

User Group

Children

# Children

Team

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## Design Process

Initial understanding of the project brief

User selection

Study, analysis & inference from users

Redefining project brief

Design goals

Preliminary concepts

Final concept

Product evaluation

User feedback

Product interaction design

# Children

## Who are children?

Under 16?

Over 2?

Teen, pre-teens, children, toddlers, infants

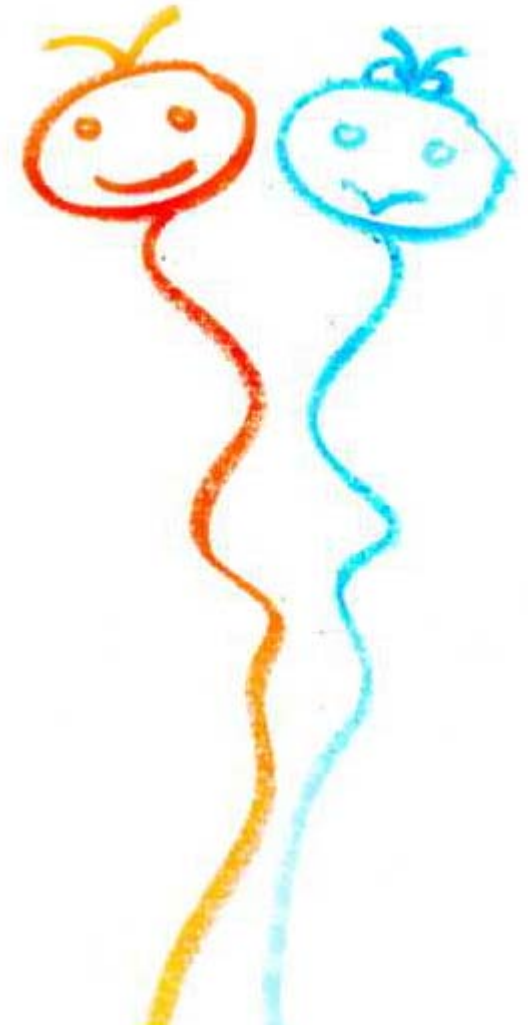
Cognitive classification – Piaget

Sensory-motor stage (Birth – 2 years)

Pre-operational stage (2 – 7 years)

Concrete-operational stage (7 – 12 years)

Formal-operational stage (12 -15)



# Children

## Why children?

Designing products for children is fun & difficult

They possess an unpolluted ready to learn mind

No specific communication device for children is available

Children are the future

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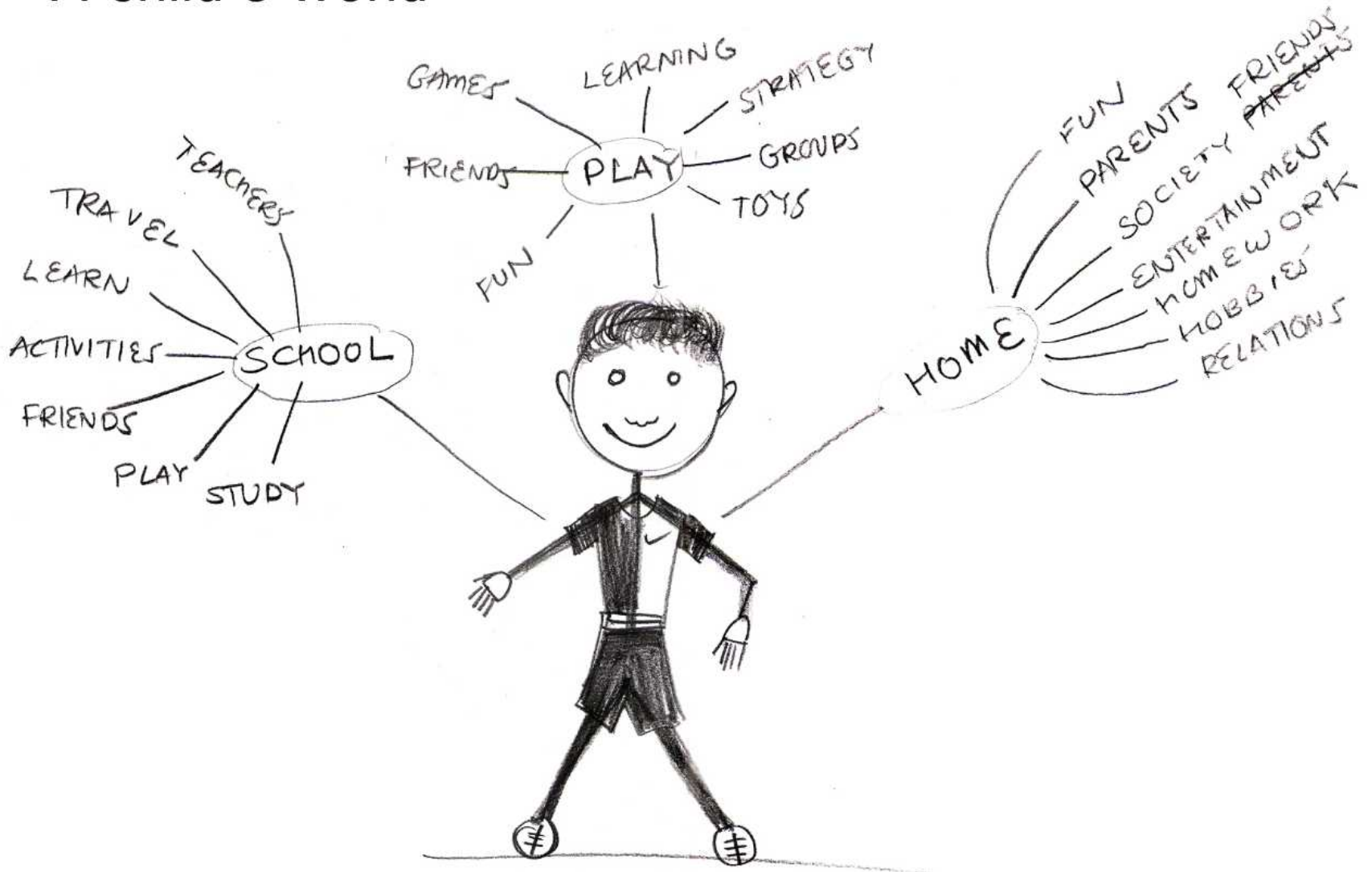


Children

Brainstorming

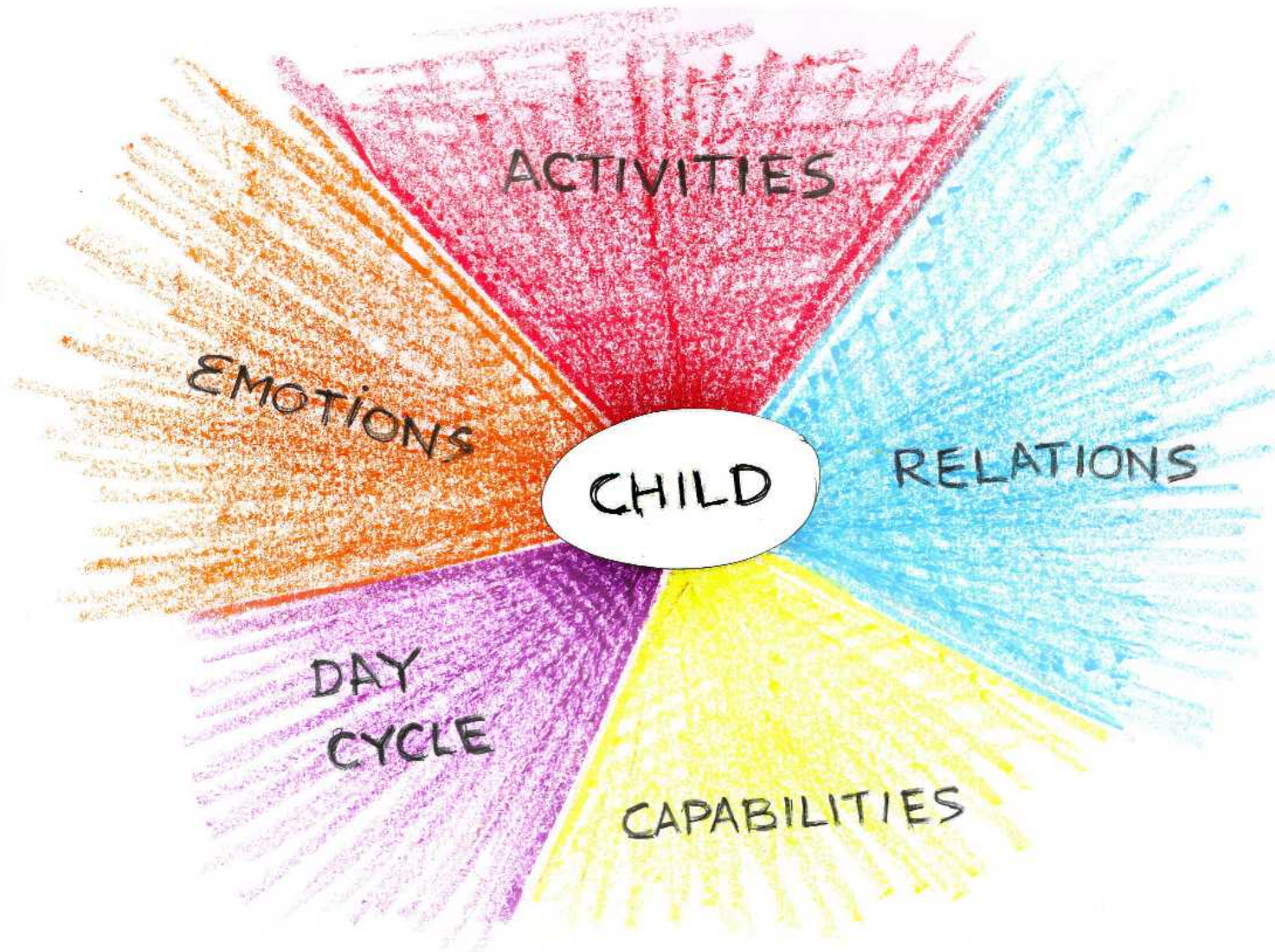
# Children

## A child's world





## Child related concerns





# Children

## Activities

Fun

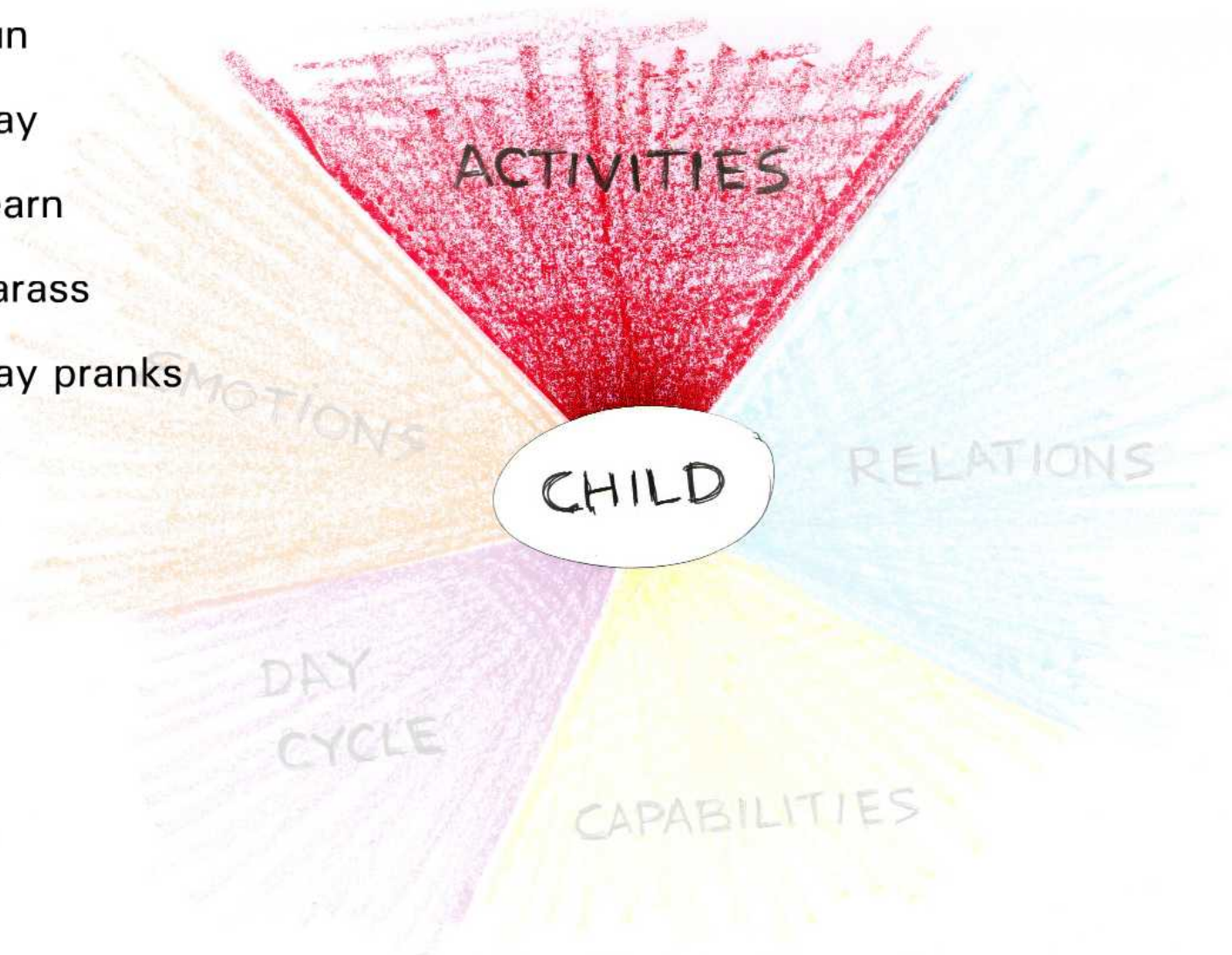
Play

Learn

Harass

Play pranks

...



# Children

## Relations

Parents

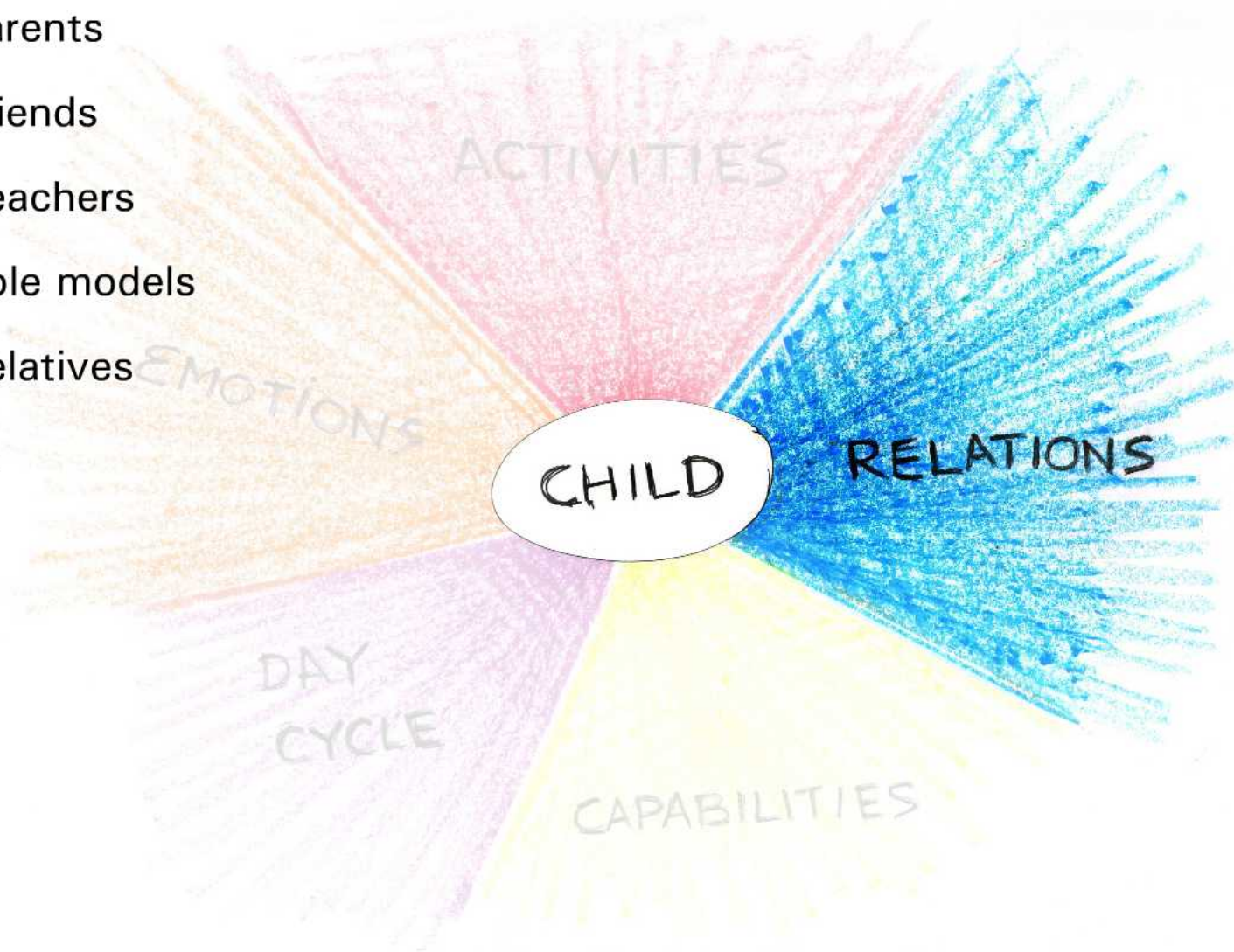
Friends

Teachers

Role models

Relatives

...



## Capabilities

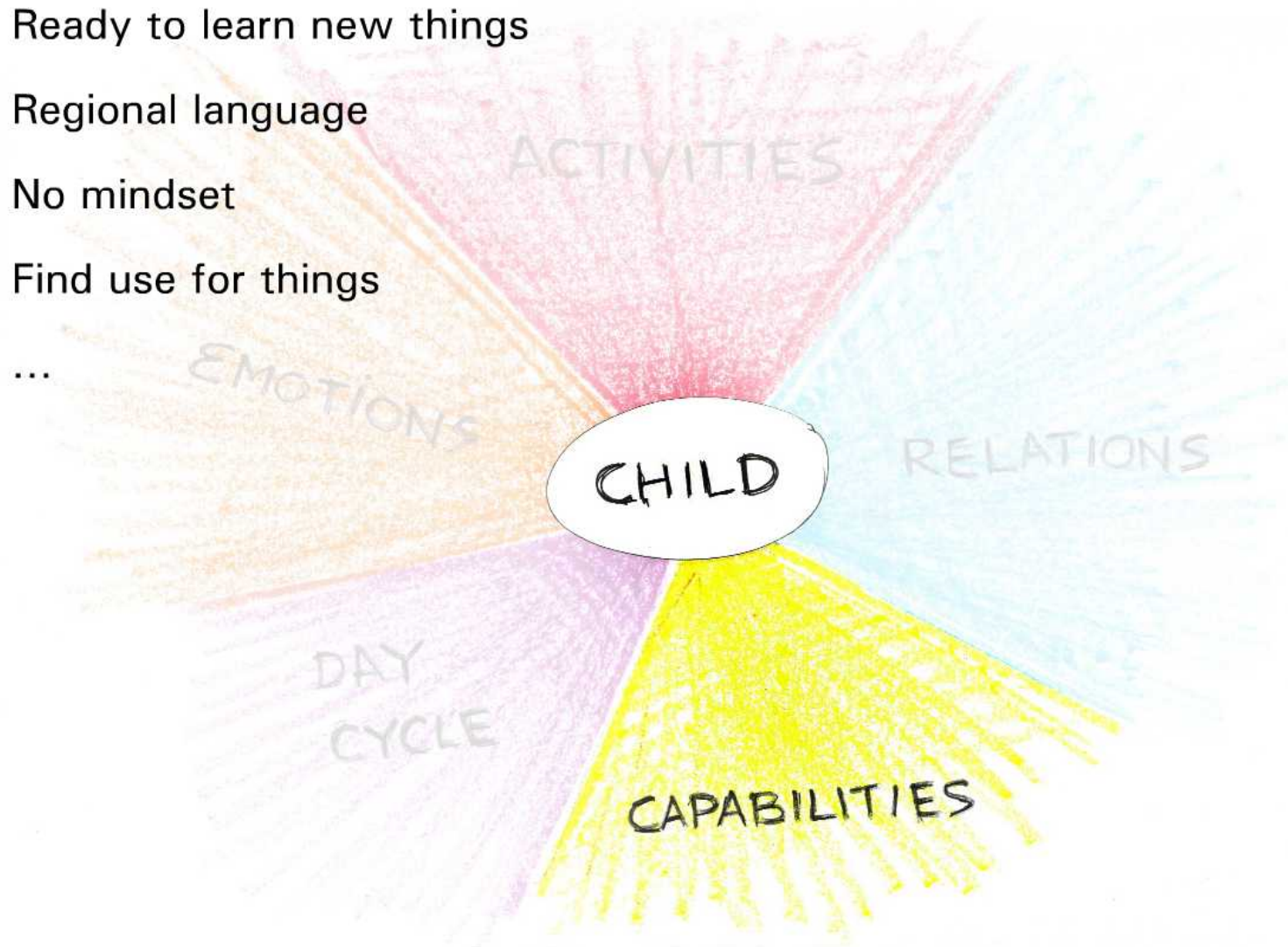
Ready to learn new things

Regional language

No mindset

Find use for things

...





# Children

## Day cycle

Home

School

Journey

Playground

Home work

Cartoons

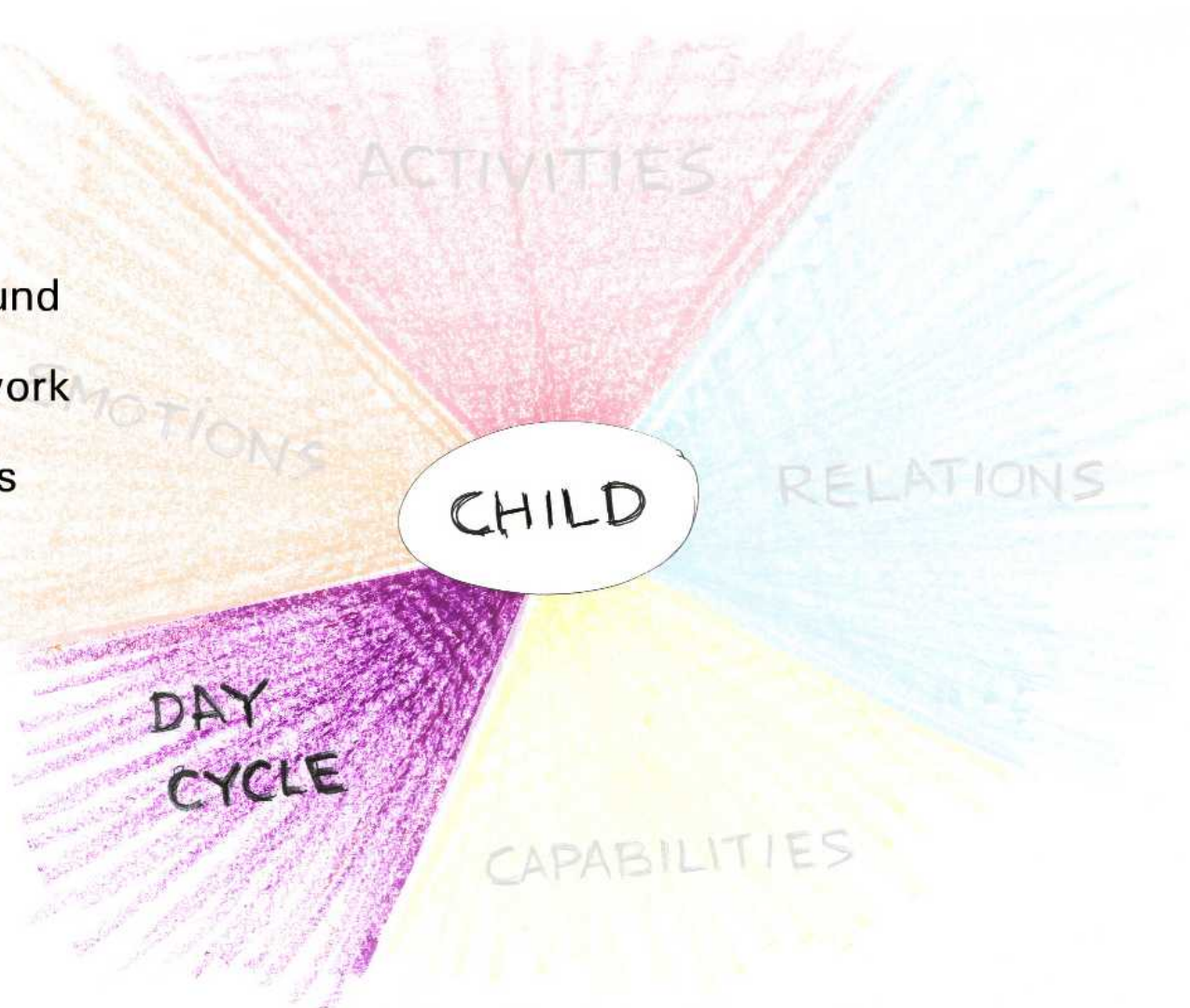
TV

Toys

Eat

Sleep

...



# Children

## Emotions

Frankness

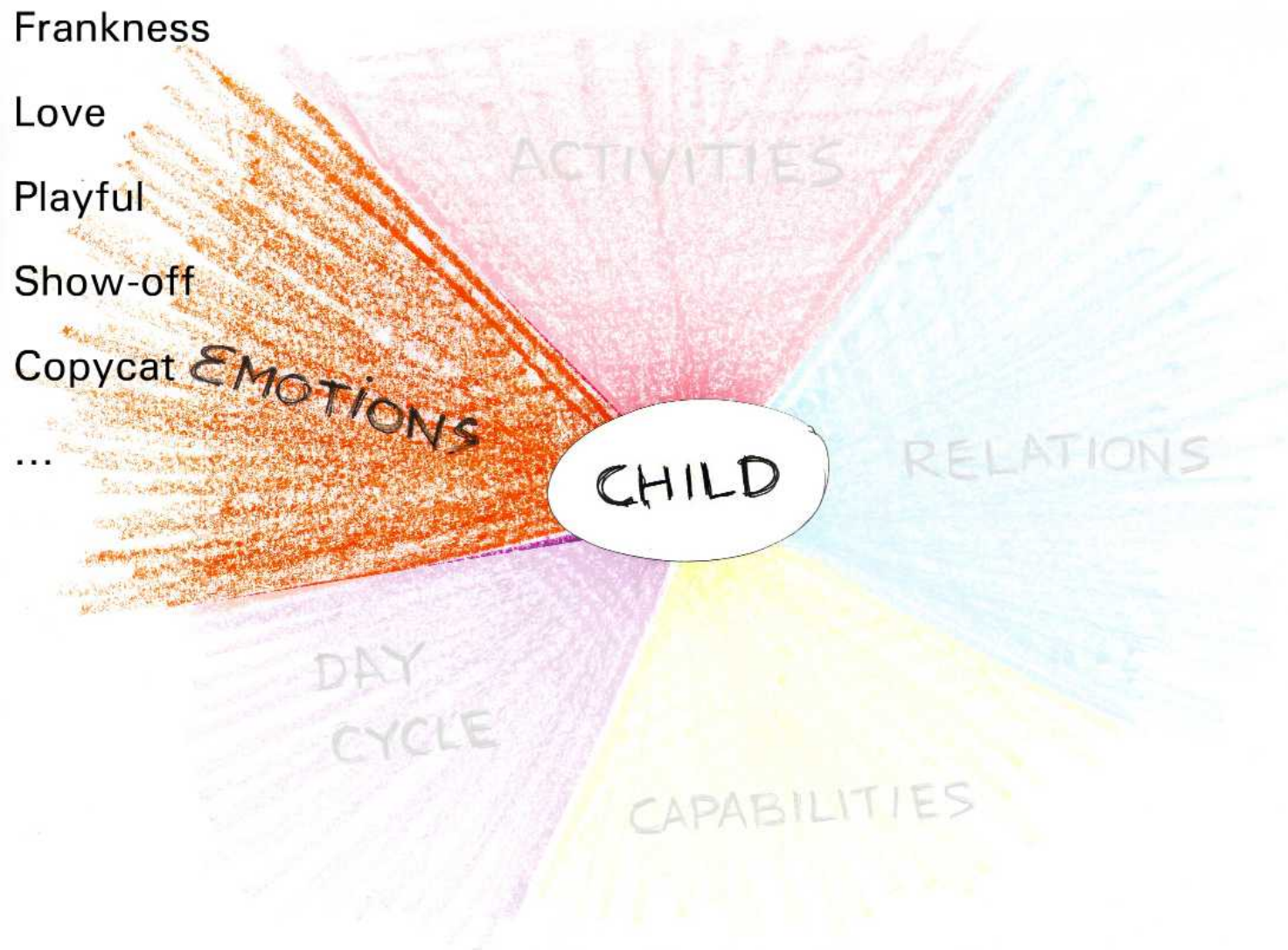
Love

Playful

Show-off

Copycat

...



Children

User Study



## Interaction with the user

Questionnaire – touching various aspects with child at the center.

Practical testing of their interface navigation skills.

Interaction with the children under different environments and in different situations.

Exploration of their technological awareness.



# Children

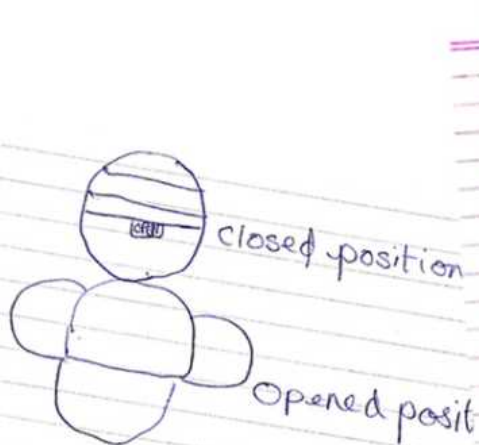
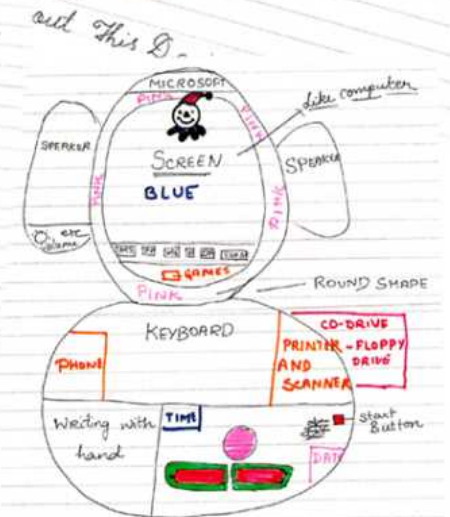
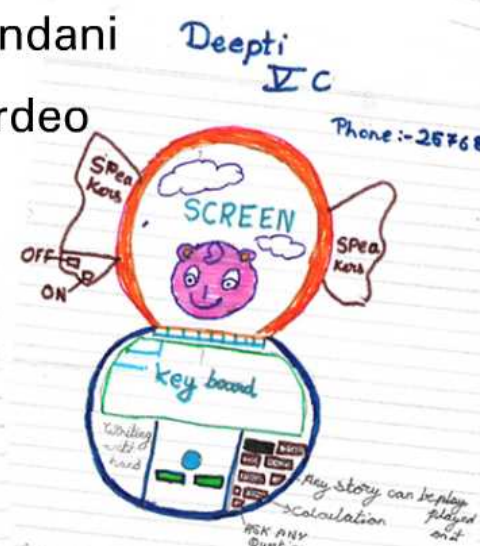
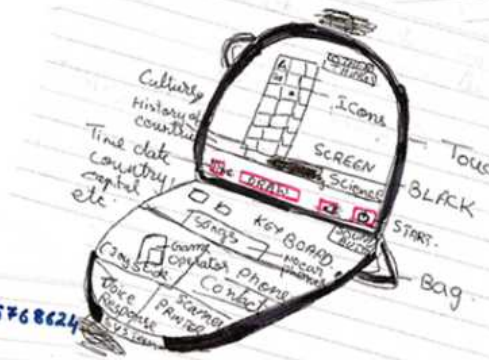
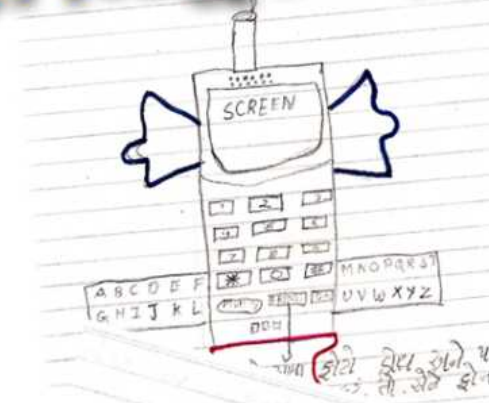
## Interaction with the user

Study of wish list created by them

Users as designers

We went to

- Kendriya Vidyalaya - IIT, Mumbai
- New Era School, Mumbai
- Jal Vayu Vihar - Hiranandani
- Sonawala Building - Tardeo



C = cartoon  
P = pictures  
T = talk  
G = games

shaps pictures Richs

change shape and colour and etc.

It should not be too big and heavy  
The speaker should be fold and go in  
the can easily we could talk to them  
that should not attach to any case  
we can use the mouse easily  
Keyboard should have all, small keys

we see up in pocket a button and it come in  
etc. it can visible and visible any time.

# Children

## Inferences from user study

Children are well aware of new technology.

They are curious about using new products.

After school hours, interaction happens with friends / neighbors / relatives.

They can find use of anything that is given to them.

Interaction happens at different levels at different intensities.

An urge to SHARE their experience is an inherent quality.





# Children

## Emerging product brief

A fun device to break from the monotony of life.

A device which would help them to make new friends.

A device that brings out creativity among children.

Something to give them a feeling of “a device that is specially meant for them”

A device that would help children to share and learn.

Primary goal being education and entertainment.

The device should be unbreakable [ child proof :) ]



# Children

## What do Indian children culturally inherit?

### Tangible

Toys, story books, epics ( Mahabharata, Ramayana ), fables (Panchatantra), photographs, gifts, compass box, games, own drawings or doodles, stationery (pencils, crayons, erasers),

### Intangible

Stories, lullabies, festivals, customs, celebrations, traditional acquired skills (carpentry, pottery), prayers, riddles, puzzles



# Children

## Inspirations

Marbles

Pet

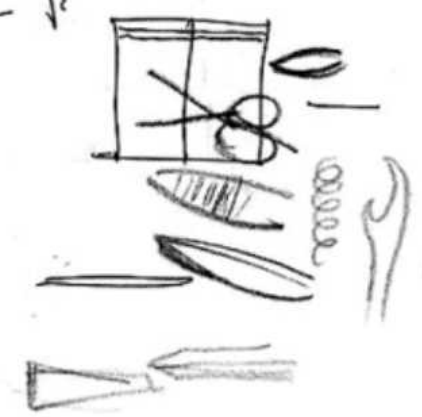
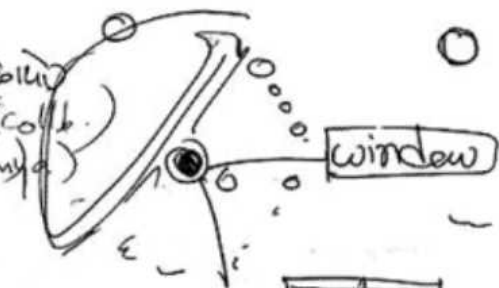
Kite

Slate

- game :- marbles
- silica - clay
- toys - wooden toys,
- toys - top (cones)
- silica - grandma, stories
- silica - circus, zoo, fish,
- silica - gardens,
- toy - mikeno
- bdg. block/ play - golla, zuzi, ussusu) fuisl,
- game - ball, guesl,
- game - matchbox. (Etili)
- toy block - assli zara (colb)
- game - zuci (zi). (Salm)
- role play - zara.
- game - (S2, eisl,
- pet - uisara, .....
- role play - UNO, WOF
- games/toys - (oi, zari, siduge st3
- game - CARSI,
- toy - cube / color
- game/festi - kite
- silica/festival - holi

at old age

CHILD





# Media & Literature study

Cooperative Inquiry: Developing New Technologies for Children with children -Allison Druin - Human Computer Interaction Lab - University of Maryland

Interaction design and human factors support in the development of a personal communicator for Children -Ron Oosterholt, Mieko Kusano, Govert de Vries Philips Corporate Design

One Shot Trust Game Experiment

Trust In Children -William T. Harbaugh, Kate Krause, Steven G. Liday Jr., Lise Vesterlund

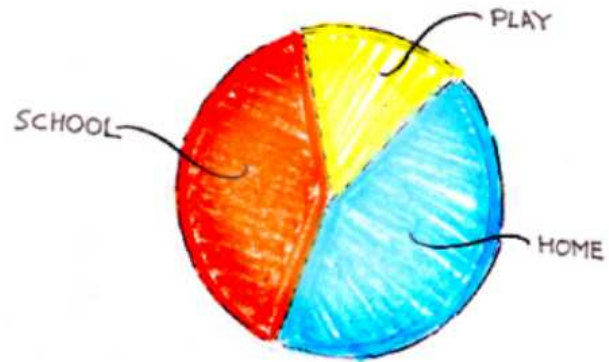
Touch me, Hit me and I know How you feel: A design approach to emotionally rich interaction -Stephan Wensveen, Kees Overbeeke, Tom Djajadiningrat

Kid Pad -A collaborative story-authoring tool for children HCI Lab, University of Maryland

Children, Monkey King & Chinese language: An experiment

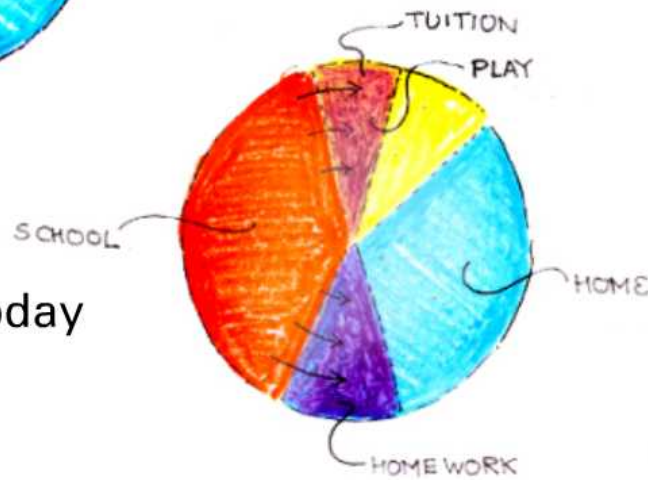
# Children

## Environment – zones

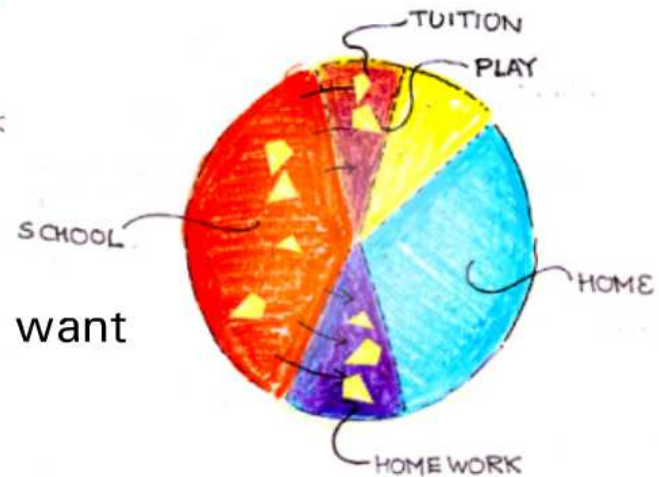


When we were children

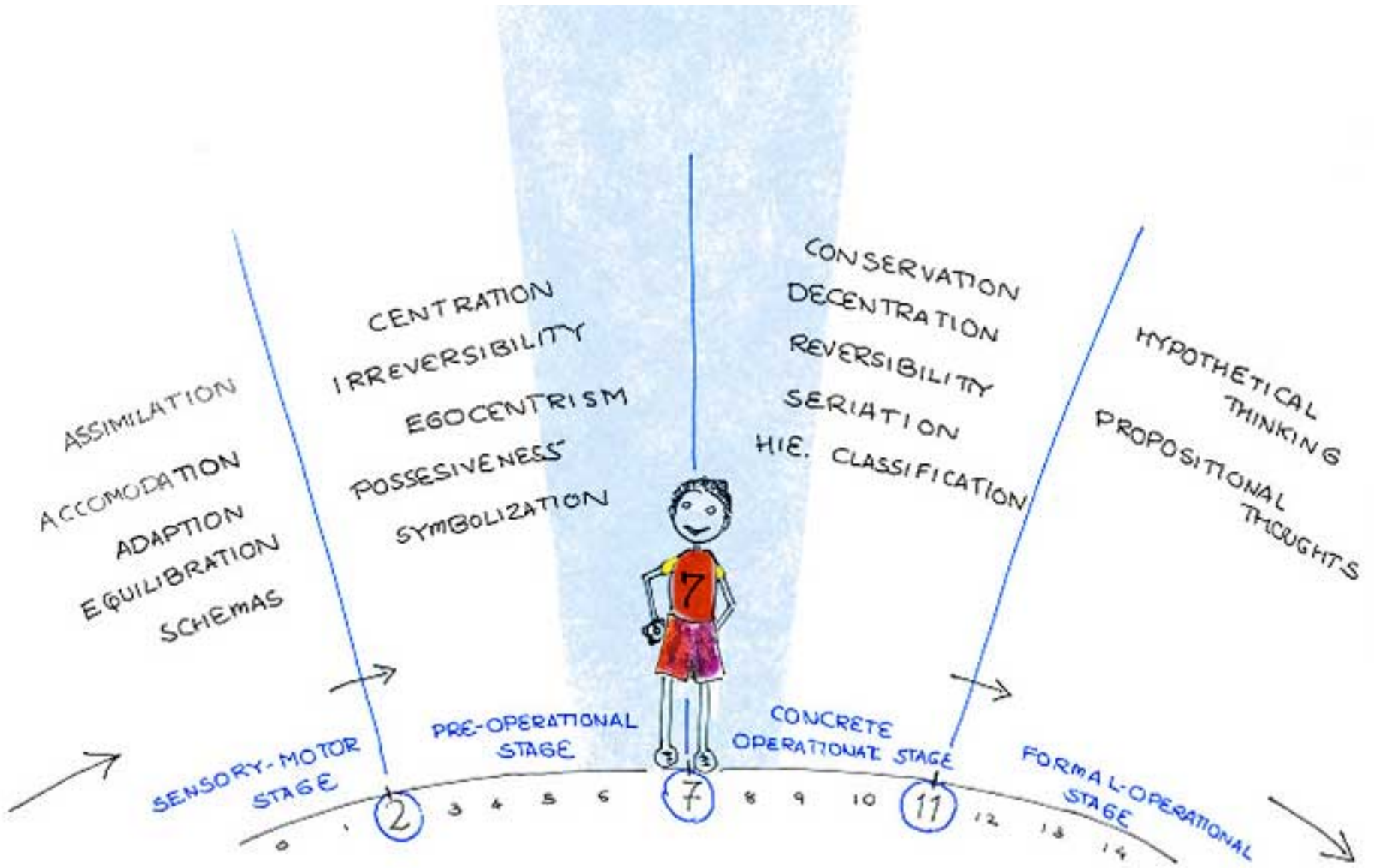
What it is today



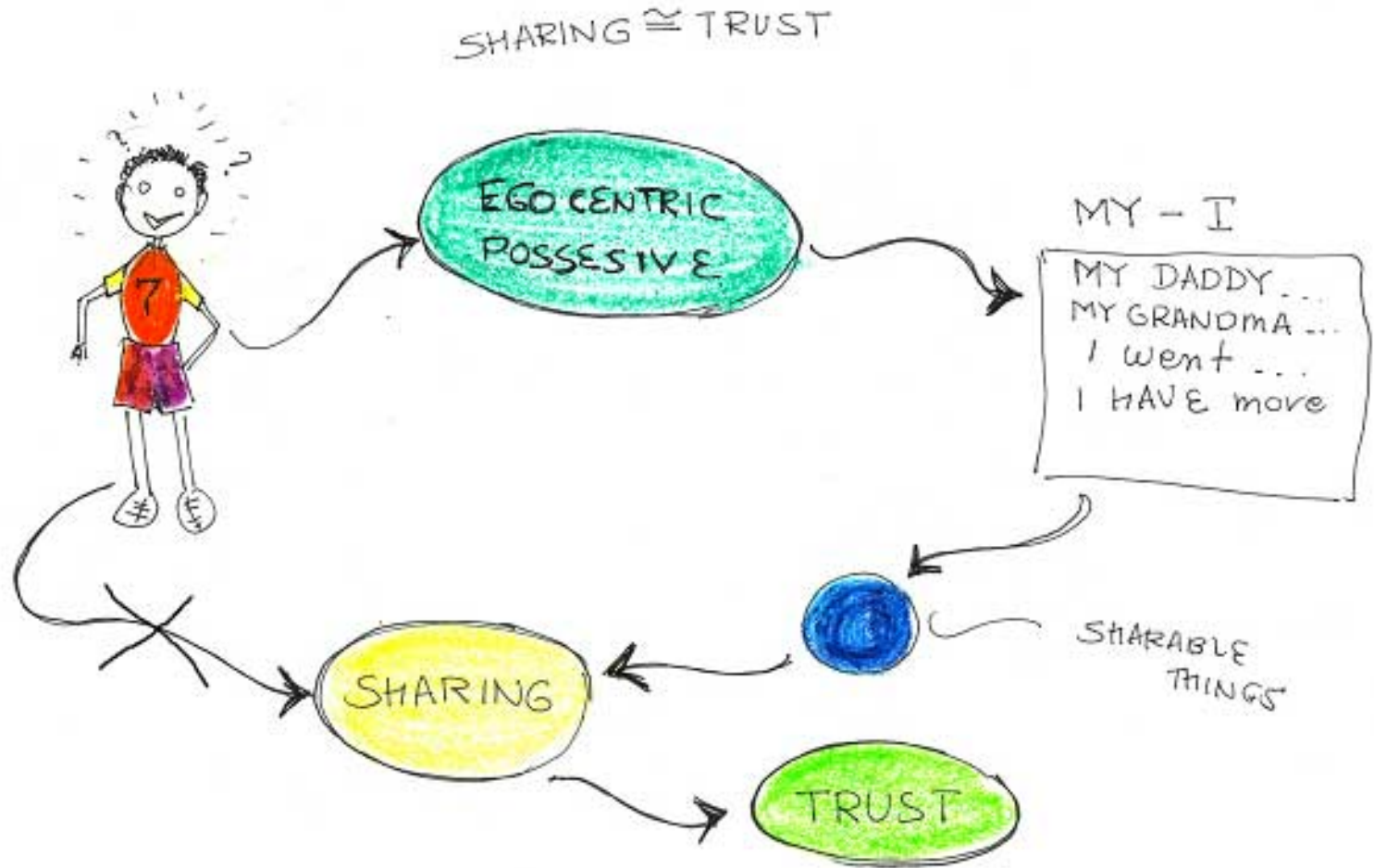
What they want



## Cognitive development by Piaget



## Trust & Relations



Children

Early Concepts



## Early concepts & Marbo

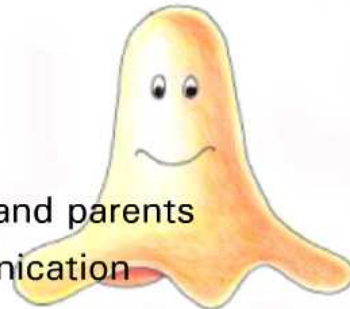
### Kito

- Physical meeting
- Skill
- Strategy
- Effort
- Fun



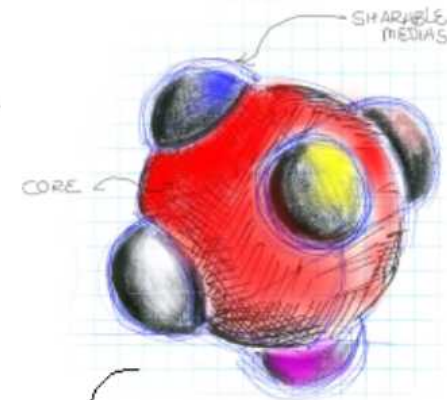
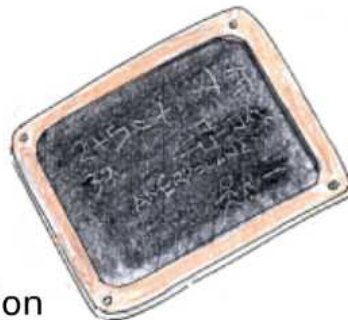
### Jelly boy

- Companion
- Sharing feelings
- Link between child and parents
- No physical communication
- User group limited



### Living Memory

- Learning
- Trust
- Share
- Scribbling
- No physical communication





# Children

## Acknowledgement

Prof. Ravi Poovaiah

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Sachin

Smita Gupta

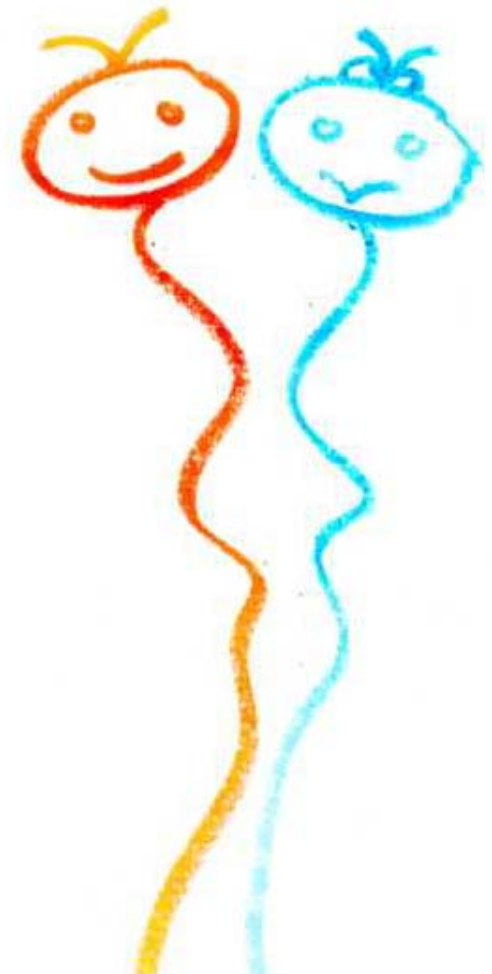
Prof. M. Malshe

Principal, Kendriya Vidyalaya, IIT Bombay

Principal, New Era School

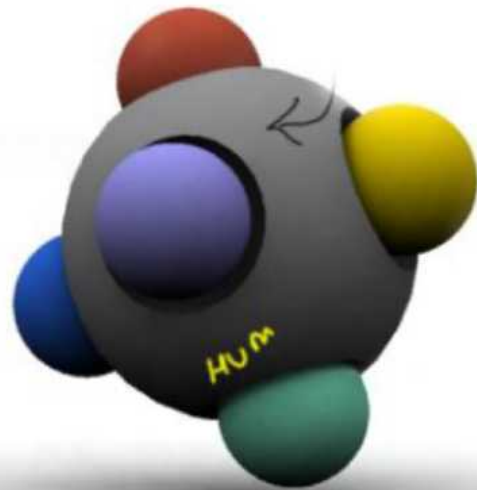
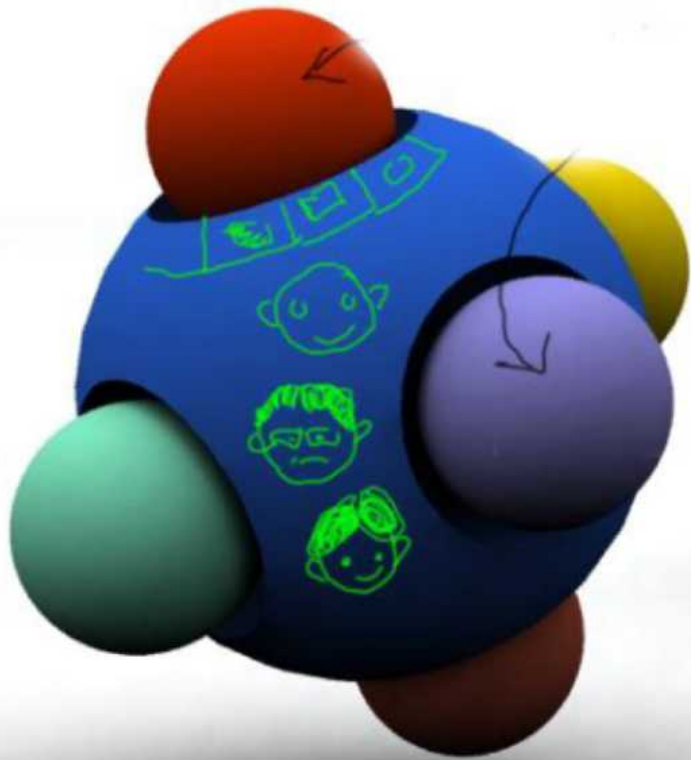
NAVNIRMITI

To all the kids



THANK YOU

VERY MUCH  
~~MUCH~~



-  
Amisha  
Muthukumar  
Pranav