rapidly on the screen.



After some time.... The peephole glows again... he receives a slow revealing character in it...



It was his dad who sent this...



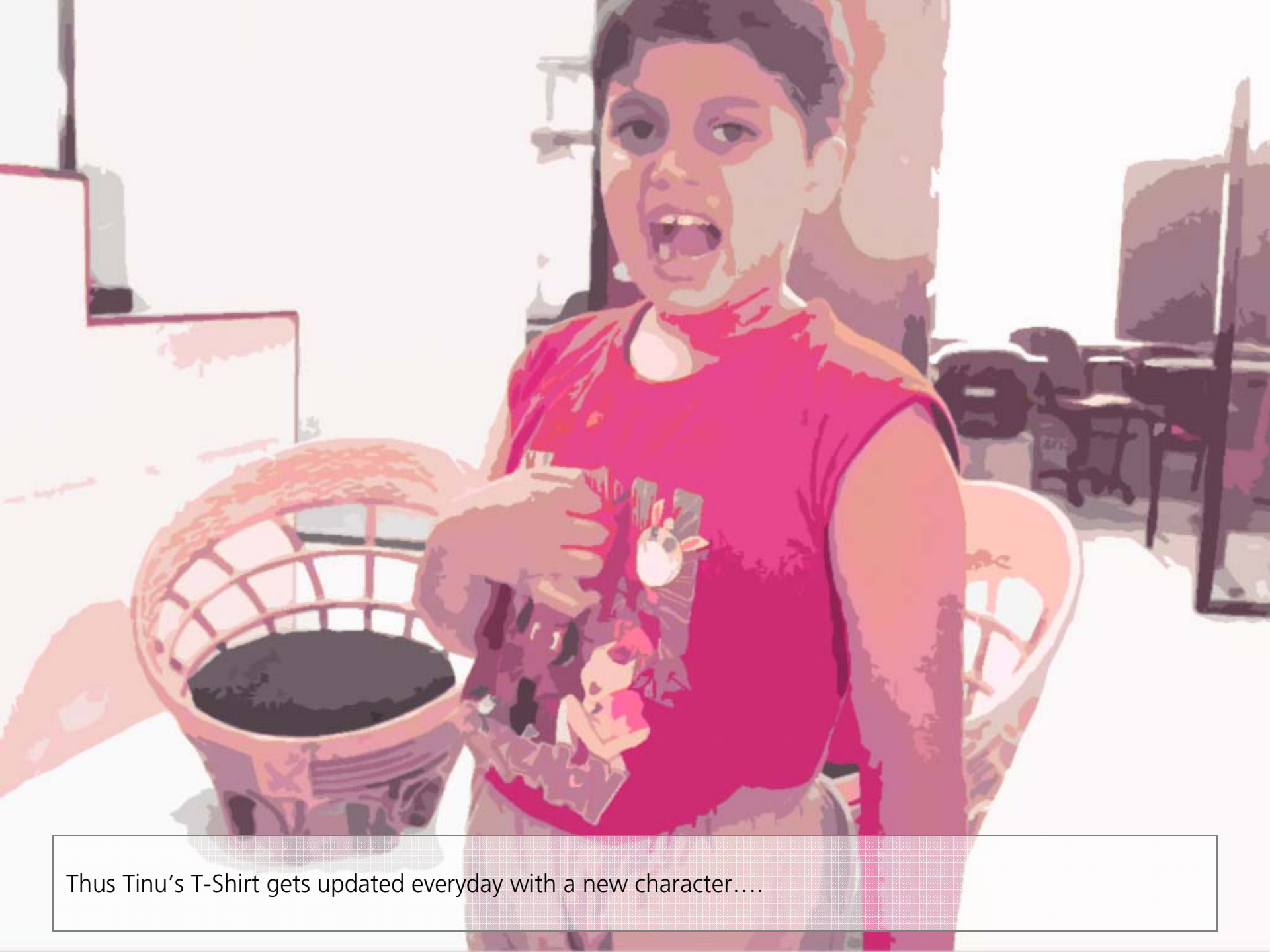
After every half an hour... the peephole glows... he presses the ring... and the character is slowly revealed... It keeps him engaged with device...



In the evening Mom comes home... She sees that he has sent them enough triggers for the day... and the character now has become printable... "Let daddy come... he will give you the print"

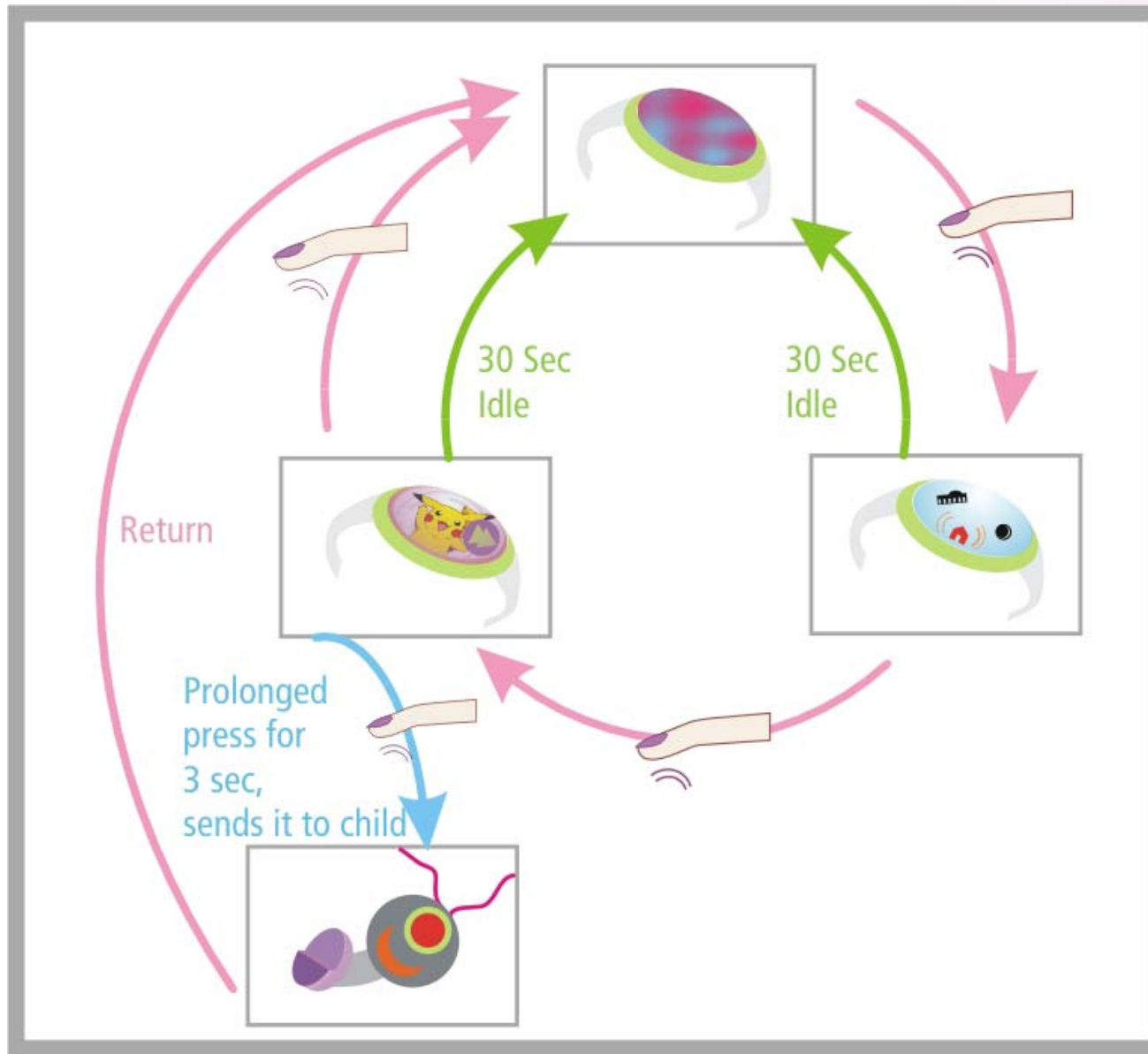


When daddy comes... he connects the tinu's locket toy to the printer...
and gets a printout on T-Shirt transfer...



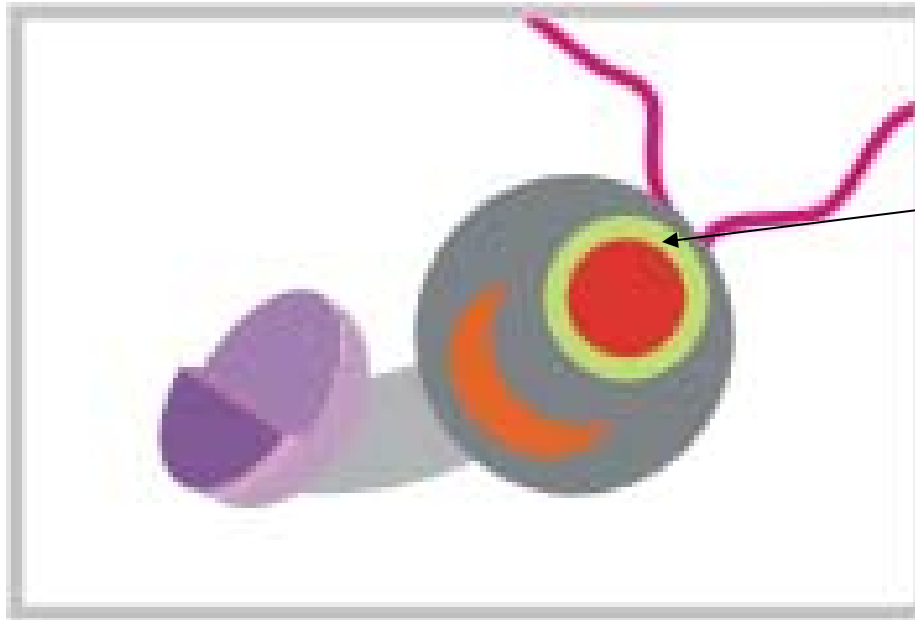
Thus Tinu's T-Shirt gets updated everyday with a new character....

Interface detailing : Mother and Father's device



Interface detailing : Device at Child's end

Child's device has only one button...
It is the ring around the peephole. That is for the slow revealing images.



Form Design

Form characteristics :

Mother: Soft, Cute, Slightly decorative, warm.

The device has a clip on the back side.
You can wear it like a pendant, clip it on any bangle or bracelet,
Use as a hair clip,
Or Like a broach,
Or even as a sari pin.

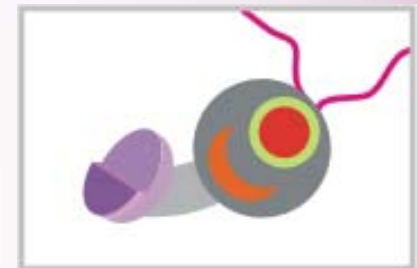
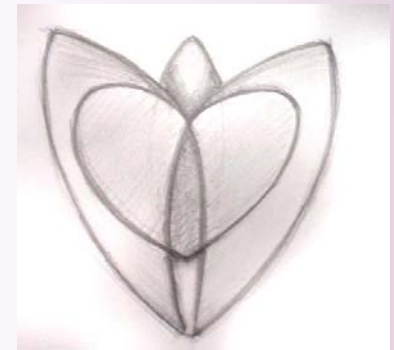
So the metaphor I took is a Butterfly... It is cute, delicate, beautiful and constantly changes its place... it just flutters by.

Father: Formal but friendly look, adorable.

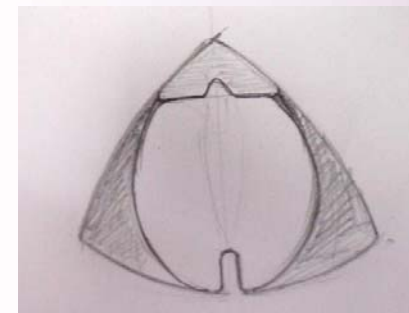
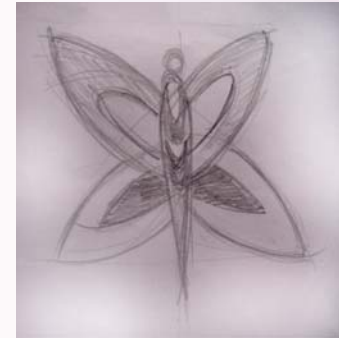
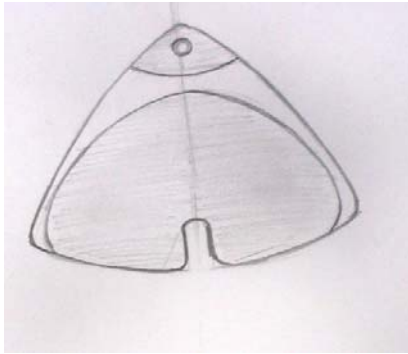
The metaphor remains the same... but I tried to bring a formal look to the device.

Child : It should have little Human character... like a companion.

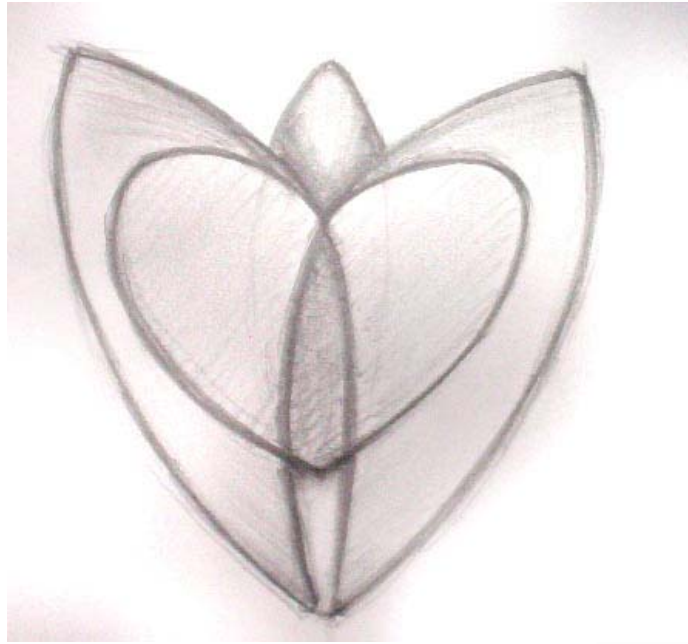
The sphere with a peephole is constant module, the outer shell (the leg in this case) could be changeable... from anything around a ring that fits on the sphere.



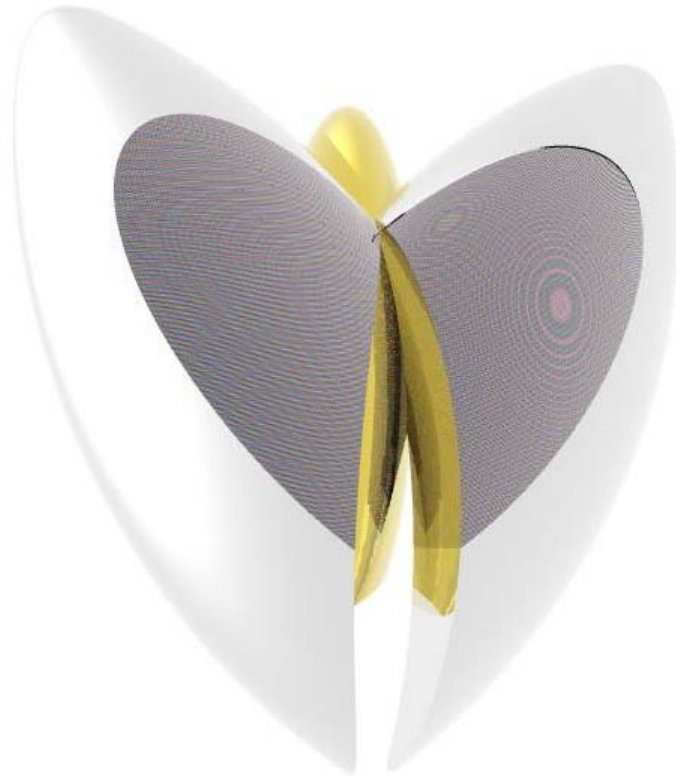
Form Design



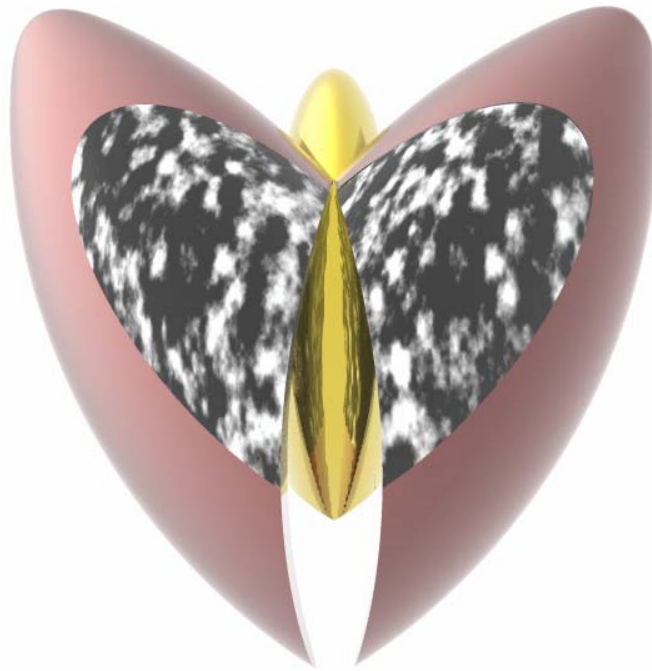
Form For Mother



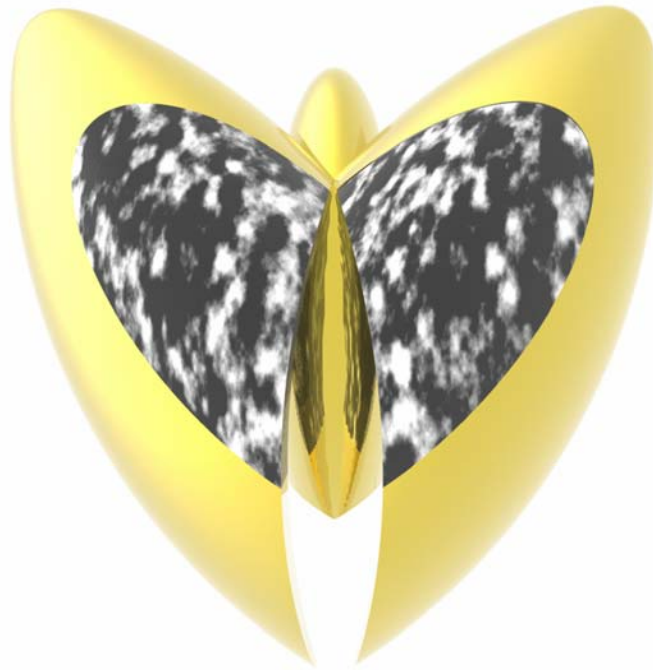
Form For Mother



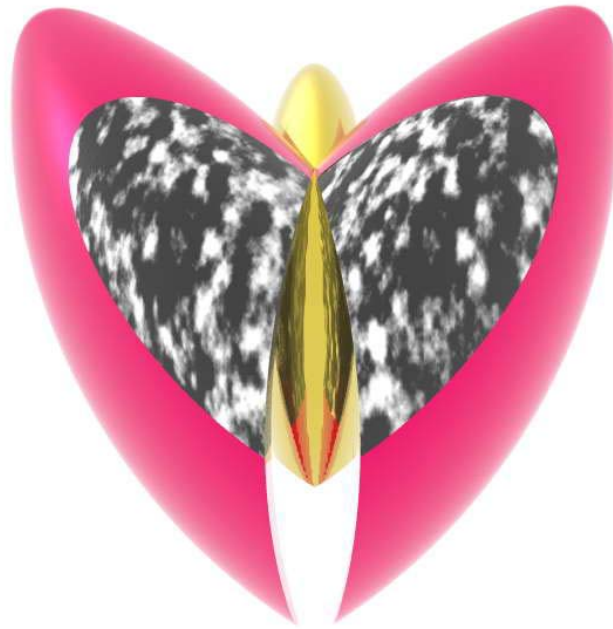
Form For Mother: Colour variations



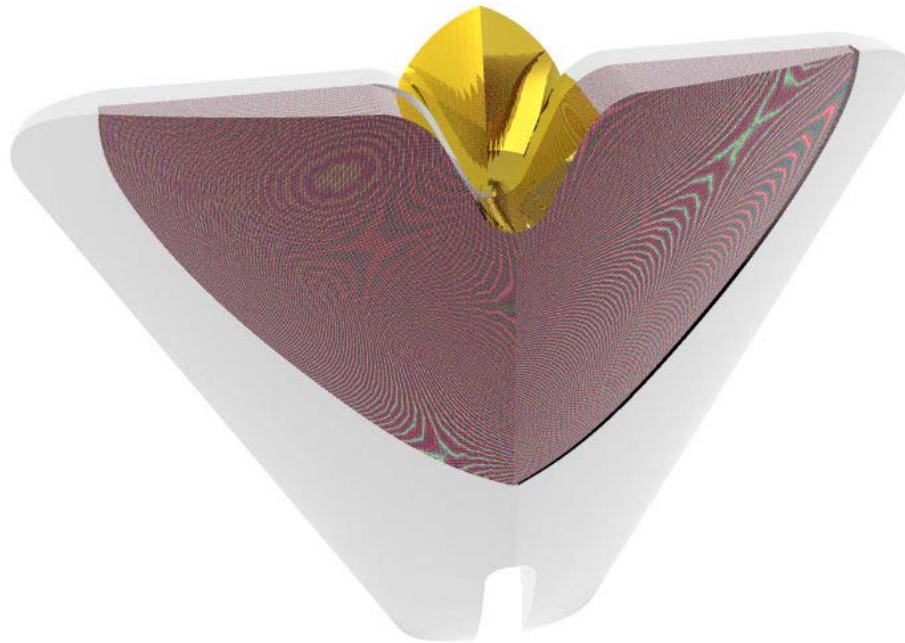
Form For Mother: Colour variations



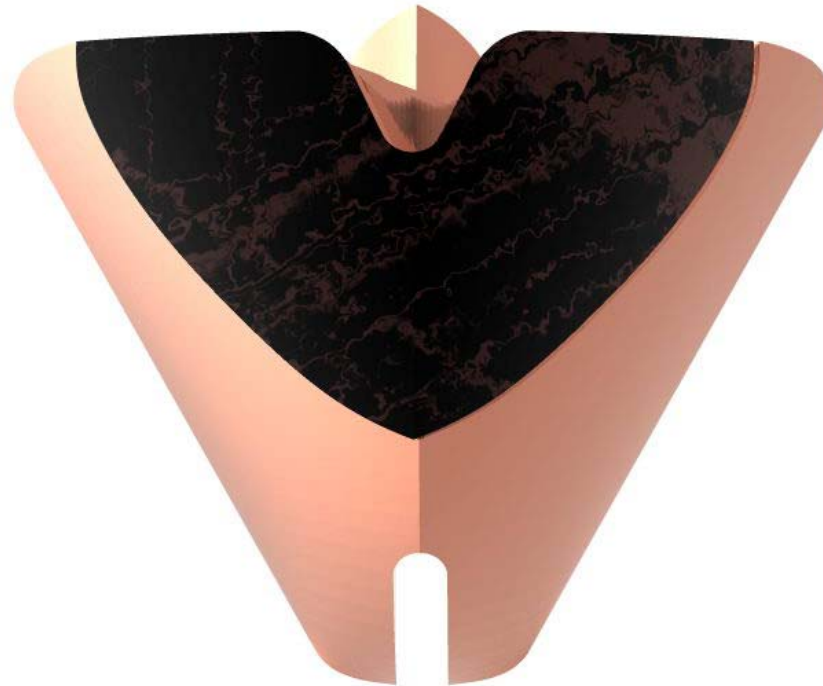
Form For Mother: Colour variations



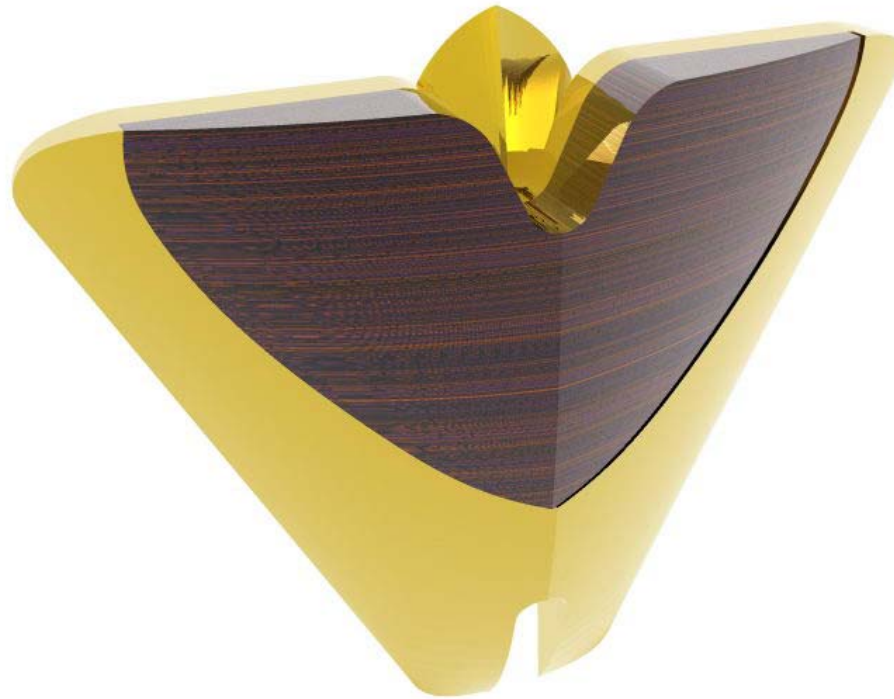
Form For Father:



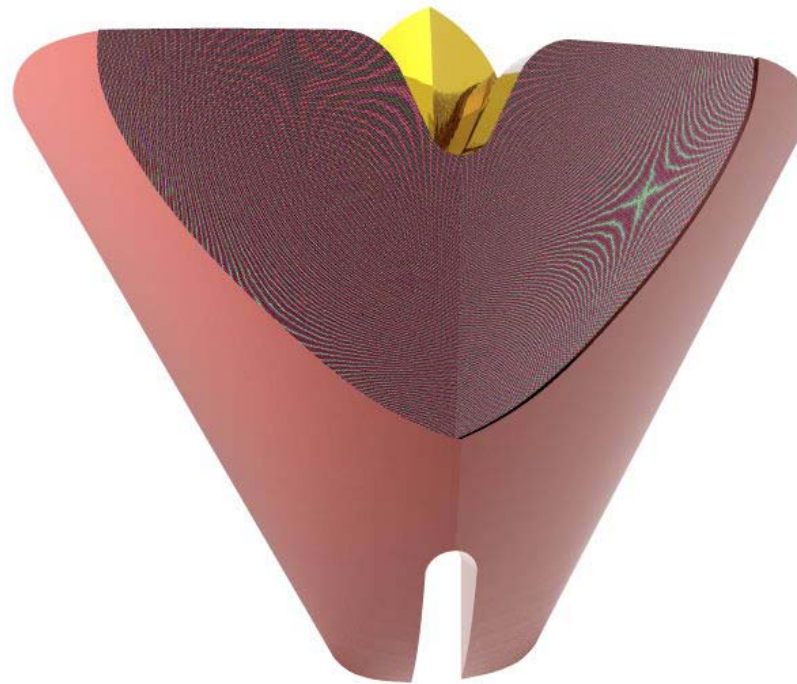
Form For Father:



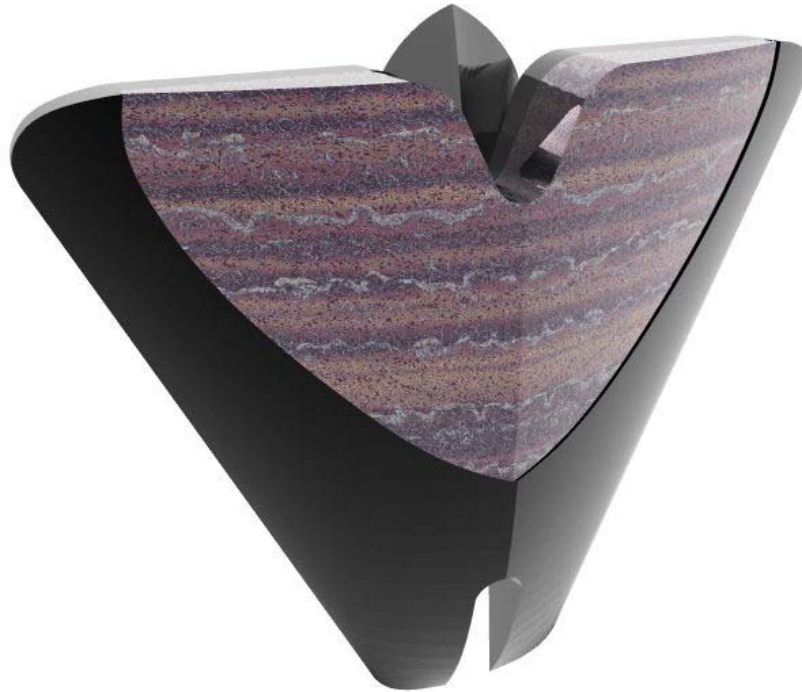
Form For Father:



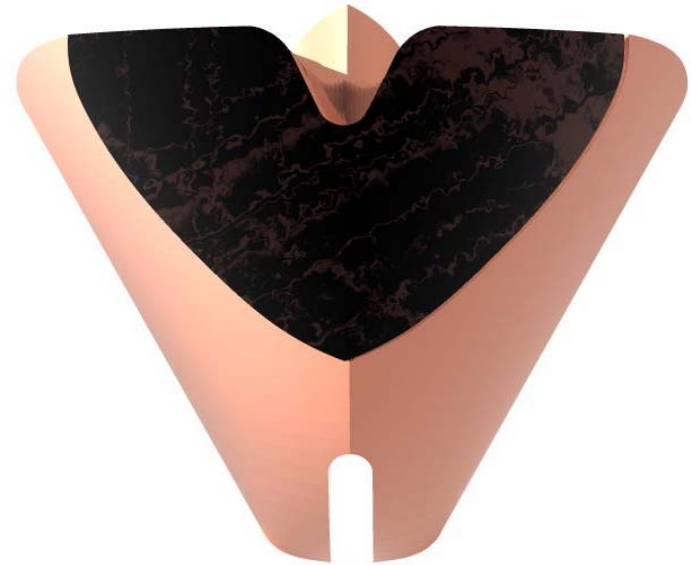
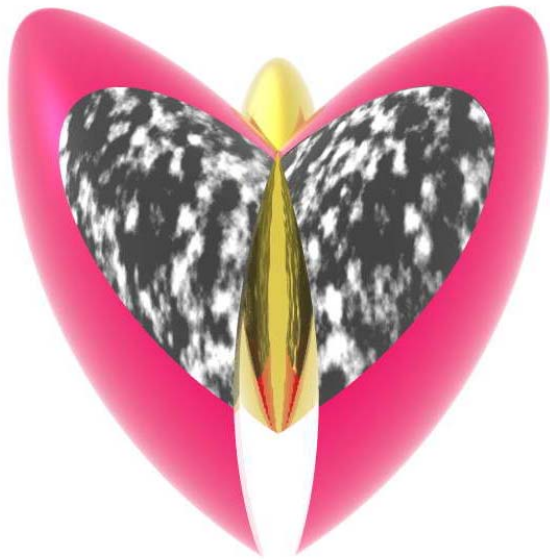
Form For Father:



Form For Father:



Comparing the two forms



Form For Child:



Form For Child:

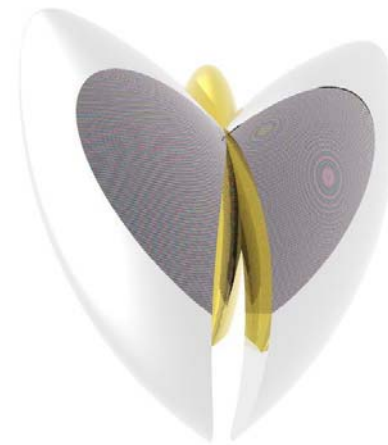
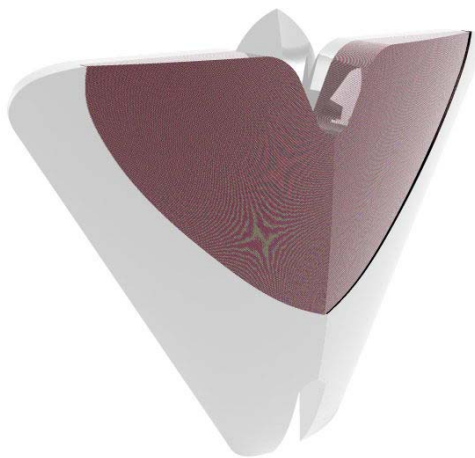


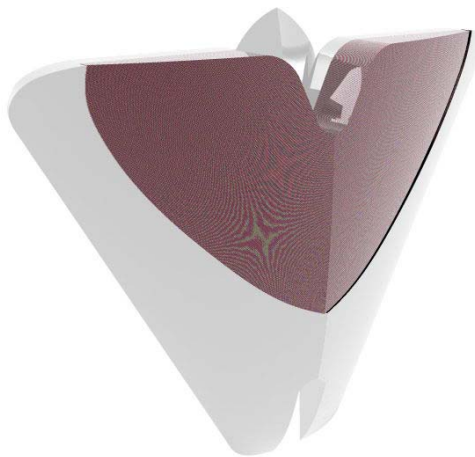
The function module
"peephole"

Function and form
together

Changeable form
module

All forms:





Thank You

THANK YOU !

THANK YOU !