



Interactive Installation for Children

P-2 Final Presentation
Guide: Prof. Ravi Poovaiah

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IxD 06633007

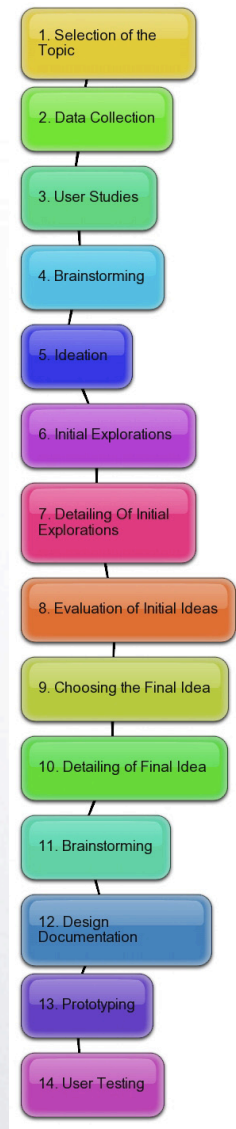


About the project

My intention in this project is to make interaction between children and computer physical. This can be done through visual, auditory and tactile interaction which will give children the opportunity to have fun, play, explore and be creative by the action of the child's own physical movements.



Design methodology



1. Selection of the topic,
2. Data collection,
3. User Studies,
4. Brainstorming,
5. Ideation,
6. Initial explorations,
7. Detailing of initial explorations,
8. Evaluation of initial ideas,
9. Choosing the final idea,
10. Detailing of final idea,
11. Brainstorming,
12. Design documentation,
13. Prototyping,
14. User testing.



Children

Age wise characteristics: 7 to 12 years



General characteristics:

Very much curious.

They are sensitive to any kind of criticism.

At this age they are very argumentative.

They are quite independent.





Children

Age wise characteristics: 7 to 12 years



Physical Growth and Motor Skills:

They lose their baby body profile.

They may swim well.

They can write with considerable effort.

They can use tools very well because the motor skills are developed quite well.

They like to play in parks, beaches on open grounds.

They play games like cricket, football, and badminton. They enjoy skating, cycling etc.

They also like to play in sand, water, mud etc





Children

Age wise characteristics: 7 to 12 years



Interests and Intellectual Skills:

They like to watch TV.

There is increase in sense of humor.

They begin to be interested in past.

They can relate events well.

They like to read adventurous storybooks.

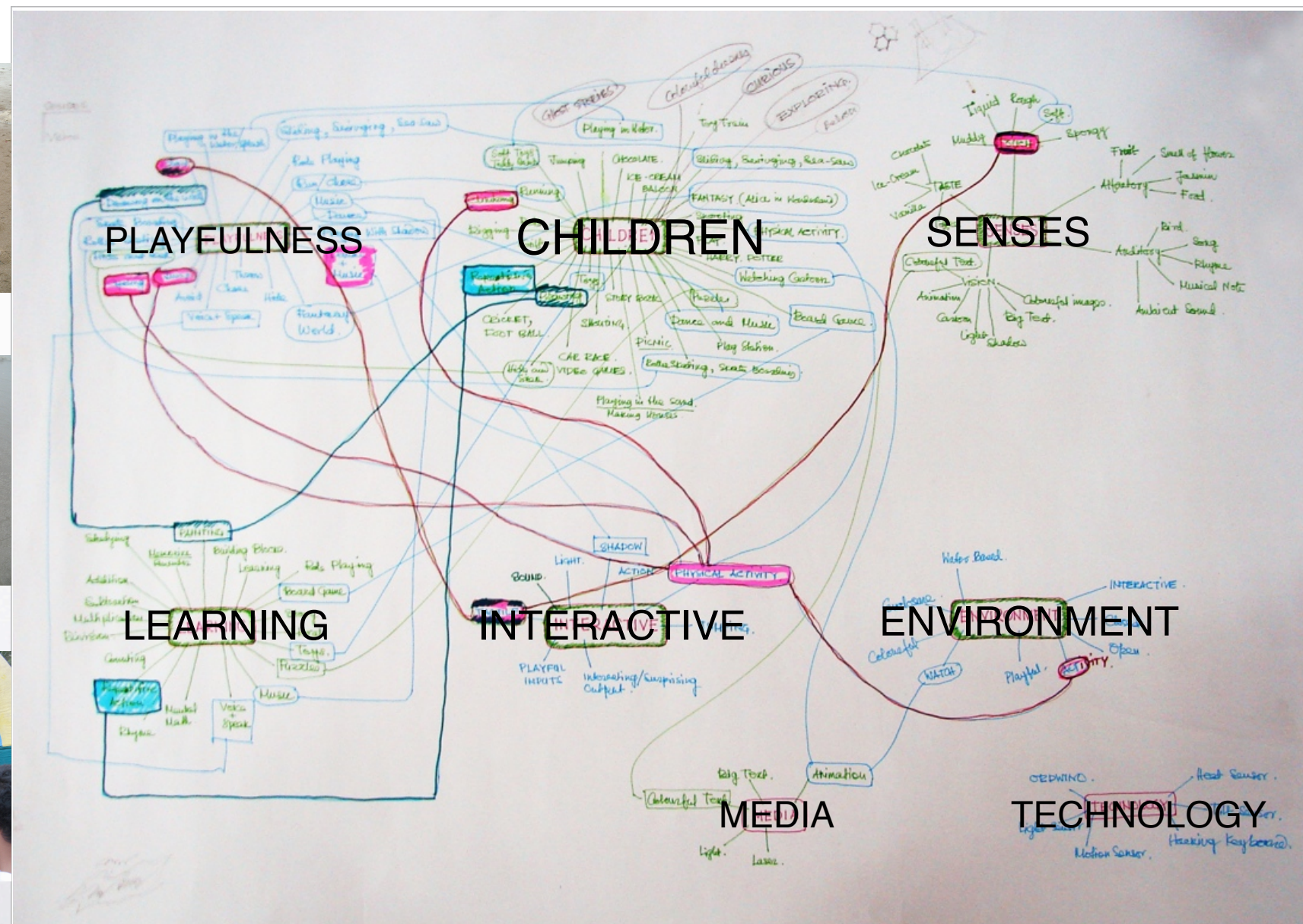
They are quite interested in puzzles, quizzes, anything that involves competition.

They like to play video games, computer games, etc.

They like to go to amusement parks where there are different kinds of rides.

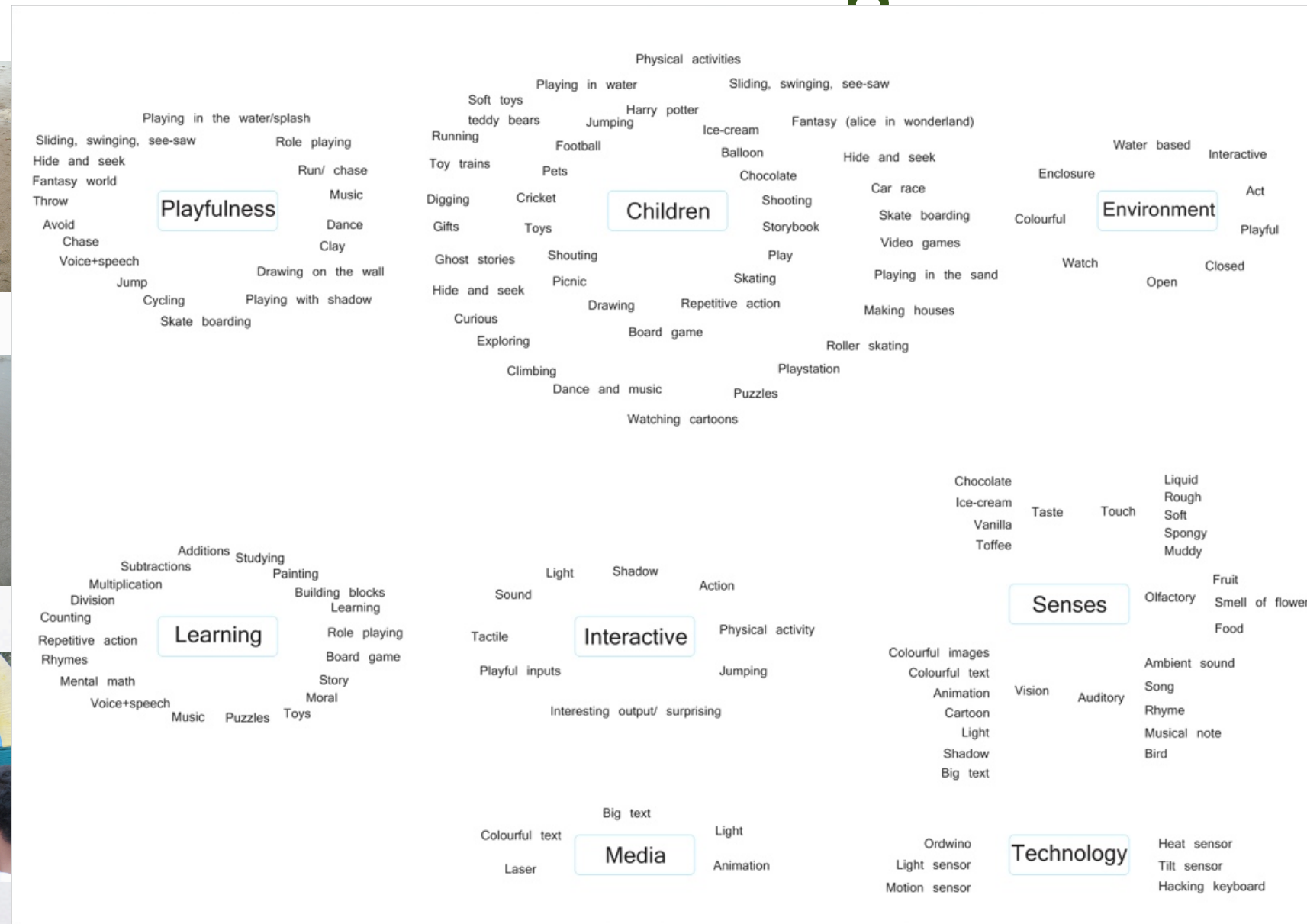


Network diagram



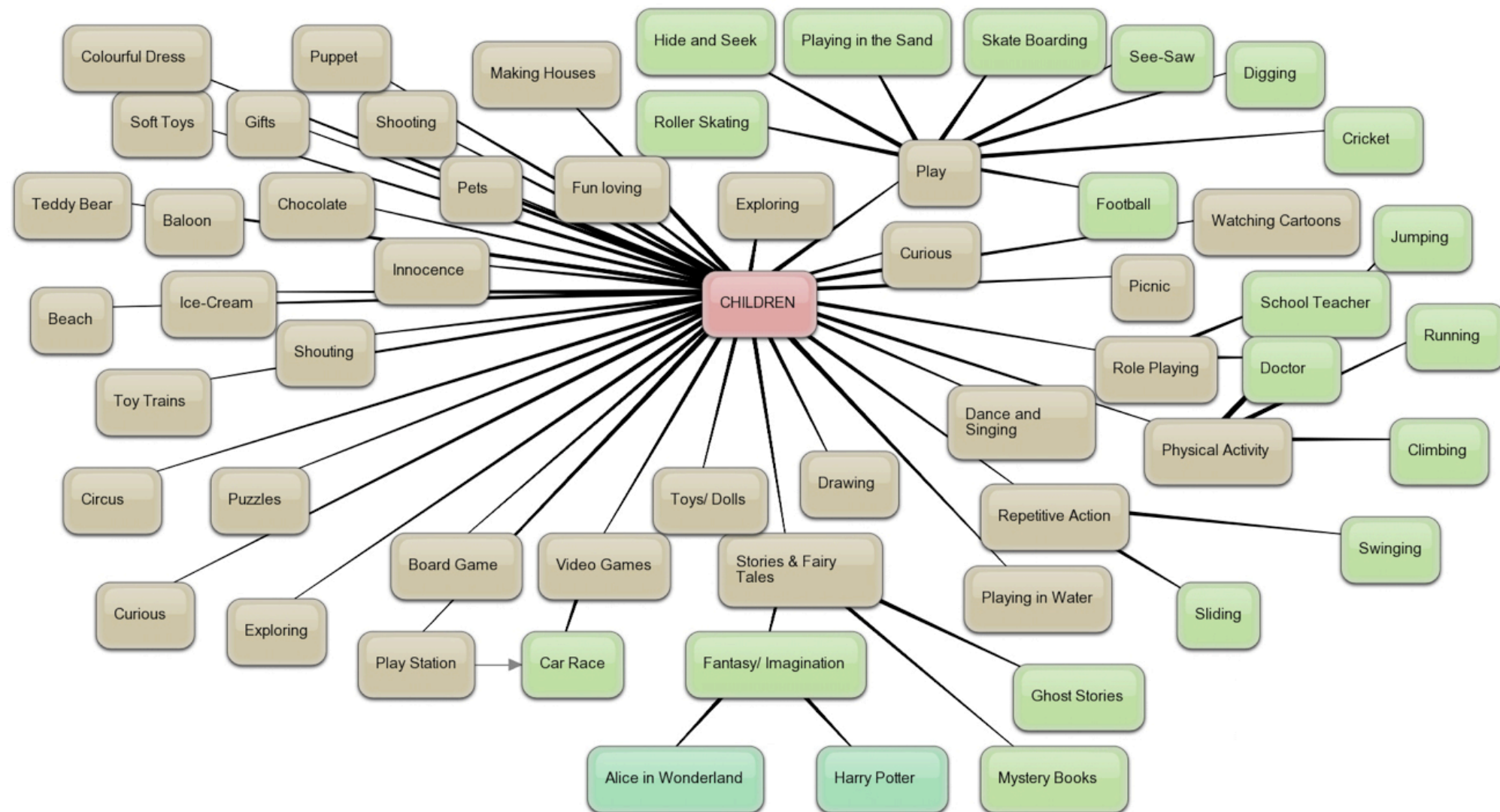


Network diagram



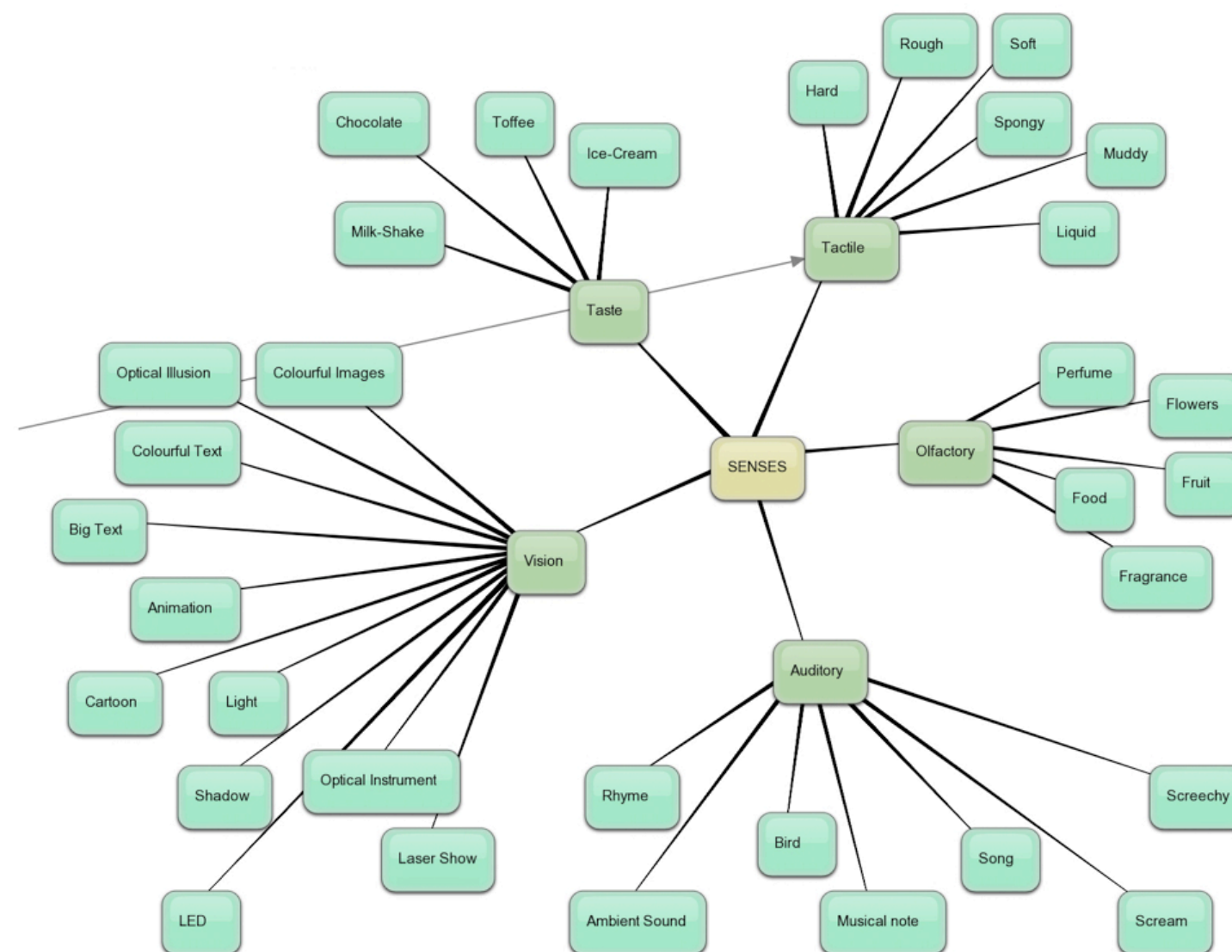


Mapping



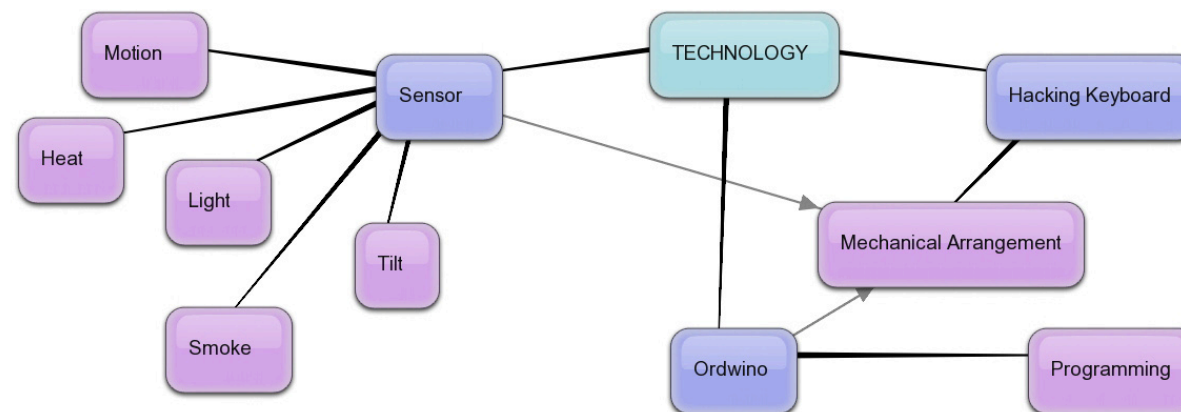
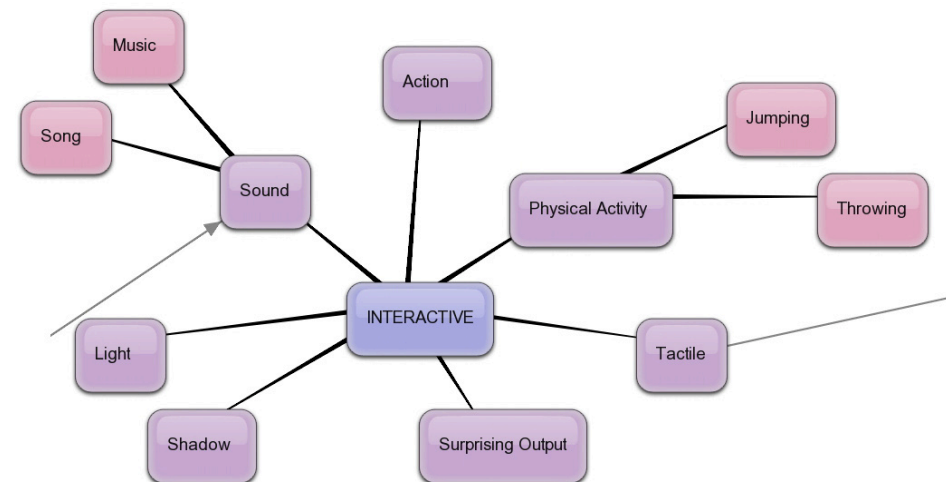
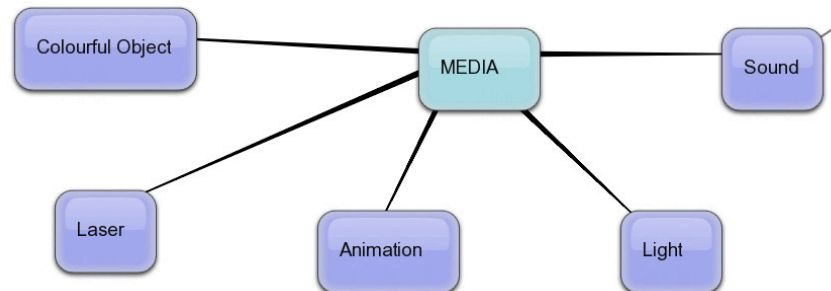


Mapping



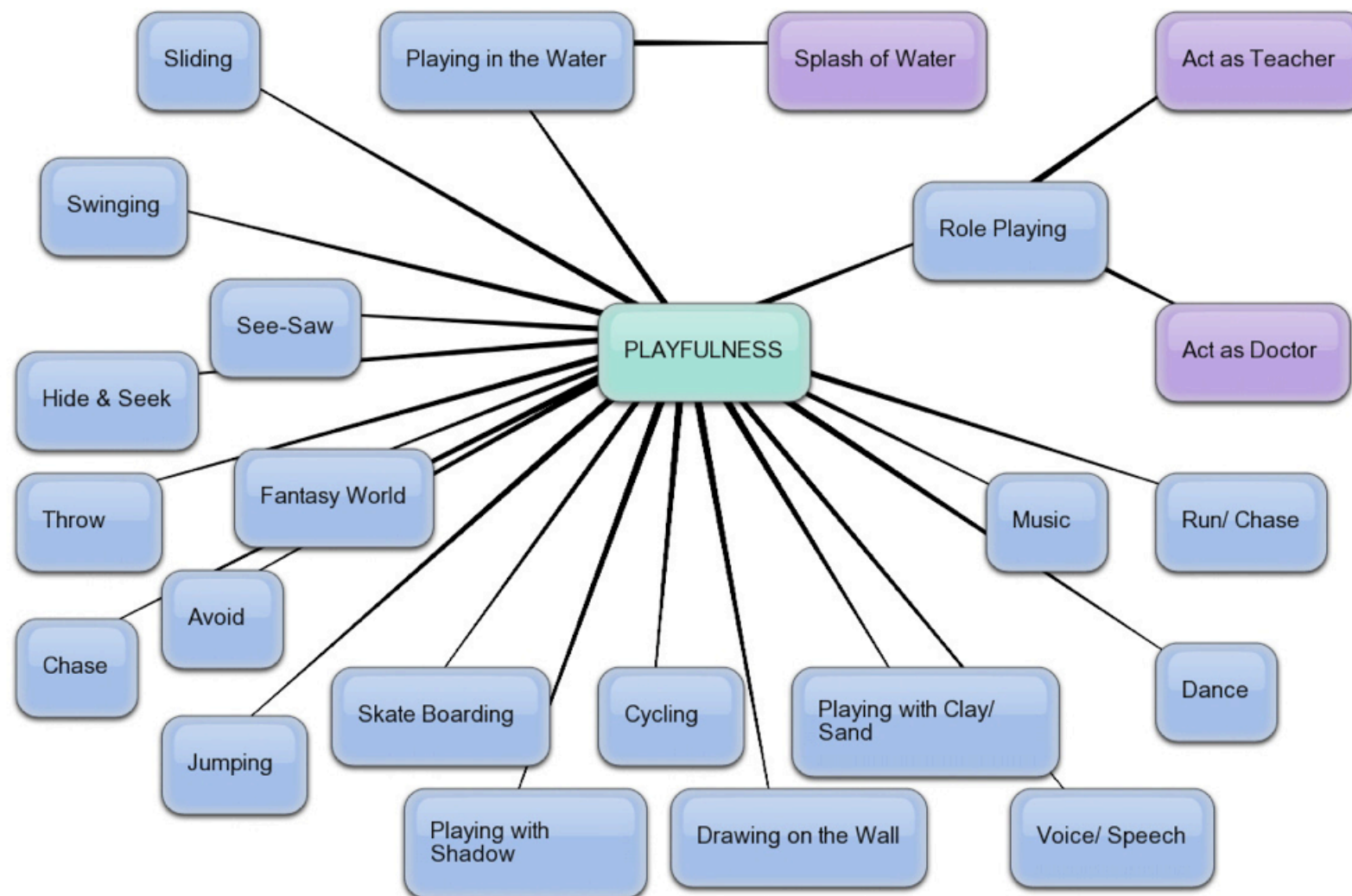


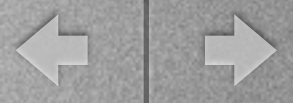
Mapping



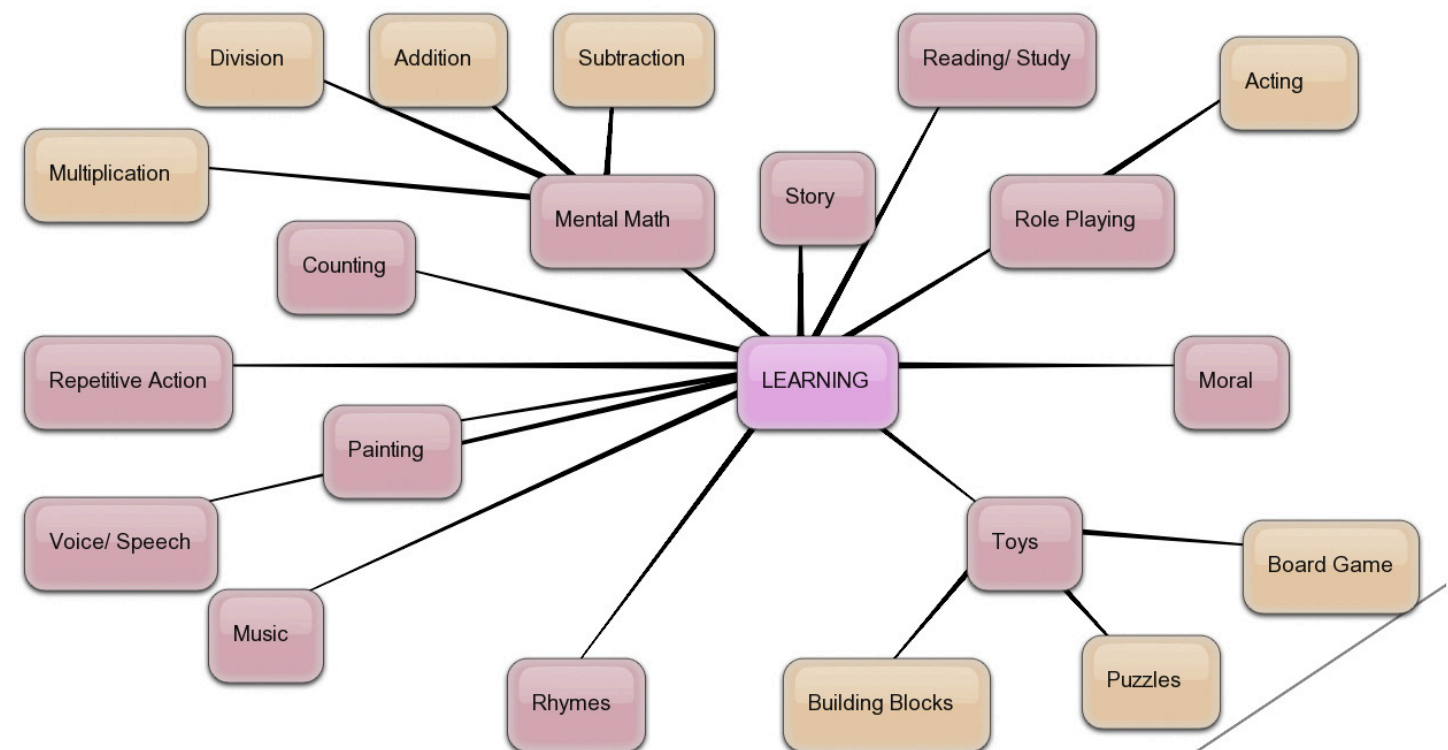
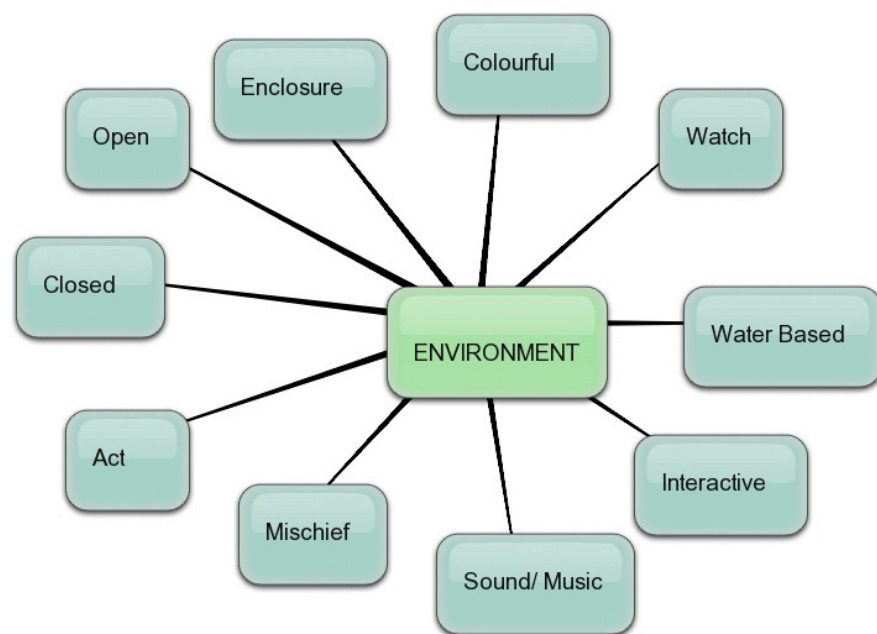


Mapping





Mapping





Interactive Installations



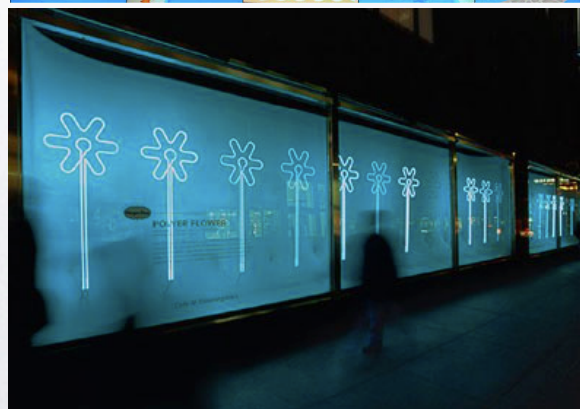
Sound fountain

Source: <http://www.extraversion.co.uk/projects/soundfountain.html>



Paradox beach

<http://www.paradoxbeach.net>



Antenna design's interactive installation

ID 2003 November issue



Initial Explorations

THEME	CONCEPT
Water/ Jungle	Treasure hunt
Water War	Fire fighters
Jungle	Creating awareness about the endangered species
Volcano	Fire in the mountain
Soldiers (Military)	Hide and seek
Pollution	Hide and seek (pollution as a form Monster)
Pollution	Save tree
Character induced game	Mouse finding cheese
Character induced game	Honey bee collecting honey
Space	Saving planet and stars from the attack of aliens
Virus	Virus in the computer
Virus	virus in the body
Water	Save water
Maze	Reach at the destination
Pirates	Treasure hunt
Beach	Collect stone, pearl, oyster/ fish
Circus	Play with joker/ Act like joker
Illusion	Indraprastha-Game of deception/ Mad house
Pinky Pinky what colour?	Interactive giant palette
Wild life	

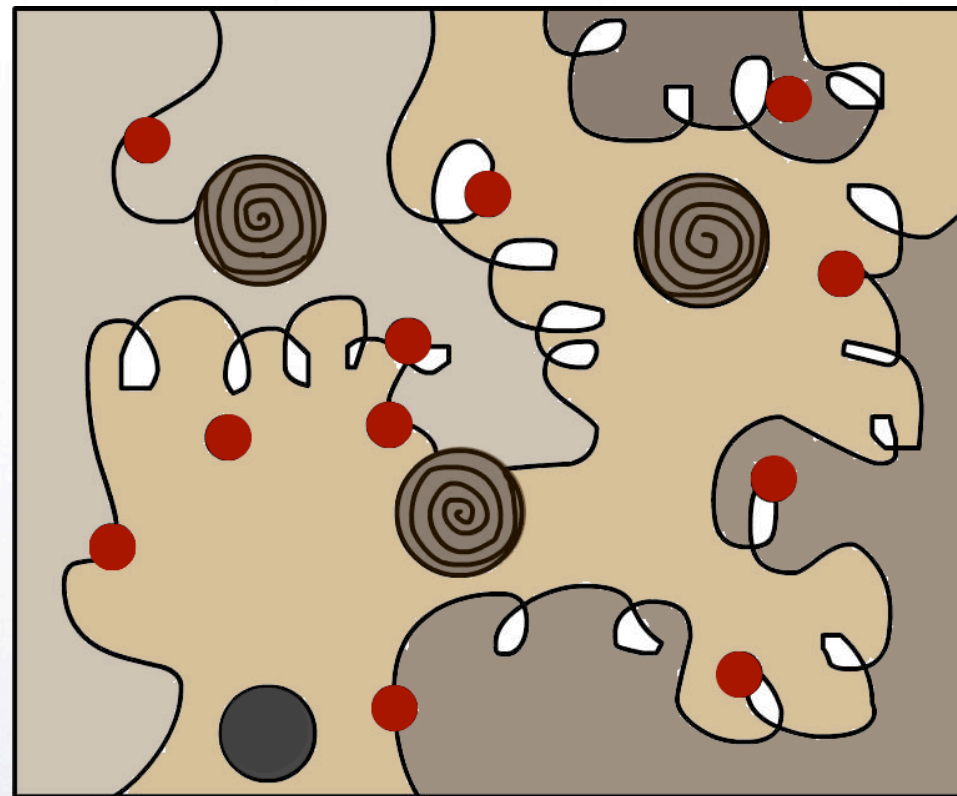
THEME

Water/ Jungle

Water War

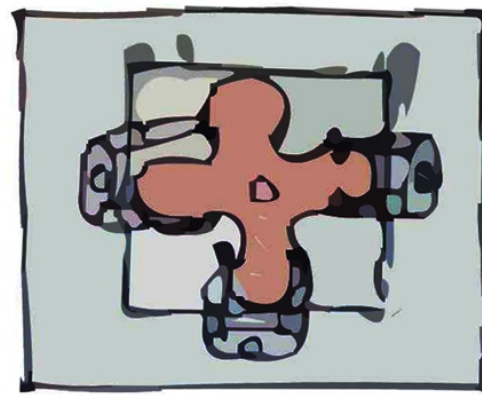
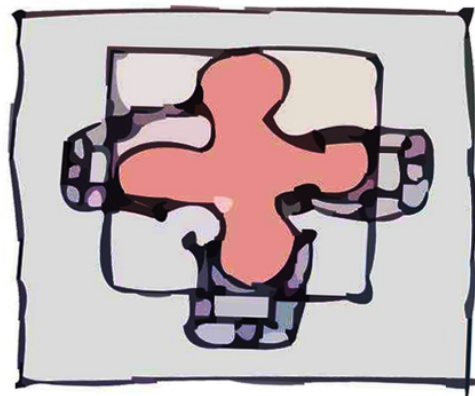


Initial Explorations





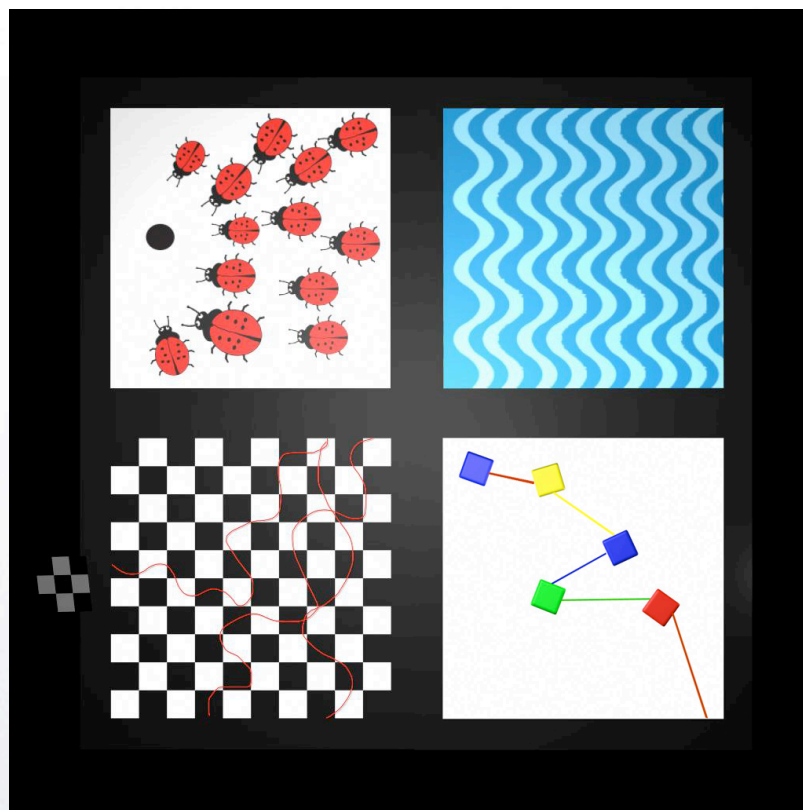
Initial Explorations



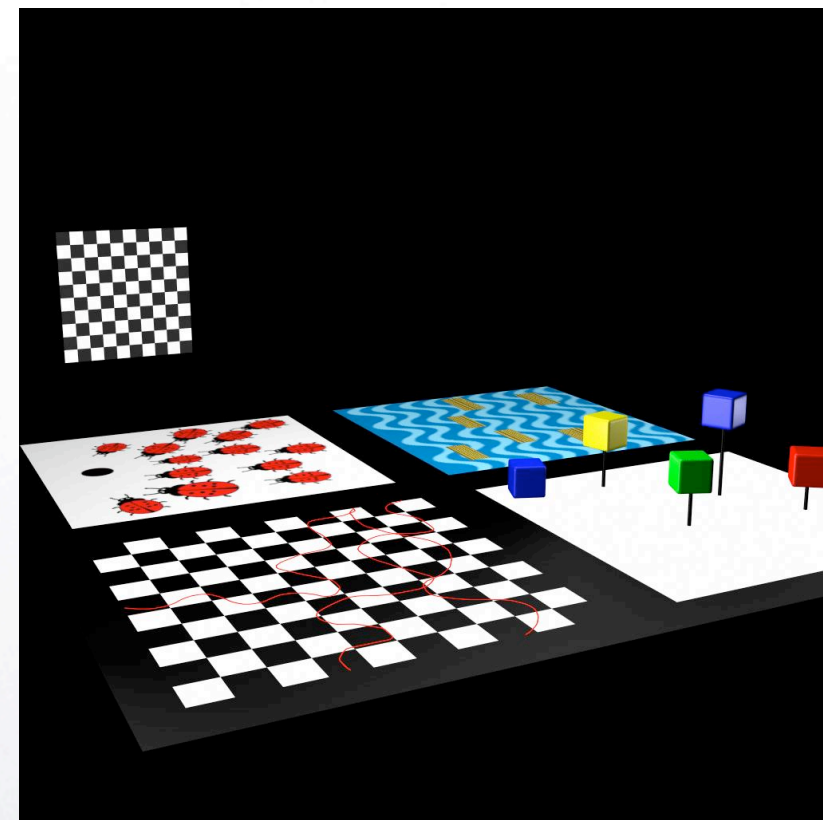


Initial Explorations

Treasure Hunt



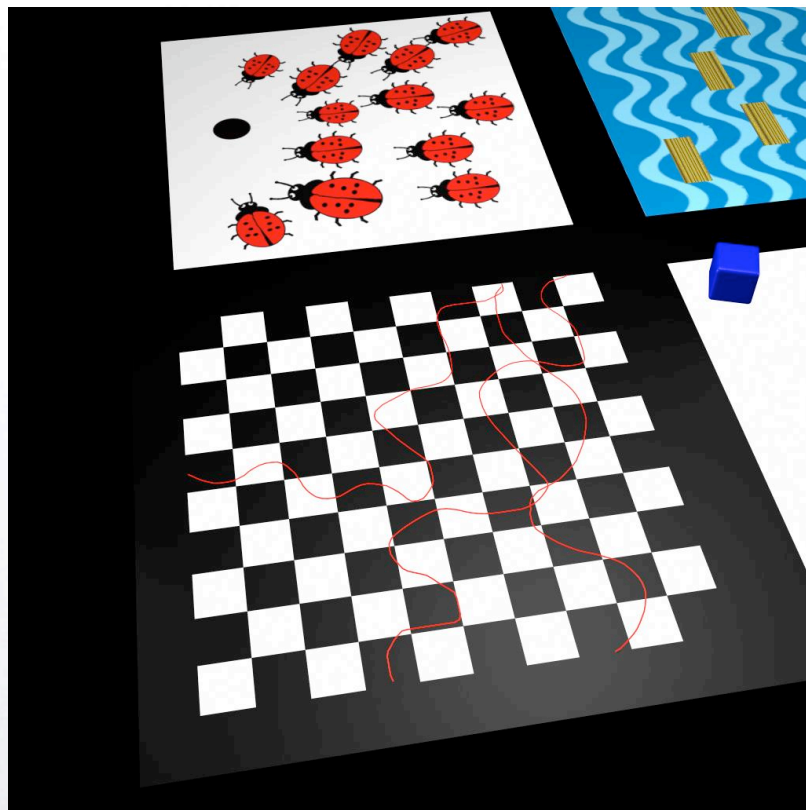
Plan



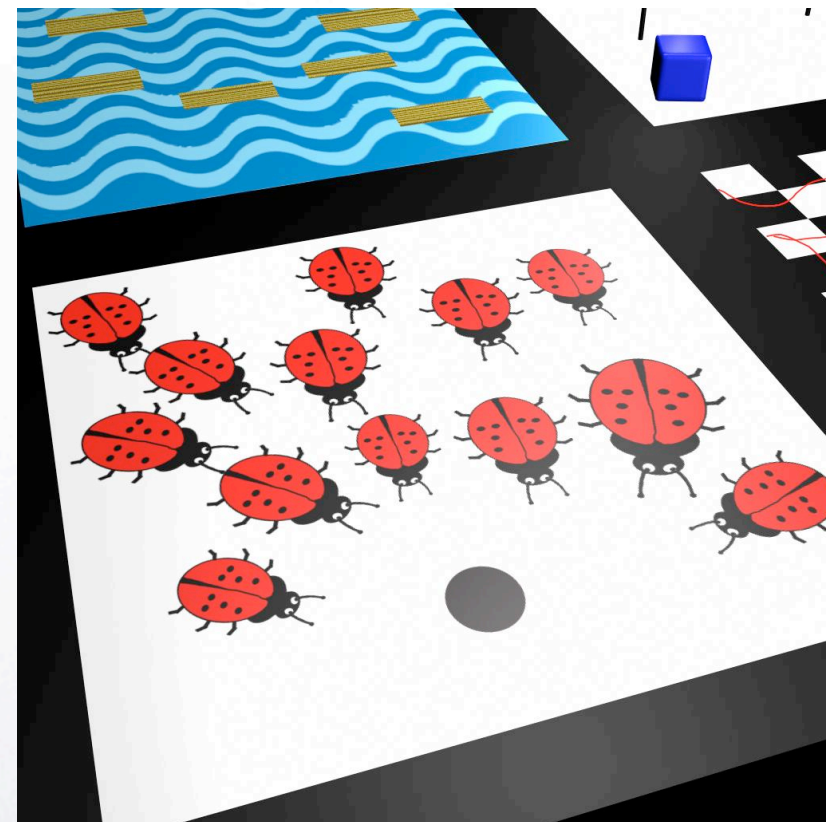
View



Initial Explorations



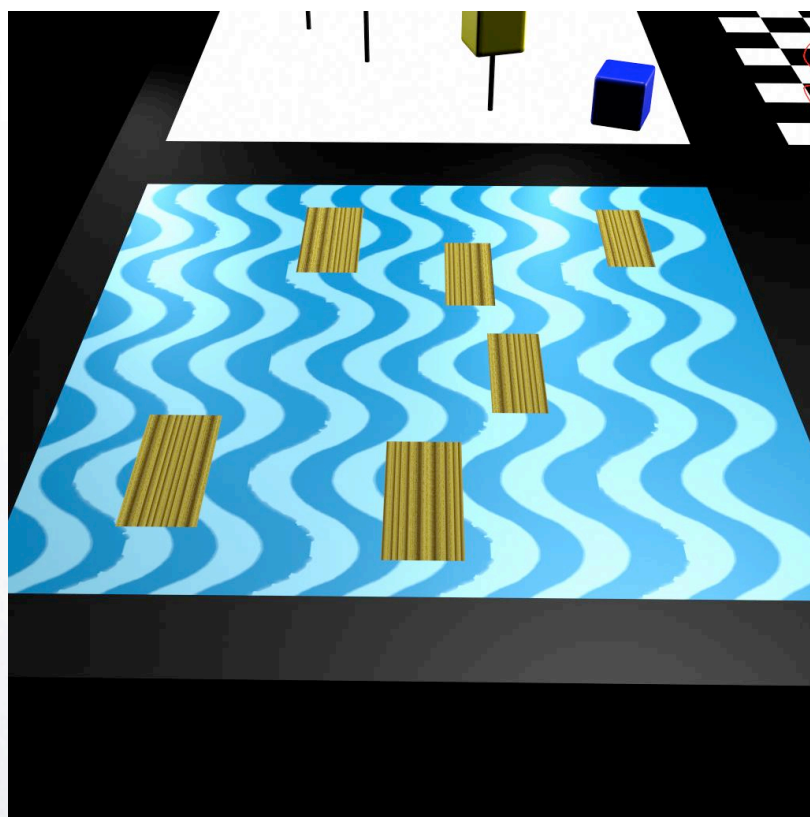
Hat trick



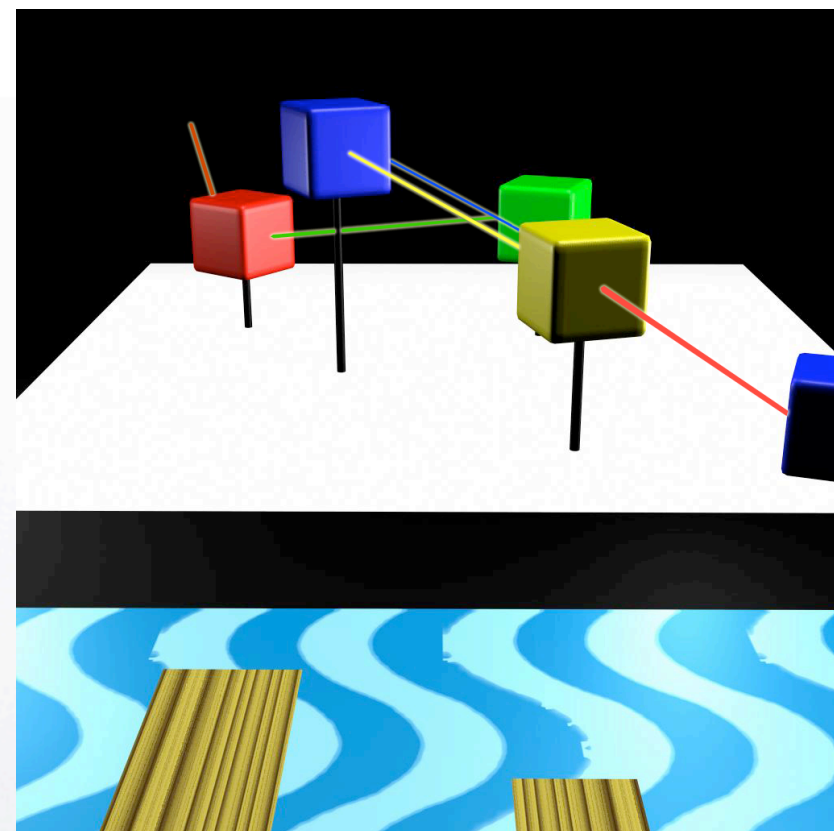
Bug trip



Initial Explorations



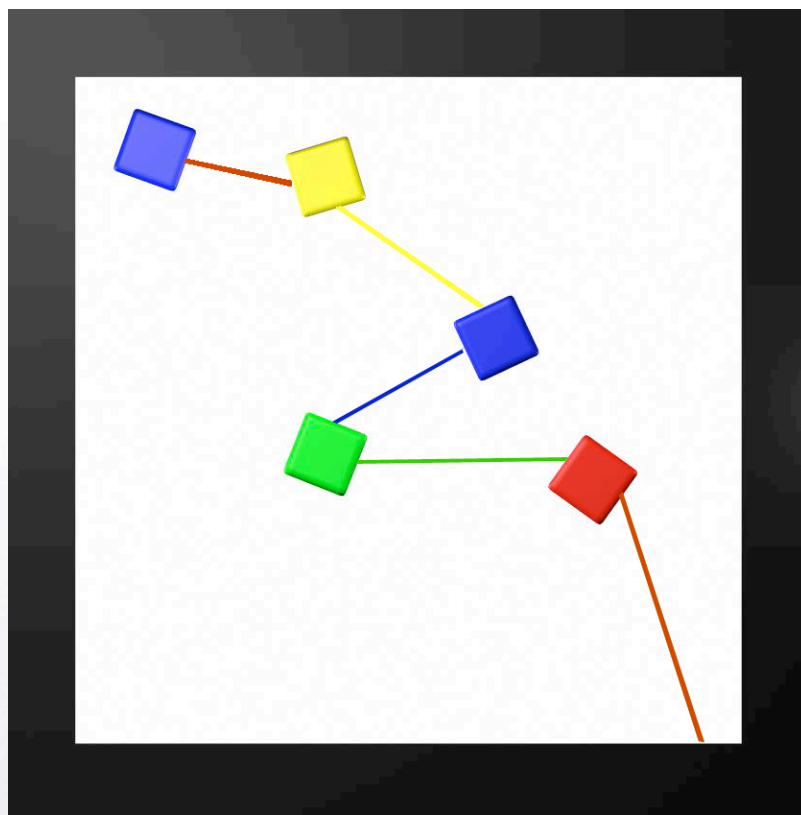
Log off



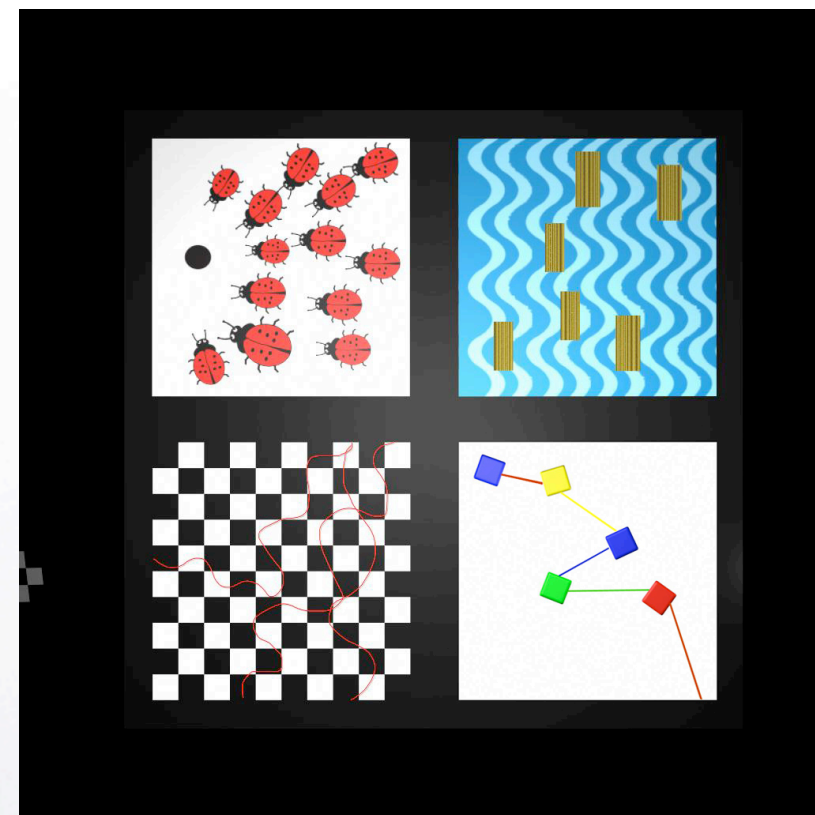
Ray trail



Initial Explorations



Ray trail

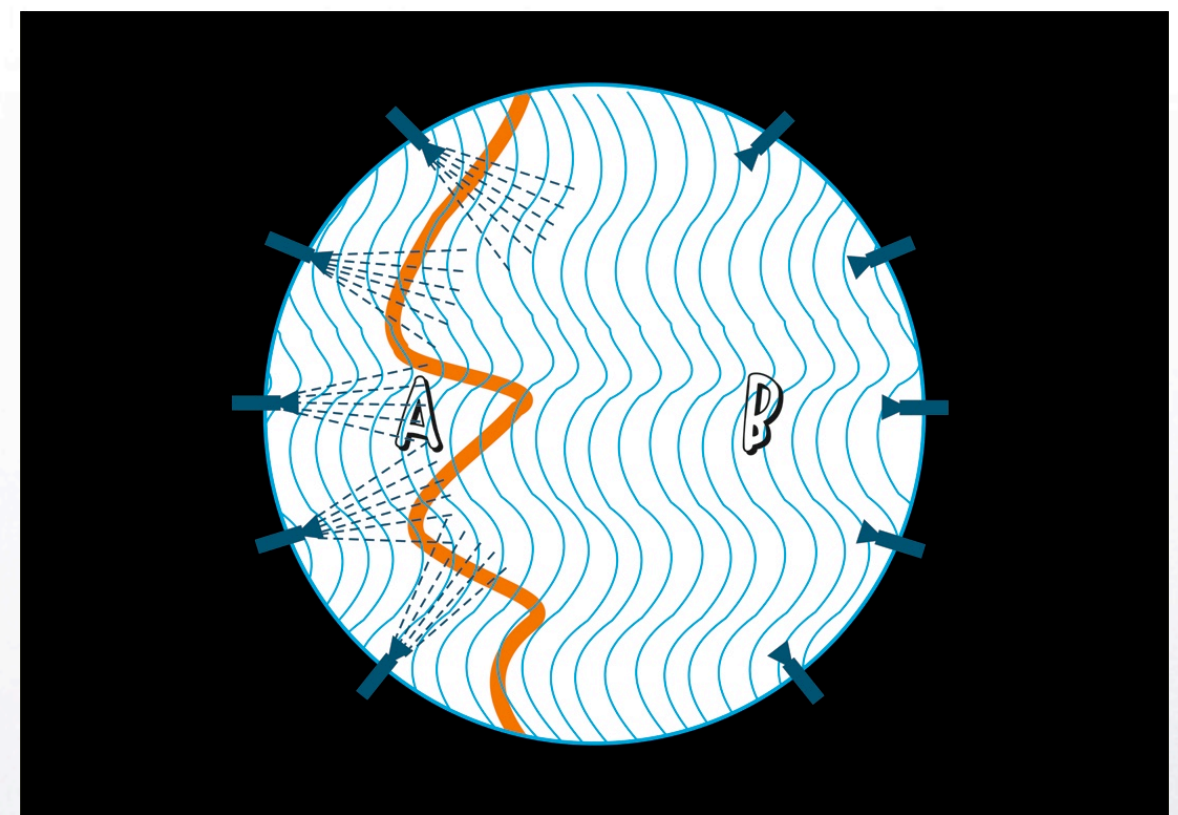
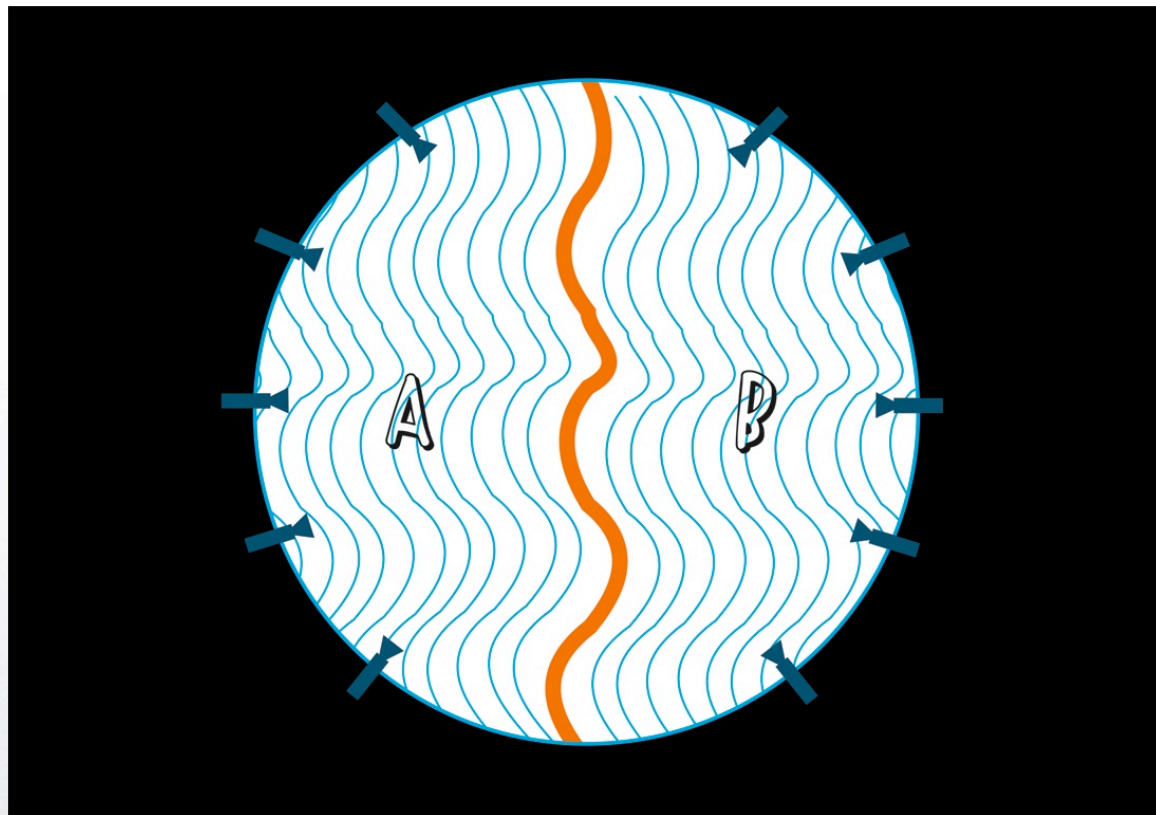


Plan



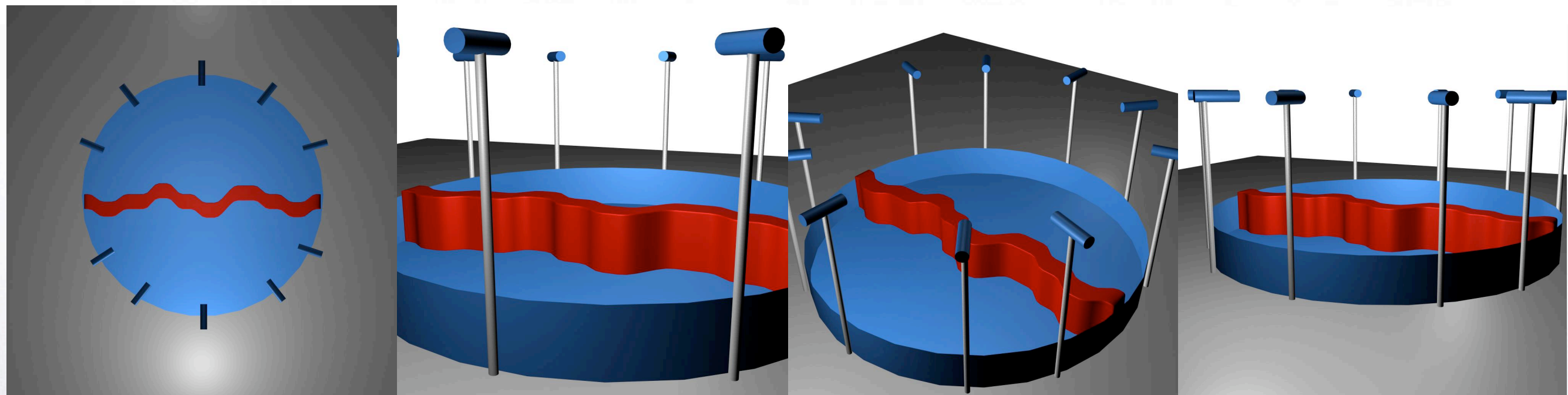
Initial Explorations

Water War





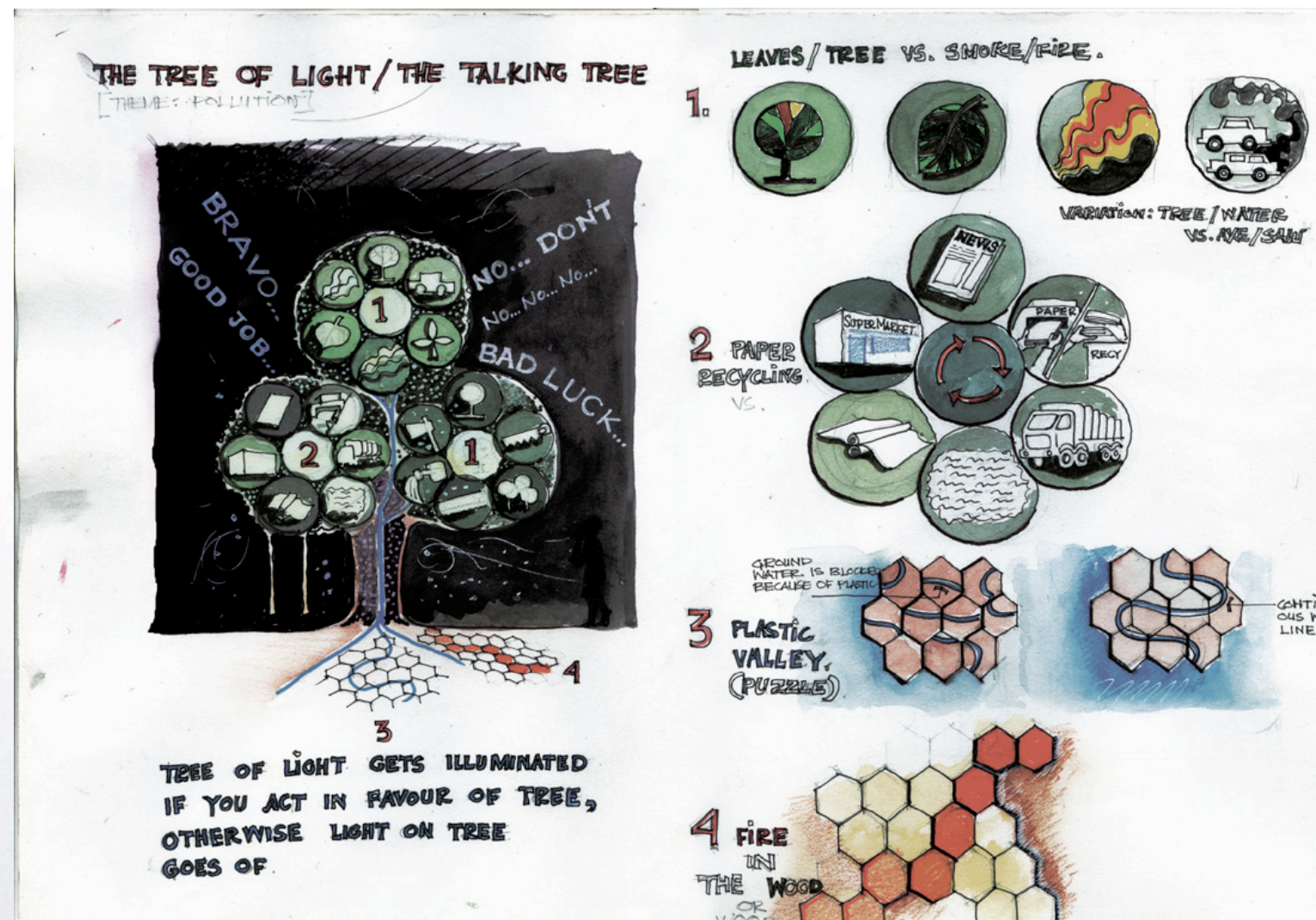
Initial Explorations

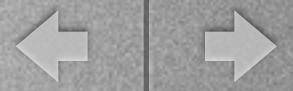


Plan and Views from different angle



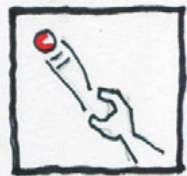
Final Explorations





Final Explorations

1 THROWING BALL.



BALL IS
THROWN TOWARDS
TARGET.



HITS TREE...
ONE TREE HAS
BEEN PLANTED.



BRAYO...
TREE GETS
ILLUMINATED.



HITS CAR...
MORE POLLUTION.



NO... DON'T...
THE LIGHTS ON
TREE GOES OFF

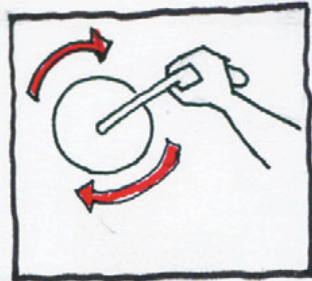


HITS FIRE...
LESS OXYGEN.

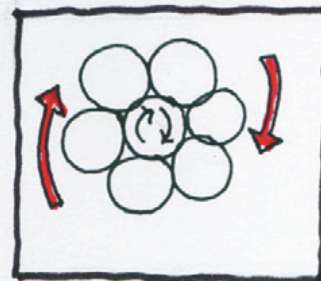


NO... NO... NO...
THE LIGHT ON
TREE GOES OFF

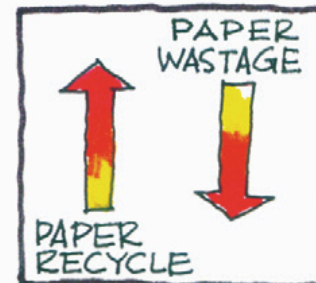
2 PADDLING IN PROPER DIRECTION FOR RECYCLING



PADDLING...
..... RECYCLE.



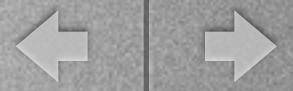
MORE PADDLING...
MORE RECYCLE...



PAPER RECYCLE...
... LESS PAPER

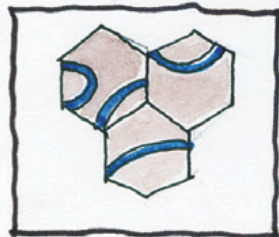


GOOD JOB...
TREE GETS ILLUMINATED.

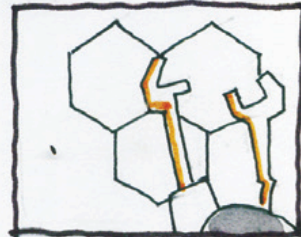


Final Explorations

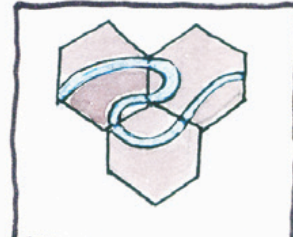
3 PUZZLE



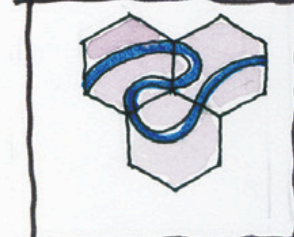
GROUND WATER GETS CLOGGED, DUE TO PLASTICS.



SOLVE THE PUZZLE



MAKE FULL PATH OF WATER



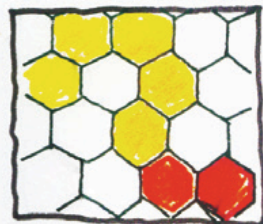
WATER PATH GETS ILLUMINATED.



WATER PATH ON TREE GETS ON.

GOOD JOB...

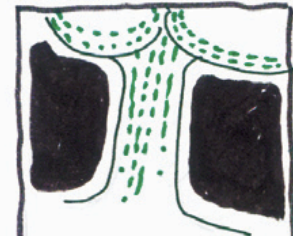
4 STAMPING ON THE FIRE/WOOD CUTTER



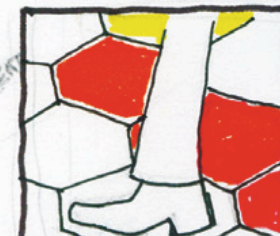
FIRE/WOOD CUTTER IS COMING ON THE FLOOR PLATES.



STAMP ON TO STOP IT.



TREE GETS ILLUMINATED...



IF YOU MISS.



THE LIGHT ON TREE GOES OFF...

YOU MISSED. BAD LUCK...



Final concept: Key points

Fantasy

Exploring

Physical
activity

Colourful

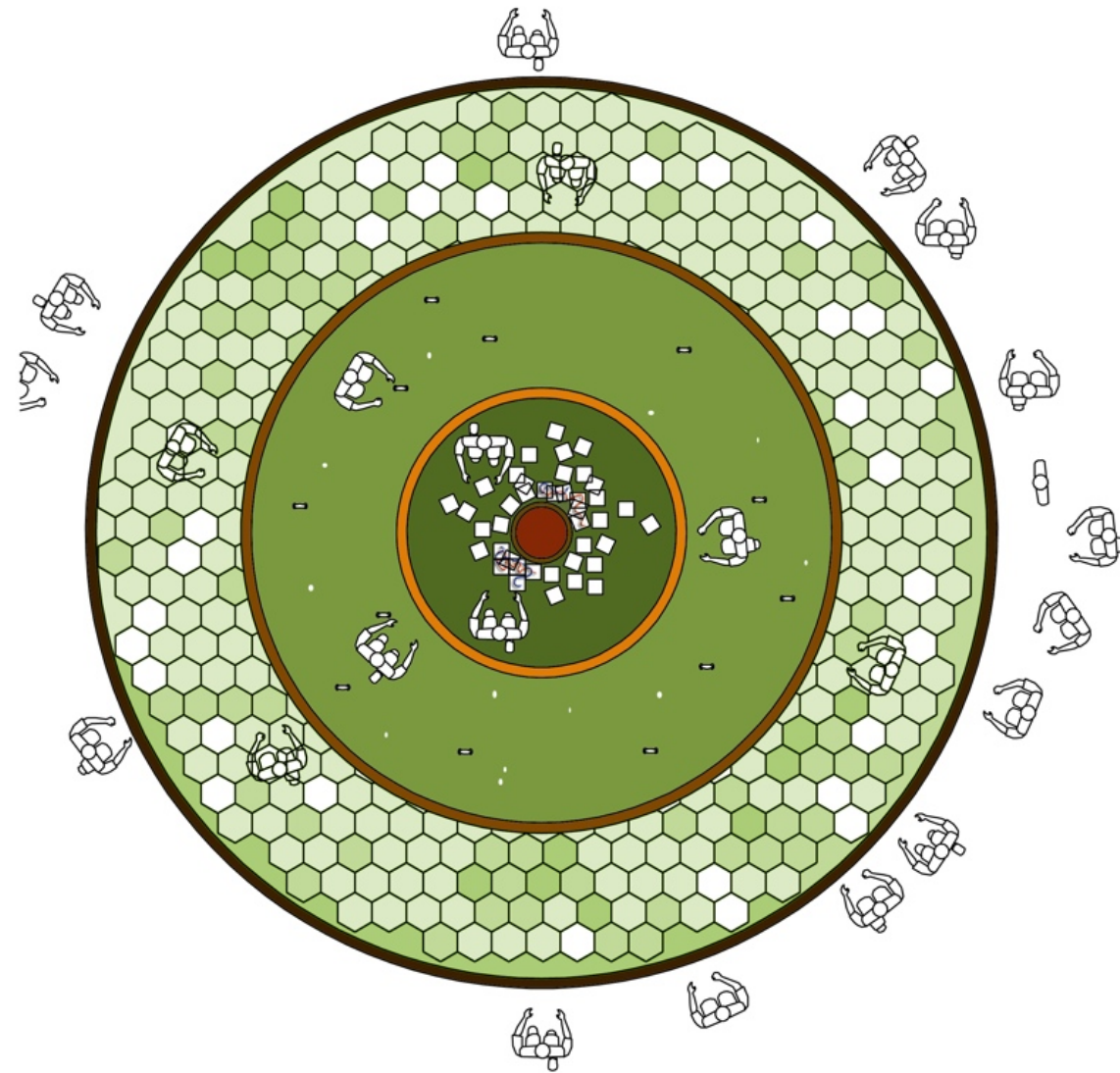
Tactile

Light

Music



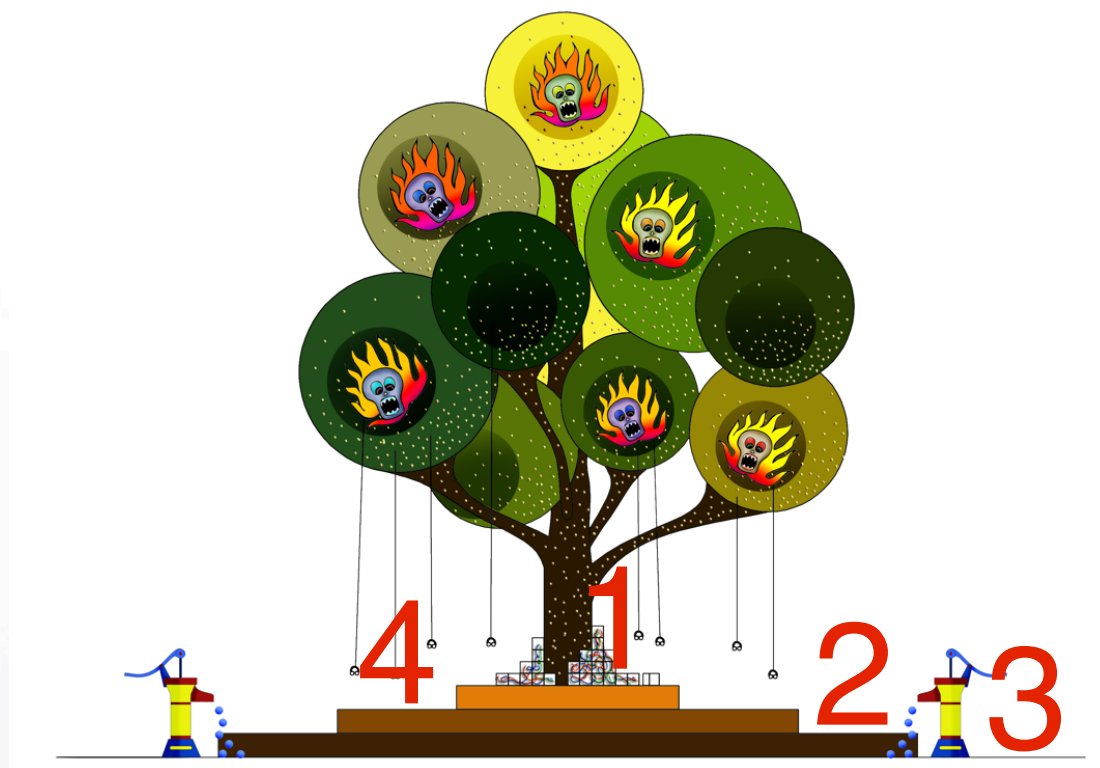
Detailed Design Ideas



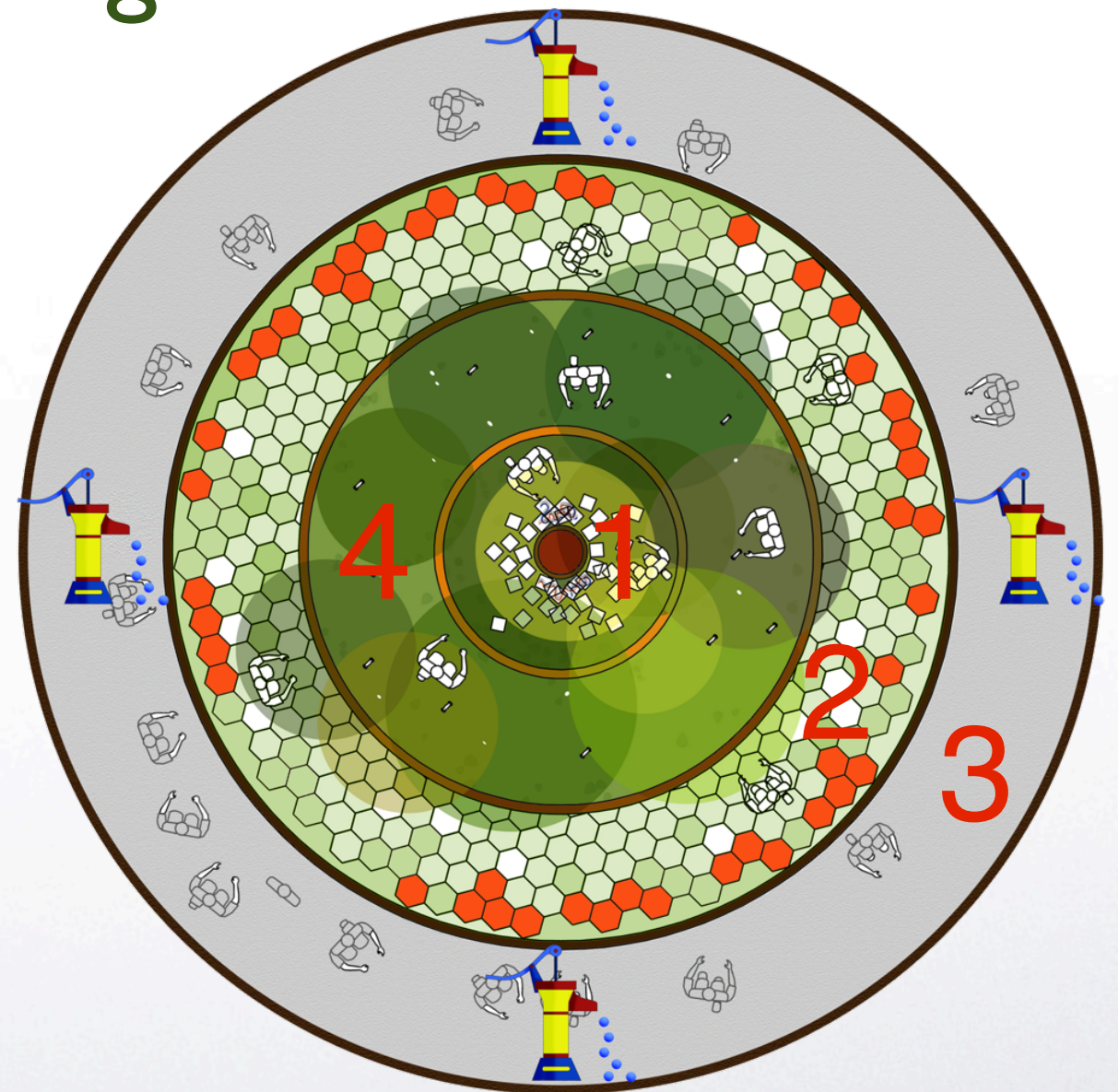
Plan



Detailed Design Ideas



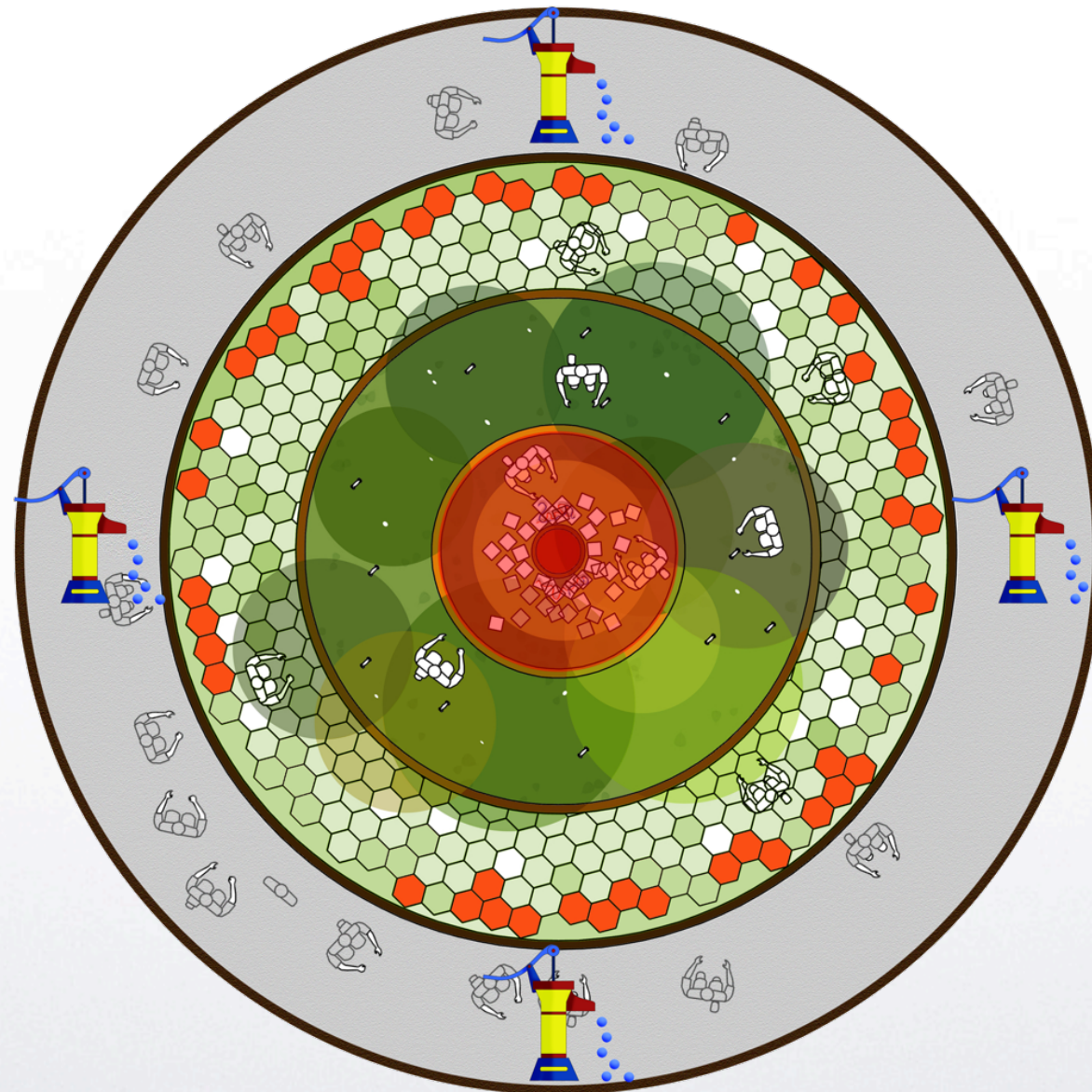
1. Plastic valley
2. Wood cutter
3. Fire monster
4. Listen to life





Detailed Design Ideas

1. Plastic Valley

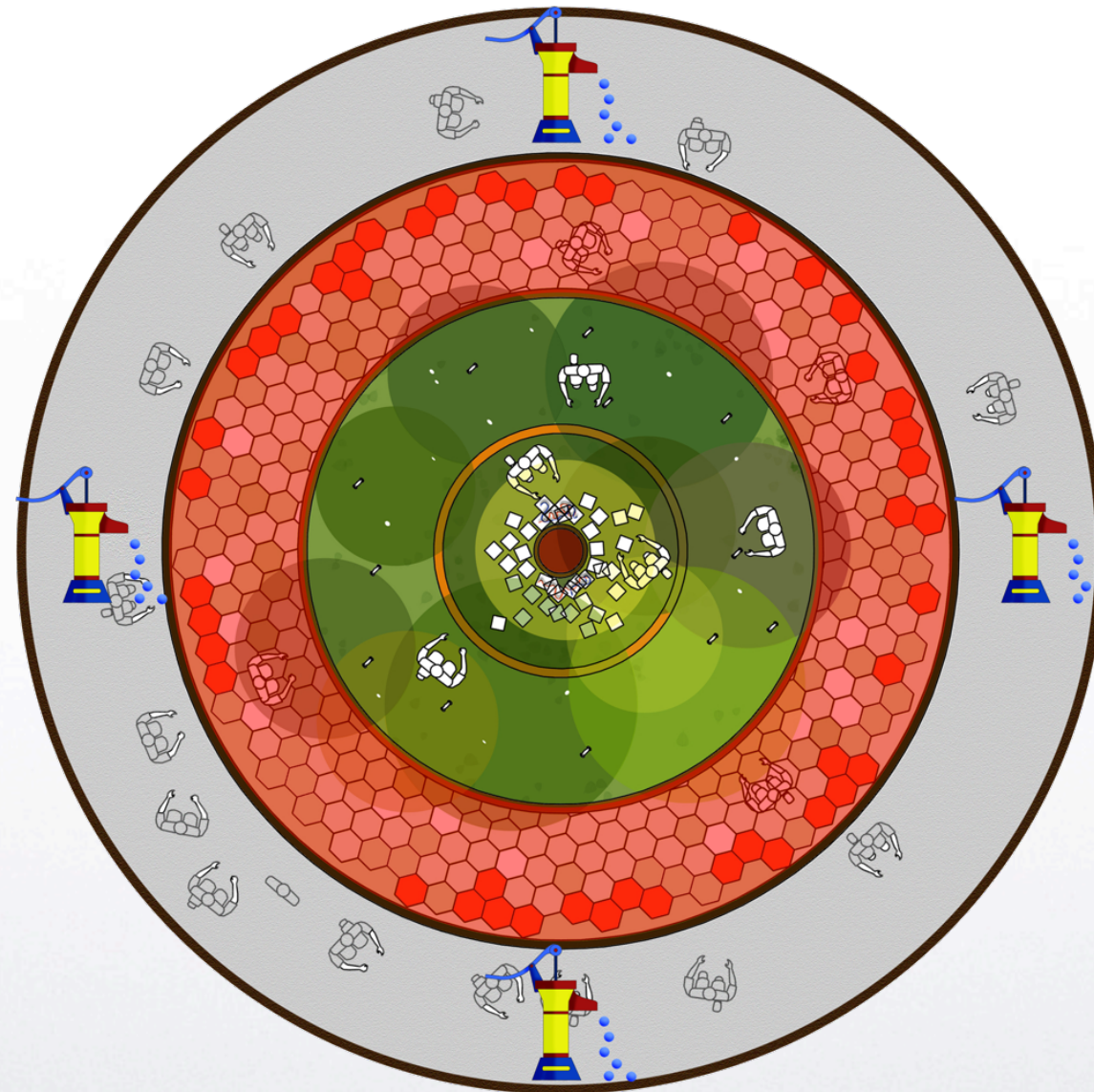


Activity: Puzzle



Detailed Design Ideas

2. Wood cutter

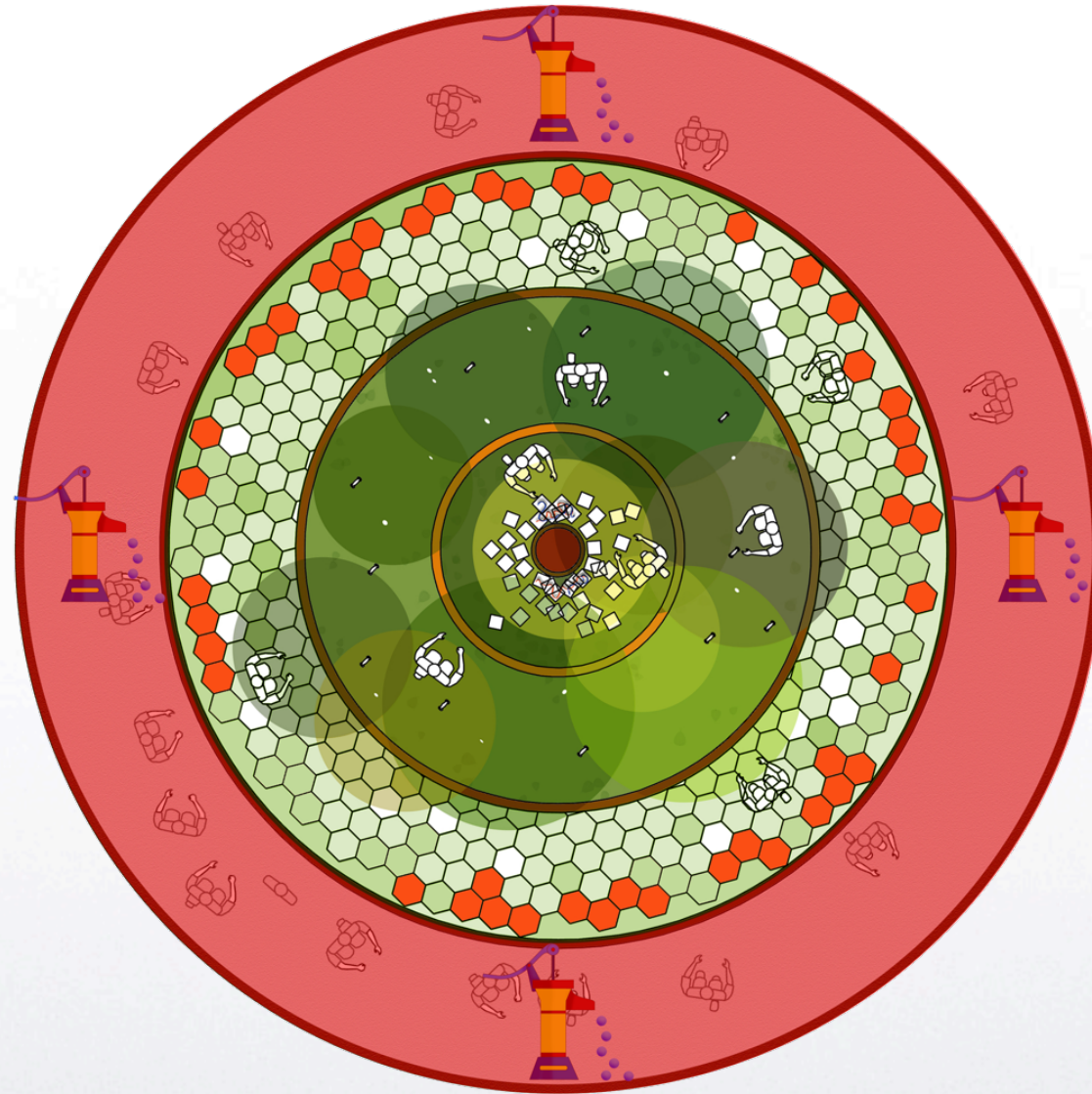


Activity: Stamp on tiles



Detailed Design Ideas

3. Fire monster

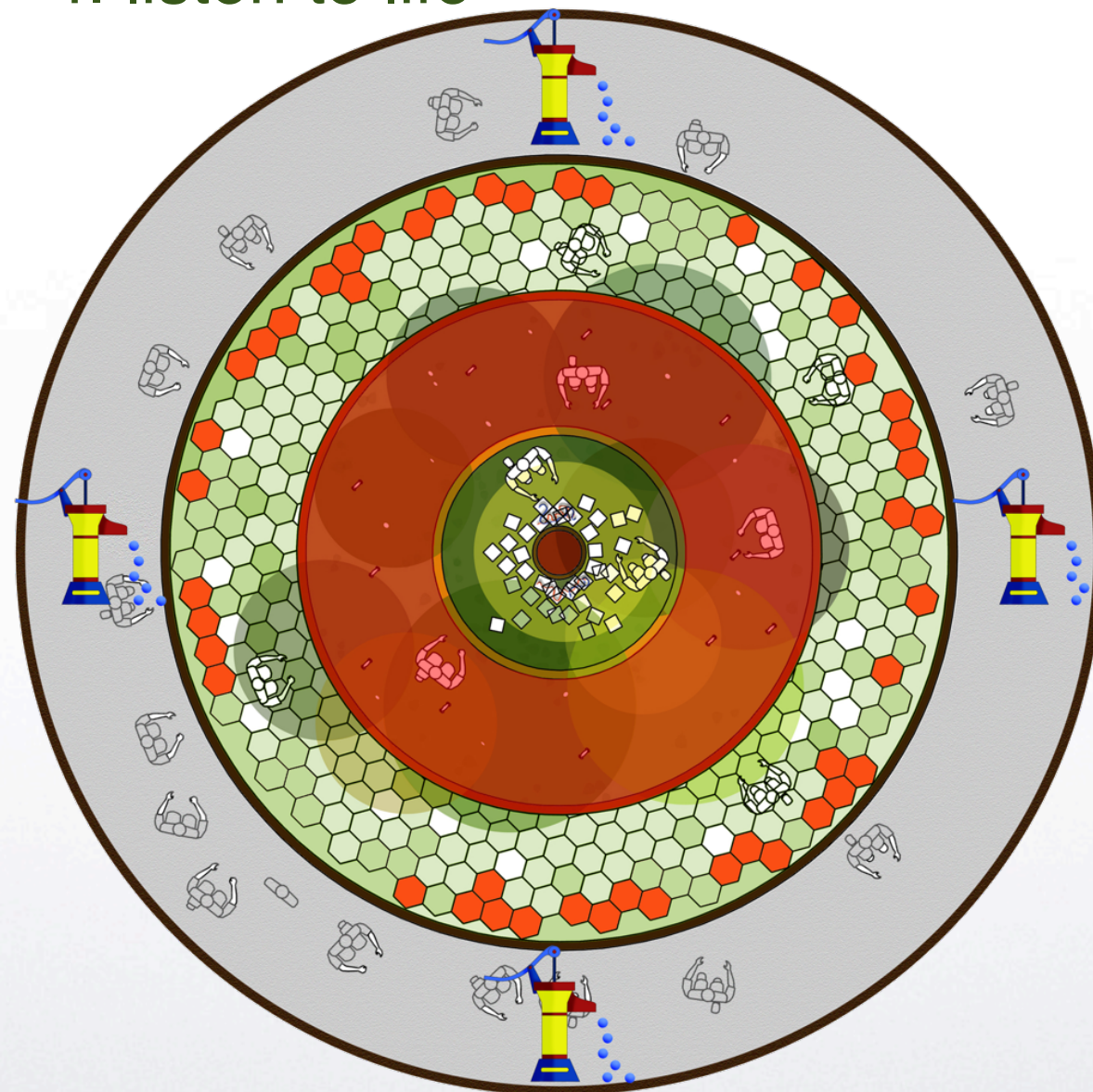


Activity: Throwing the ball



Detailed Design Ideas

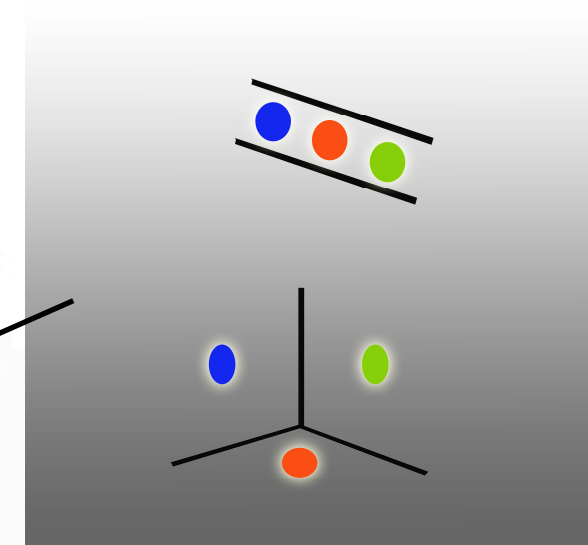
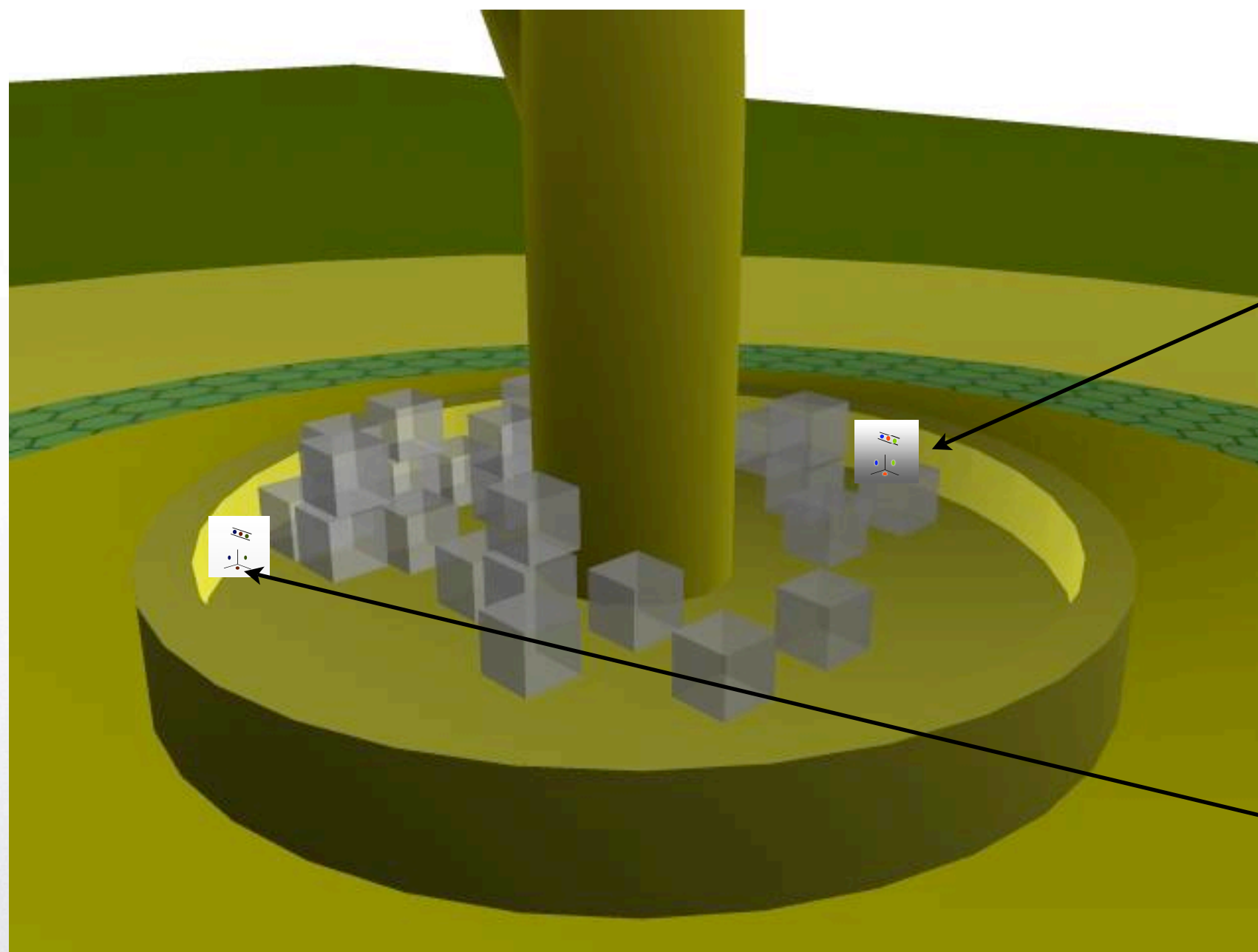
4. listen to life



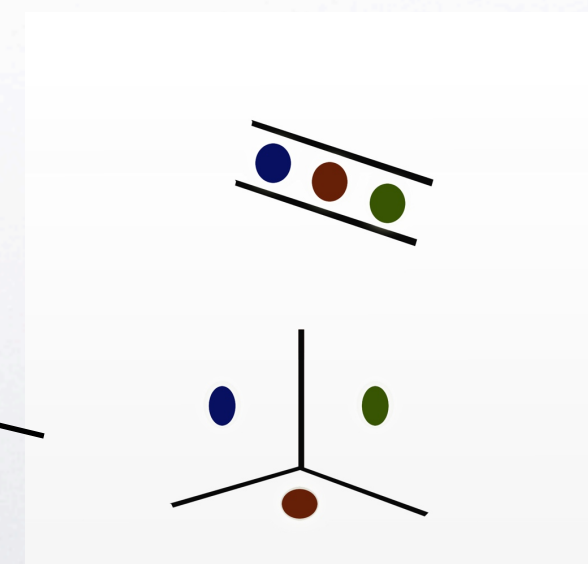
Activities: Pull & Listen



1. Plastic Valley



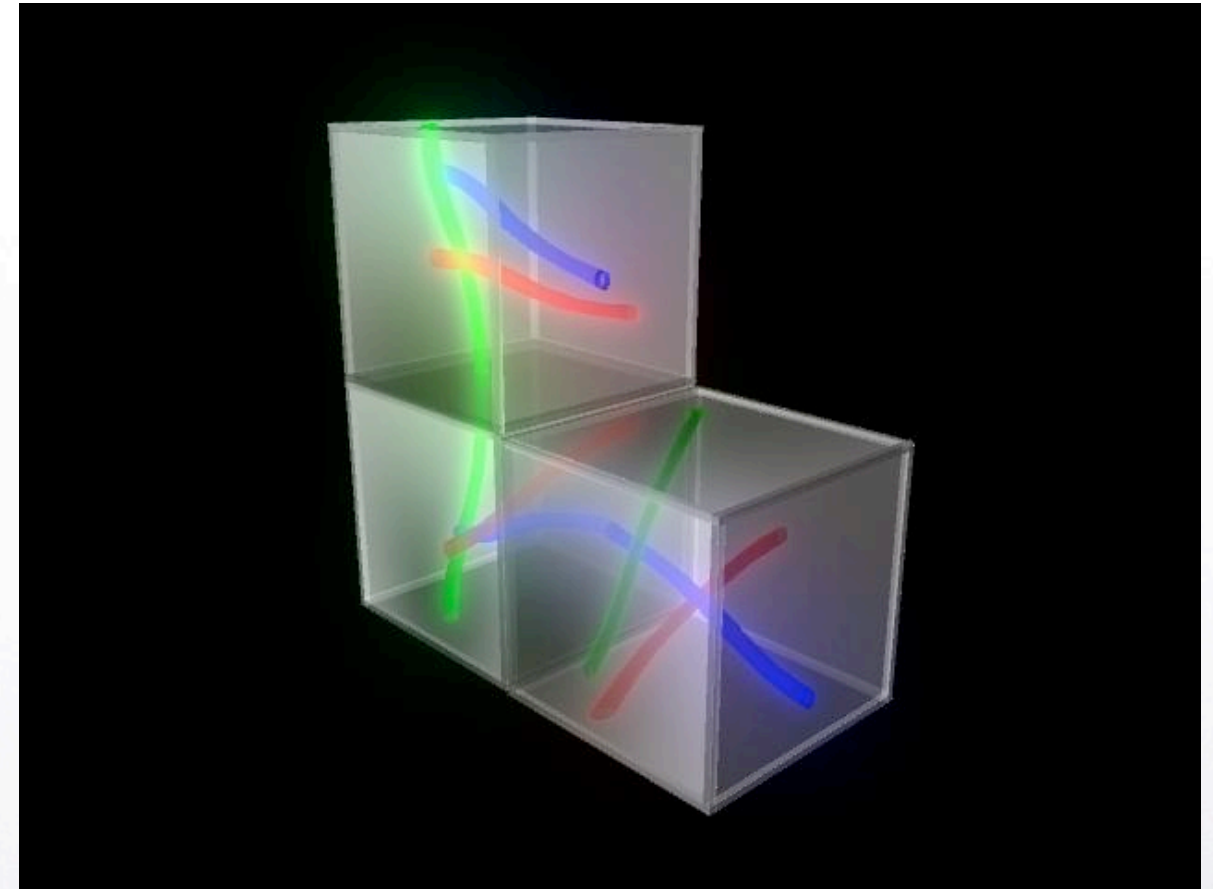
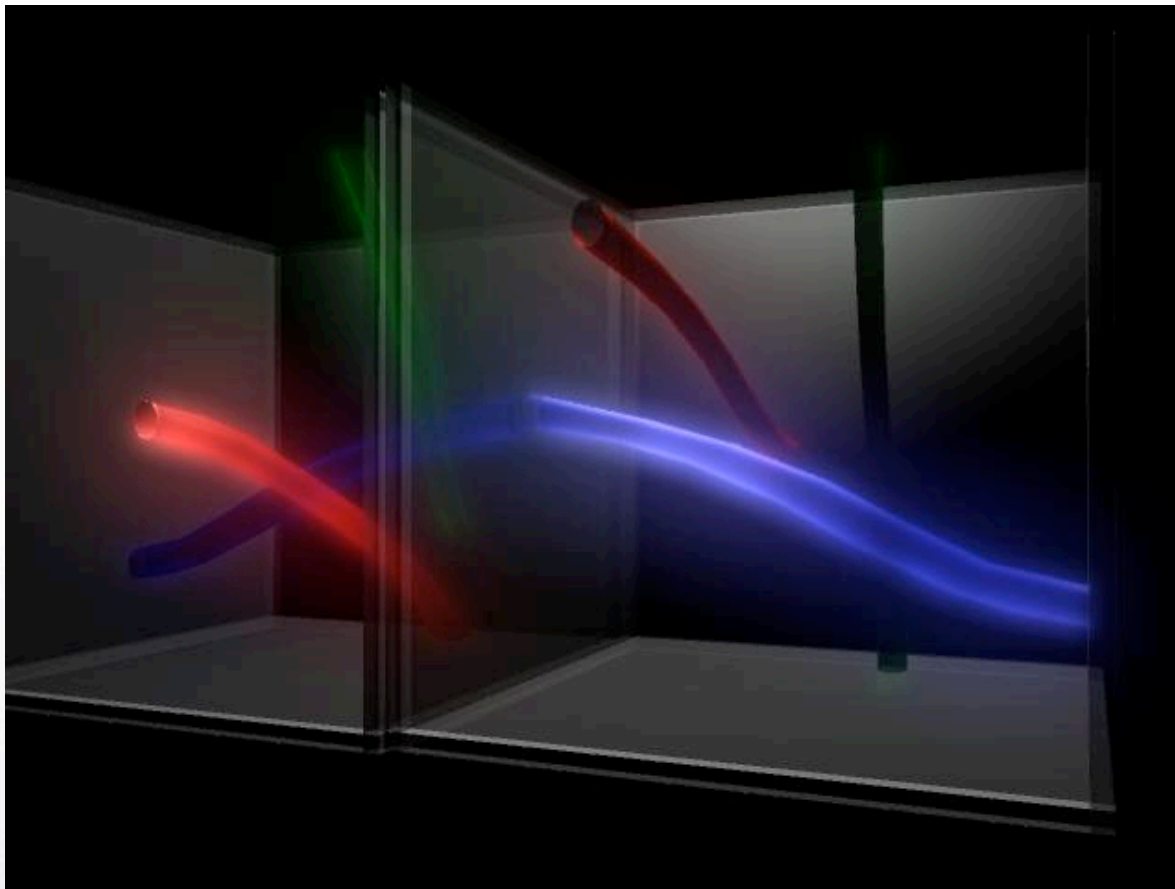
Initial Light Sources



Final Destination Point

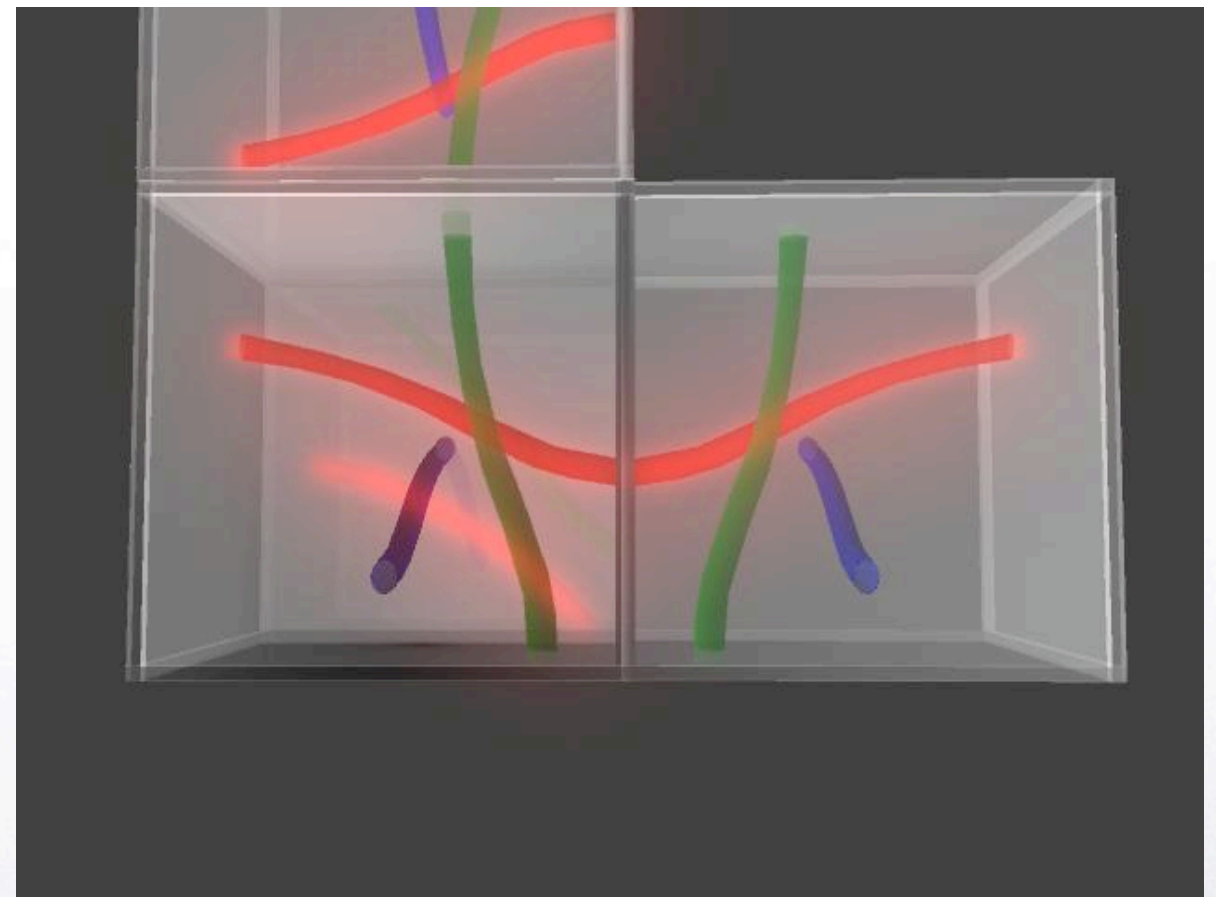
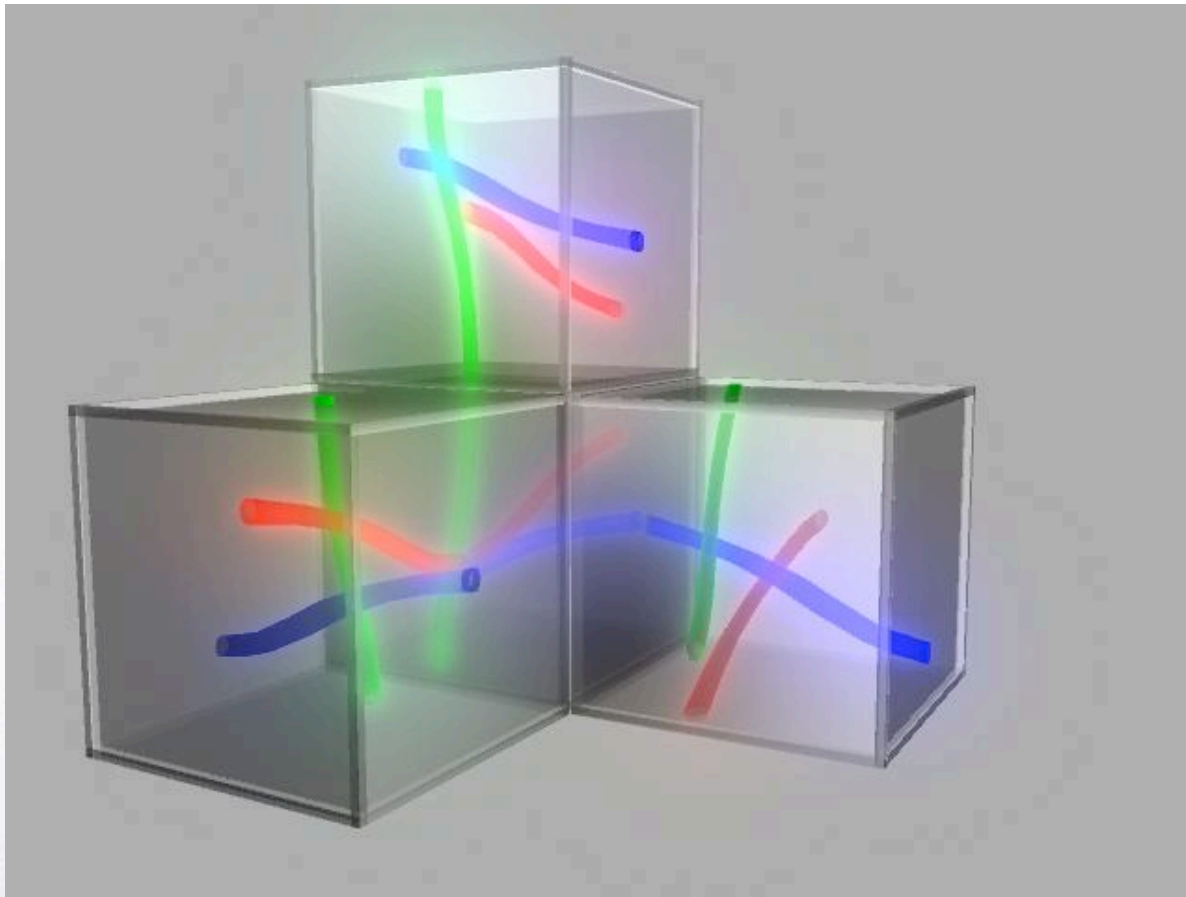


1. Plastic Valley



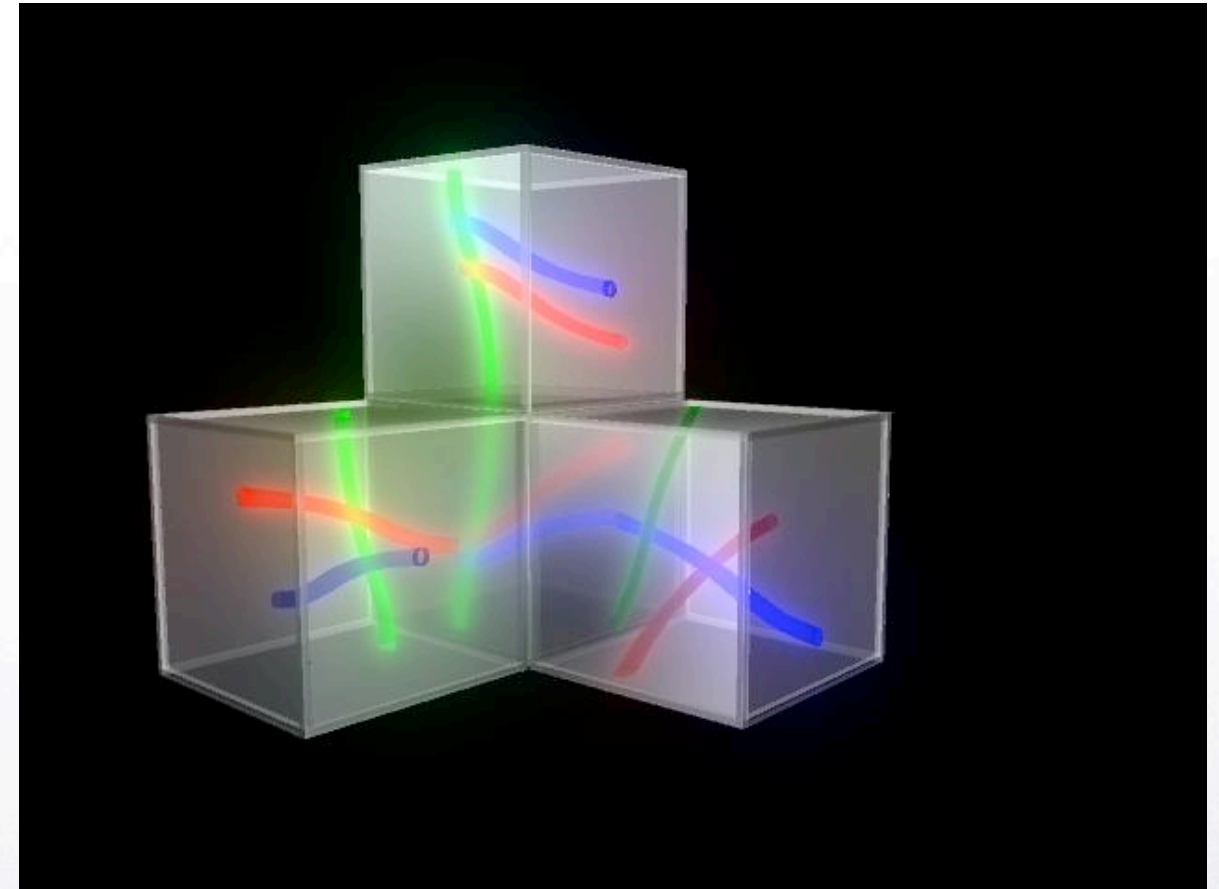
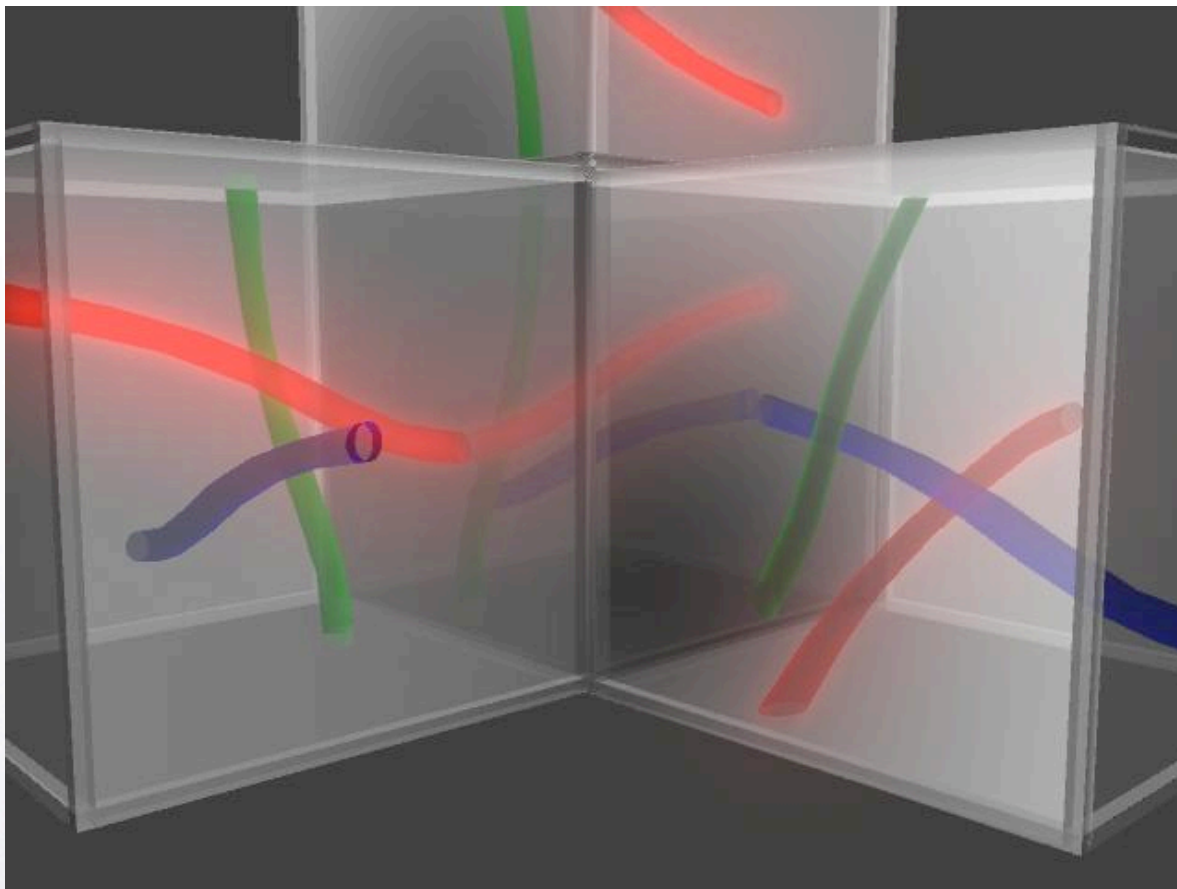


1. Plastic Valley



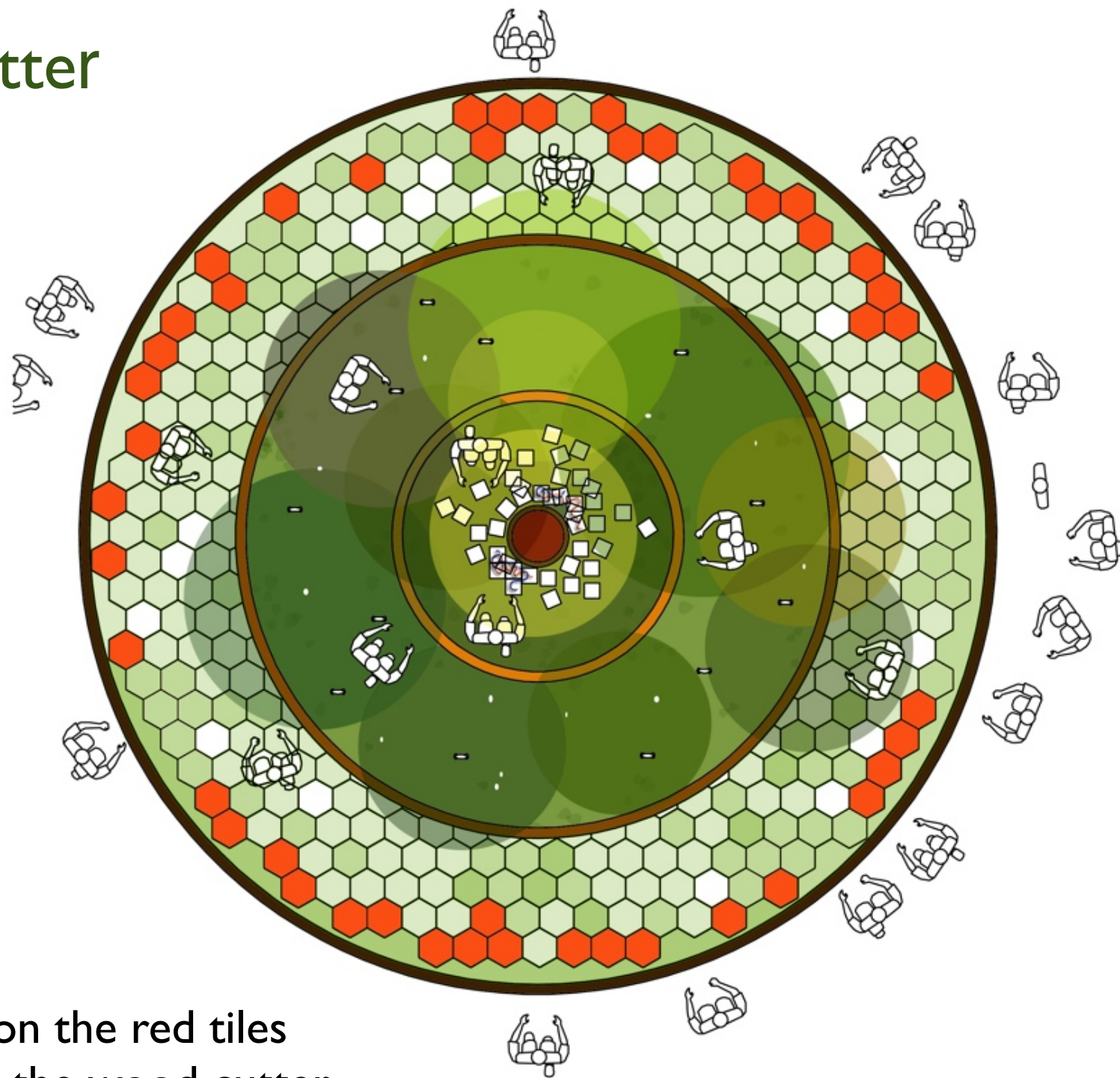


1. Plastic Valley





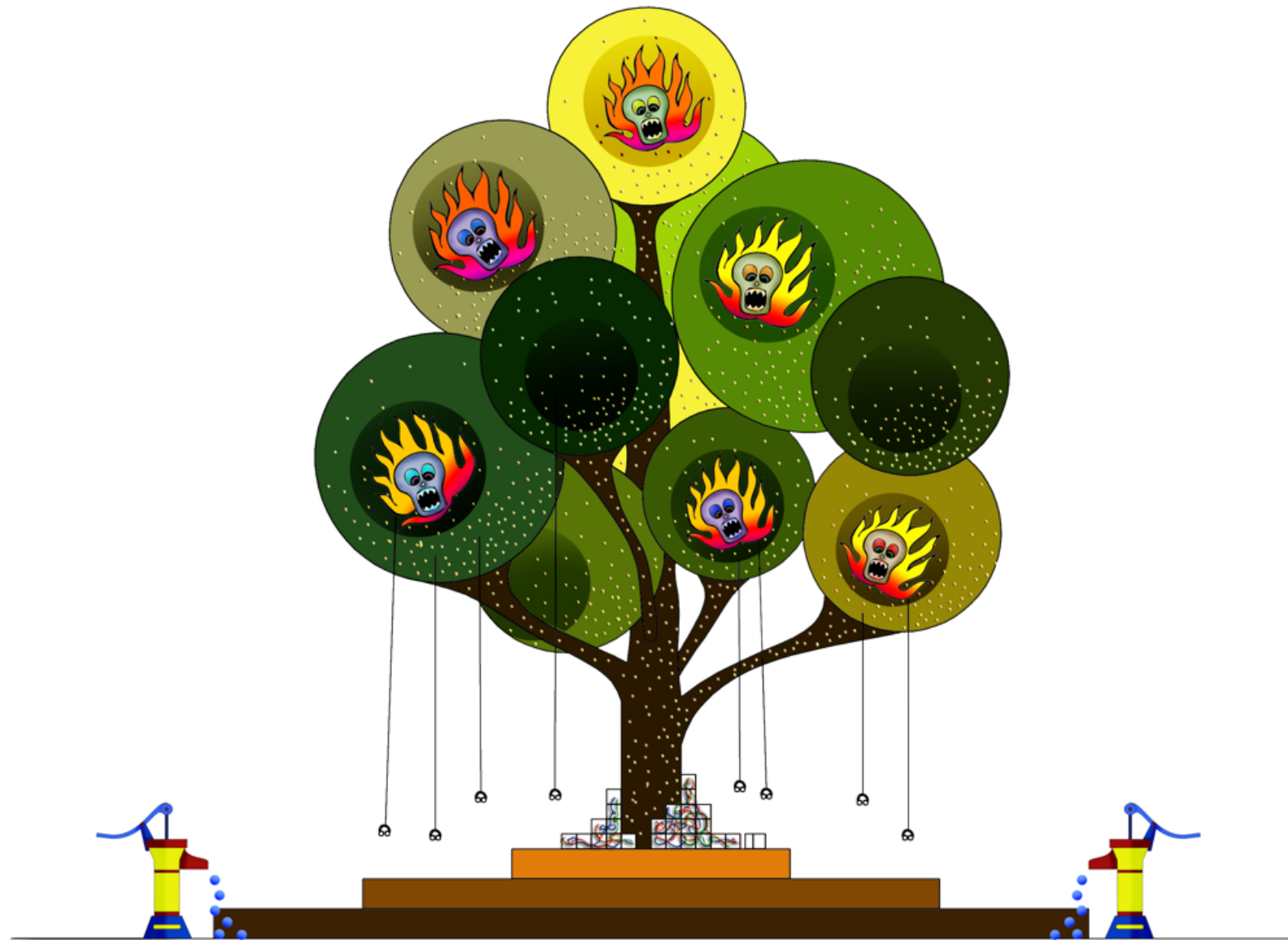
2. Wood cutter

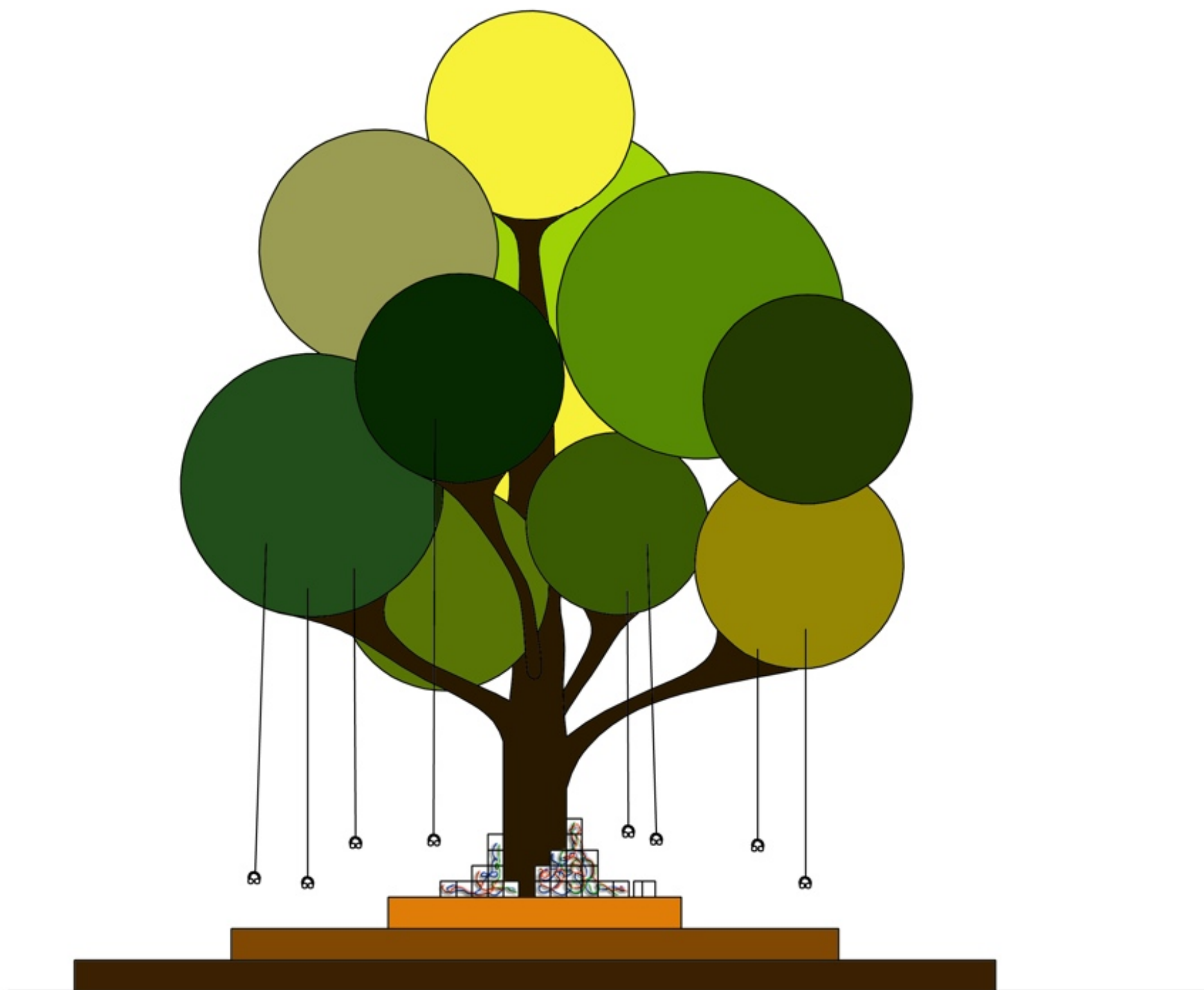


Stamp on the red tiles
to stop the wood cutter



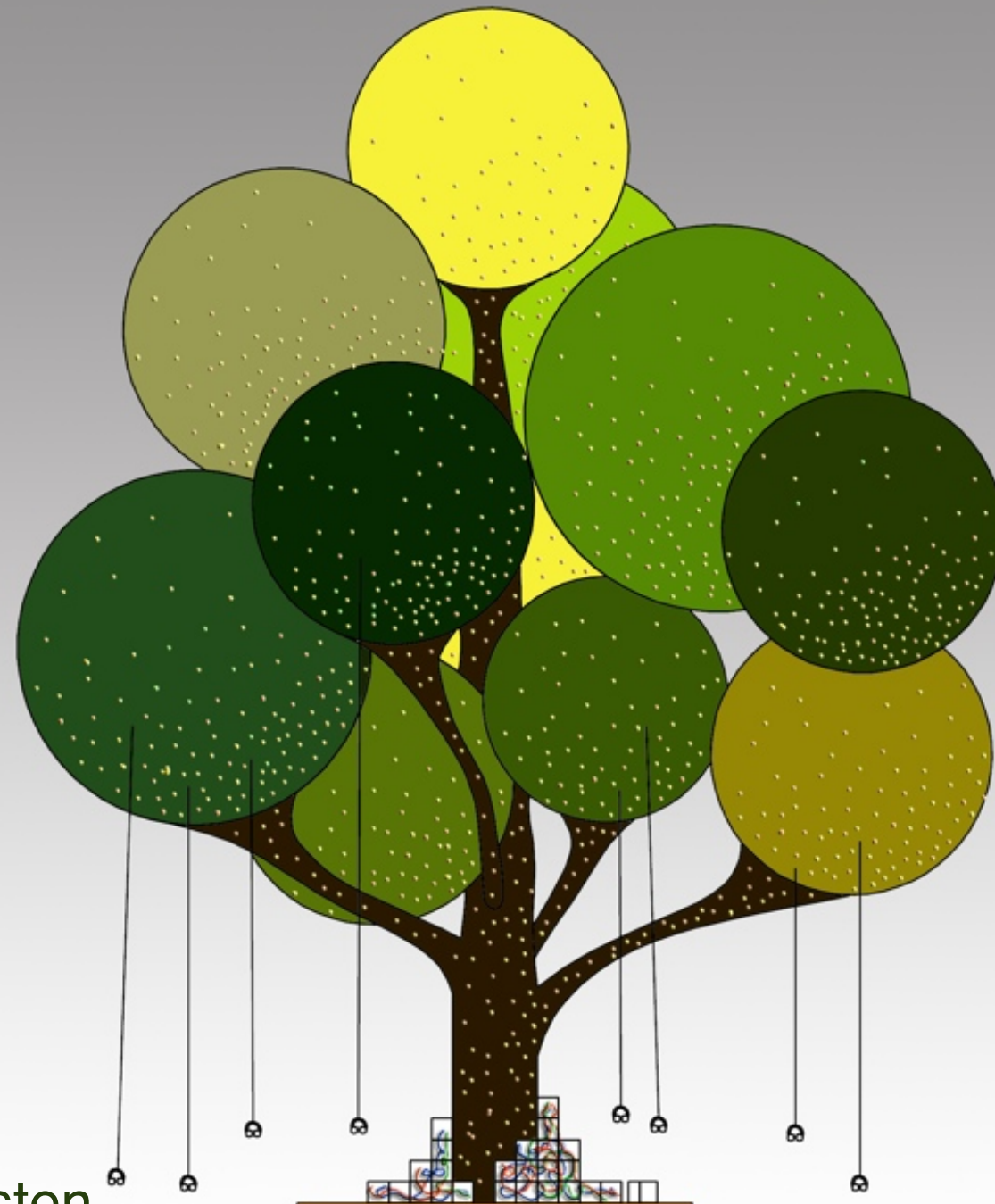
3. Fire monster



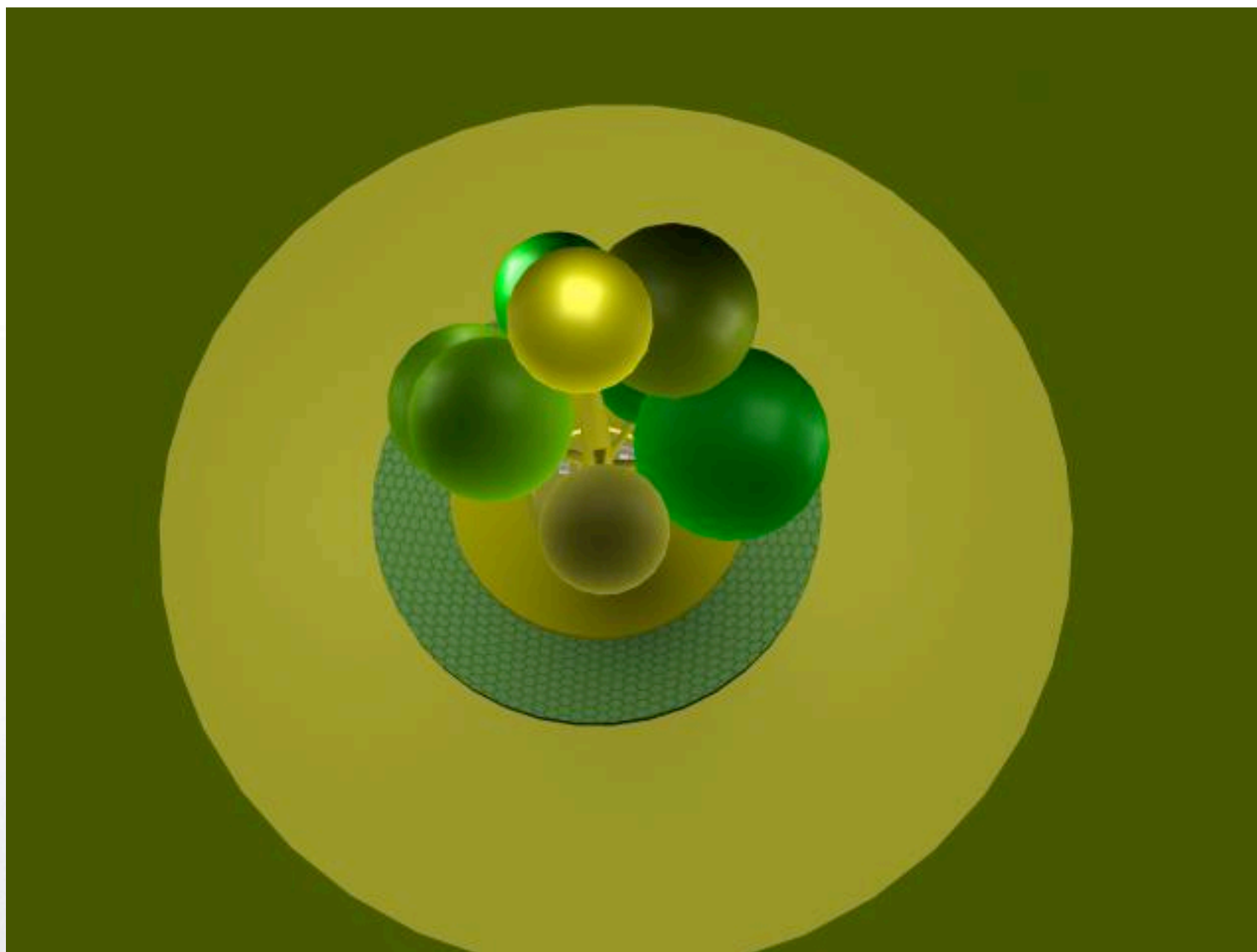




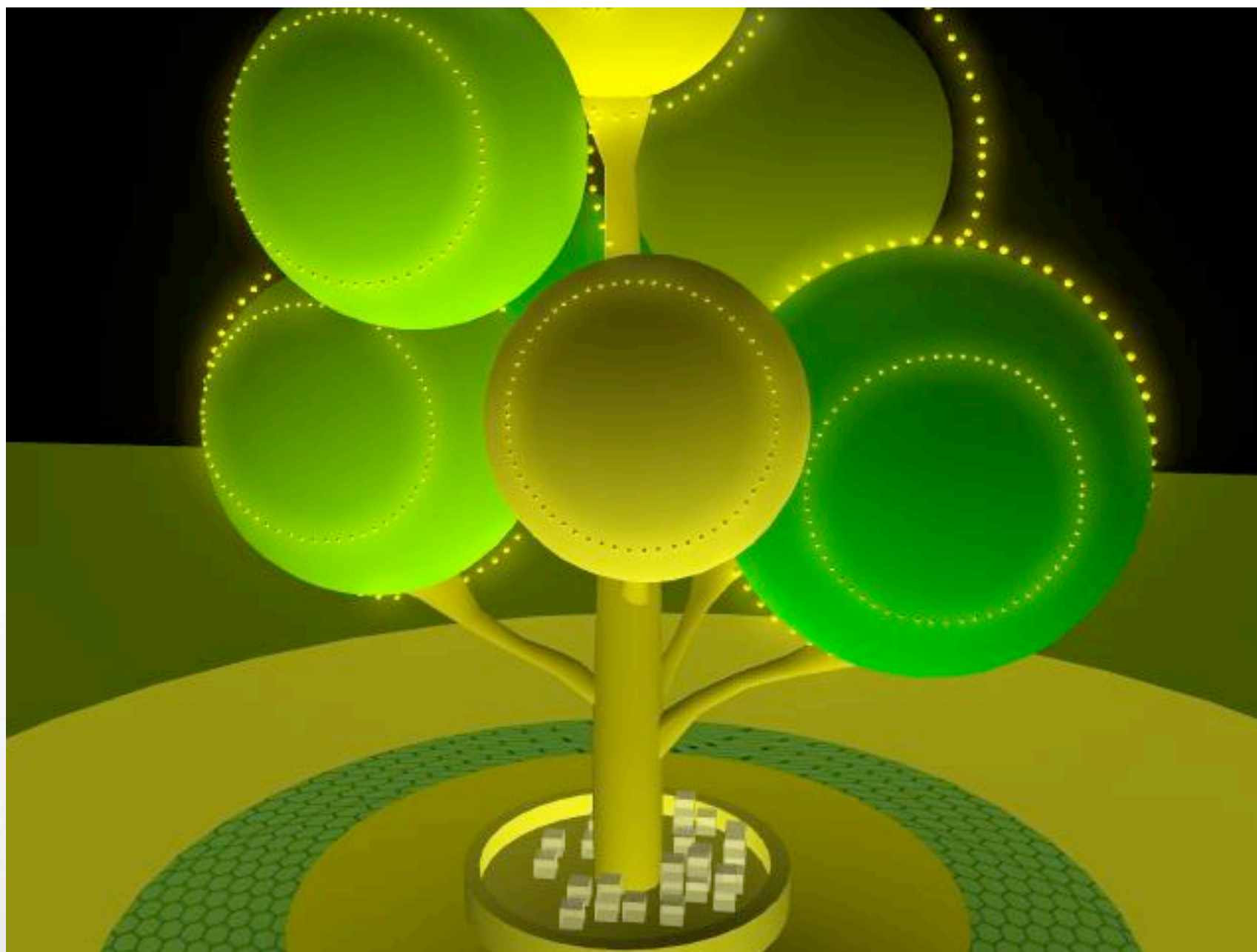
4. Listen to life

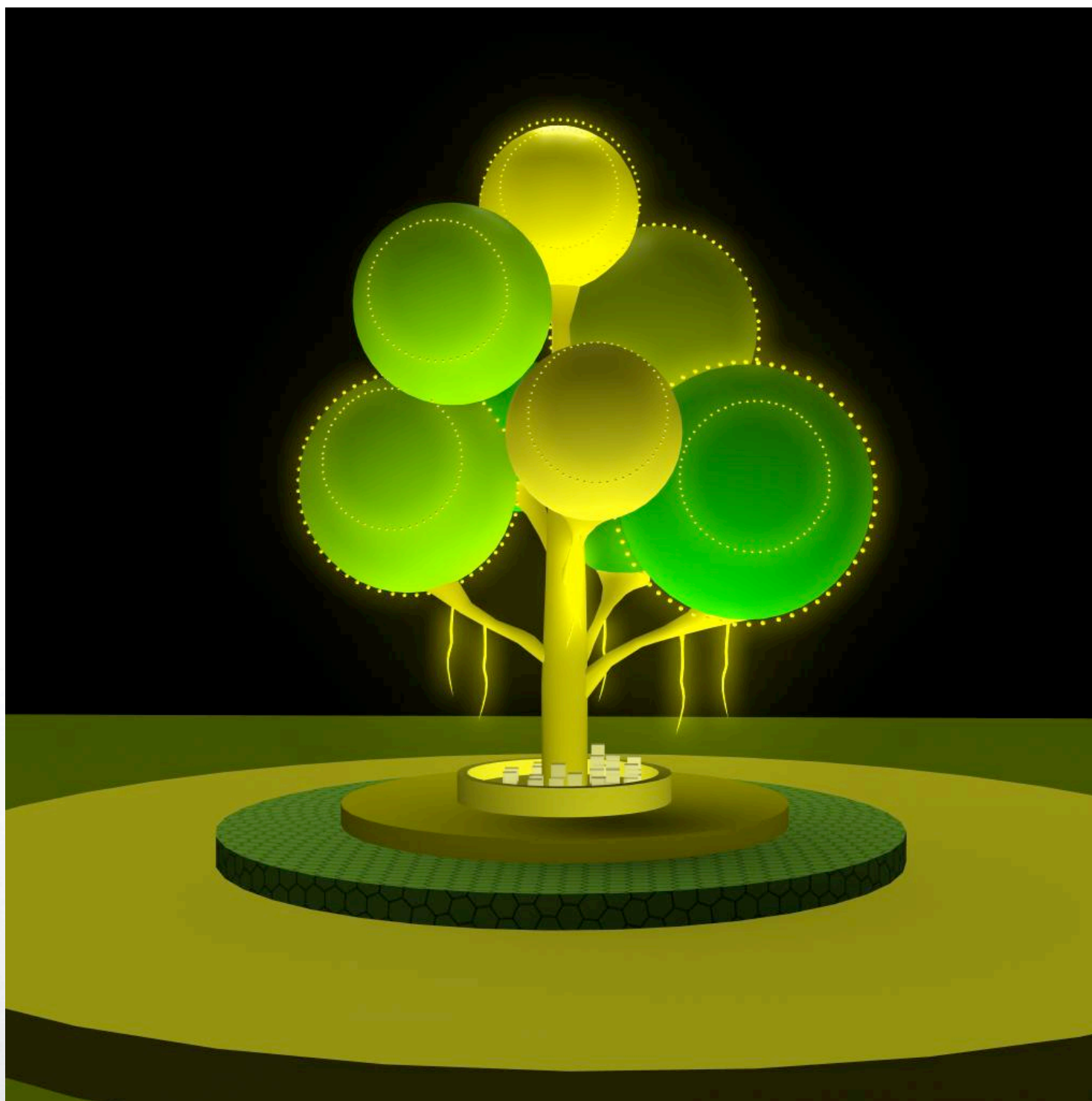


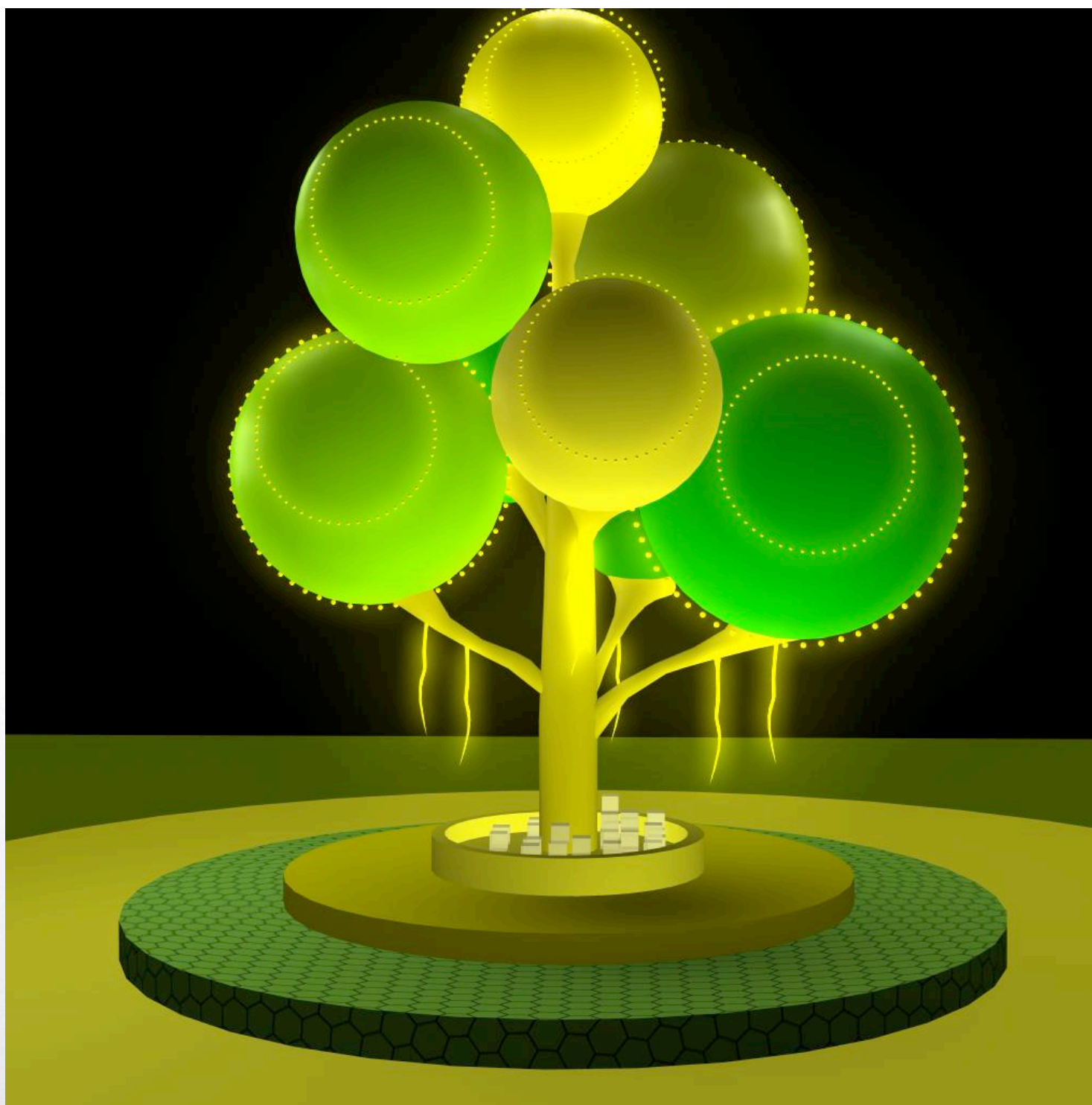
Activities: Pull & Listen

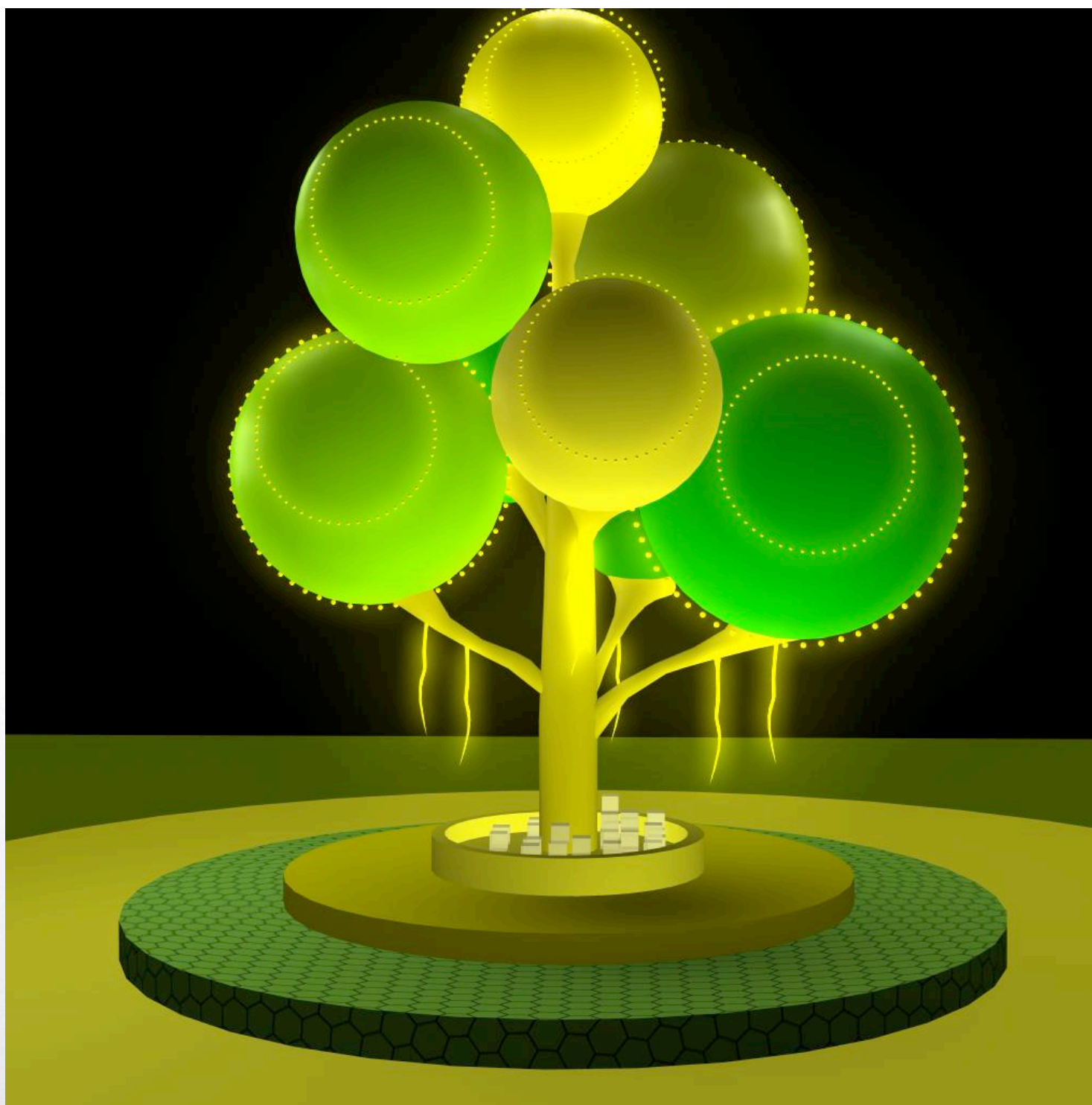














Scope

1. Nature park- nature trails
2. Children's Museum
3. Kit- for existing trees
4. Schools
5. Shopping mall- atrium



Acknowledgements

I would like to thank Prof. Ravi Poovaiah for utmost guidance, support and encouragement. I would also like to extend my thanks to Prof. Aniruddha Joshi for his valuable inputs during the Data Collection and User Studies. I would like to thank Prof. U.A. Atvankar, Prof. Sumant Rao and prof Raja Mohanty for valuable inputs.

I would also like to thank those small kids of IIT Campus School for their kind help and feedback.

Staff at IDC workshop and library.

My friends and my family

Thank you.



References

1. Behavior and Development from 5 to 12
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3. <http://www.arvindguptatoys.com>
4. <http://www.exploratorium.edu/seeing/ideas>
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22. How children learn and think, David wood.
23. Cognitive learning in children: theories and strategies, Joel Levin.