

Mobile phone – 'identity for individuals'

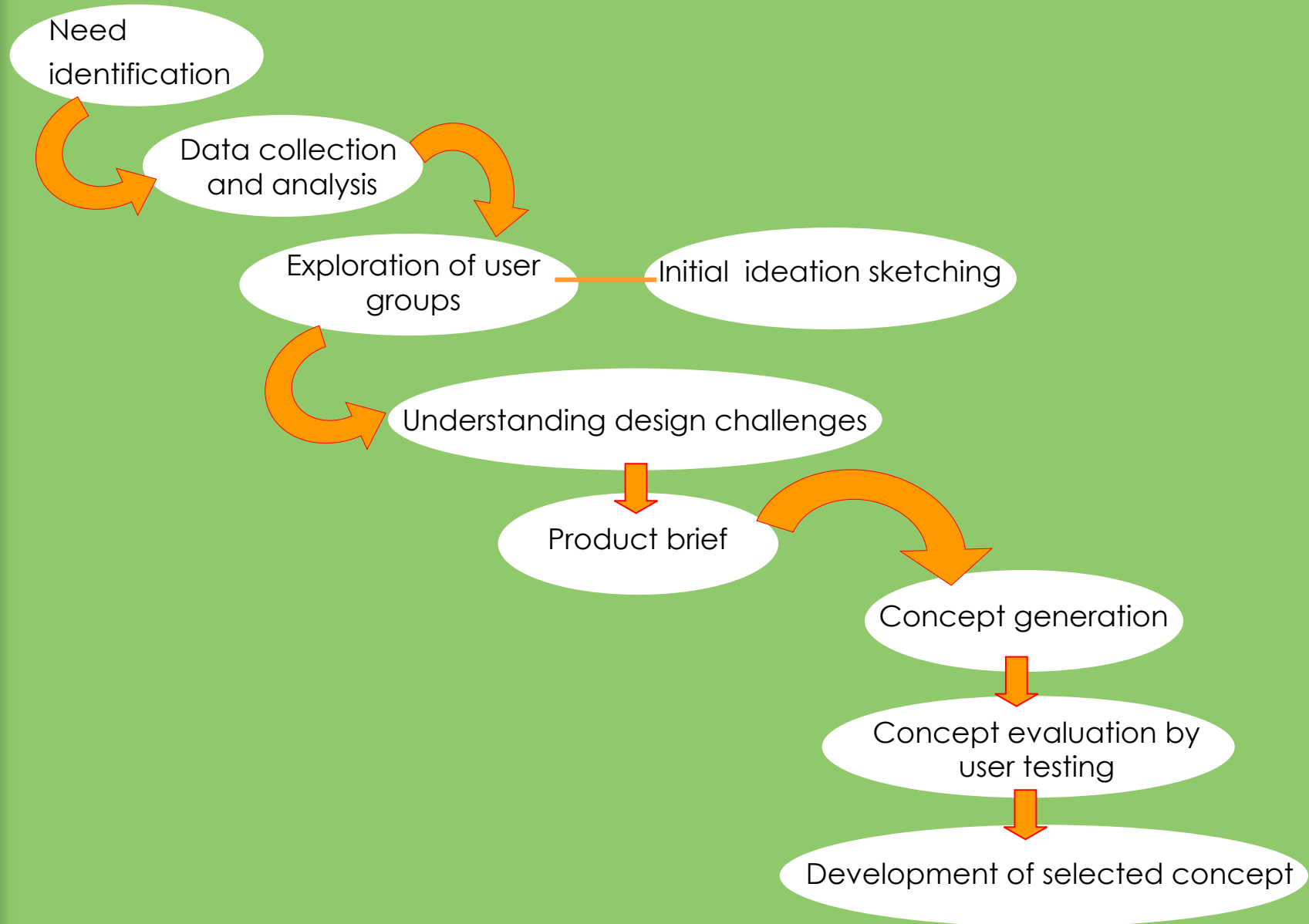
By

Rupali Babhulkar

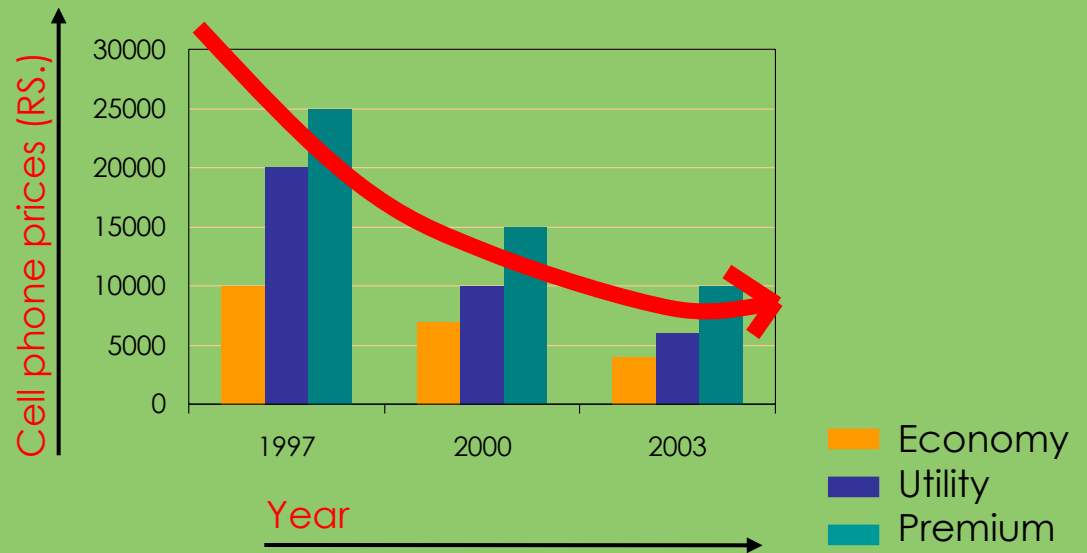
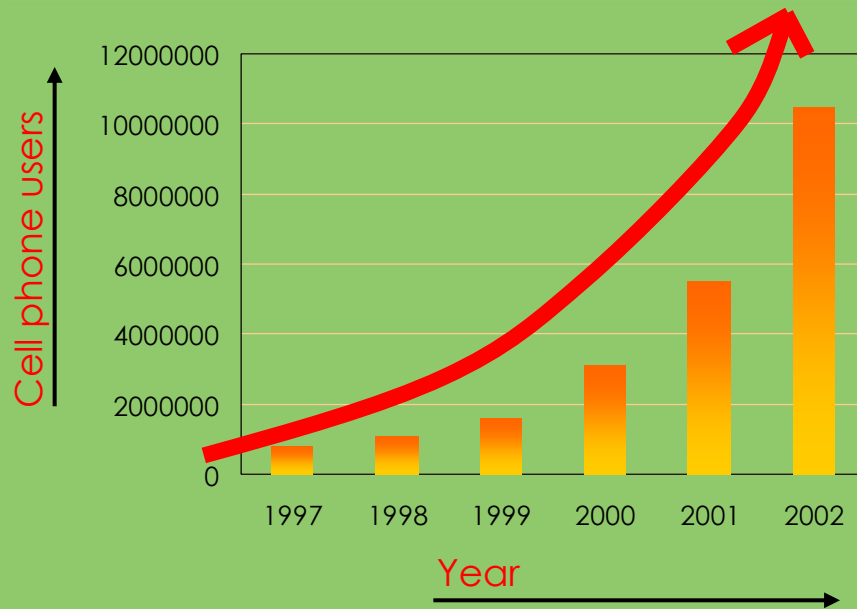
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Guide

Prof. V. P. Bapat



Why?



Why?

Similar mobile phone for **everybody!**



Can it be **personalised** to an individual's precise needs ??

Specific use phones are already coming in.....



Nokia 9210 Communicator, Corporate Solutions



Nokia 3300, Music phone



Nokia N-Gage, game deck

Understanding the User

- User survey
- Changing profile of users
- Activity analysis
- Internet product reviews



**Data
collection**

Understanding the product

- Visual grammar
- Changing interface
- Keys layout
- Packaging, internal details
- Ergonomics
- Features offered
- Latest technologies
- Smart products

Understanding the environment

- Peripheral products
- Latest products

Understanding the User



**Data
Collection
analysis**

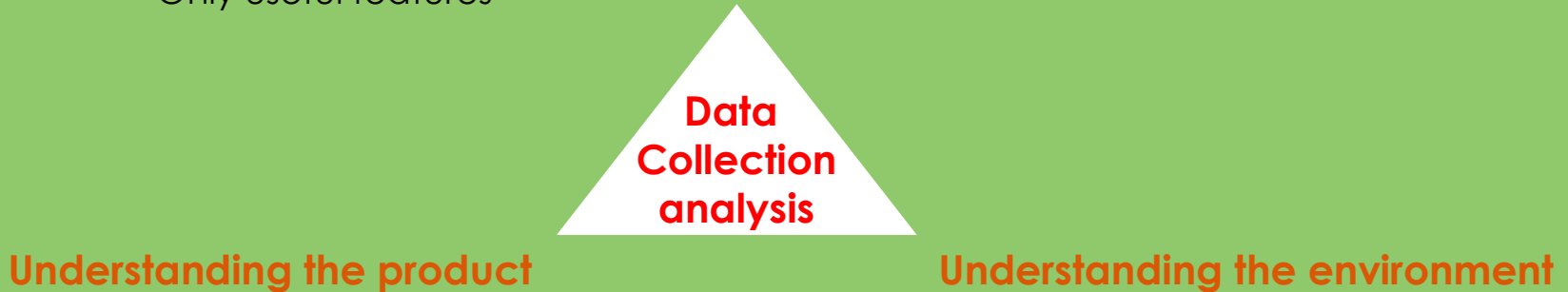
Understanding the product

- Trendy forms, colours, attractive materials.
- Compact size, lightweight
- Multimodal input for interface
- Minimum number of keys avoid confusion
- Mess of Features offered, may or may not be useful for the user
- Wearable technologies
- Connectivity of mobile product to various other products.

Understanding the environment

Understanding the User

- User's expectations- compact size, bigger display area, lightweight
- Sleek, easy to carry, Tough, easy to learn interface
- Optimum size of buttons to press, good finish and material for better grip.
- Awkward movement of thumb especially while operating bottom buttons.
- Wearable product than carrying the phone in hand everywhere.
- Personal identity in the product
- Only useful features



**Data
Collection
analysis**

Understanding the product

Understanding the environment

Understanding the User



**Data
Collection
analysis**

Understanding the product

Understanding the environment

- Peripheral products
Use of soft looking forms, more than two colours.
- Latest products
various applications of the mobile technology than for telephony
- Various mobile companies have started developing wearable communication devices.

Exploration of possible user groups

Profession

Music composer
Journalist
Designer

Age group

Children(10 -15 yrs)
College students(17 - 22 yrs)
Elderly

System

Bus driver, transportation agency, Passenger
Taxi driver, passenger
Milkman, customers
Fishermen, Market place, customers

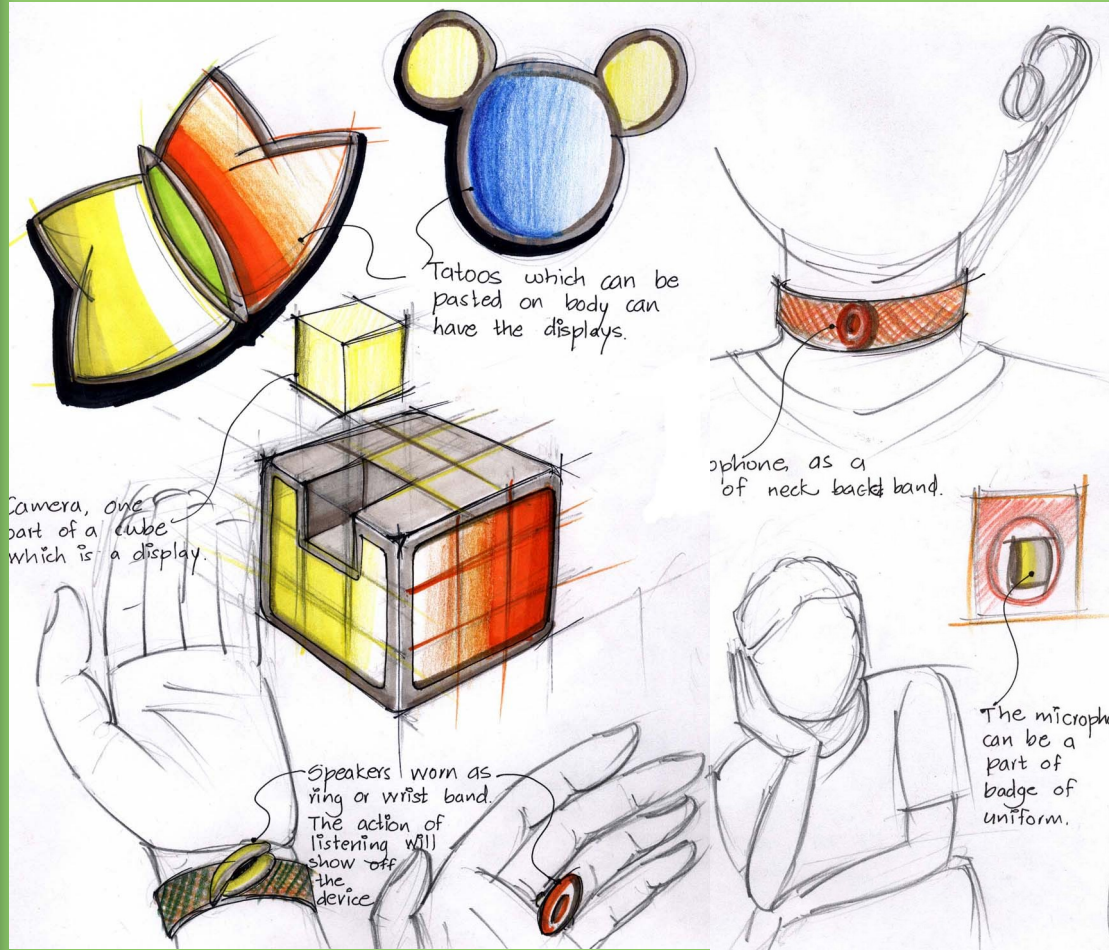
Others

Sportsperson
House wife

Ideation sketching

Target user - Children (10-15 yrs)

Show-off, Colourful, Fashion statement, I should look Like adult

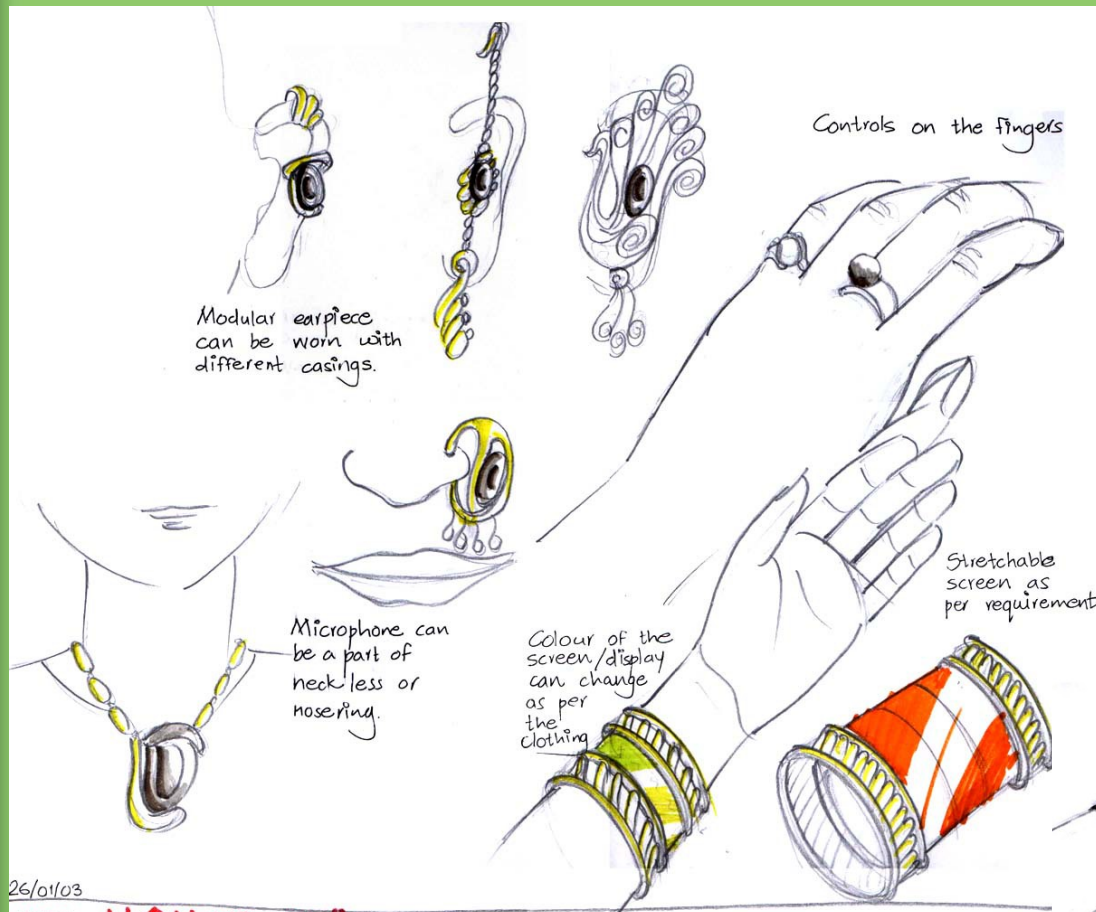


Target user - Journalist

Tough, Handy, Instantly available

Ideation sketching

Target user - housewife



26/01/03

USER: **HOUSE WIFE**

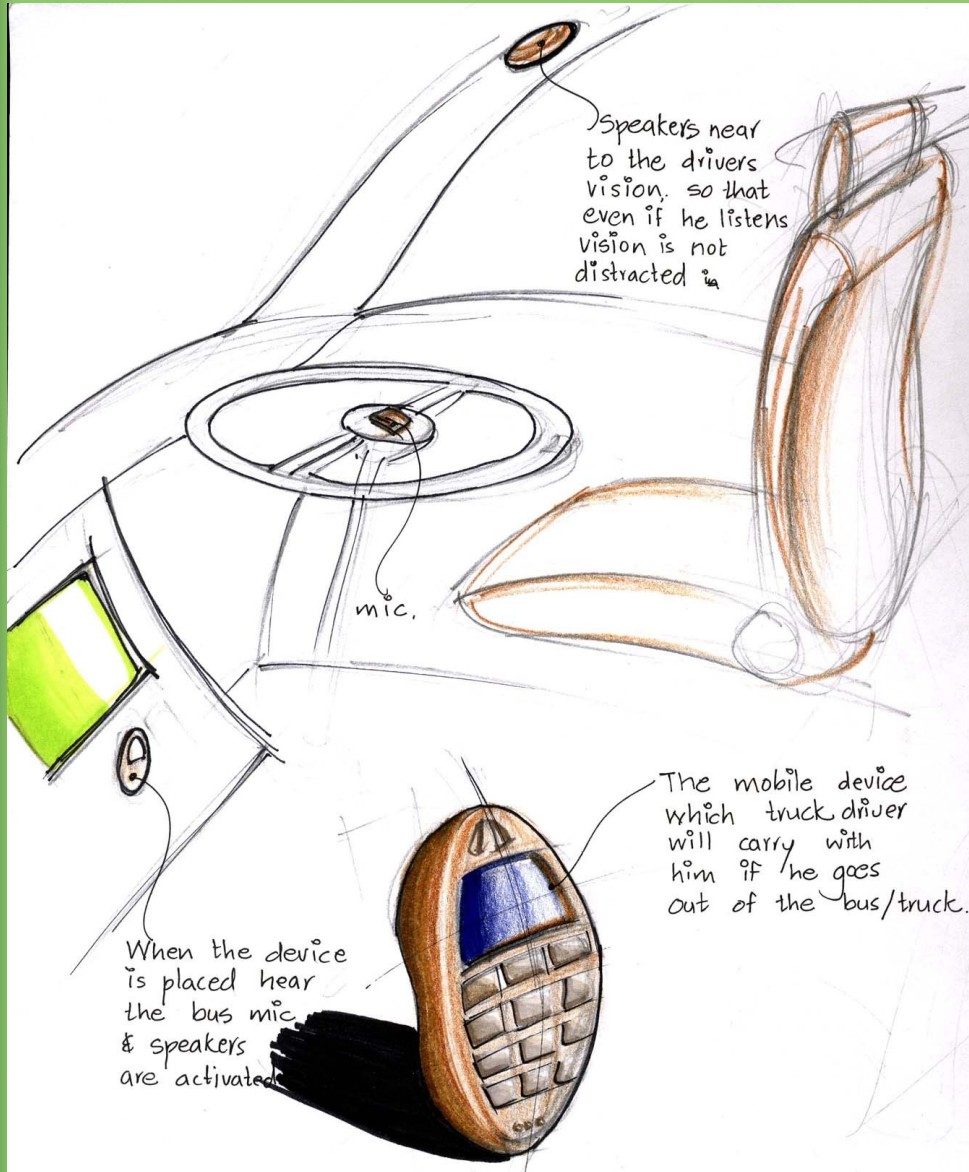
Target user - Athlete



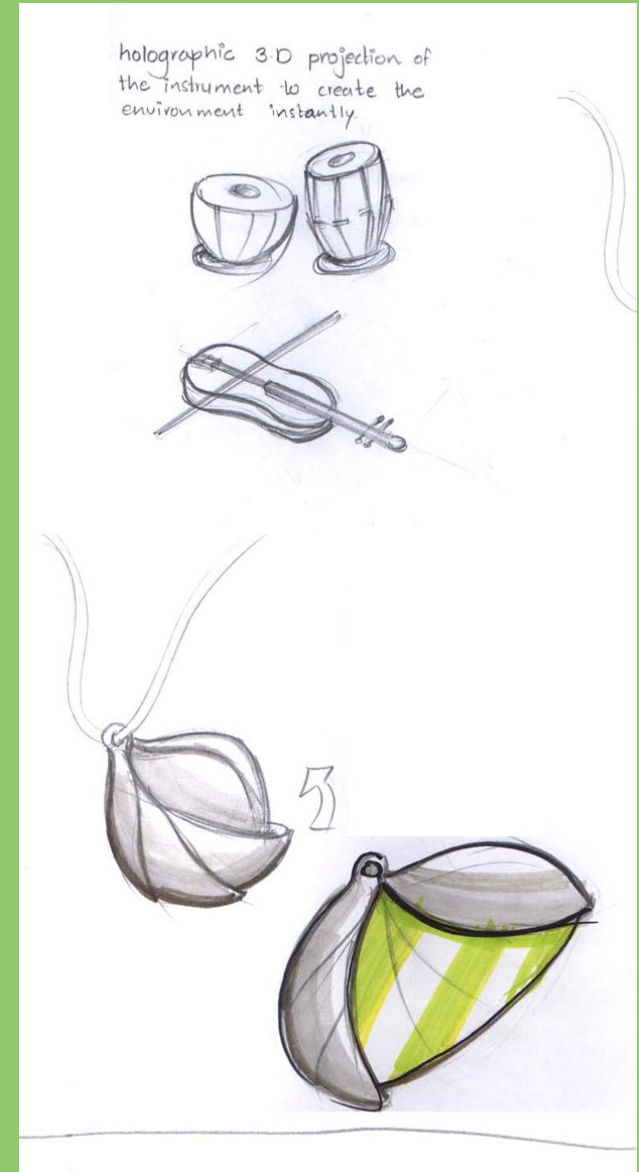
29/01/03

USER: **Athlet**

Ideation sketching



Target user- Bus journey system



Target user – Music composer

Target



Age group – 17 to 22 years

Economical status of the parents – Middle class and above. (Annual income RS. 2lakhs +)

Why??

- Number of students is rapidly increasing.
- They use available technology to maximum potential.
- They look forward to new technology.
- Ready to accept new things.
- In today's competitive age such product is a need for them.

Design challenges

- Balance between Educational, entertainment activities.
- Scenario friendly form.
- Making student more social and not introvert.
- Product as companion of the user.
- Non-intrusive in day to day activities of user.
- Interconnectivity with other devices.
- Interface that can be learnt in 5 min without the manual.

User profile

Socio-cultural background

- Dependent on parents (mostly)
- More western impact on everything
Clothing, food habits, other products used
- Fashion oriented
- Gender based products

Changing phase (From school to college)

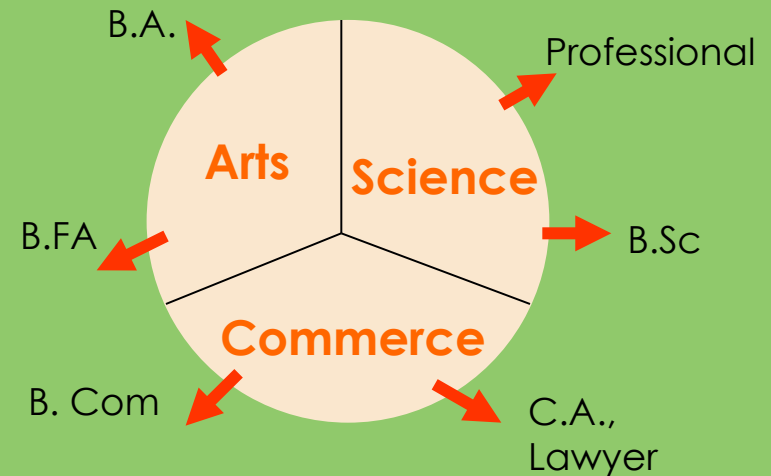
- Surrounding environment
- Mind sets
- Way they study
- Maturity

Student activities:

- College activities
- Extra curricular activities
- Friend circle
- Family life

Gadgets used:

Digital diary, Calculator Computers and accessories ,Walkman



Daily college activities

Attending classes,
referring library,
discussions with professors, friends,
Lunch break.

Exams

Reference of daily notes,
reference of the publications,
revision

Sports

Daily exercise,
practice sessions for college events,
participation.

Cultural activities

Theatre, Music, Dance, arranging/performing

Youth club activities

Attending meetings, Active or passive participation.

College picnics

Traveling to college

Interaction with family

Quick solutions for design challenges

The device used in both activities academics and entertainment.

Time or memory division for games

Physical form

cushioning material

changes form for various scenarios

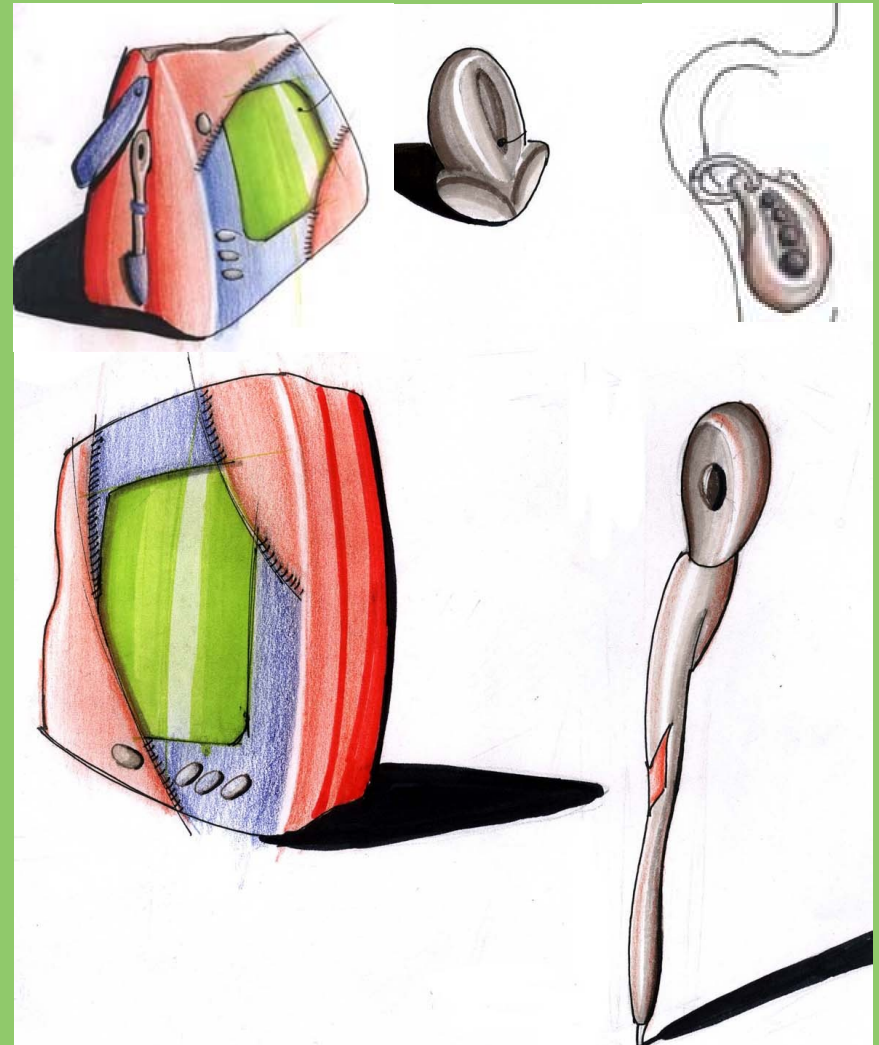
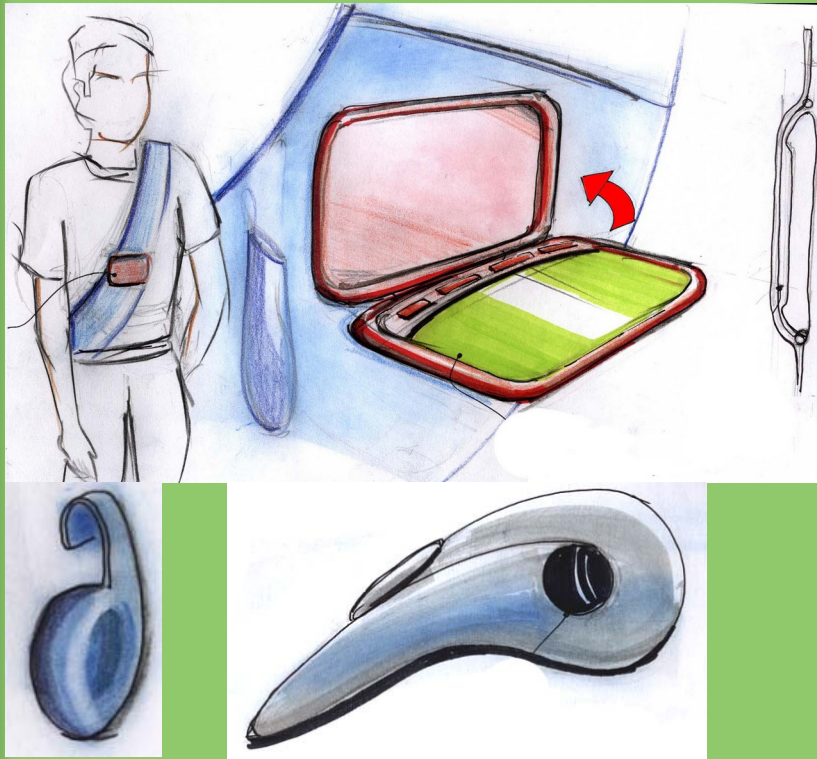
Product as companion

visual clues which arouse the feeling of 'personal' product.

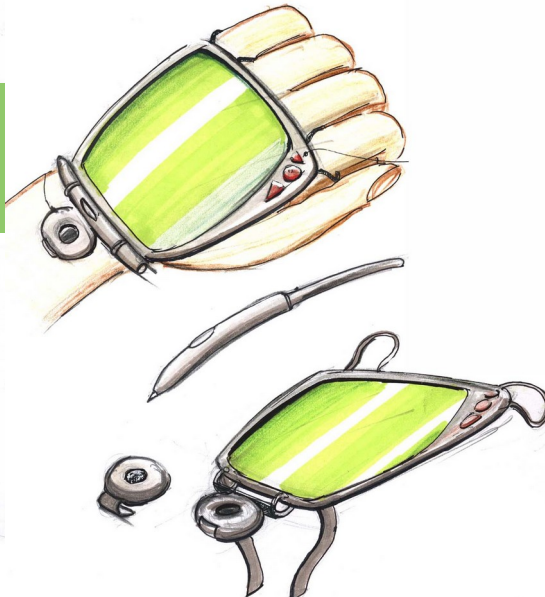
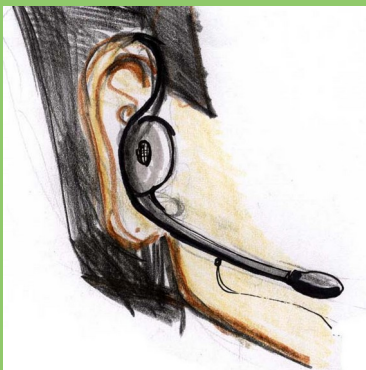
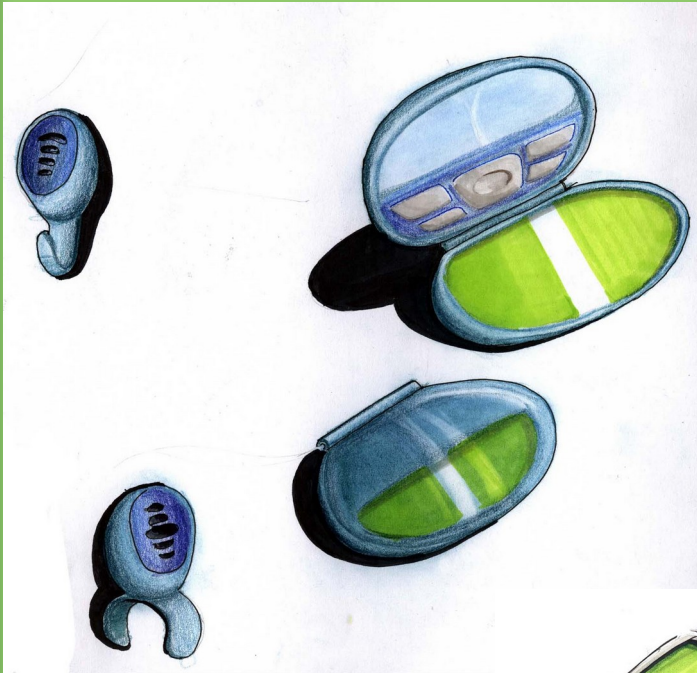
Making student more social than introvert

Team games

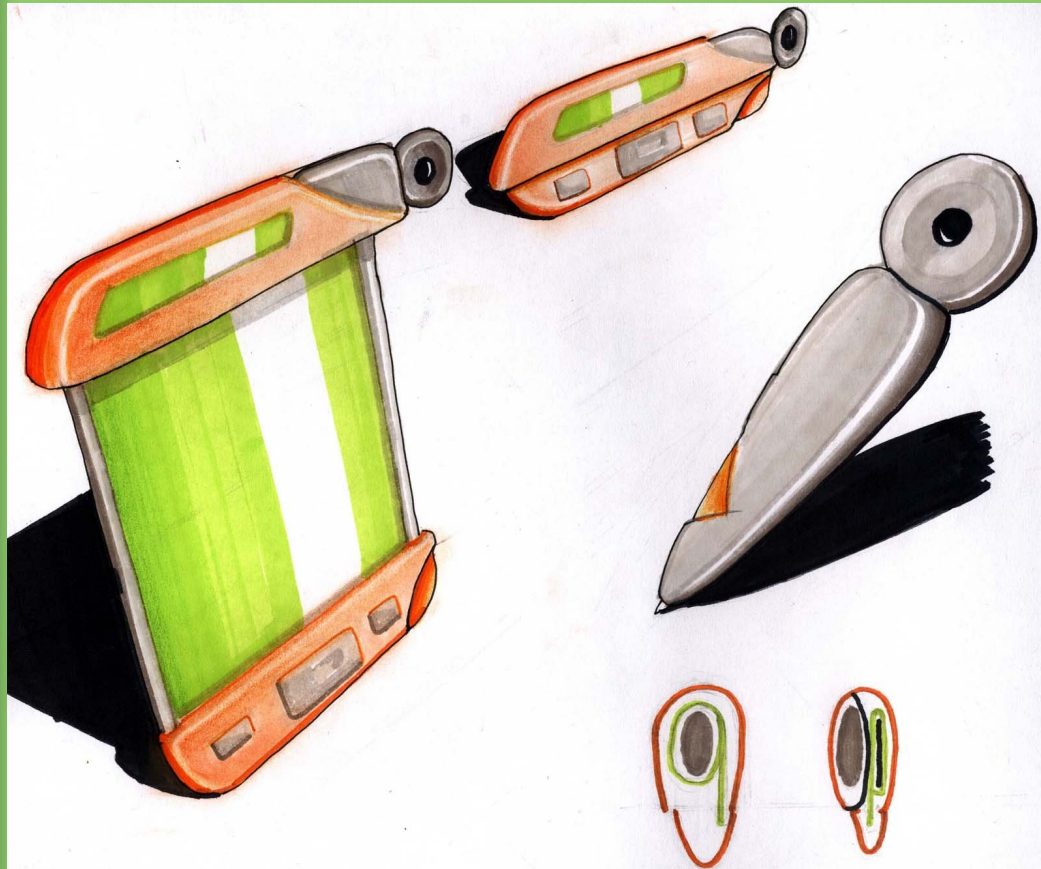
Based on similarity with frequently used products



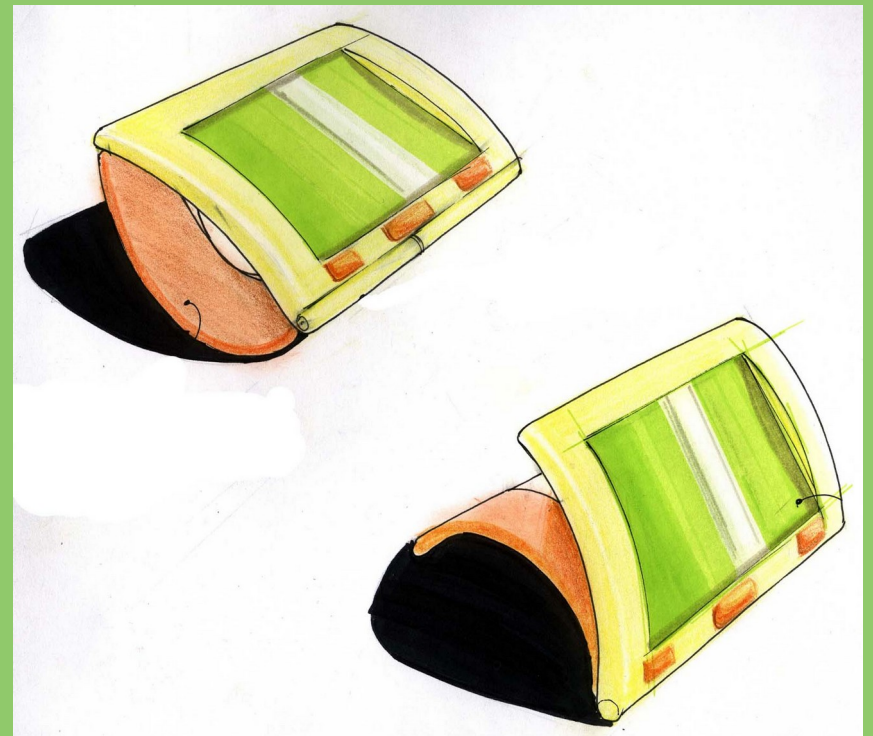
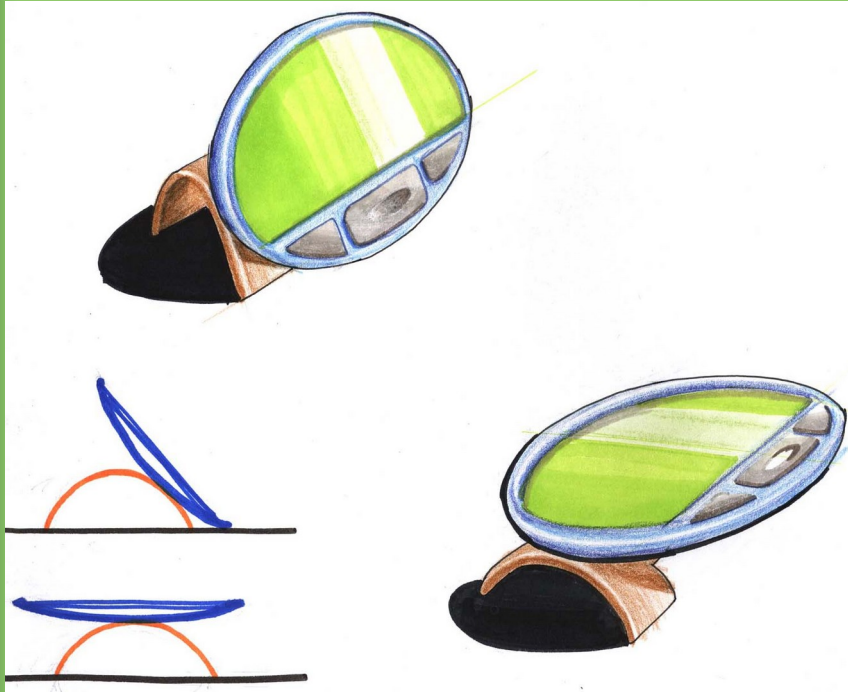
Based on similarity with frequently used products



Based on folding screen

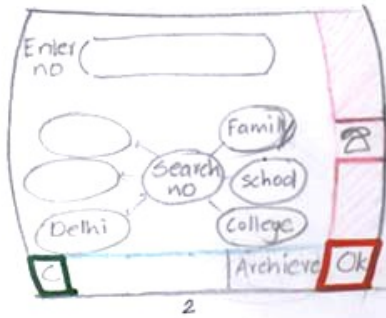


Based on Change in product form

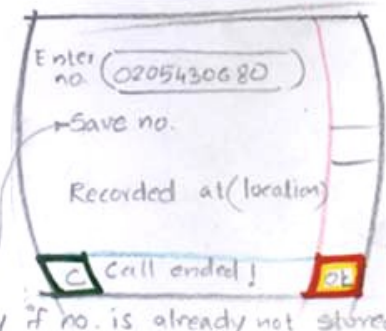
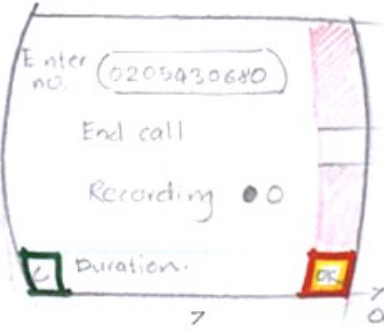
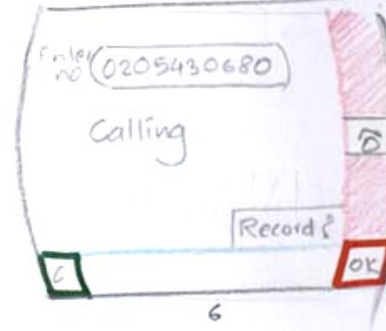
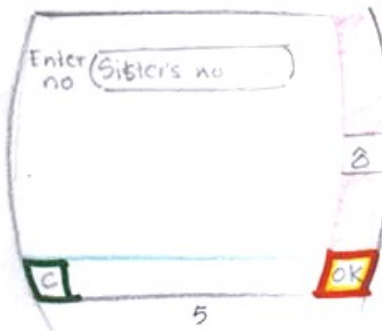
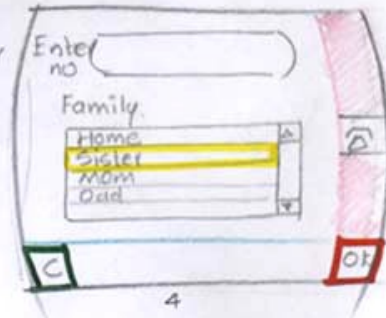
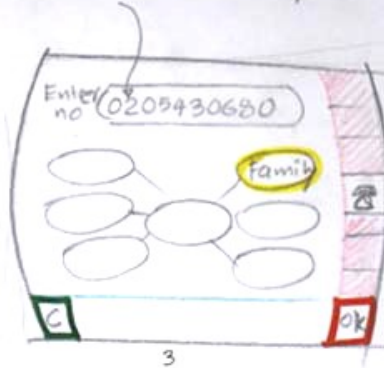


Initial concepts for interface

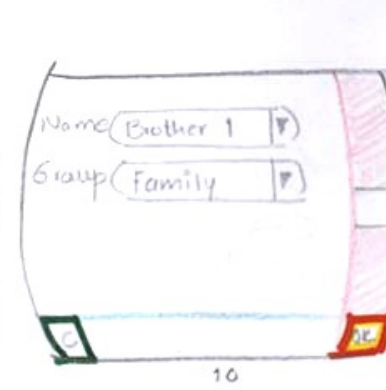
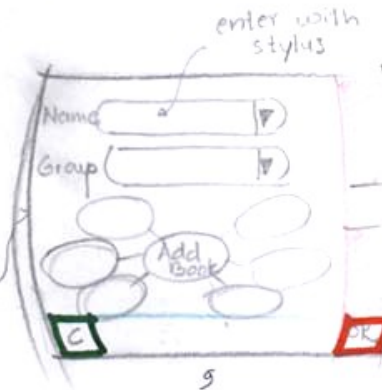
MAKING A CALL



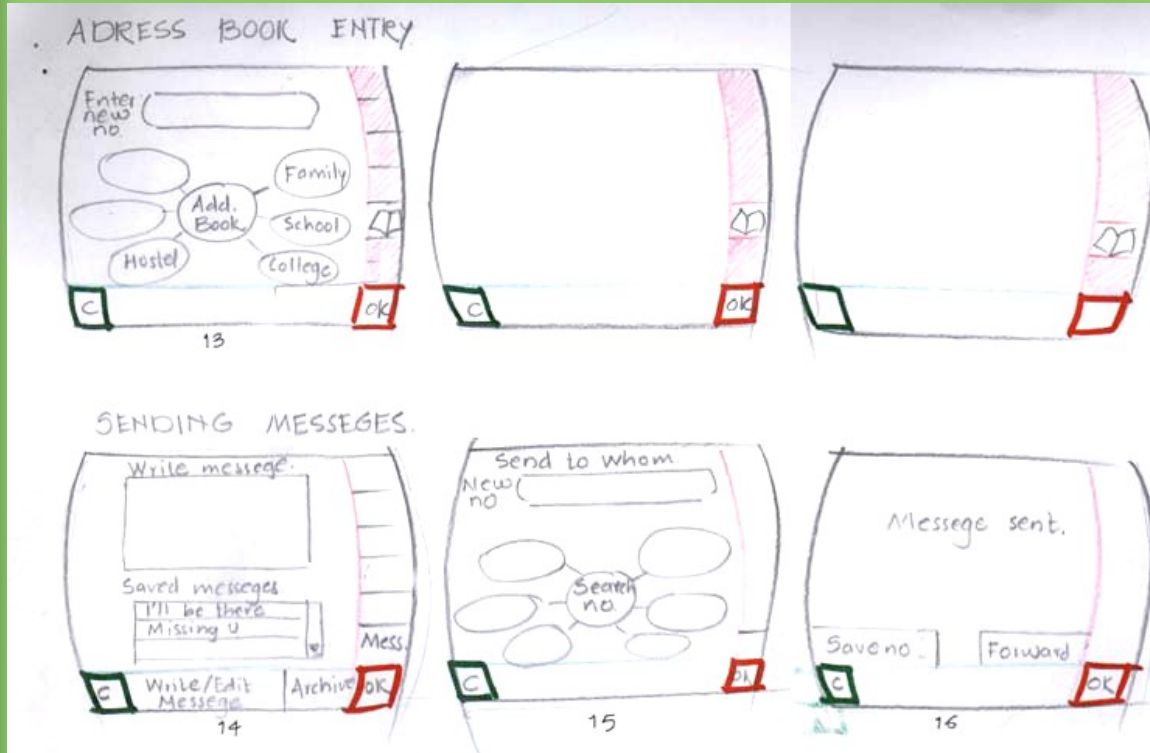
enter no with stylus.



only if no. is already not stored.



Initial concepts for interface



Insights

- Default saving new number
- Voice conversation recording as very useful feature
- Status of the user, like in messenger software
- Multiple number saving for the same user name

Statement

Designing personal mobile phone for young college students (junior and senior college), age group 17-22 years.

The product will assist the student in her/his daily activities such as studies, relaxing, extra curricular activities.

Features

The device will be more than just a communication device. It will also offer

- audio note taking

- Scheduling

- reminder

- alarm setter

- voice recording

- digital camera

- music player

Form

- As the product is for young students the product should look 'fresh' and 'dynamic'.
- The form should be appealing for both boys and girls as it is a unisex product.

Interface Usability

- The novice user should not take more than 3 to 5 minutes to learn how to use it, without help of manual.
- Once the user knows how to use one feature, he should get idea of how to use other features.
- User should not require memorizing the sequence, where he could find the desired feature.

Ergonomics

- As the product has to be carried every time, it should be compact and lightweight.
- The layout of keys should be comfortable to use with any of the hands, and there should not be any strain on the thumbs.
- The constant use of the product should not result into any fatigue for the user.
- Grip of the product while talking, dialing, and even carrying should be firm.

Qualities

- Product should promote students for balance between studies and other activities.
- Useful in making student more social and not introvert.
- Product should be more like a companion to the user.



Concept-1





Concept-2





Concept-3





Concept-4





Concept-5





Concept-6





Concept-7





Concept-8



“Pair Comparison” method was used for evaluation of the concepts.

Number of concepts: 8

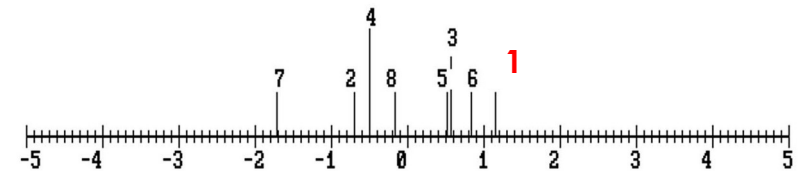
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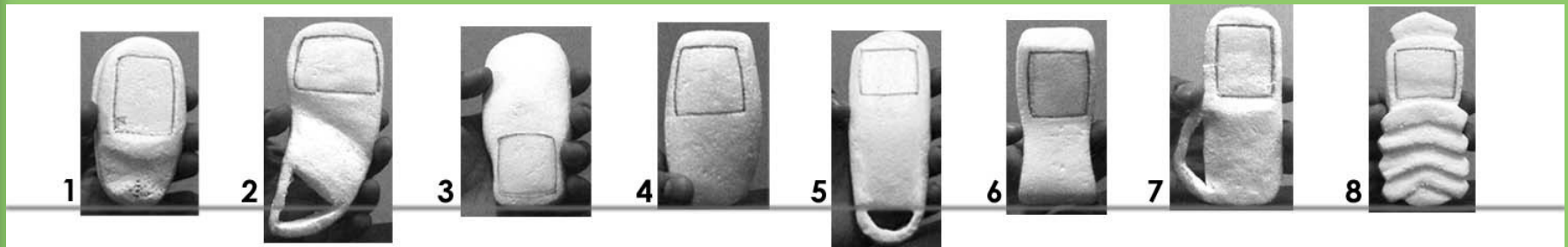
1. Form
2. Carrying
3. Grip
4. Dialing
5. Talking
6. Lifting up
7. Keeping down

STIMULI SPACES- 1.147727251052856
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PAIRED GRAPH



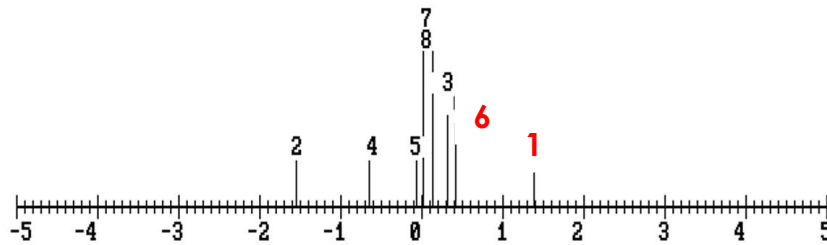
Form



Concept evaluation

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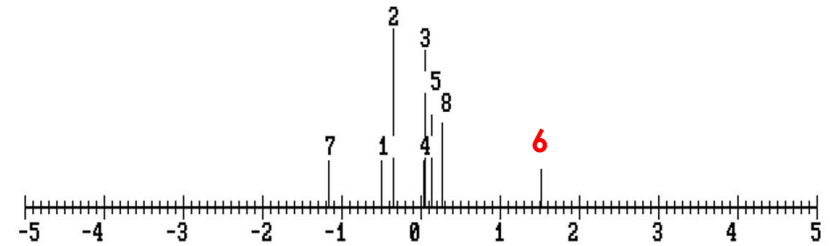
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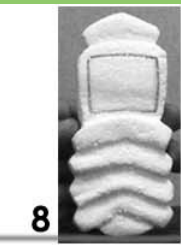
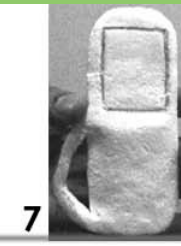
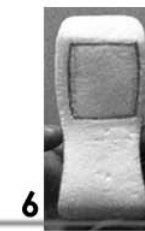
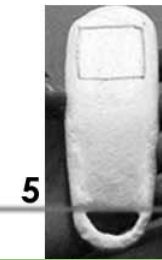
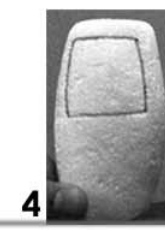
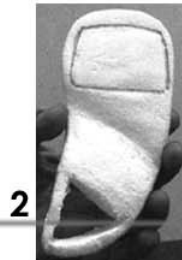
Carrying the phone

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PAIRED GRAPH



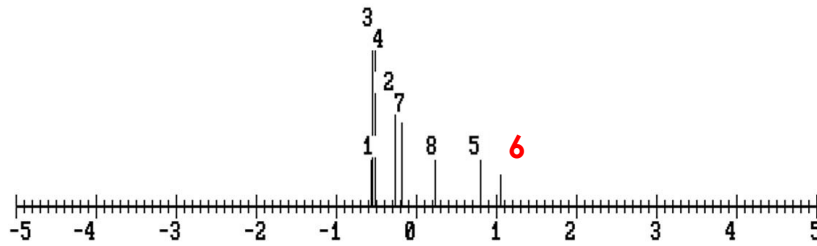
Grip



Concept evaluation

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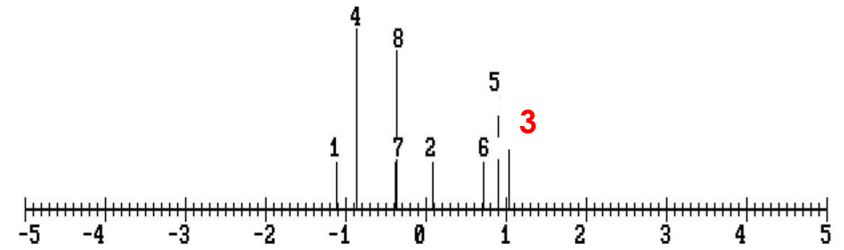
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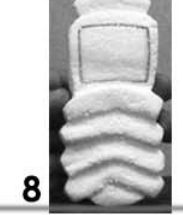
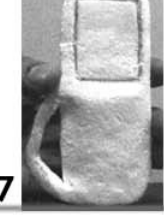
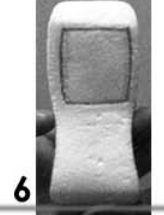
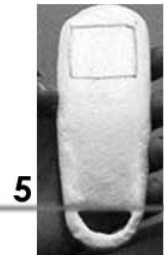
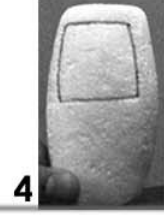
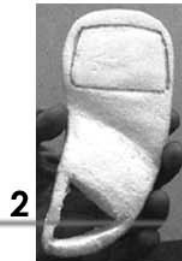
Dialing

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 9.090909361839294E-002
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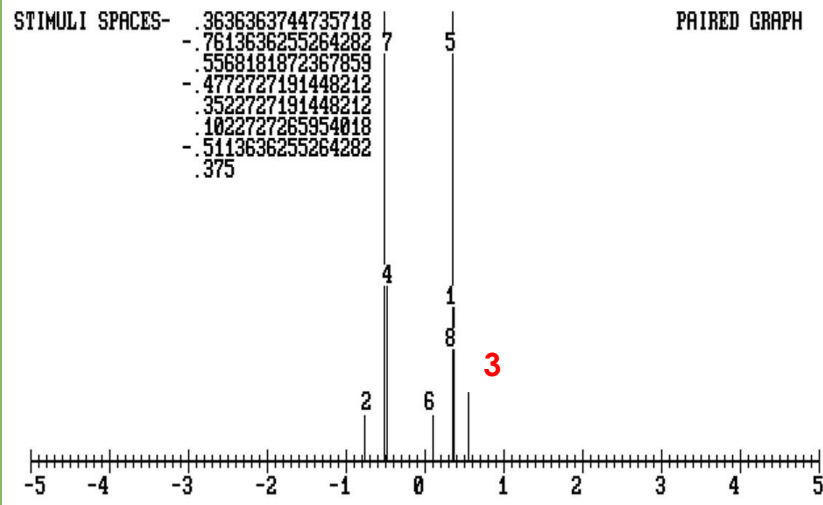
PAIRED GRAPH



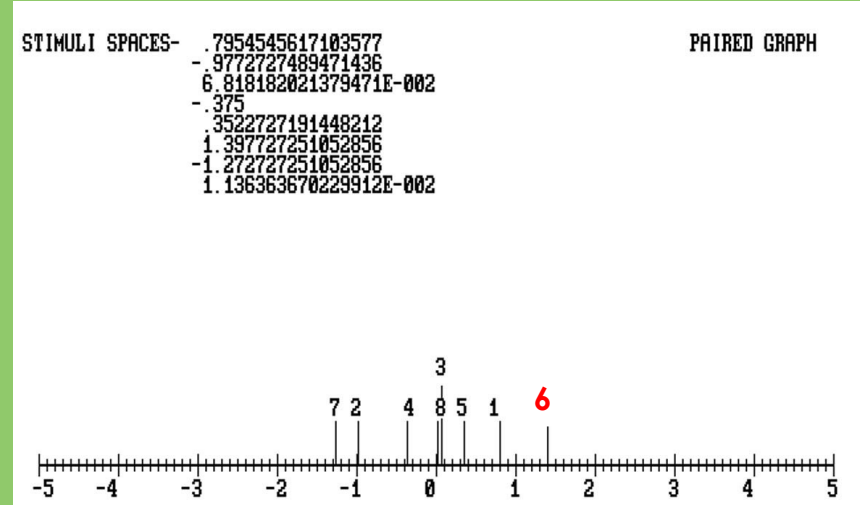
Talking



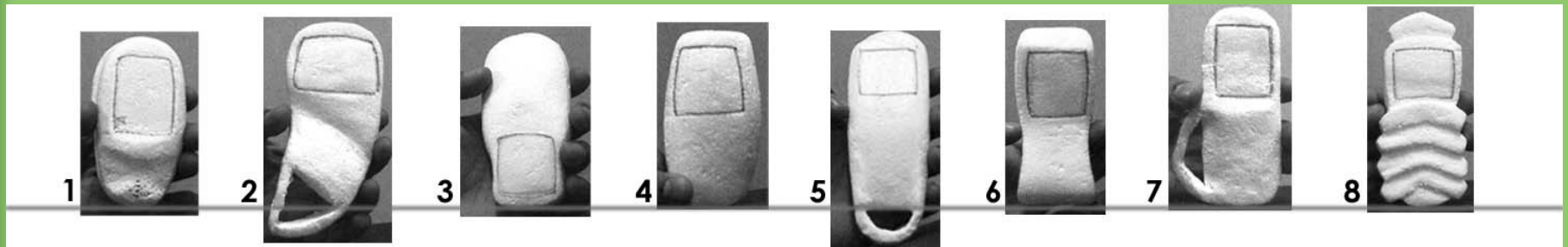
Concept evaluation



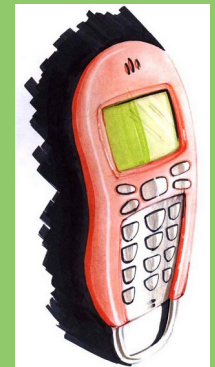
Lifting up the phone



Keeping down



Selected Concept



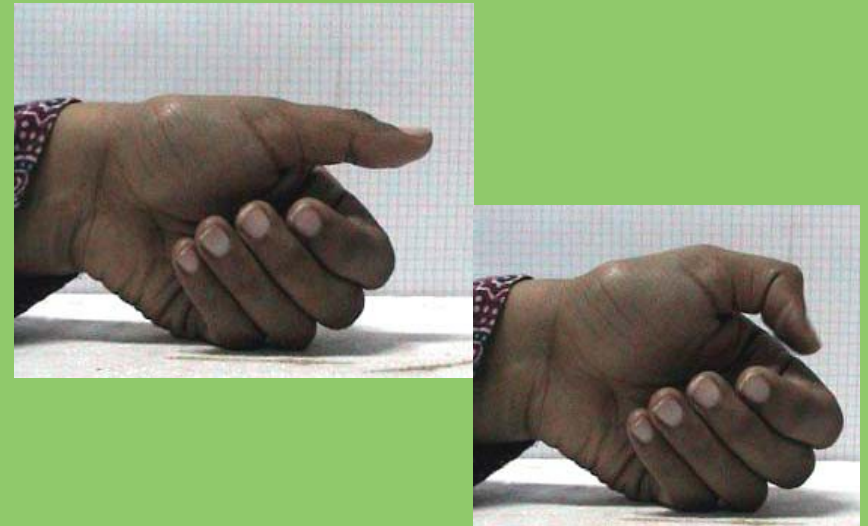
Thumb movement study



To define comfortable area for keypad

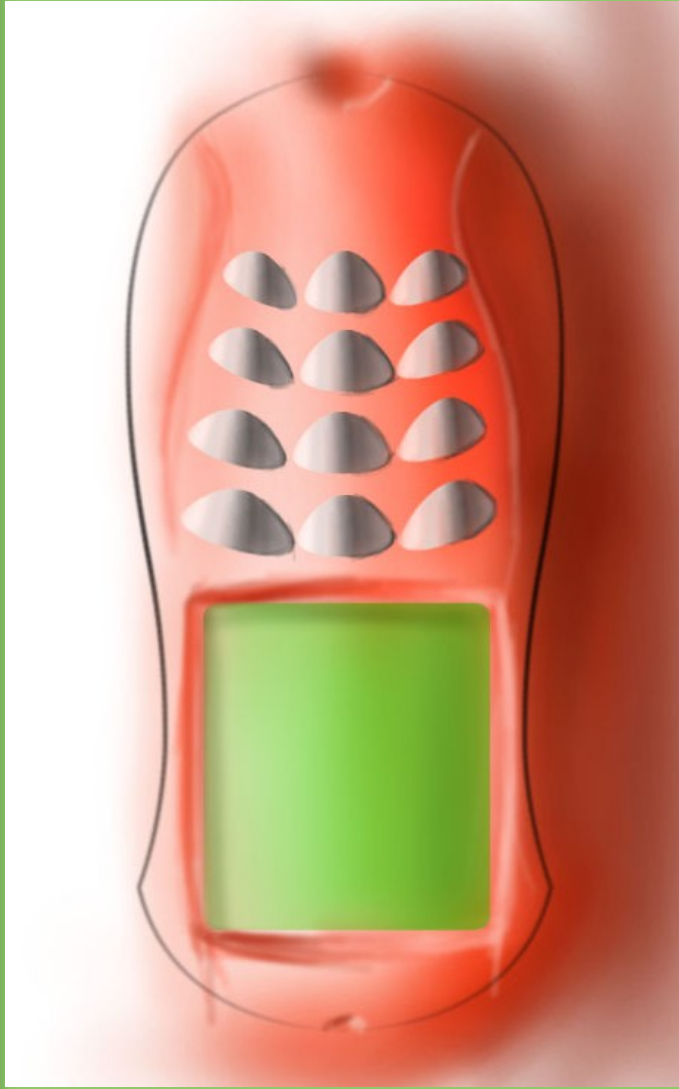


To define profile of keypad in side view.



To define profile of top and bottom keys

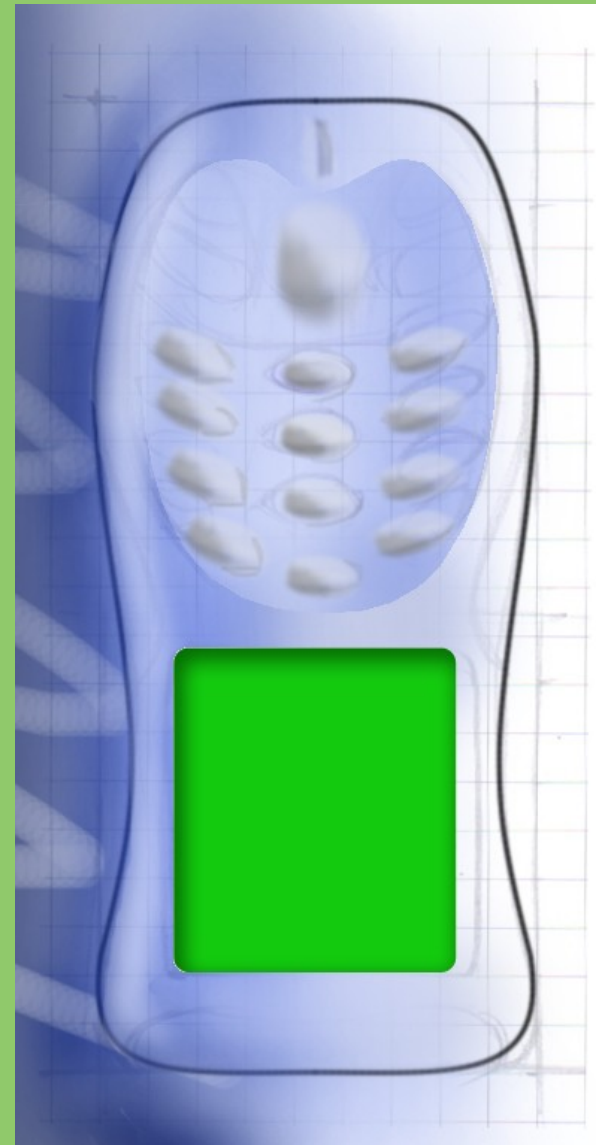
Selected Concept - alternatives



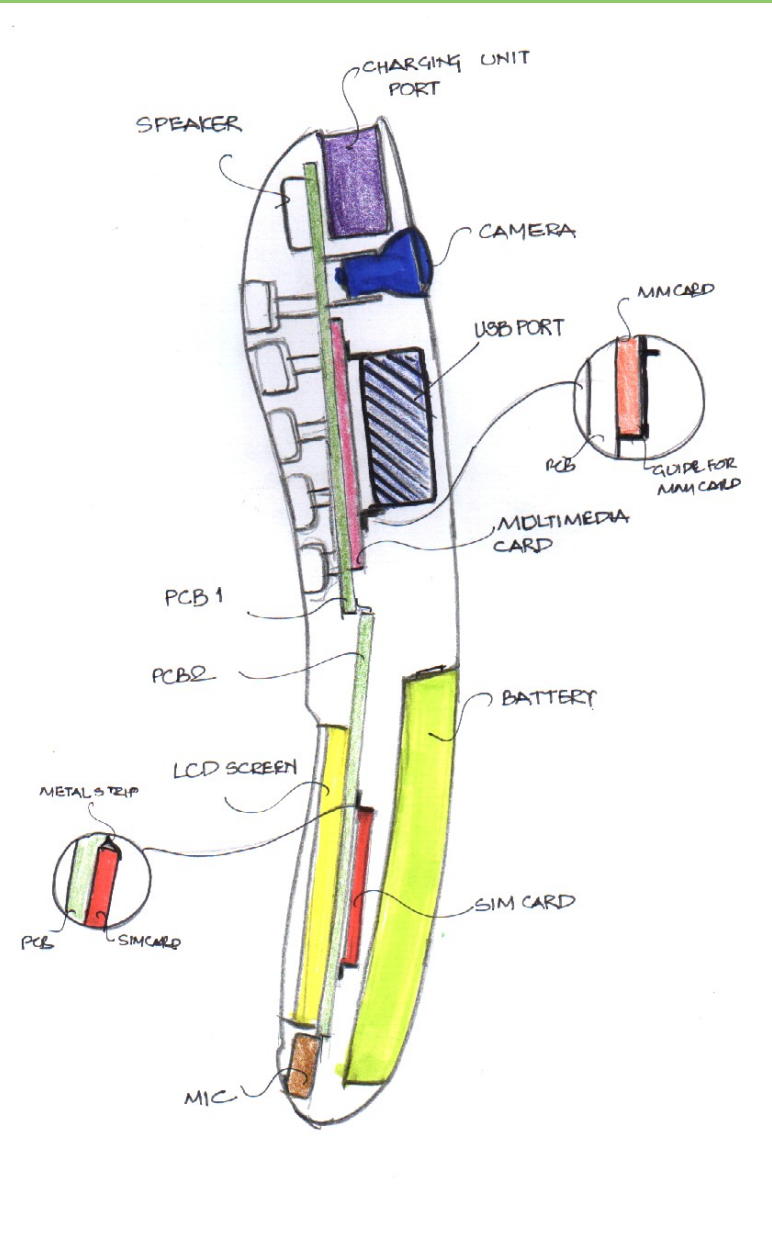
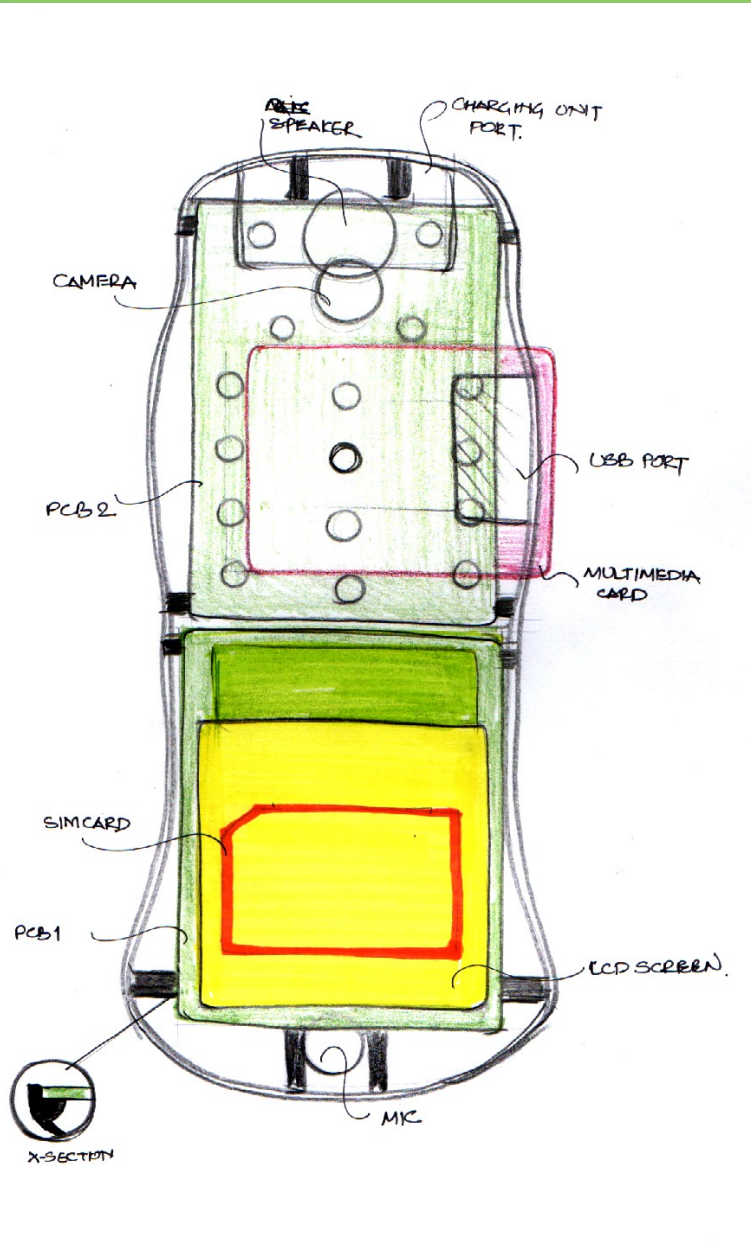
Selected Concept - alternatives

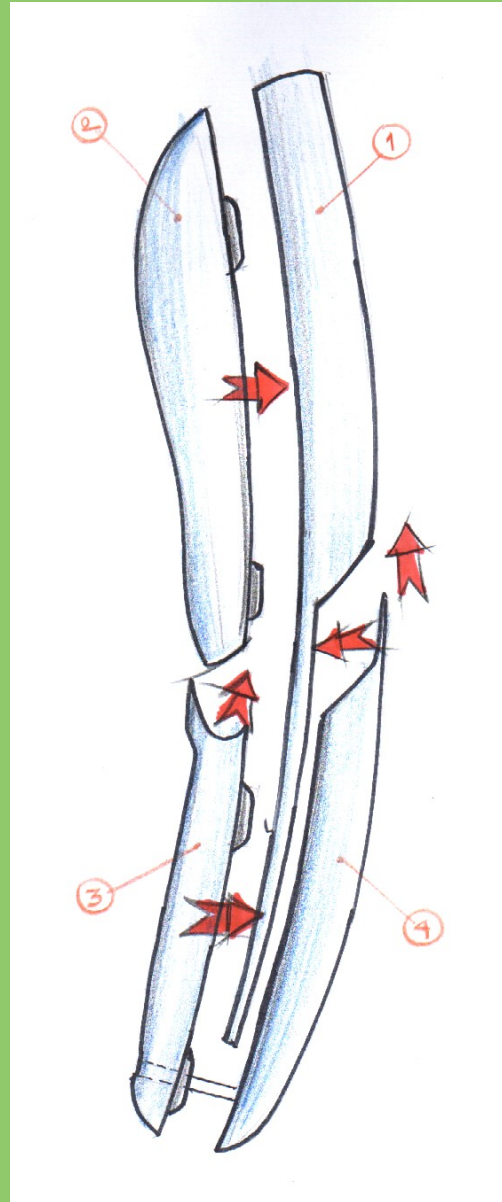


Keys - alternatives









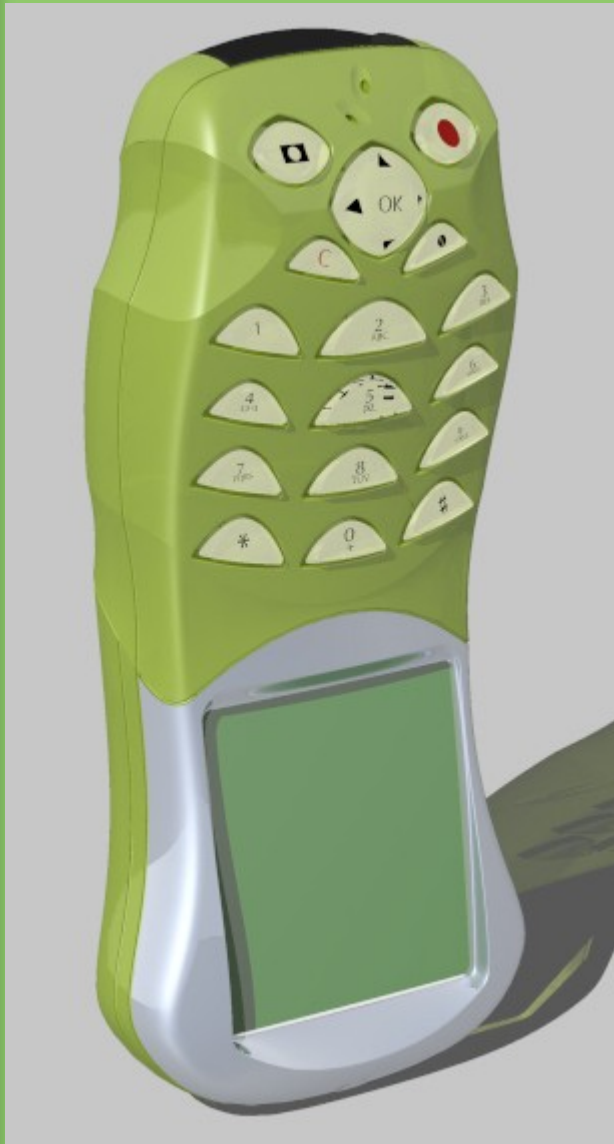
Colour variations



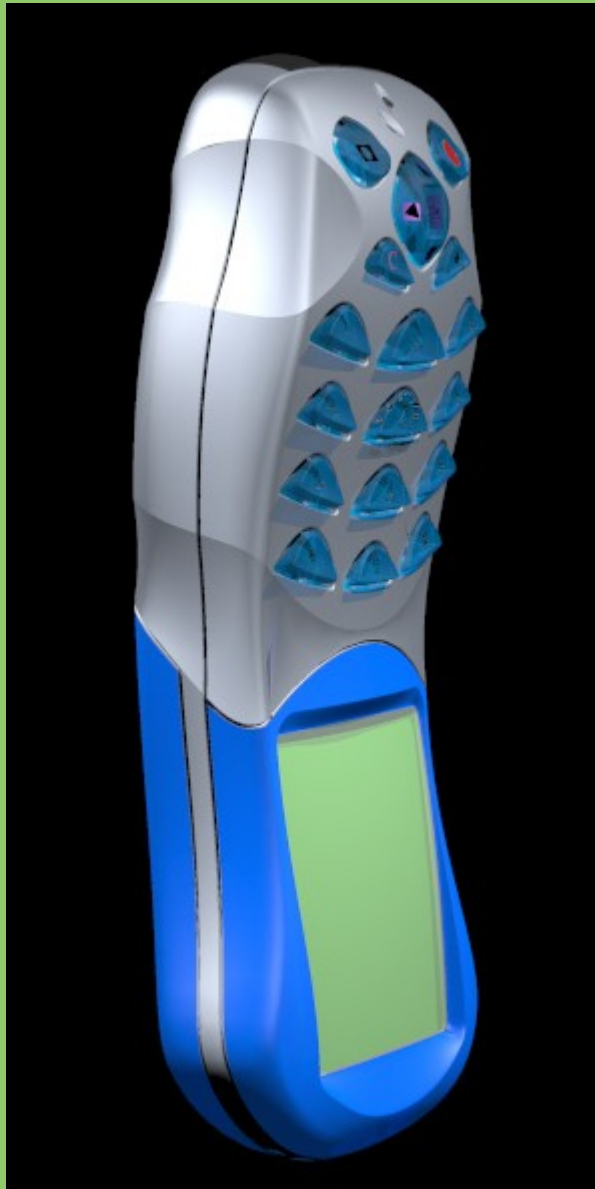
Colour variations



Colour variations









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