Communication & Information sharing for Elderly

Project 3
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" No matter how old you get, if you can keep the desire to be creative, you're keep- ing the man- child alive."

— John Cassavetes
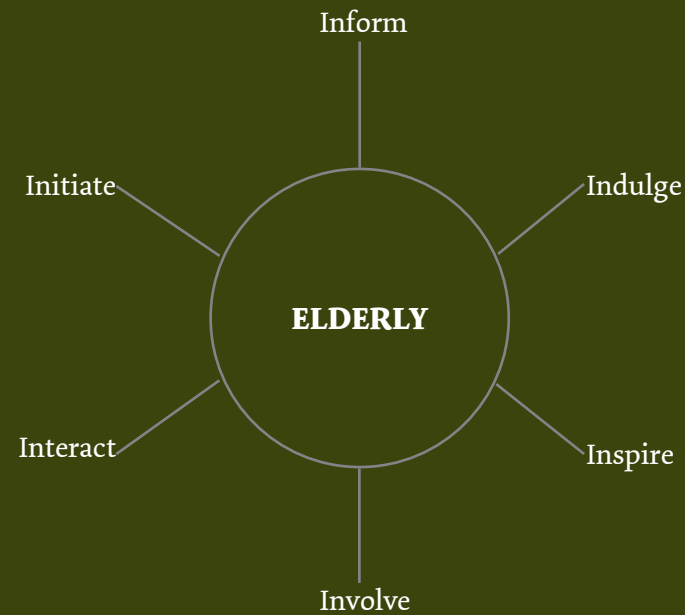
Contents

About the project

- Information sharing within the group of elderly people.
- Keeping each other updated and exchanging information about anything of interest .
- Enhance companionship with fellow elderly people.
- Communication with fellow elderly people without the use of mobile phones.

Need for the project

- In 1991 population of elderly (60+) was 57 million compared to 20 million in 1951.
- In 2001 the elderly population is estimated at 71 million and 114 million by the year 2016.
- By 2025, elderly will account for 12.7% of the total population and by 2050 it will be 25.3%.
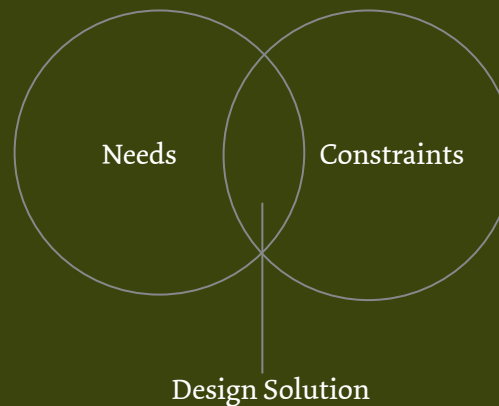
Aim of the project

The project is an attempt to create an alternative means of communication and information sharing for elderly keeping in mind the physical and technological constraints.

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                    Inform

    Initiate                      Indulge


                   ELDERLY


    Interact                      Inspire


                   Involve
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Design Process

- Understanding the user group through literature studies.
- Understanding the problem through user studies.
- Recognising need gaps based on the research and initial ideation.
- Evaluating the concepts to formalize the final concept.

Needs   Constraints

Design Solution

Initial Design discussions and decisions

- A designated public space where elderly people can sit together with people of different age group.
- A mode of interaction being created for them to get chance to interact with people of younger age.
- A platform to Share and Exchange ideas.
- To Encourage Learning between elderly people and people of younger generation.

*A self generated problem statement

Design Ideas ??
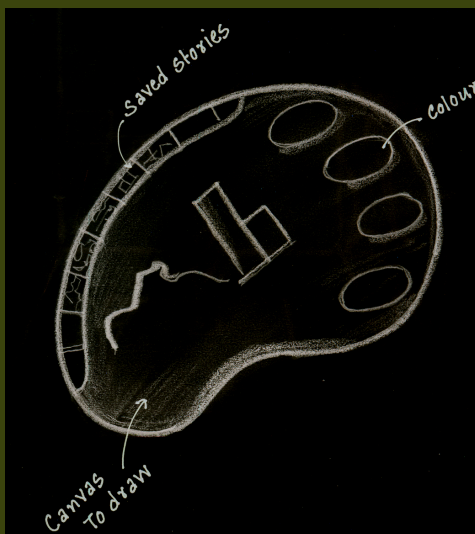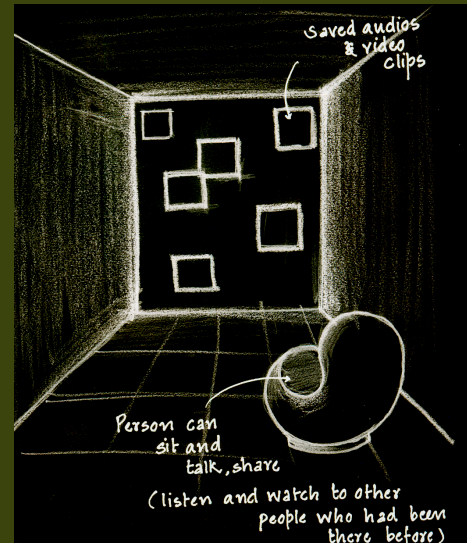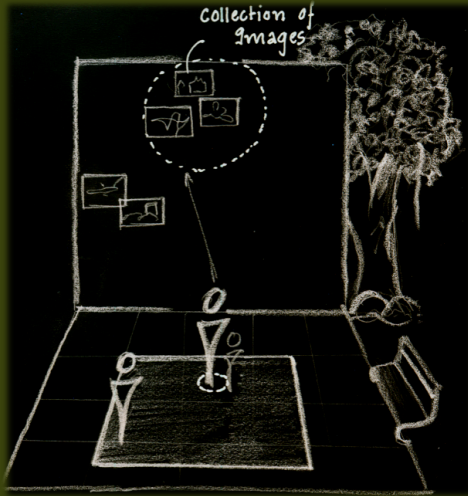
- *Whom will it benefit and how will it benefit?*
- *Will it be able to bring both the generations to-gether?*
- *Most of the activities elderly won't even prefer to get involved in .*
- *Does it really seems to be a problem?*

Brainstorming

ELDERLY

Problems
- Health Issues
- Social Security
- Psychological
- Loneliness
- Solitude
- Economical Issues
- Family Problems

Categorization
- Living Alone
- Married
- Divorcee
- With family
- Old age Home
- Urban/Rural
- Bachelor

Attachments
- Family
- Walking stick
- Chair
- Personal diary
- Wrist watch
- Personal belongings

Habits
- Reading books
- Newspapers
- Gardening
- Telling stories to kids
- Writing
- Daily walk
- Singing
- Listening to music
- Chatting with other friends

Activities
- Yoga
- Spirituality/ Satsang
- Laughter clubs
- Senior citizen's club
- Nana-Nani parks
- Cards
- Chess and other games
- Walking
- Exercises

Technology
- Mobile phones
- Television
- Internet
- Computers
- Music systems
- Laptop

Assets
- Wisdom
- Knowledge
- Experiences over years
- Cultural values

Aaji-Ajoba Udyaan, Shastri park

Primary Research

User study was classified in 2 categories:
- Based on User group
- Based on space surrounding them.

For the first category research was mainly done with 4 kinds of user groups in mind i.e.
- Elderly living alone
- Elderly living with family
- Marital status
- Users with different backgrounds (Single, Di-vorcee)

What is their daily schedule?

What do they do when they get bored?

When do they get time to meet their friends?

What are their interests?

Senior Citizen's Club, Kandivili

- A Small group of elderly which daily meets at 7 pm in the small parking area, designated for this daily meeting.

- The interesting fact was that people avoid talking about their family problems during that one hour of their meeting as they believe in spending that time, talking and sharing good things.

- The group often goes for picnics and small fun activities but prefer that in the company of same age group and like minded people but they also look forward for new people to join.

Powai Laughter Club, Hiranandani

- People of age group 60-80 years, come together to spend few hours exercising and sharing few good moments full with laughter and music.

- The session starts at 7 am sharp and people keep joining in whatever time they reach.

- The laughter and exercise session is generally followed by small interactive sessions, where people share jokes, sing and exchange views on common issues.

Sunhere Pal, Chembur

- The group meets on the first Saturday of every month to listen to old Hindi film songs from 1947 to the '60s.

- Every session starts with an introduction on the day's theme, like great duets of yesteryear. At the meetings, after each song, the members share their memories or bits of information about the numbers.

- For elderly these meetings are a chance to bond with others and relive their youth through the music

Aaji-Ajoba Udyaan, Shastri Park

- Only elderly are allowed entrance in these parks, which gives them a harmonious environ-ment to be in.

- Specially designed for senior citizens above 60 years of age, with all basic activities and facilities like Yoga, Medical checkups, Picnics, Laughter sessions, Cultural activities.

Observations and Findings

- In most of the group meetings (morning walks, laughter clubs, yoga sessions) people keep on waiting for everyone to join , as they have no prior information of the people who would be coming late or won't be coming.

- People don't inform if they are not going on a particular day.

- People miss on the information which takes place while they were absent or late, and have no means of knowing what exactly happened during that time.

Observations and Findings

- People discuss and share jokes or sing old songs after their daily laughter sessions.

- If they find some new activity going on in nearby localities, they share it with their group and get that started.

- Each group member's details, like contact number, blood group, family members, address and other such details are maintained to be used in case of an emergency.

- All have a learning attitude and have picked up things, like sending email or cooking etc according to the need, after retirement

Design Brief

To design an assistive mode of technology for elderly to connect with their peer group and also to bridge their information and communication needs. .

Essentials:

- The design must involve and inspire the user to initiate and enhance sharing and exchange of information within the group.

- The device must be easy to use by the elderly people.

Design Brief

Desirables:

- It should also make them feel good about their age and as an important part of the society.

- Simple yet easy to use technologies keeping in mind the drawbacks elderly face by the existing ones.

- The device must be compatible with other communication devices

Incentives:

- The device could be connected to all other forms of media besides computer, to download or upload information
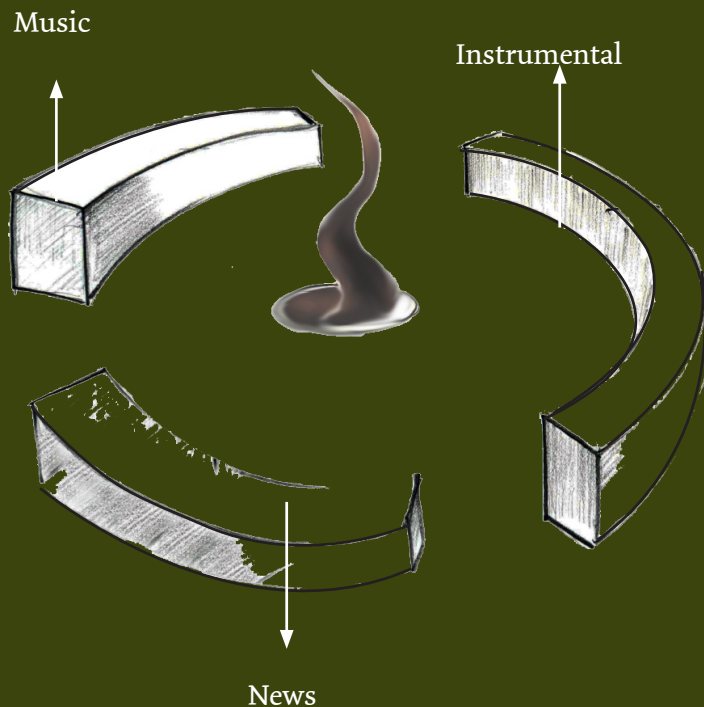
Design Scope

Project scope is to make a handheld device, easy for elderly to carry with them, having all essential features which they would require to stay connected with friends and family.

- The user group identified were:
- People above 60 years of age.
- Living in urban cities
- No physical disabilities (problems due to growing age kept in mind)
- English and Hindi literate.
- More than one time user of mobile phones.

Design Idea 1 : Personalized Spaces

The idea of making a space was to target the environment where elderly often visit or prefer to spend their free time. Parks are one of the few places where elderly can be easily found in groups talking and exchanging notes with like minded people.

Who will get benefit out of it?
What will they share?
How will they share?
How will one get to know where to go and what to do?

Music

Instrumental

News

Design Idea 2 : Interactive Newsreading Booth

Elderly people often reads newspaper in the parks, based on this observation the idea generated was to make a common newspaper booth, where people could listen as well as read the daily news of their choice, in groups. While reading they could even exchange their views on a particular topic.

Why would one come and read newspaper here?
How is it benefiting the user?
Is any sharing happening?

Design Idea 3 : Daily Attendance System

Informing other group members about the being late or unable to come, is a commonly observed problem which all elderly faces. People often end up waiting for other group members to join resulting in whole activity getting delayed.

A two way system in which a person could record his starting and reaching time to the point of activity which gets updated everyday.

* Demanding user to do to many things?
* Feasibility issues?
* What over here is getting shared or exchanged?
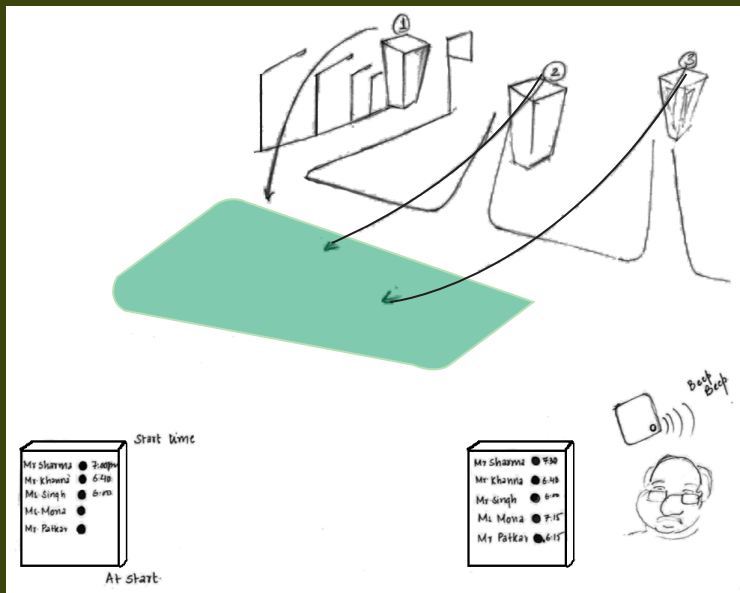
Design Idea 4 : Daily Attendance System

Elderly people are more interested in having a copy of songs for themselves?
How will it benefit them?

The idea behind this concept was to make such rare collection of songs available for sharing any-time and anywhere.

The person could listen to his personal collec-tion and can also share his songs with someone he wants to, which could be possible anywhere whether being at home or outside.
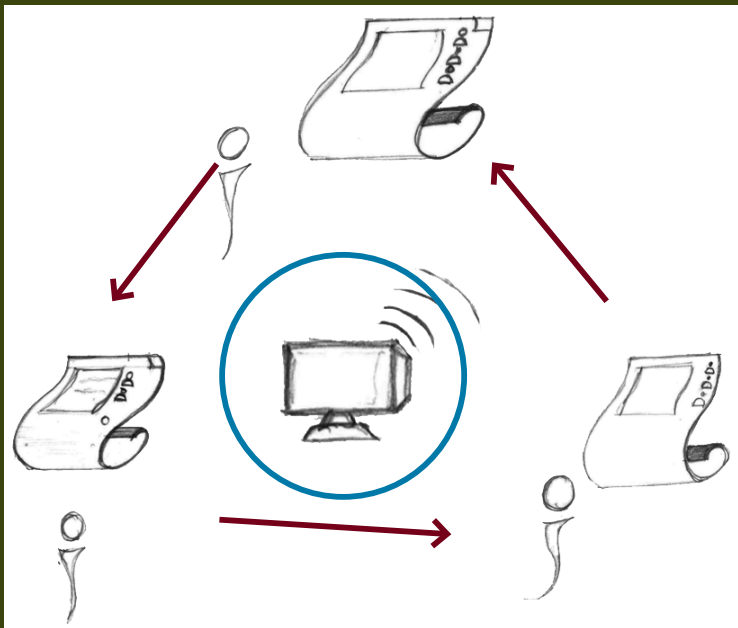
*Looking into what are the interests which bring older people together
*Look into the things they are attached to
*How do they share things?
* Solutions should answer the question of whom will it benefit and how?
*Re looking the data
*Design solution should match design brief

Mapping Insights

Friends

Family

Society

Group people

Contacts   Grand children
                            Communication With   Politics

Blood Groups   **Information**   Spiritual Gatherings

                                           Communication
Phone numbers   News, Serials
                                              about
Family Members   New Recipes

Addresses   **ELDERLY**   Meetings

                                                                      Group events

                Other   **Technical**   **Ways of**
Vision   **Problems**   **Constraints** **Communication** Person-person Interaction

Hearing   Mobile phones

Hand Function   Complex Interfaces   Landlines

Cognitive Processes   Processing Time   E-mails

                                    Reaction Time   Letters

                                    New technologies   Frequent Visits

                                    Problem Solving Capacity

Idea Generation- finding metaphor

Looking at the basic needs of elderly, it was realised that elderly people should feel connected to the device or system they would be using. Elderly are personally attached to many things around them, and using them as metaphors were few of the initial design decisions.

Metaphor of a pocket watch was selected, as its easy to carry, could be worn around, easy to operate while wearing, no fear of loosing, protective lid prevents it from breaking in case of a fall and also this is one thing which elderly could feel connected to and remind them of their time.
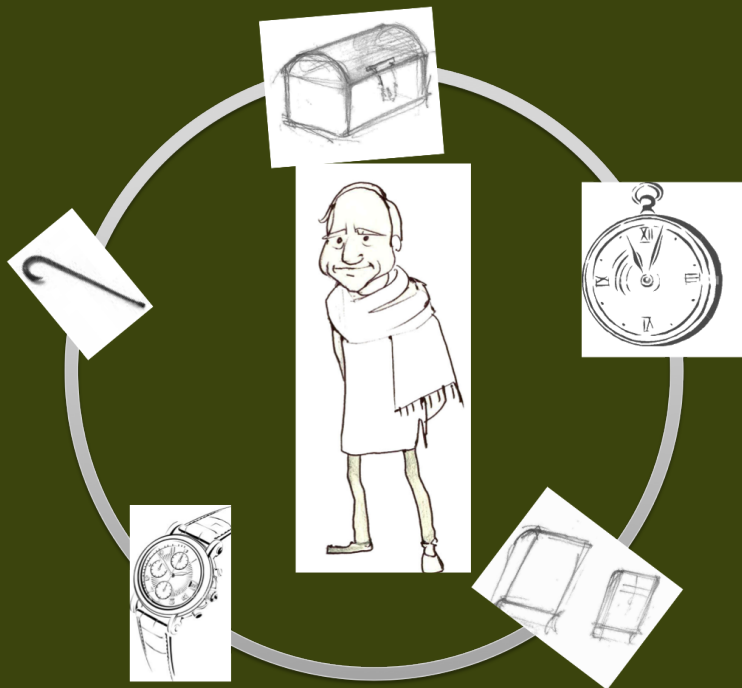
Re-generating ideas

* Are buttons better than touch screen?

* How to make maximum use of the form?

_* What other features could be implemented?_

key features of this design were:

- Circular form makes it easy to hold and grip.
- A personalized device for sharing and communication.
- Minimum functions (sharing media, emergency calling, group reminders) as compared to that of cellphones or other communication and sharing devices,makes it easy to operate
- Simple interface and easy to learn.
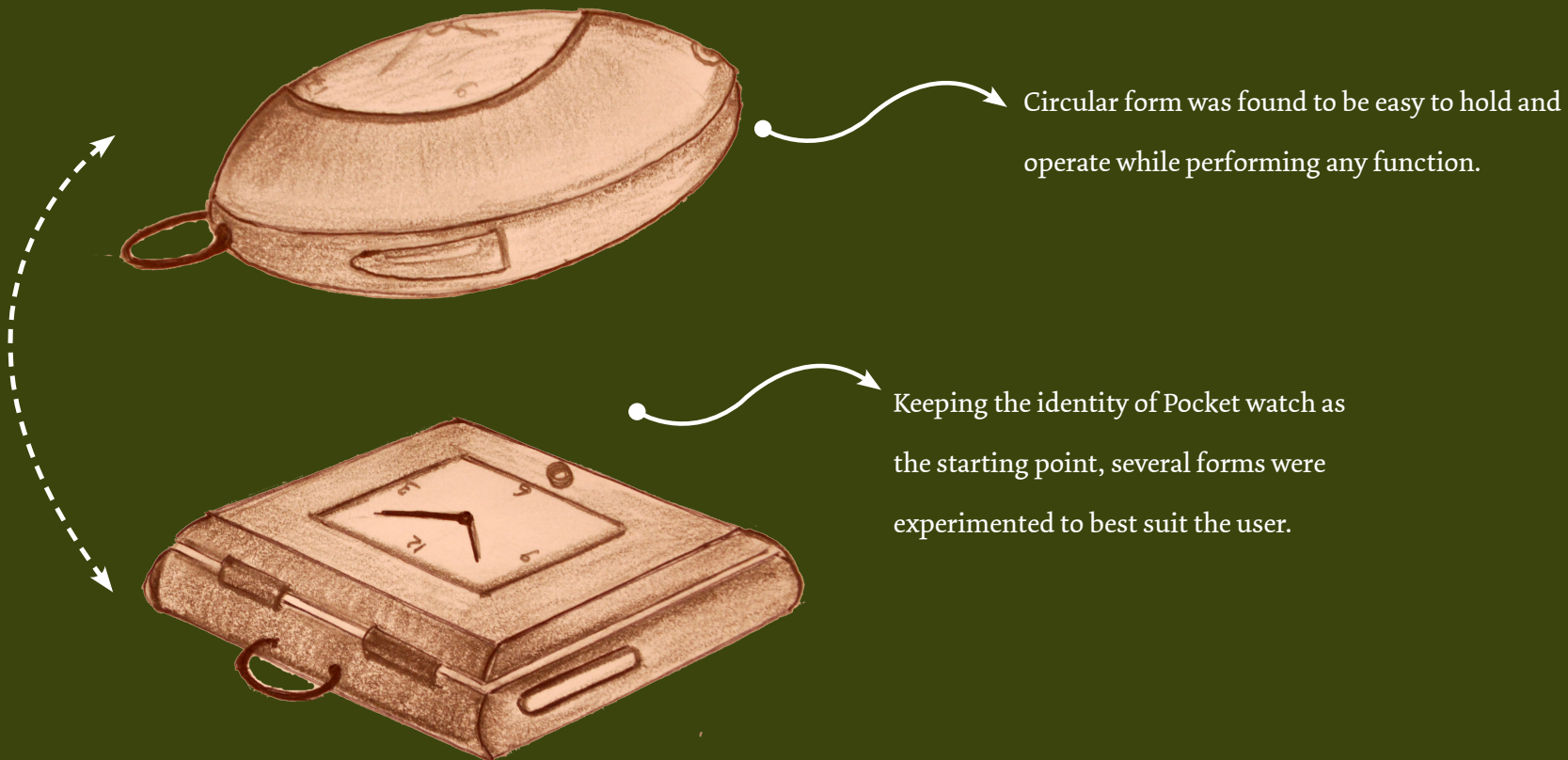- Audio-Visual feedback.
- Touch screen for the ease of use.

Emergency Button

SOS

Group Messaging for reminders and quotes

15:30

Narrow casting

Music and video library
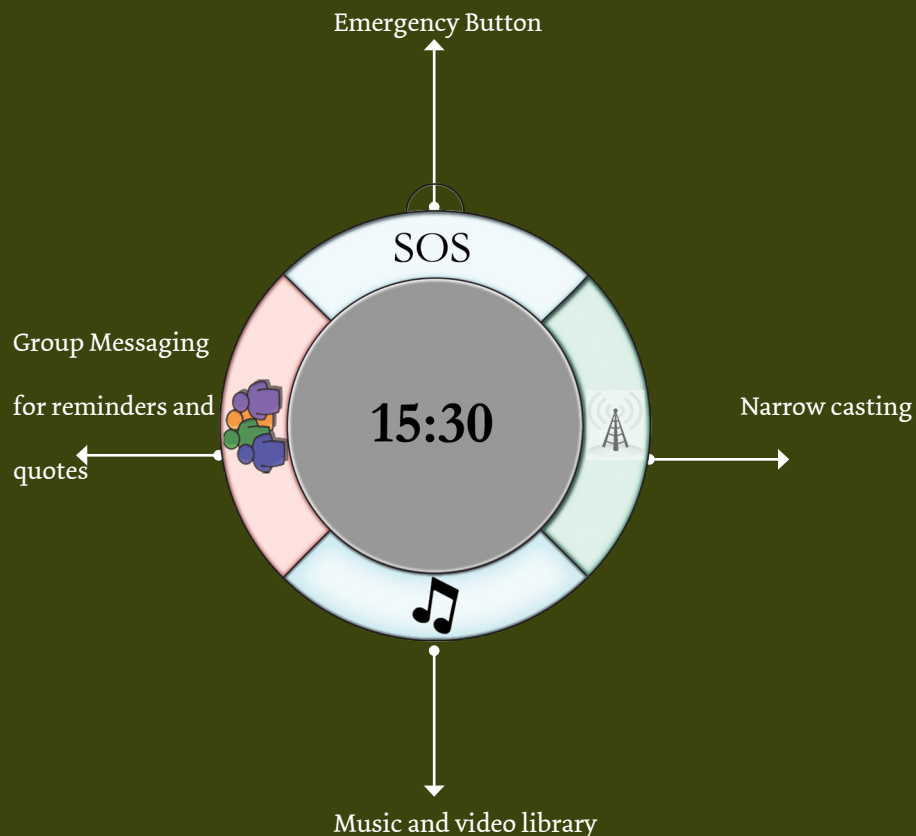
Re-generating ideas

* Compatibility with other devices?
* What is specially designed for elderly?
* Are they able to connect with it?
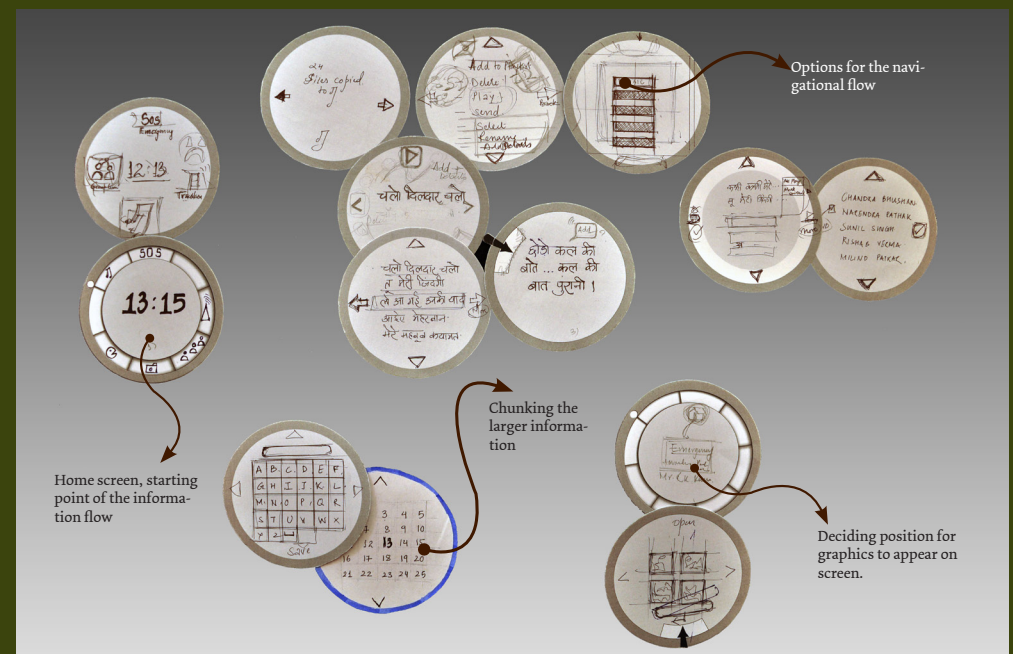* How is it different from mobile phones?
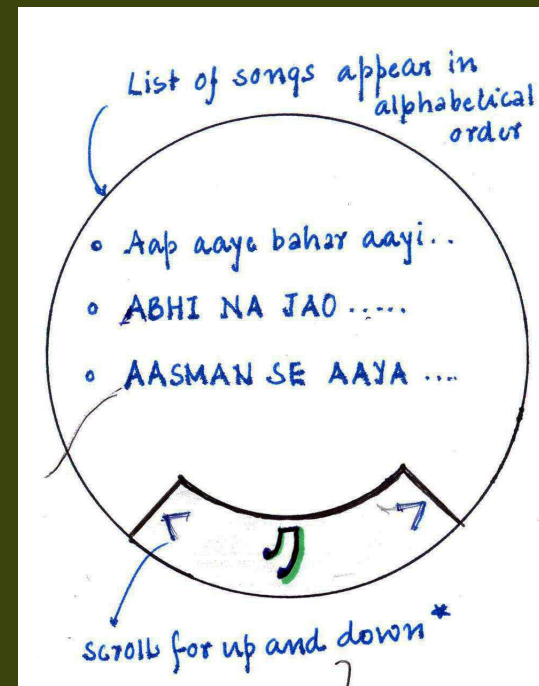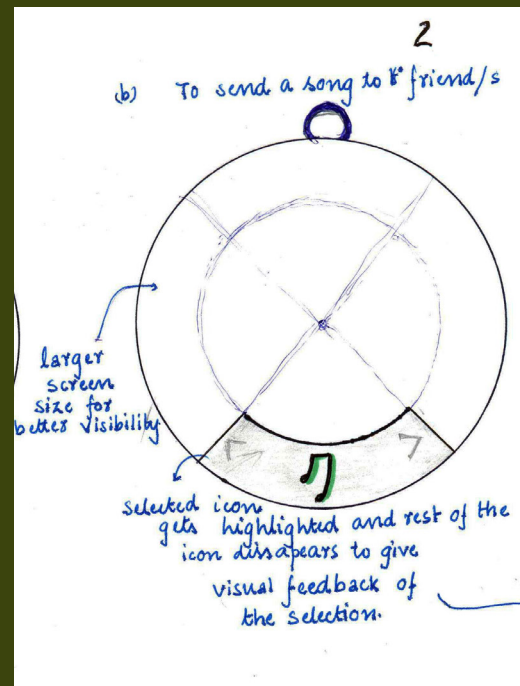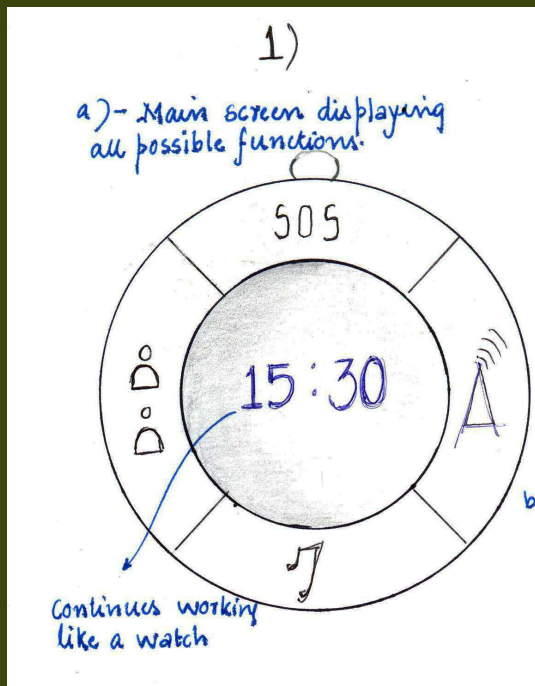
Towards final design

* Look into the ergonomics of the form
* Identity of the metaphor should reflect

Circular form was found to be easy to hold and operate while performing any function.

Keeping the identity of Pocket watch as the starting point, several forms were experimented to best suit the user.

Design development

Terminologies used should be well taken care of for e.g 'playlist' , 'voice tagging'
Elderly people should be able to associate and remember.
Design should be for them not a technology driven idea for any young enthusiast

Structure required to make a smooth information flow for the ease of use.

Location of icons and navigation buttons was the prime concern

Huge chunks of information generated out of brainstorming

Options for the navigational flow

Home screen, starting point of the information flow

Chunking the larger information

Deciding position for graphics to appear on screen.

Design development

* Consistency in assigned functions to the buttons

* Recording in open and noise reduction

* Creating list of songs and navigation through the long lists

Information flow structure for song sharing option, with the proper use of icons for visual feedback
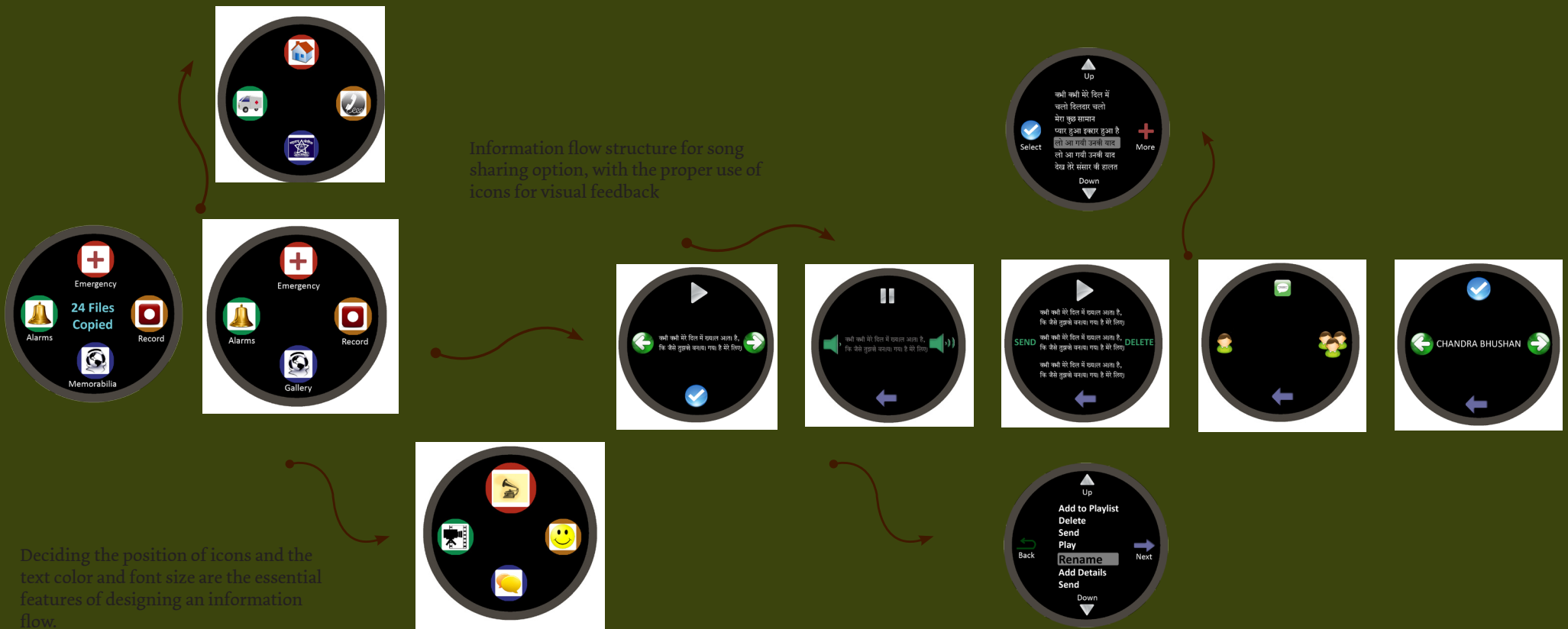
Deciding the position of icons and the text color and font size are the essential features of designing an information flow.

Design decisions

 Circular Form:
Circular form was chosen because of various reasons which came out of literature studies and user's inputs. Since its a handheld device, giving it a circular form allows
- Easy grip while holding it in hand.
- No sharp edges.
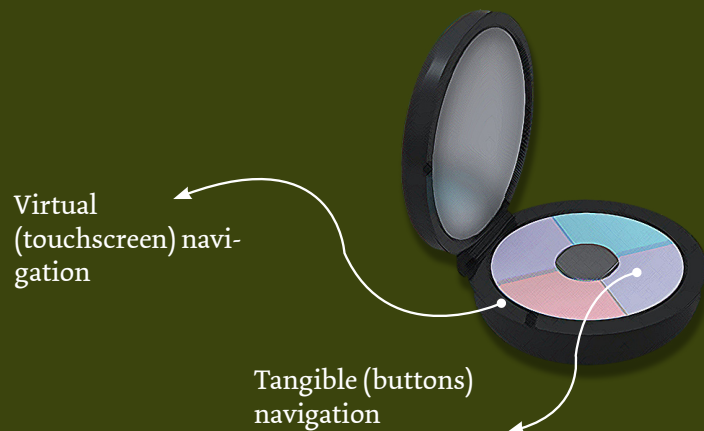- Maximum area can be utilised on the surfaces.

Maximum Area on
screen

Rounded Edges
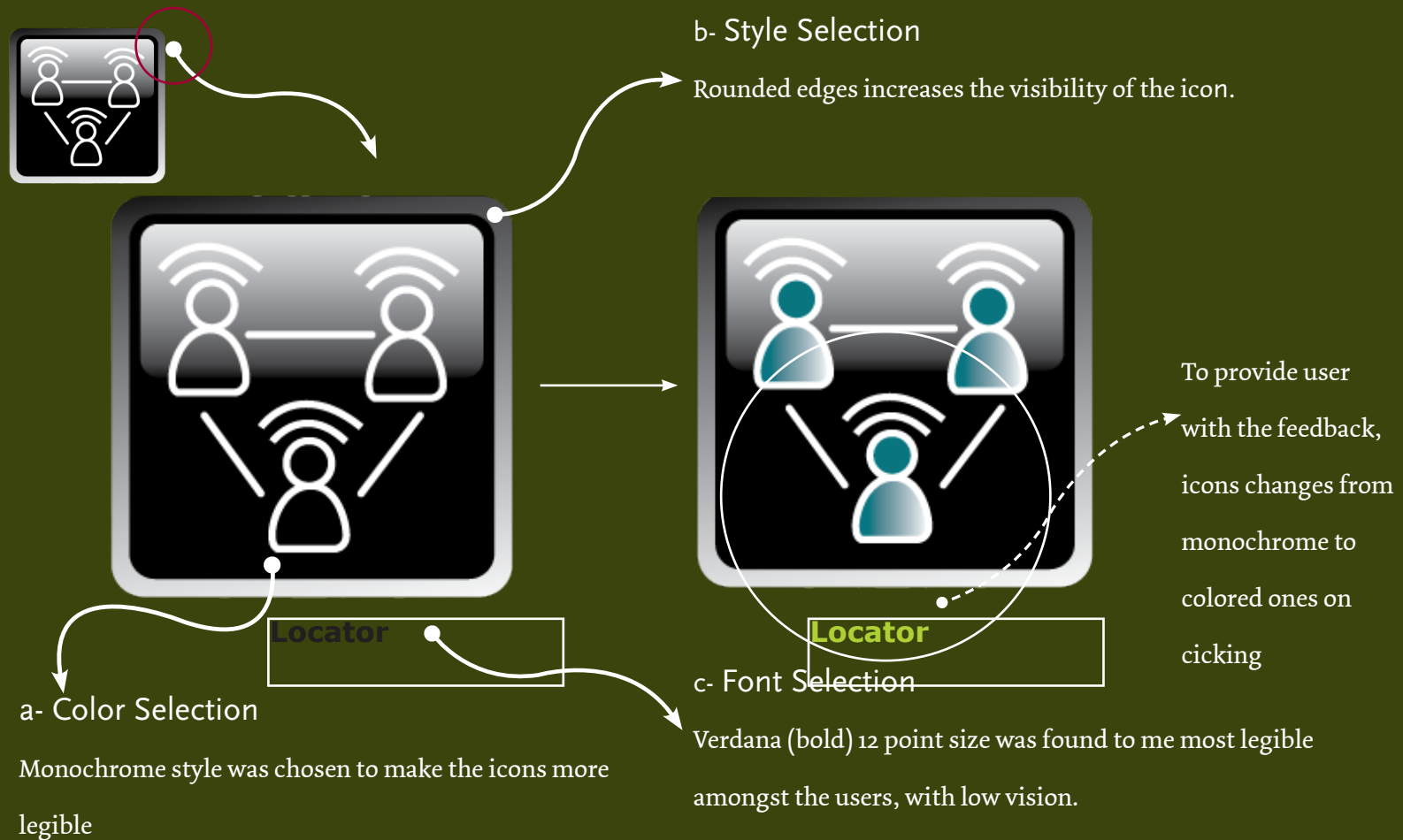prevents injuries
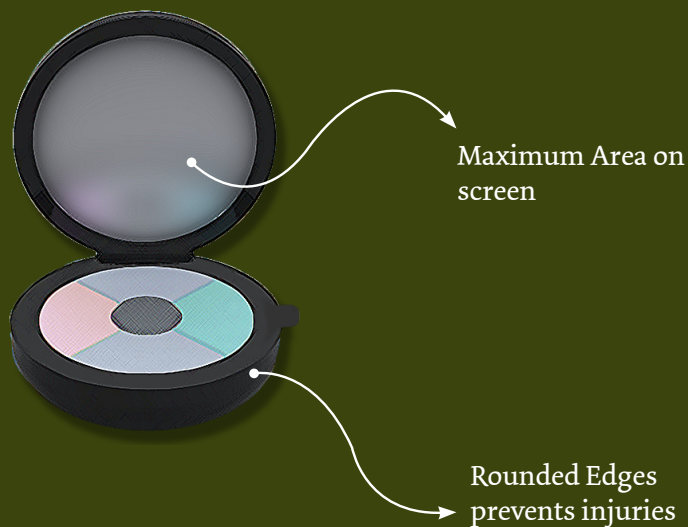
Design decisions

Input/Navigation System
Considering the problems arising with growing age (shaking hands, finger strength), it was decided upon to give both tangible and virtual input system.

- Making larger buttons and mapping them with the icon on the screen helps in easy navigation and user also gets a feedback.
- Touch screen makes the navigation easy by allowing the user to browse many files in one go.

Virtual
(touchscreen) navigation
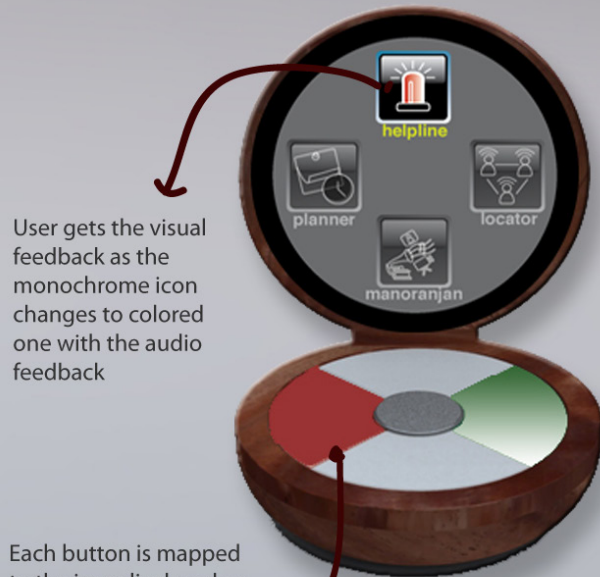
Tangible (buttons)
navigation

Icon Design decisions

b- Style Selection

Rounded edges increases the visibility of the icon.

Locator

Locator

To provide user with the feedback, icons changes from monochrome to colored ones on cicking

a- Color Selection

Monochrome style was chosen to make the icons more legible

c- Font Selection

Verdana (bold) 12 point size was found to me most legible amongst the users, with low vision.

Icon Design

Final Design

Sampark
Communication device for the elderly

User gets the visual feedback as the monochrome icon changes to colored one with the audio feedback

Each button is mapped to the icon displayed on the screen.
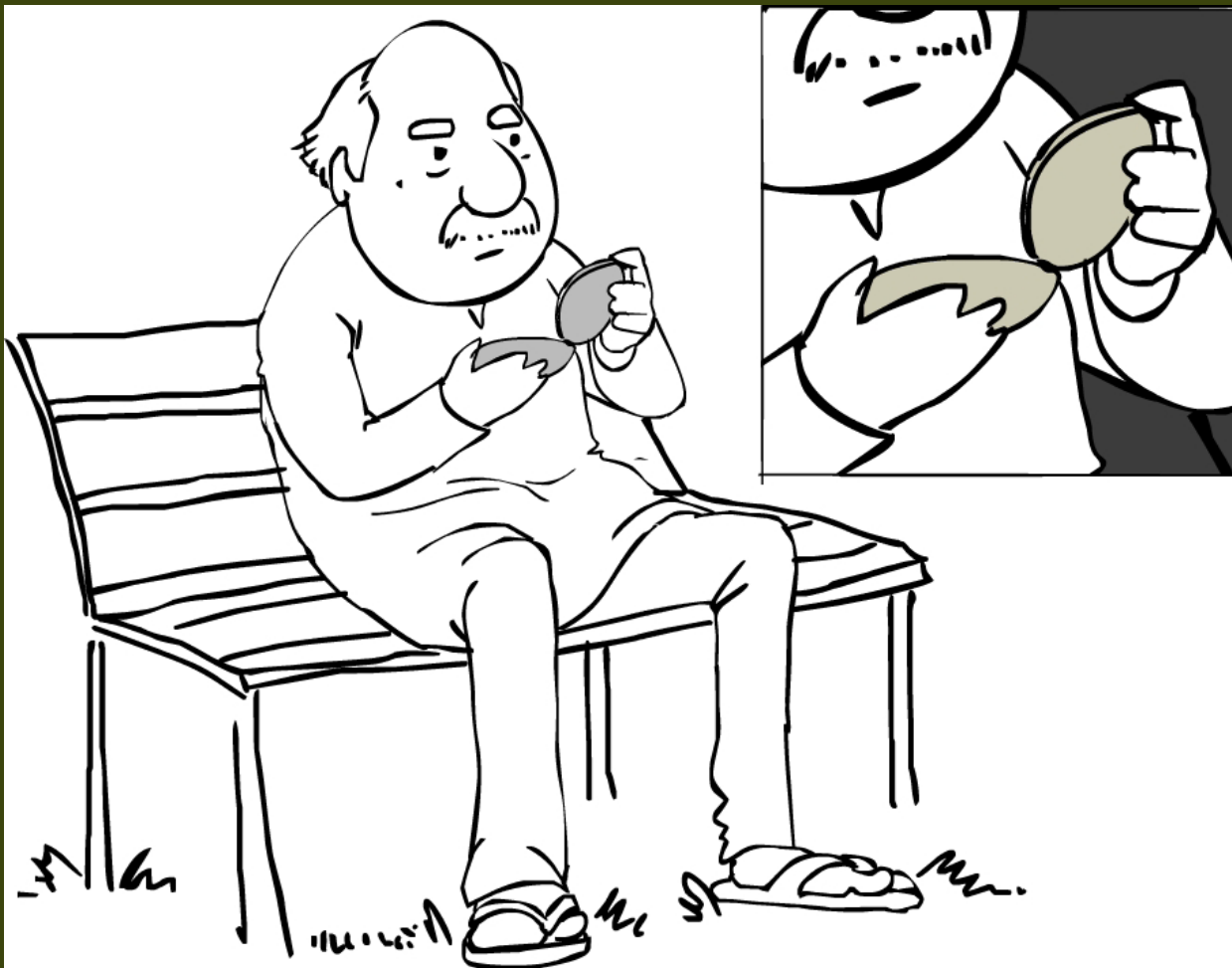
Front View
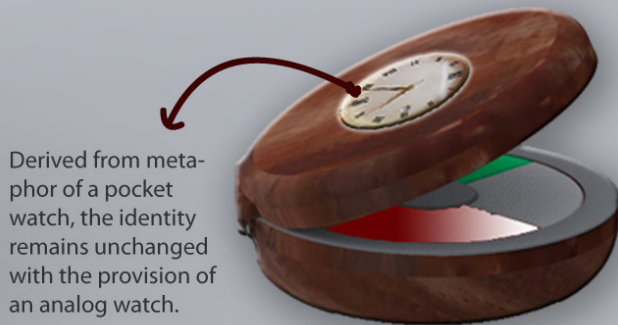
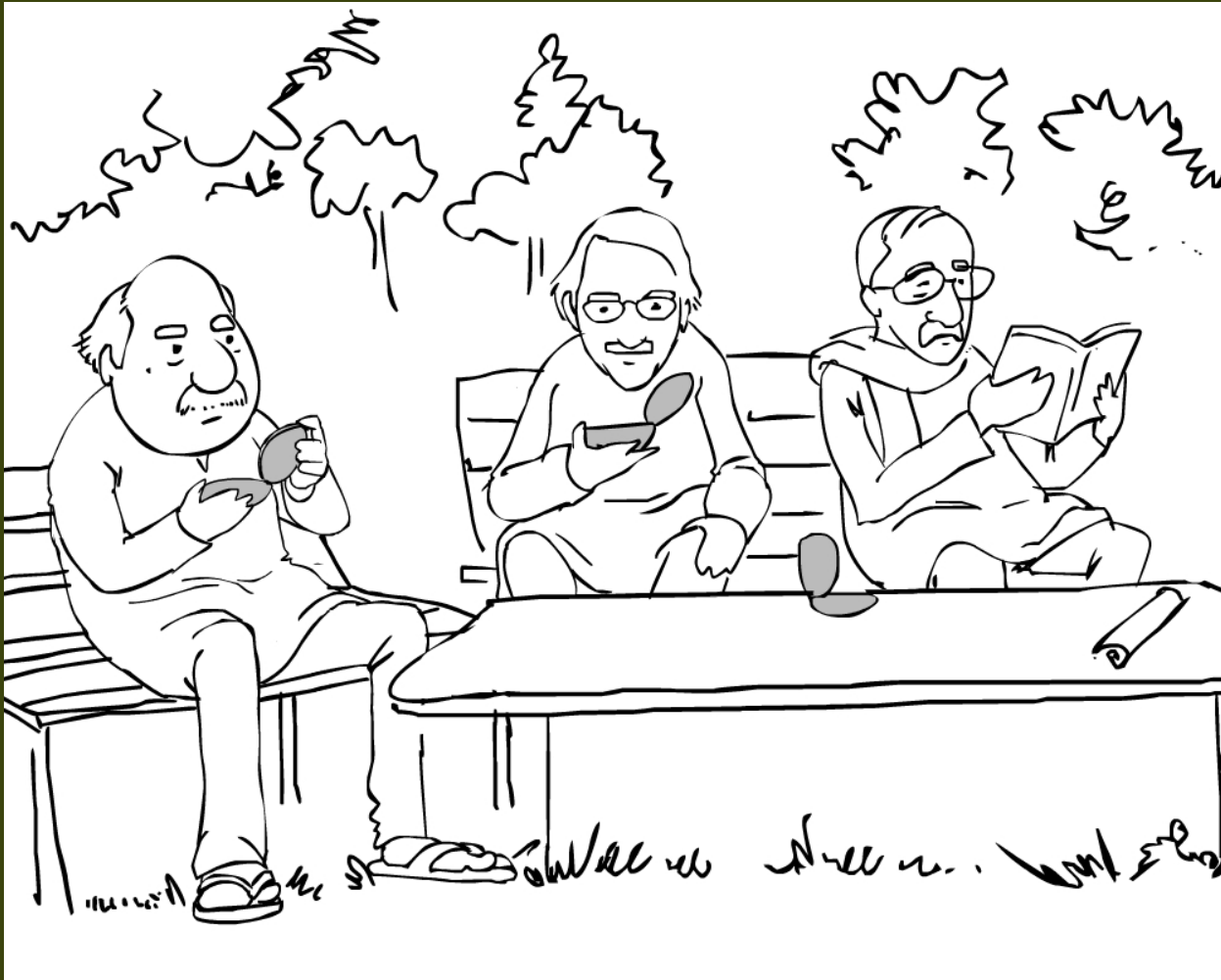Derived from metaphor of a pocket watch, the identity remains unchanged with the provision of an analog watch.

Side View

Project 3

Project 3

Design Evaluation

Focus:

- To find the best interface from the options which would be most comfortable for the users to navigate through the device?

- Due to time constraint only 4 user were approached and evaluated, Age < more than 70 years of age

Feedbacks

Option 1:
- Association with the icons becomes a little difficult.

Option 2:
- Chances of accidentally pressing the buttons are more
- Protection from fall

Option 3:
- Pressing the buttons on the screen is difficult
- No feedback

Future Directions

- Working prototype
- In depth user testing and evaluation
- Including more functions into the existing ones to enrich the applications.

Acknowledgements

- Prof U A Athavankar
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- Prof. Anirudha Joshi
- Shiba,Saurabh,Shaswath,Mandar,Aniket,Anir uddha,Vaibhav, Priyanka, Sanket and all other friends at IDC
- 'All Likeminded people and other enthusiastic people who made me also work '