Liyo's Geo Safari

(Project- III)

Guide – Prof. Phani Tetali

Submitted by :-

Manisha Swarnkar

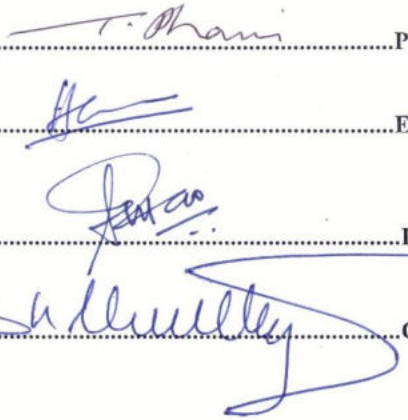
126340002

Animation (2012- 2014)

IDC ,IIT Bombay

Approval Sheet

The Animation Project 3 entitled " Geo Safari", by Manisha Swarnkar (Roll number, 126340002) is approved, in partial fulfilment of requirements of the Masters of Design degree in Animation in Industrial Design Centre of Indian Institute of Technology, Bombay.



.....Project Guide

.....External Examiner

.....Internal Examiner

.....Chair Person

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated any idea/ data/ fact/ source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Signature.....

Name of the Student.....Manisha Suvarnkar.....

Roll Number.....126340002.....

Date.....16-6-14.....

Place .....IIT BOMBAY.....

Content

Acknowledgements

I am grateful to my guide Prof. Phani Tetali to enlighten me with his vast experience and wise advises from time to time and always encouraging me to belief in my skills and go ahead with it. His valuable suggestions, inputs, technical feedbacks helped me to shape up my project in a right direction.

I am Thankful to Prof. Phani Tetali, Prof. Ravi poovaiah , Mrs Ajanta Sen for their guidance and providing me opportunity to contribute to COSMIC , by staying in Singapore for two months.

I am Thankful to Ms. Shilpa Ranade, Prof.Nina Sabnani , Prof. Sudesh Balan , Prof. Sumant Rao, Mr. C.P. Narayan for their valuable guidance and support.

My special Thanks to Ashwin Vasudevan , Ravi rao and Pritam Pebam ,Sangram Behera for their help and Immense support.

Last but not the least I want to thank Mr. B.K. Chakraborty and entire IDC Academics staff for their immeasurable contribution in making the project a success.

Abstract

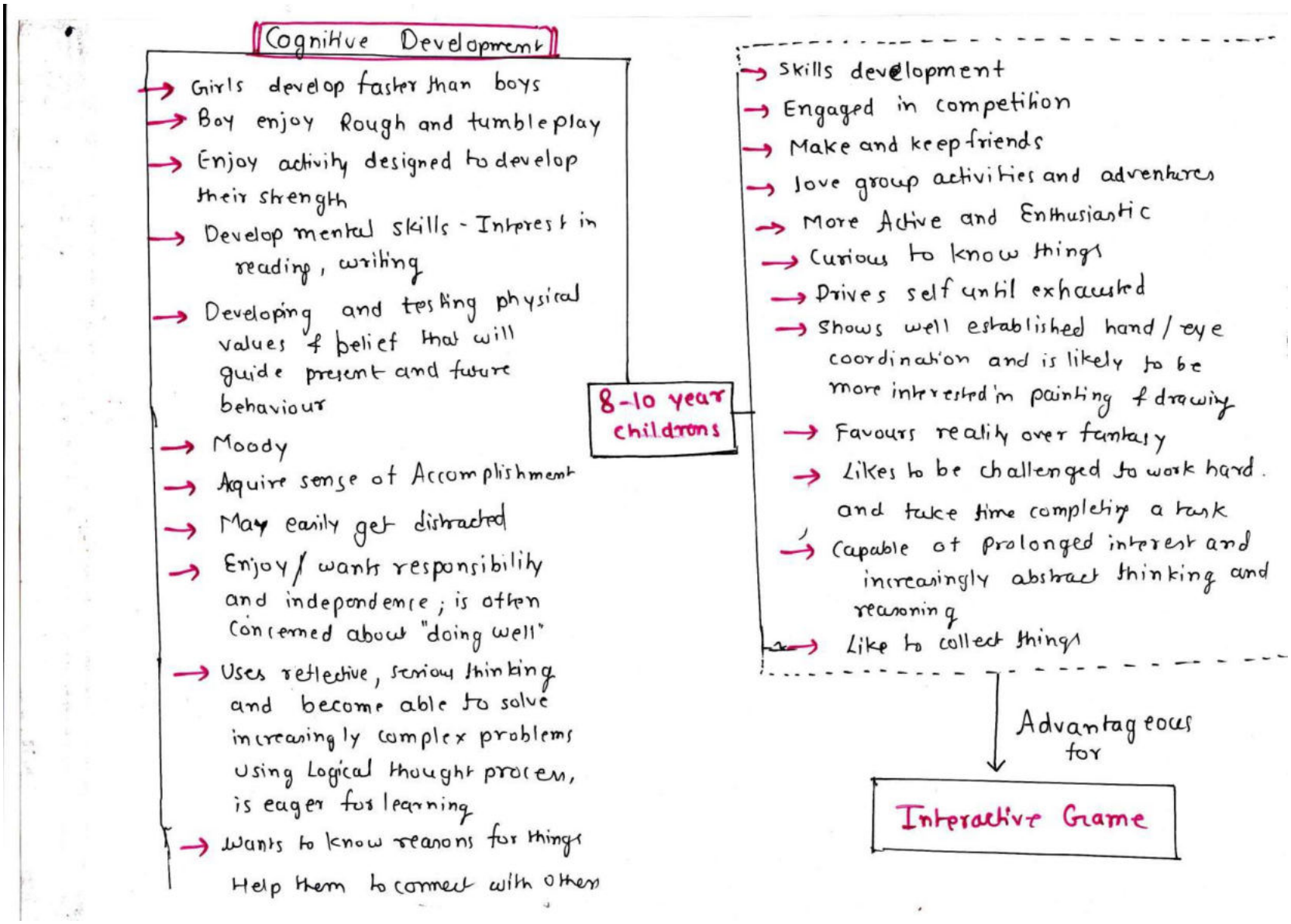
We all live on this planet but how much we actually know our planet, the continents, our own country , our own state ? Sometimes the knowledge of an old person about is as almost equal to the knowledge of kid .Most of us rarely know about Geography. Here is an approach to make people learn about our own planet by the game that will be made based on this movie.

Introduction

This Project is done under Centre of Social Media Innovations for Communities (COSMIC) . It was sponsored .
The aim was to build a Game based on the story using Hand gesture. Including the Game play, Game Design, the character, the animations, props, sets and UI . The interactive part will be done by the programmer.

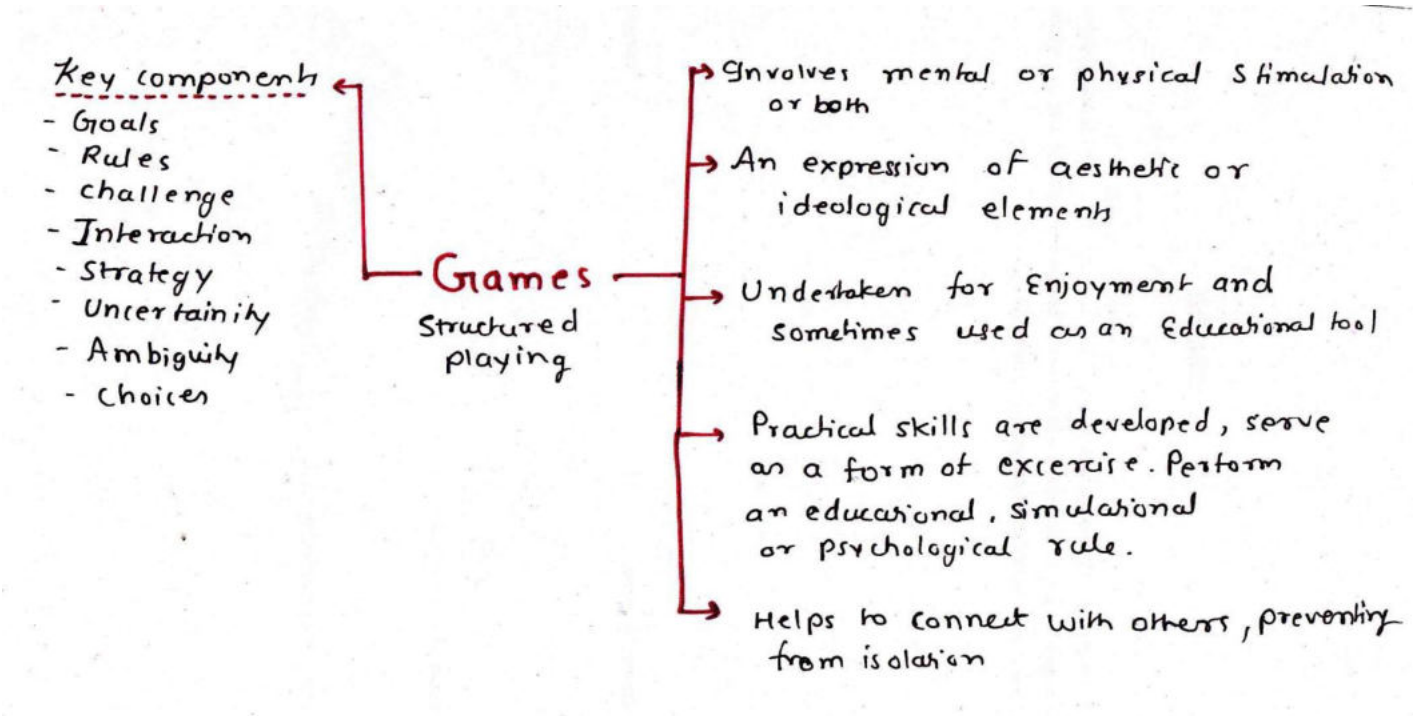
Since an alien will be knowing the least about our planet, so the movie is about an alien who come all the way from his planet to earth in search of his grandfather ,who was lost in the planet earth while he had gone to research about earth. The alien starts knowing about Geography from the scratch which helps the player to learn accordingly. The learning grows as the level of the game increases.

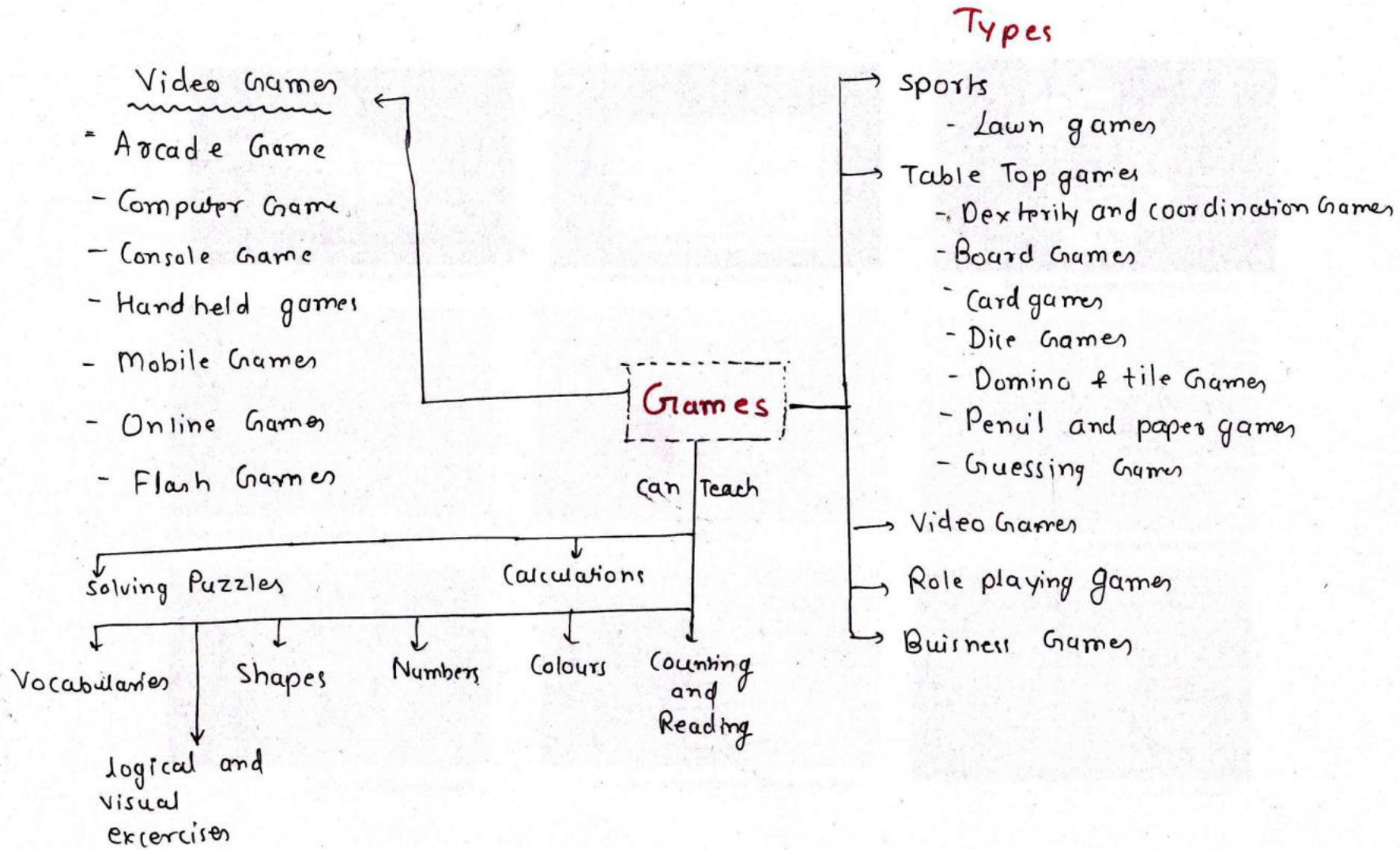
Research


Cognitive Development
Girls develop faster than boys
Boy enjoy Rough and tumble play
Enjoy activity designed to develop their strength
Develop mental skills - Interest in reading, writing
Developing and testing physical values & belief that will guide present and future behaviour
Moody
Acquire sense of Accomplishment
May easily get distracted
Enjoy / wants responsibility and independence; is often concerned about "doing well"
Uses reflective, serious thinking and become able to solve increasingly complex problems using Logical thought process, is eager for learning
Wants to know reasons for things
Help them to connect with others
8-10 year childrens
Skills development
Engaged in competition
Make and keep friends
love group activities and adventures
More Active and Enthusiastic
Curious to know things
Drives self until exhausted
Shows well established hand / eye coordination and is likely to be more interested in painting & drawing
Favours reality over fantasy
Likes to be challenged to work hard and take time completing a task
Capable of prolonged interest and increasingly abstract thinking and reasoning
Like to collect things
Advantageous for
Interactive Game

Games –

- Fulfil a range of needs ,desires pleasures and uses.
- A way to understand aesthetics,communication,culture.
- Games are how a child learns about rule.
- An interactive storytelling medium.
- Wonderful part of human existence.
- Also attempt to represent reality.




Types
Video Games
- Arcade Game
- Computer Game
- Console Game
- Hand held games
- Mobile Games
- Online Games
- Flash Games
Games
Sports
- Lawn games
Table Top games
- Dexterity and coordination Games
- Board Games
- Card games
- Dice Games
- Domino & tile Games
- Pencil and paper games
- Guessing Games
Video Games
Role playing Games
Buisness Games
can Teach
Solving Puzzles
Calculations
Vocabularies
Shapes
Numbers
Colours
Counting and Reading
logical and visual exercises

Prof. Athvankar's Module – "Game Design"

Aiming to build an interactive game using Hand Gestures, I first tried to understand the field of Game Design by joining Prof. Athvankar's Module - "Game design" . Since either be it a Board Game,a Digital game, Sport game, all have some fundamental rules, a strategy involved. I learned the basics of Game play and its development . Analysed the basic board play games , such a Ludo , chess, snakes and Ladder and then the game play, Strategies, concept complexity in internal structures ,player experiences.
Recollecting the games which we played in our childhood days , I along with my group were supposed to design an outdoor Game for children beyond 5 years ,so we came up with a game "Alphamatic" which is based on creating words using alphabets along with the Mathematics involved to gain points. The game was successful to an extent,further game development is going on by allowing the players to play it again and agai

‘

Learning from Prof. Athvankar's Module - "Game design"

Game

Includes

- Uncertainity
- Strategy
- Operator
- possibility to play in different level.
- Ways to reach - easy, difficult
- Luck, skill, chance, Penalties
- Learning.
- Fun

Should have following

clear winner

1st player's Action/move affects the next player

1st player challenges the next player with his strategies

Successful game - playing it again and again

Development of strategies

Individual style

Allows equal chance of winning

Fair game

Unpredictability is reward.

Point to be noted.

→ Hardware has a limited role, Rules, strategies matter most

→ Designer only creates' world and conditions' players react to it.

Why Digital games?

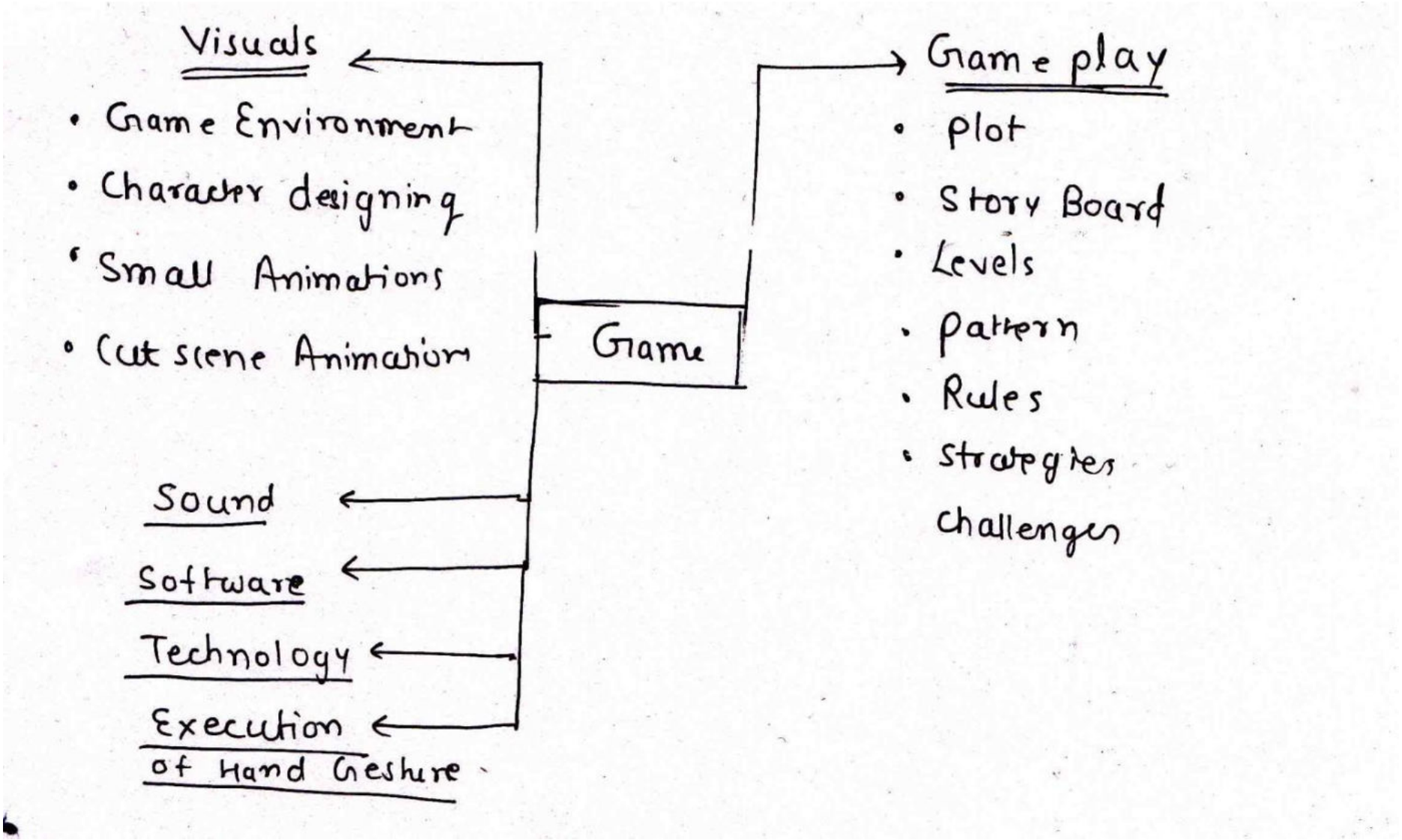
- Children are highly attracted towards Digital Gadgets and spend most of the time in front of Television, Computer, Mobiles etc. Especially those who have working parents.
- Technology plays a very significant role in Educating young children
- Children at this stage, without much formal instructions, acquire good media literacy functional skills .
- Curious to explore and experiment.
- Young children need a variety of physical and social experiences for healthy development
- Can be a wonderful storyteller and can teach them about their culture,their feelings,their place in the world.
- Can stimulate a child's imagination and open up the infinite opportunities that life presents.
- Young brain has capacity to learn through reinforcement and repetition and forging of new connnections.
- Can prove to be a good development tool and learning along with the physical exercise.
- Roles which are not possible to play in real world can be played in digital world through games and take them to places out of their imagination
- Can help recognising problems, solutions which can prove to be good in overcoming hardships and worries.
- Being a visual medium,brain can easily grasp the knowledge with great interest.
- Enchance Children’s performance in imagination,social skills through active engagement resulting in potential teaching.
- Children seek information and piece together data from many places
- Become good and quick in decision making with clear consequences
- Become expert at multitasking

Cognitive skills of childrens at 8-10 years

- See order of relationships
- Attend and concentrate
- Associate words and symbols with objects
- Percieve and discriminate
- Identify similarity & difference
- Classify objects
- see order or relationships
- develop concepts - space, size, shape
- explore and be curious
- manipulate
- Use creative imagination

Games can Teach

- Cause and effect Relationship
- long term winning versus short term gains
- creating order from seeming chaos
- second order consequences
- complex system behaviours
- counter-intuitive results
- Using obstacles as motivation
- The value of persistance


Visuals
• Game Environment
• Character designing
• Small Animations
• Cut scene Animation
Game
Game play
• plot
• Story Board
• Levels
• Pattern
• Rules
• Strategies
Challenges
Sound
Software
Technology
Execution
of Hand Gesture

Areas of Knowledge –

- Mathematics
- Cognitive science
- Semiotics
- Cultural studies
- Social Science

We look at the game as context for:

- Social interaction
- Storytelling system
- Sites of cultural resistance

Primary Schemas

1) **Rule** – (The organisation of the Designed system) Focus on Essential , Logical and Mathematical structure of game.

2) **Play** – (The human experience of that system) Contains Experiential , social and representational Game design schemas that foreground the player's participation with the game an other players.

3) **Culture** – (The Larger contexts engaged with and inhabited by the system) Contains contextual game design schemas.

.
My inclination is towards **Educational Games**, so primary research is done on the Existing Games –
1) Related to Astronomy ,Space , Universe

- Star wars
- The Space Chimps
- Alien Syndrome
- Alien Bash
- Wall-E
- Dead space

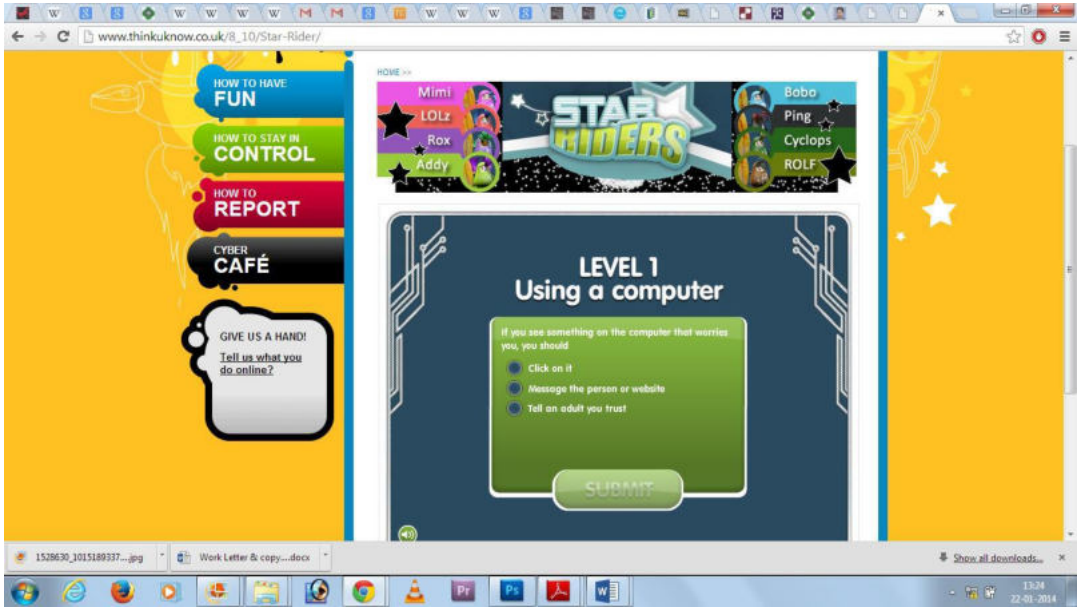
During my research I went through an **Interesting game** site - http://resources.oswego.org/games/ where lots of Educational and effective games are present and also we can create our own games .It has Game to Practice of Degree of an Angle,Arithmatic (subtraction , addition, Multiplication, calculation) ,Time and much more.
Also there were questions related to game

http://answers.yahoo.com/question/index?qid=20071111050407AAPSyMF

3rd-4th grade class. I have 12 students and need a game for tomorrow for them. Im thinking a "Jeopardy" type game, does any one else have any good suggestions?
Ans- write down the main things I wanted the kids to take from the class. For instance, it might be important to you that the know the names of the planets. That they know about the reclassification of Pluto. You might want them to be able to which planets are gas giants, etc. I would first make a list of all of those sorts of facts I wanted them really "get". Then I would make the cards of the "answers" to which the kids would reply with their "questions". For instance one card might say something like, "It is the Planet that shares a name with a toxic metal." To which the kid would be expected to answer, "What is Mercury?" If you want to use consetllations that game that show part of a picture (concentration) might work.

Online Tested games, Experience, Learning

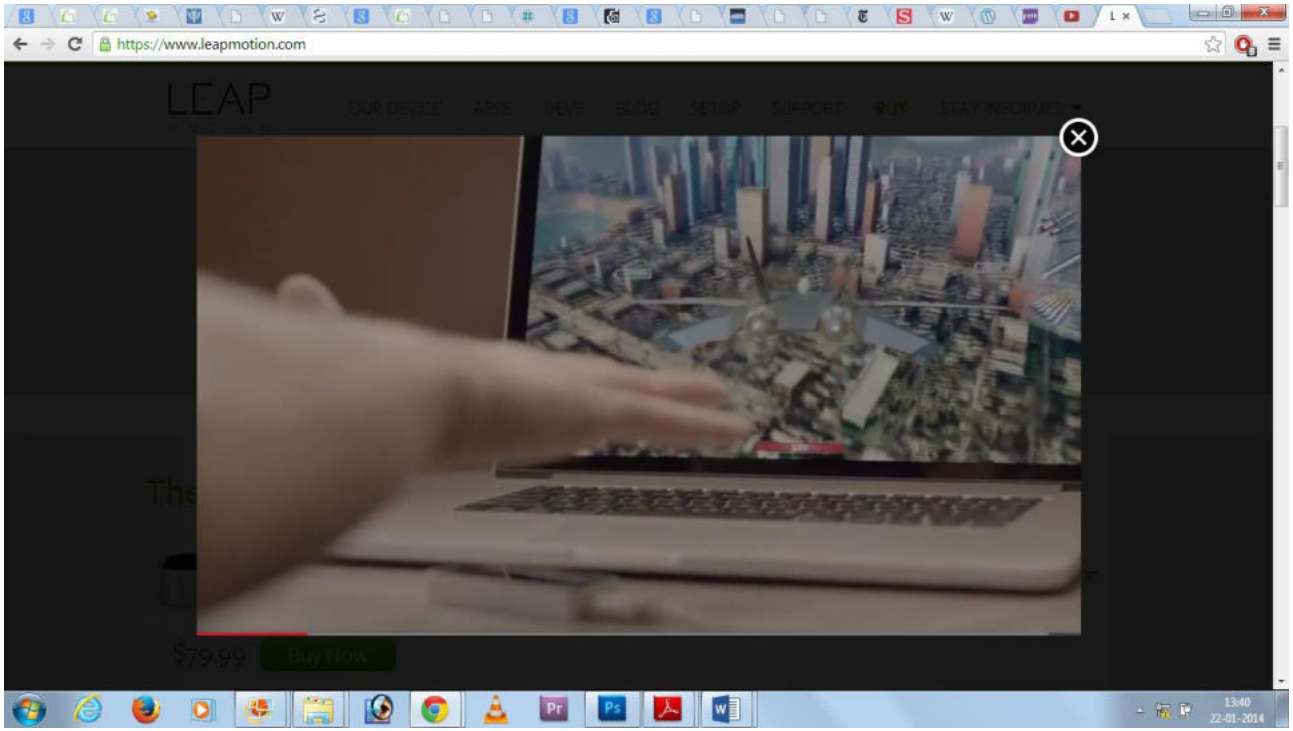
Star Riders – (A game to teach good/bad things while using Internet)
In it first the player can chose a gender and then choose his/her favourite character and then they go through a series of Questioners related to use of internet mainly,through which they teach not to trust on anybody whom you don't know or to remain away from phishing. Or cyber crime through which the player gets additional points and later if the answer is wrong a text appears telling them the correct answer .



Perspective- http://games.digipen.edu/downloads/perspective_setup?id=1170&proj=25930#.Ut4SO8S6aIU –
We can move the player through 2D space by changing perspective in 3D space .The player can also zoom in and out to scale the size of surroundings to keep progressing in the game and reach the destination

Technology and Interaction using Hand gesture –
www.mgestyk.com

https://www.leapmotion.com/



http://www.bbc.co.uk/news/technology-19884218
http://www.pointgrab.com/274/hand-gesture-pc-control/

Advantages

- Player's concentration, involvement to much extent gives pleasure
- Reality feeling
- The way we control computer is not just boring press action.IT becomes much richness and more accord with our behaviour
- we don't need to touch machine, so it is not easy to destroy machine.
- Comparing to keyboard, gesture-based interaction is more advanced
- Kind of Exercise

Disadvantages

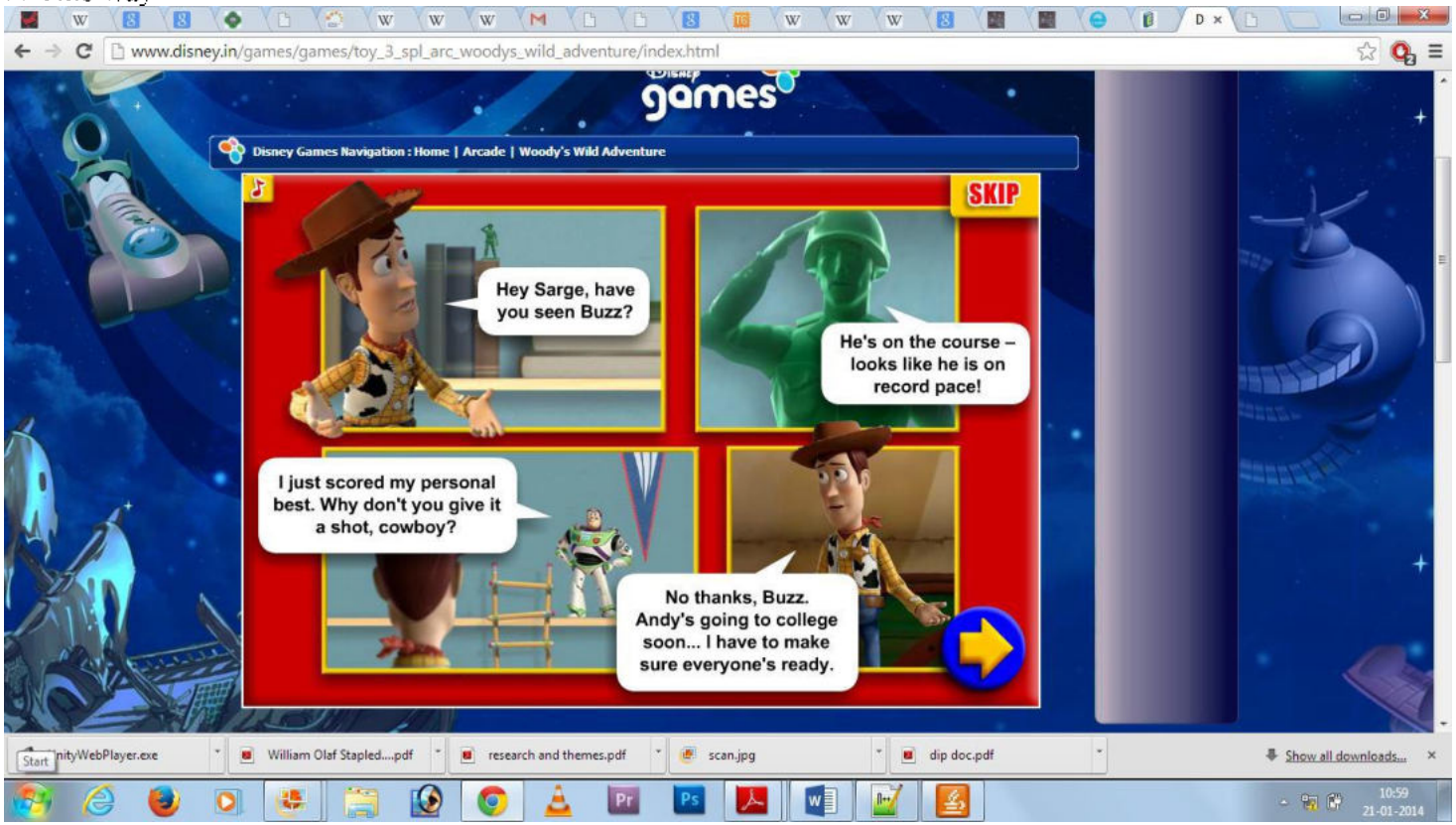
- Person with Disability cannot play properly
- Become Tiring
- Precision and Accuracy is a bit lacking

How to make a game interesting :

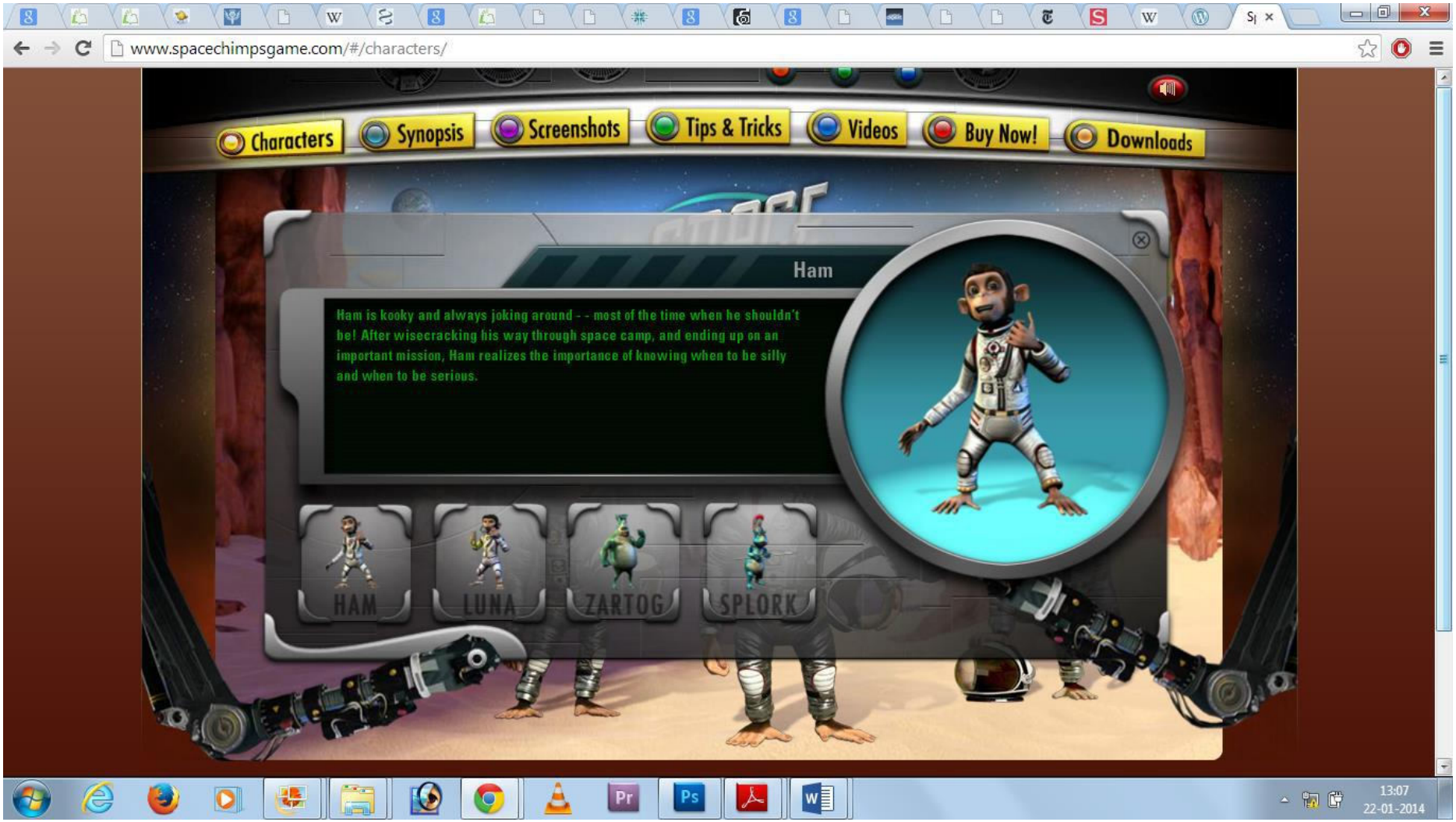
1) By including a story in it,

Ways of Storytelling –
| | Either by introducing Cut scene Animations

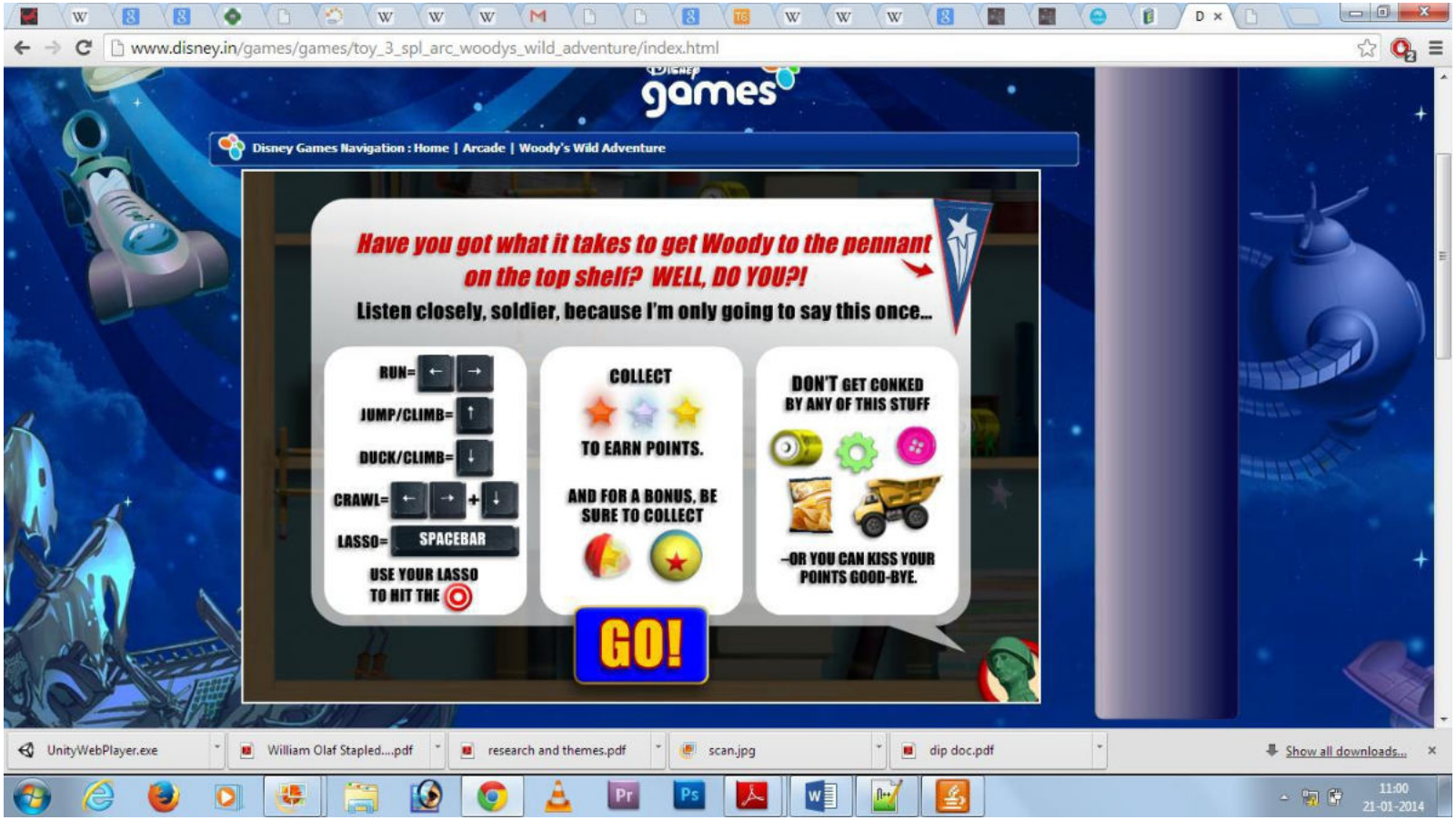
Or
| | This way



2) By including Different characters in it with a back story (May include different powers)

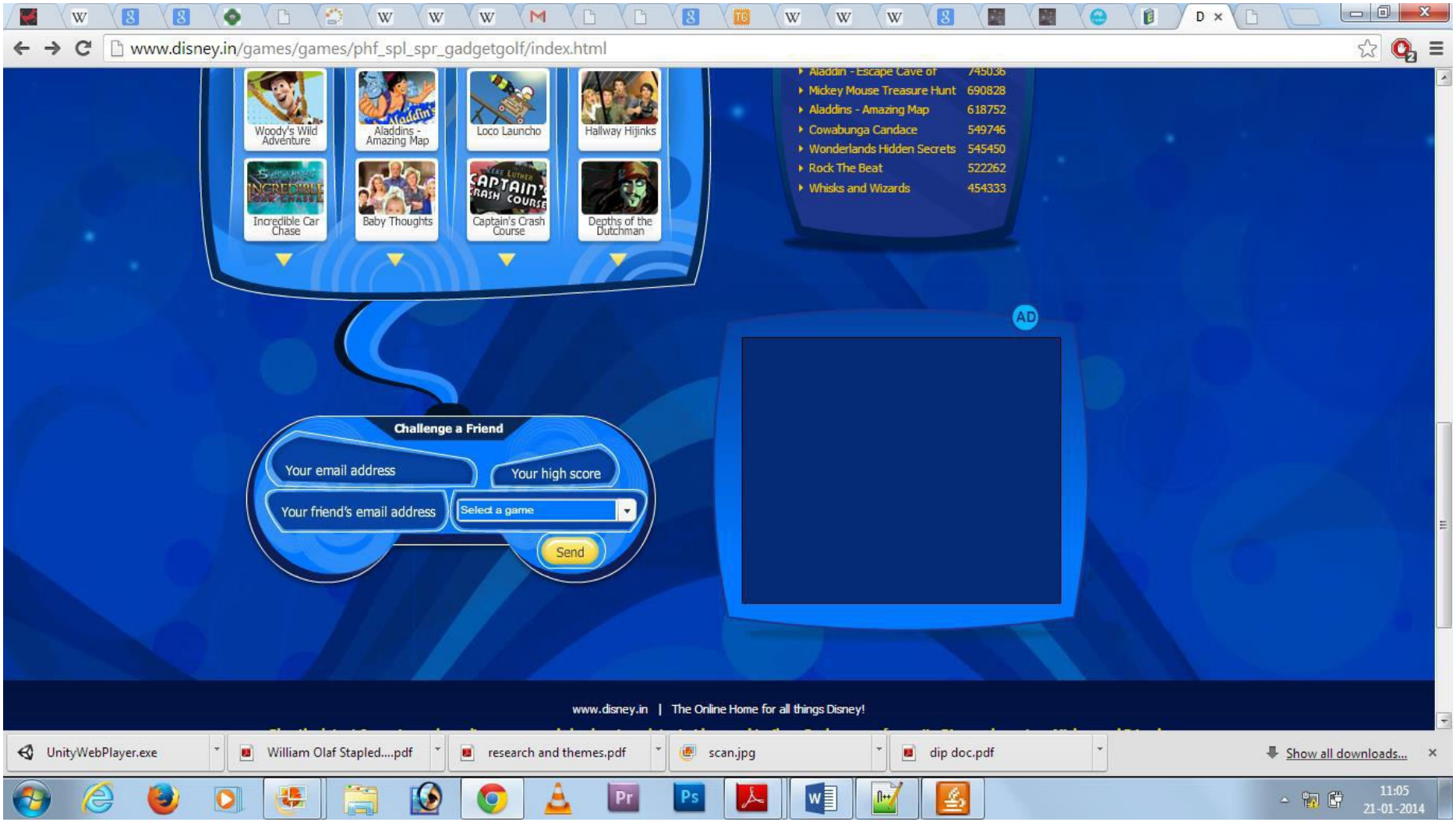


3) Including score points
4) Different Levels
5) Visuals
6) Giving Hints for playing the game,short cuts and also the way to play

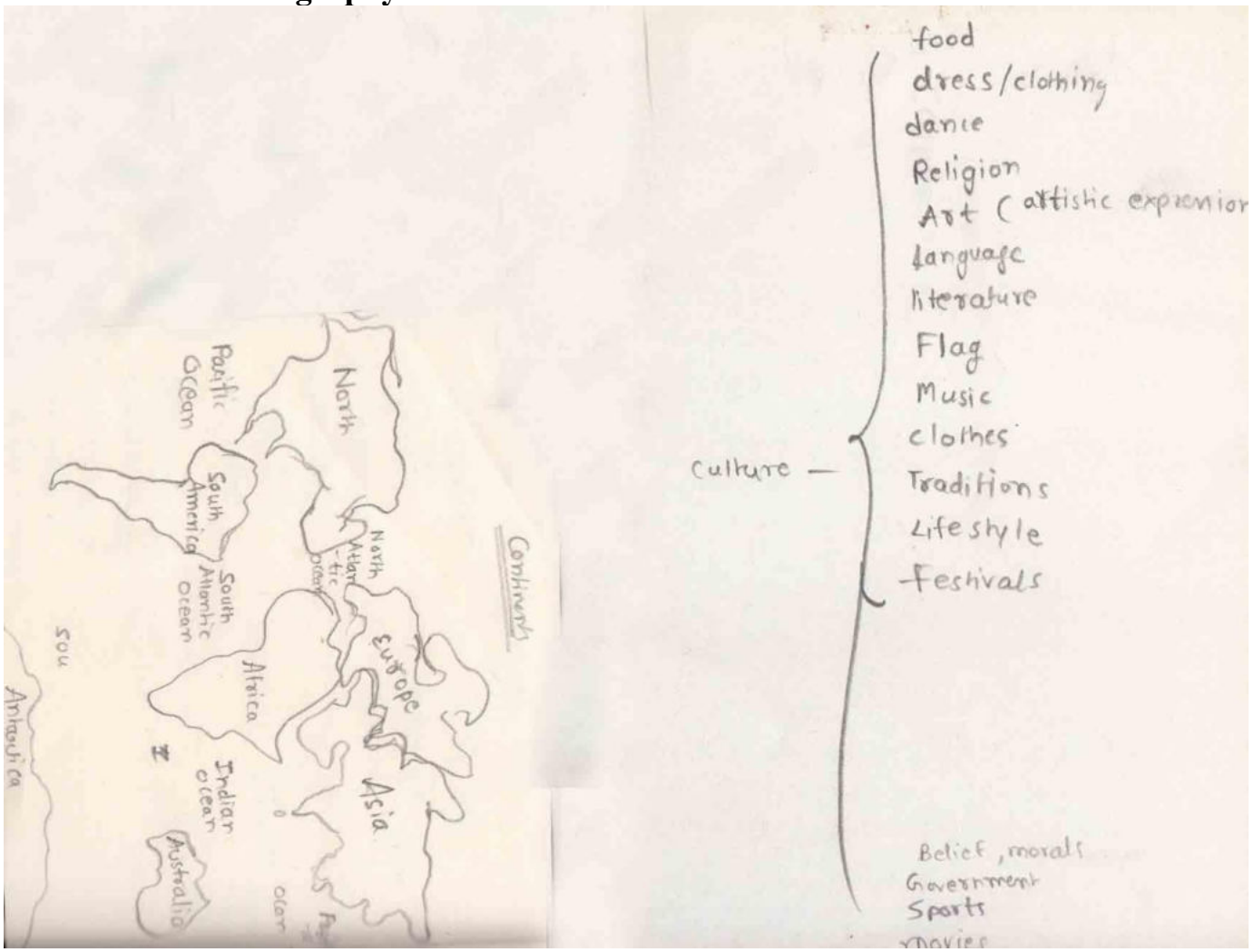


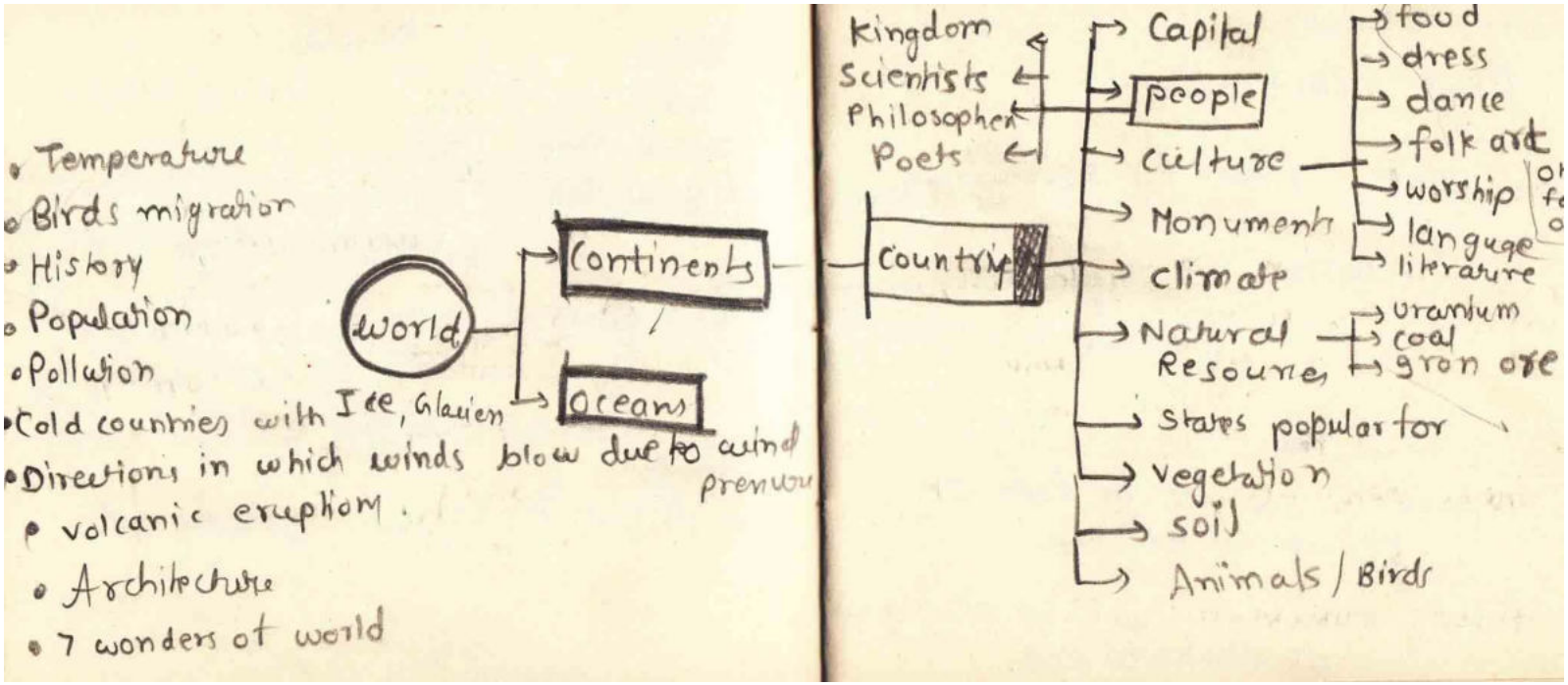
Geography

7) Interacting with another player, Challenging them



Research about Geography




Temperature
Birds migration
History
Population
Pollution
Cold countries with Ice, Glacier
Directions in which winds blow due to wind pressure
volcanic eruption
Architecture
7 wonders of world
World
Continents
Oceans
Country
Kingdom
Scientists
Philosopher
Poets
Capital
people
culture
Monuments
climate
Natural Resources
Stars popular for
Vegetation
soil
Animals / Birds
food
dress
dance
folk art
worship
language
literature
uranium
coal
iron ore

Initial Few existing games –

http://www.sheppardsoftware.com/Geography.htm :

Includes pointers to locate the Names of places which flashes one by one.

Include hints

Side bar Displays some general knowledge about that place

Game is divided into small small units (continents/country/states),to make learning about specific place according to which content varies.

http://www.geosense.net/ :

Name of a country flashes and required to locate it correctly in a certain duration on the world map there by scoring points

Several similar game exists with similar game play.

Concept -

Initial concepts :

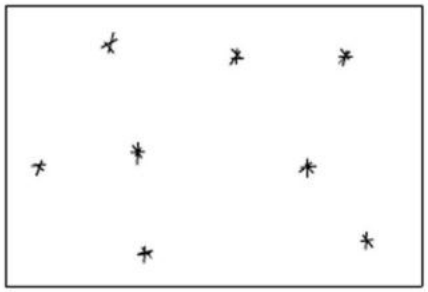
To design a game more related to Physics (and Chemistry involved to some extent) . In which the activities will be performed through Hand gestures.

Concept-1 :
It will be related to Astronomy. I will be setting different levels to it.
Plot- The player will be running around using spaceship in different planets, fighting the aliens, to reach to a planet in which something precious, either be a person or some material is present.
Drawback - As suggested by professors in the jury , I was trying to bring cultural aspect by inserting Indian Mythological stories in game.
But while researching about the Indian constellation stories, I realised that it is vast and need a lot of time to come up with a Concept which is effective for game

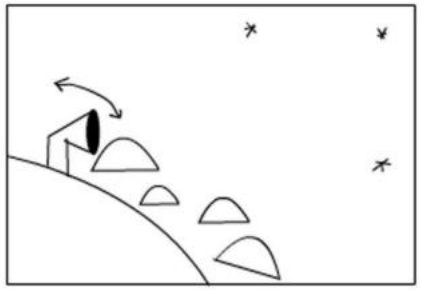
Concept-2 :
The content will be more confined to the syllabus which is taught from 4th to 6th standard children. It will be based on the level of science in ‘General science’ textbook.
Players with different powers(Electricity, Magnetism etc) will keep moving gaining powers through chemical compounds (Also there will be hurdles by inserting some poisonous compounds or exploding compounds,or freezing compounds) in order to search Scientists to recieve objects from them (Cut scenes will be involved to give intro about the the scientists that what they have done, may include few equations) and some task will be given to help the scientist or to help themselves to come with an output. To build an electric circuit to open a door or a lever pulley system with magnets in order to save something from falling down in a well.
Game will be having initial story to tell about the game to the player.At every step whenever introduction to a scientist, or compound is required there will be animation

Final concept – Geography based game

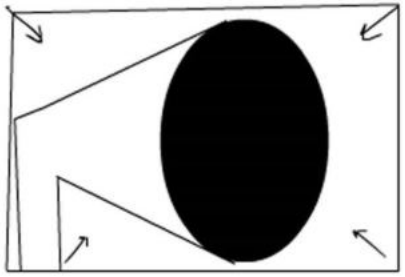
Storyboard



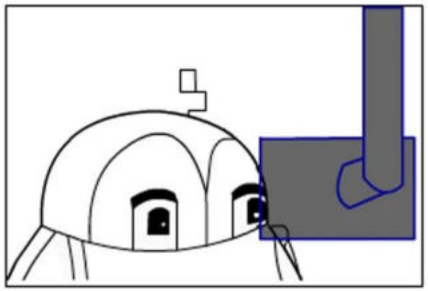
1) The scene opens with bright stars in the blue sky.



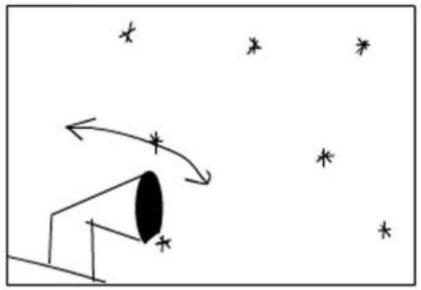
2) Camera Pans to group of spaceships like structure among one of which a persicope is mount



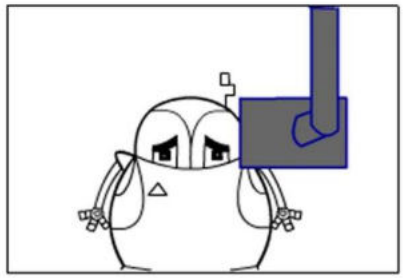
3) The periscope lens zoom out



4) The main character "liyo" is visible looking through the periscope from inside



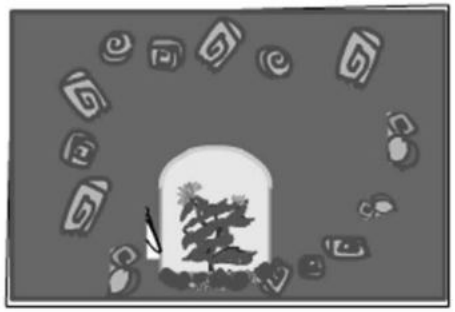
cut to the periscope again (turning one side to again ,searching something among stars)



Liyo becomes sad

7) cut to - Liyo watching a plant

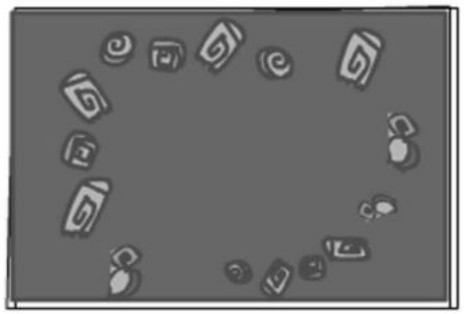
8) camera zooms to plant the



9) Flash back to liyo's memory

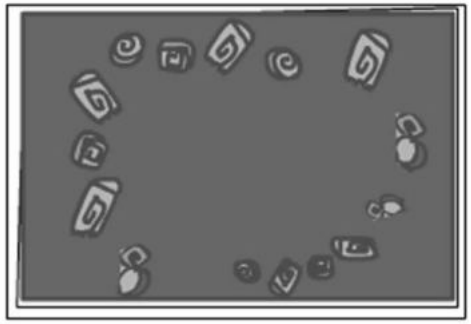
10) Liyo's Grandfather. Mr. Licosav is watering the plant

11) Liyo plays around with his grandfather,laughing,enjoying



12) Dips to black

13) Mr. Licosav give a plant to liyo and ask him to protect it always



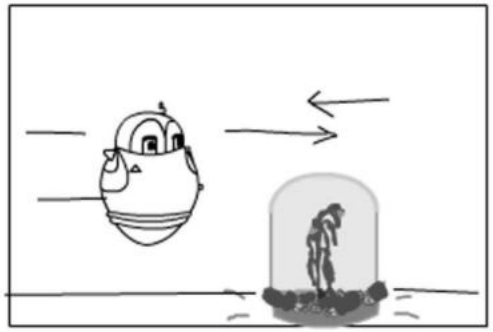
14) background sound, liyo singing)“Granny granny where are you

15) Dont you miss me the way i miss you “

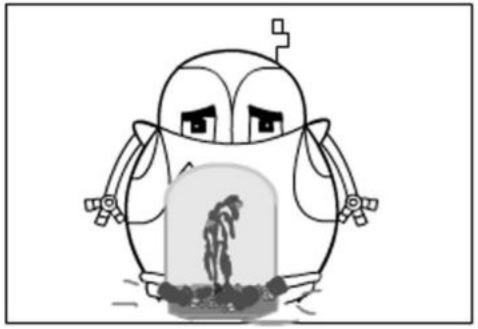
16) “Dont you miss me the way i miss you ”

17) Liyo was busy gazing stars ,but suddenly beep sound comes

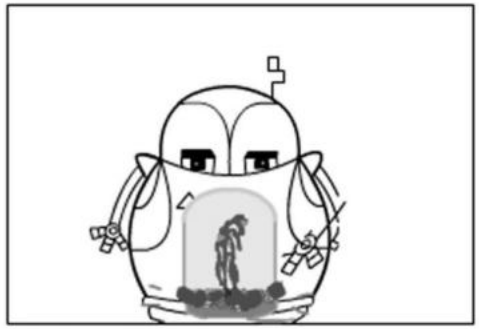
18) Cuts to - the withered plant



19) Liyo rushes here and there wondering what to do to bring back the plant in healthy situation (the beep continues)



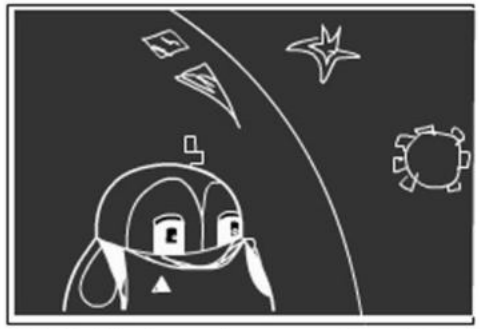
20) Liyo waters the plant but nothing happens , so he becomes sad



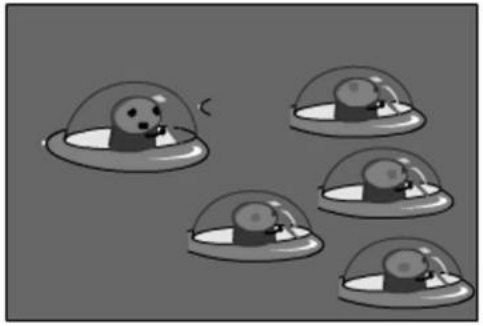
21) Liyo lifts the plant up and says "Its time to go ! "

22) Liyo begans his journey towards the earth

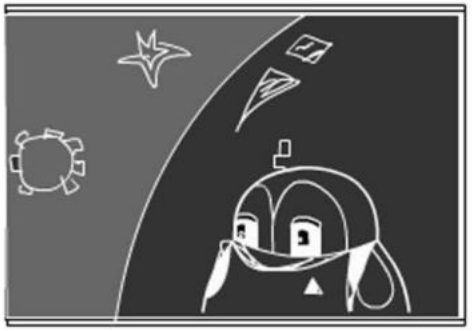
23) He was amazed to see the outer universe



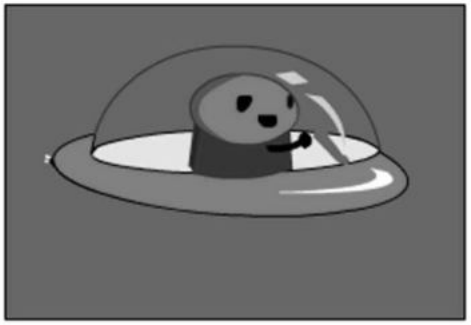
24) Suddenly a voice comes from behind "Stop"



25) A group of small creatures appear, who call them self “Loobies” , the care taker of universe.



26) On being asked by looby, liyo told that he is going to earth to search his grandpa on basis of a 150 million years ago map

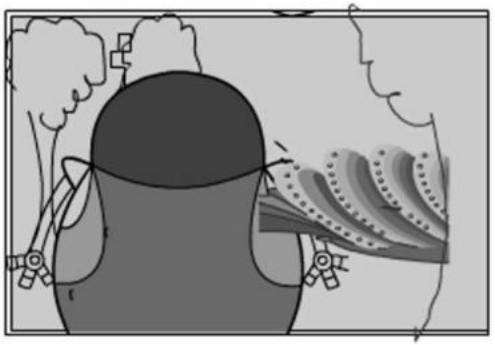


27) Loobi told him that that the earth has changed alot and to enter the earth he need to go through some tasks to enter the earth and meet his grandpa .

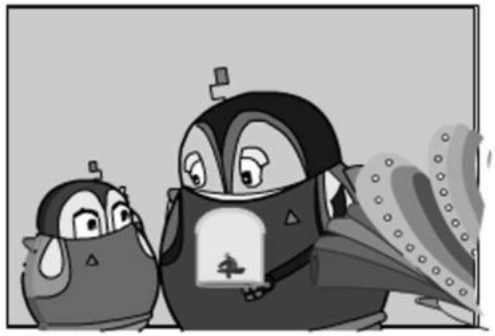
28) The player will play the game

29) After winning liyo proceed towards earth

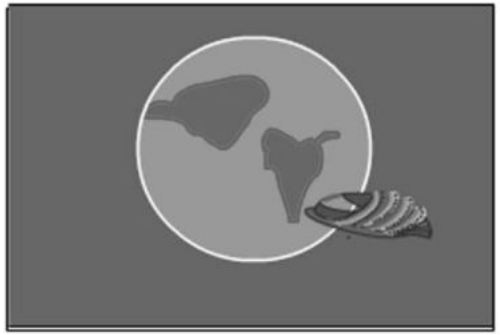
30) Liyo enters the earth



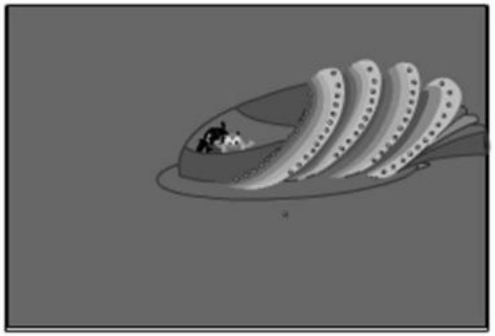
31) Through thte signals liyo finds his grand father



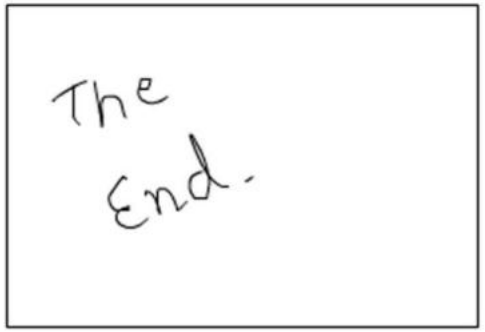
32) Liyo meets his grandfather and they dig the soil and put the plant there to let it grow



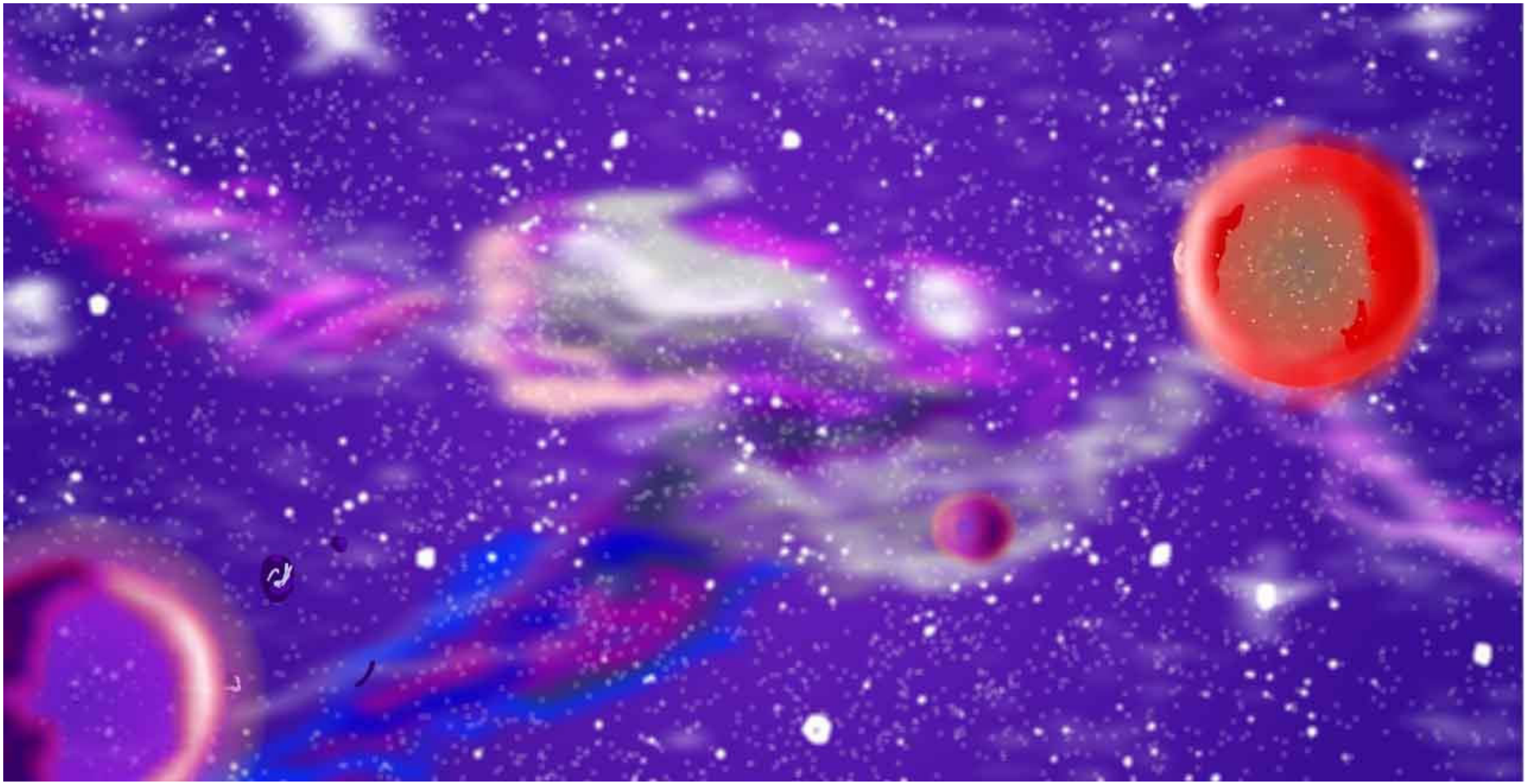
33) They leave earth to return to their own planet

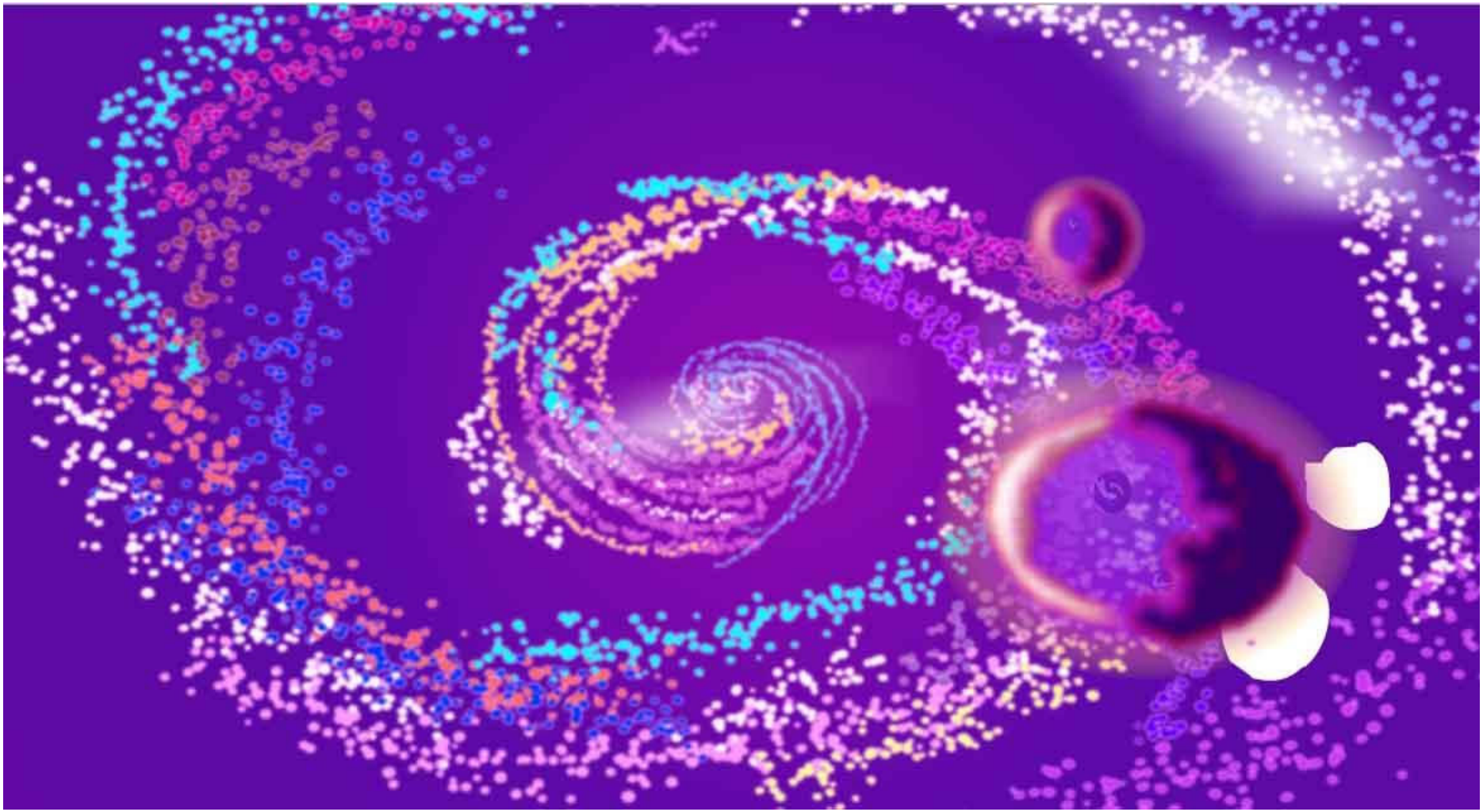


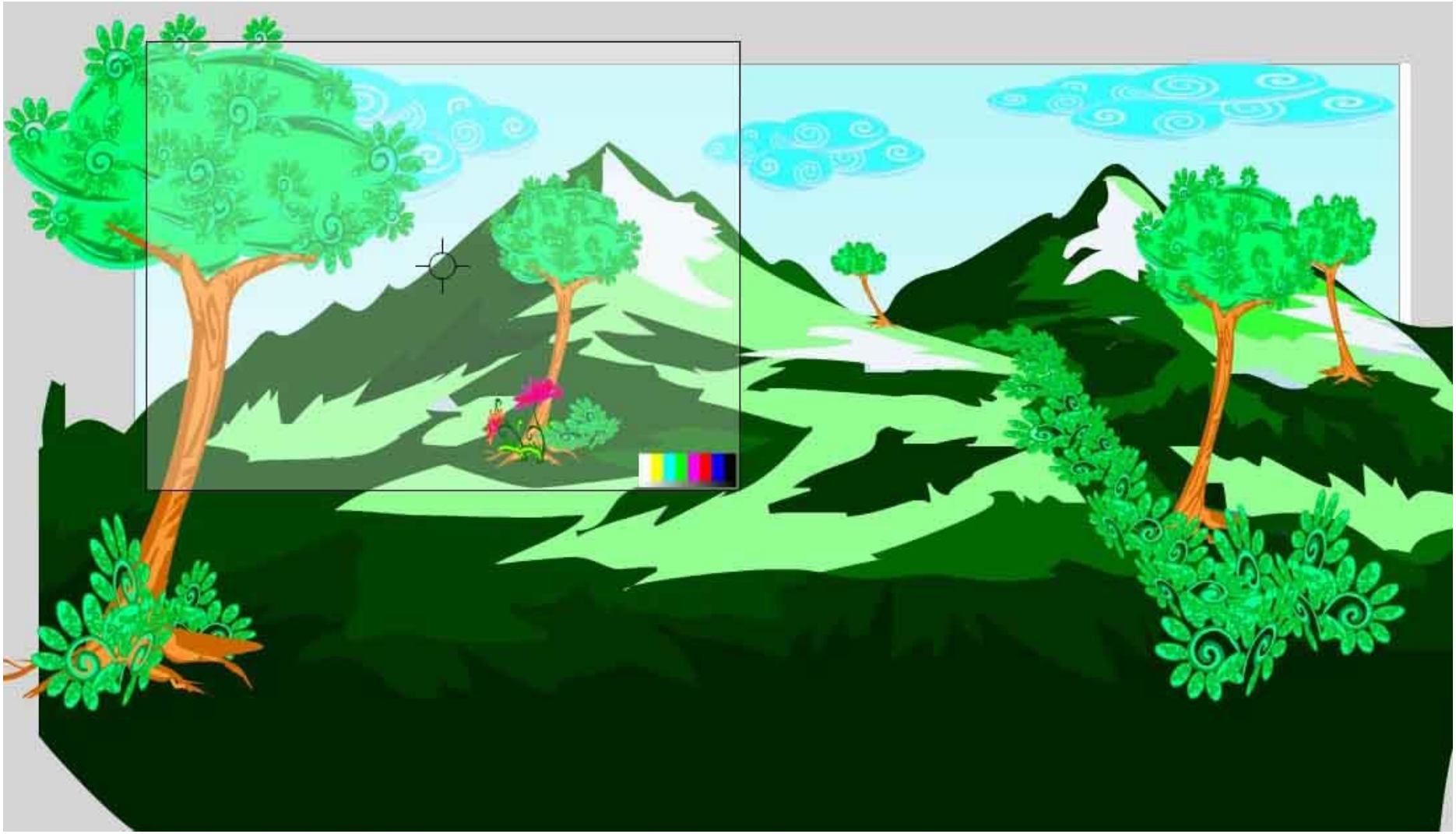
34) Liyo and his grand father say bye to the loobies

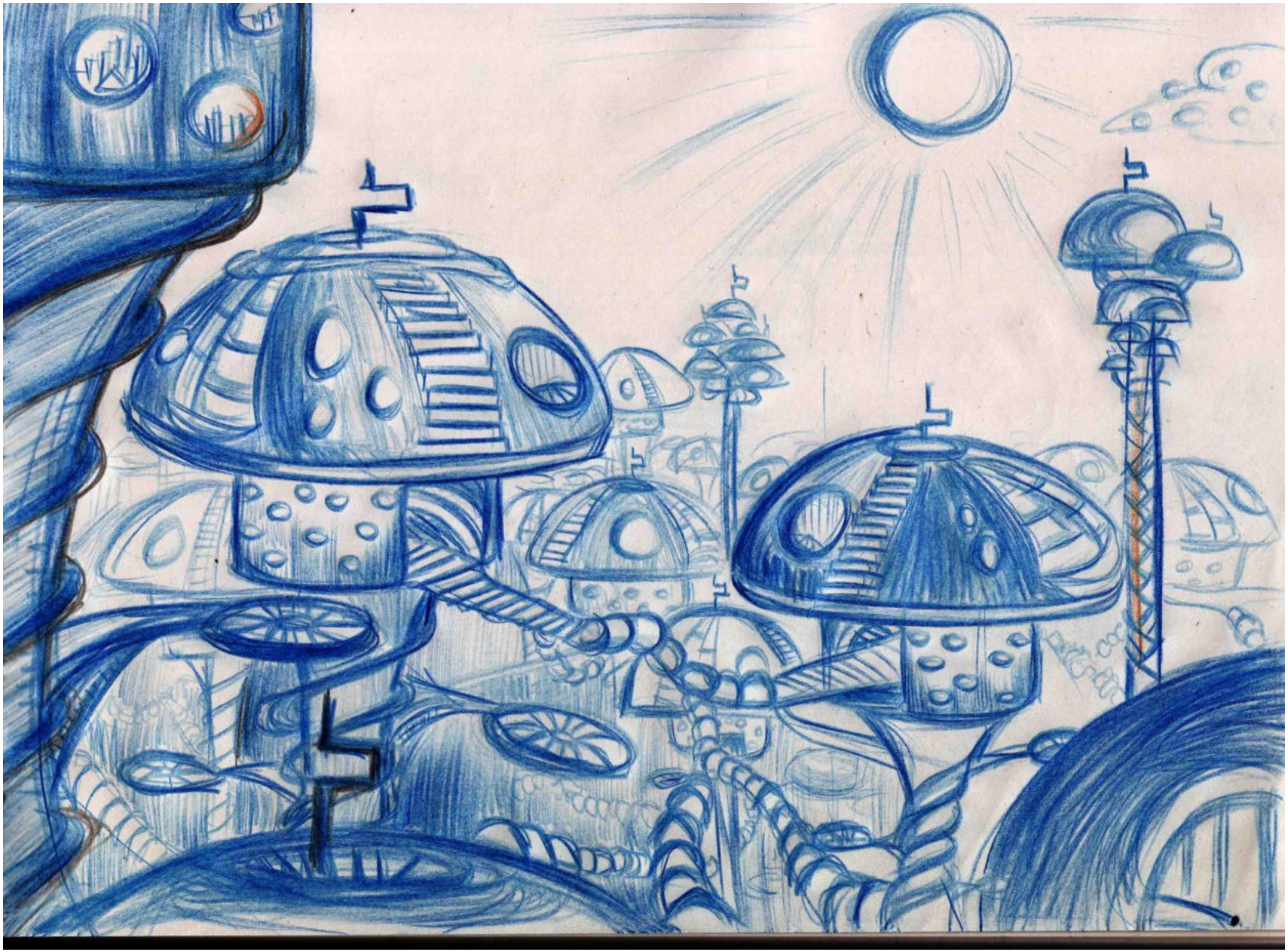


Visual style ,Exploration and sketches

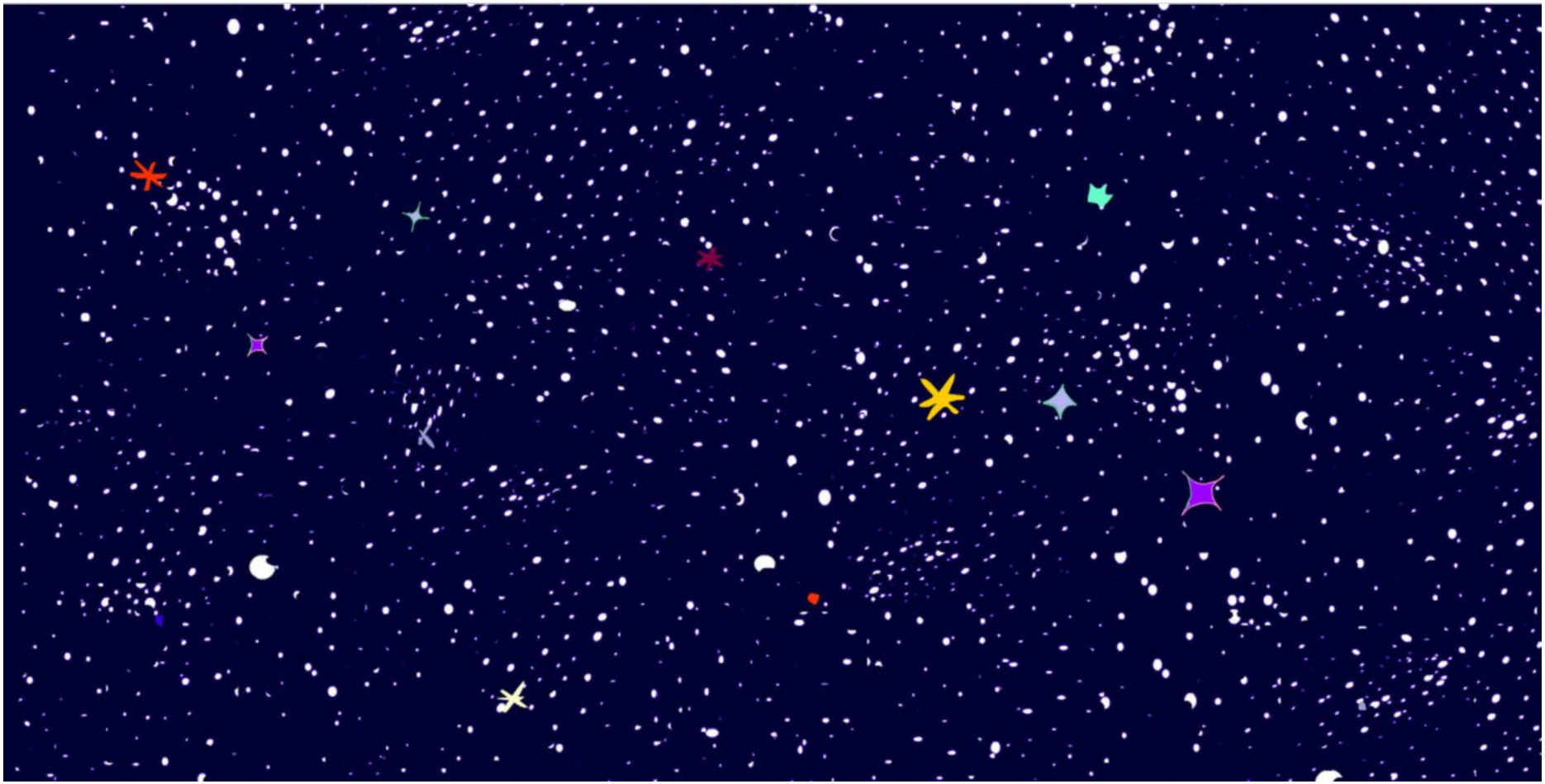




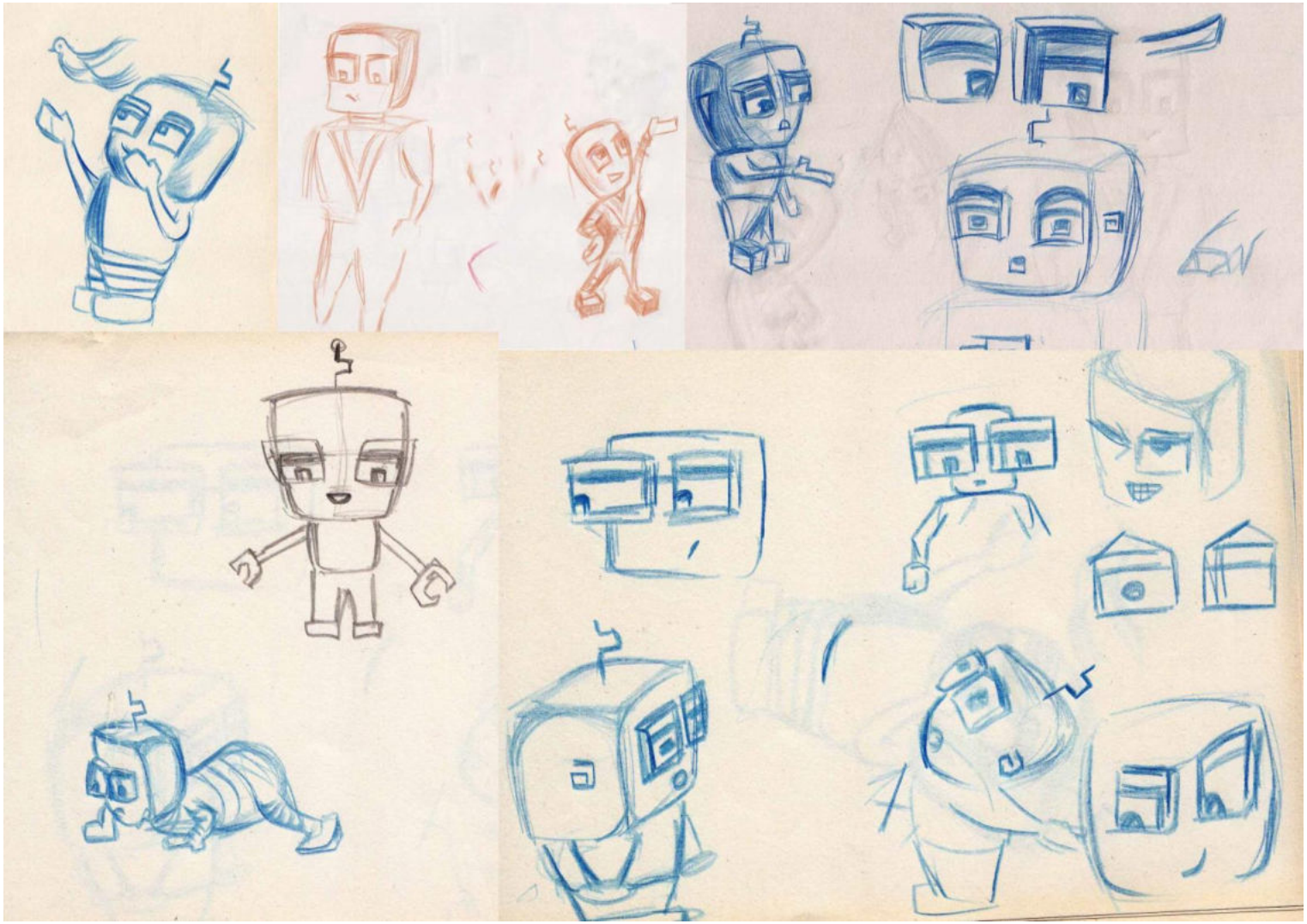


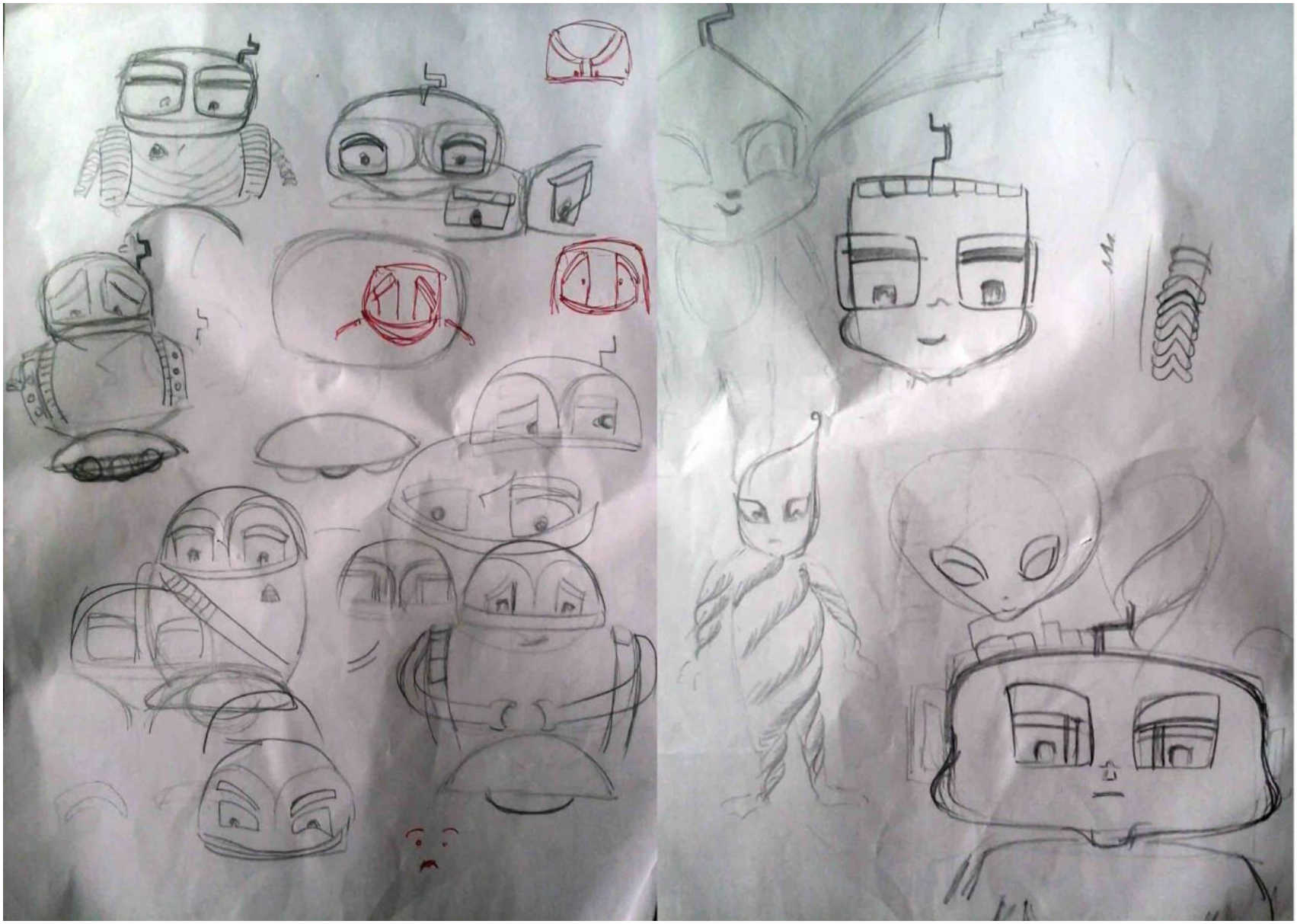


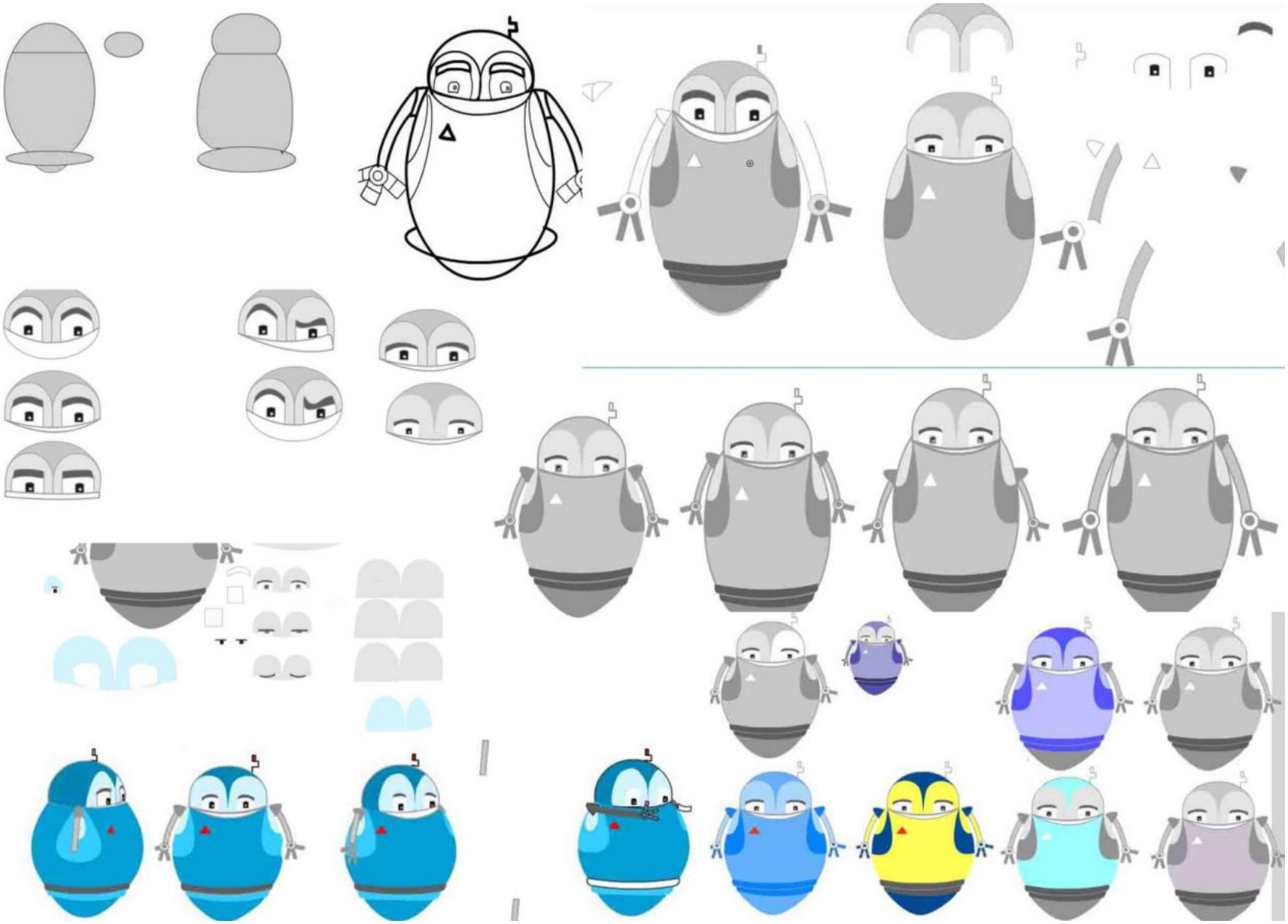
Final look and feel

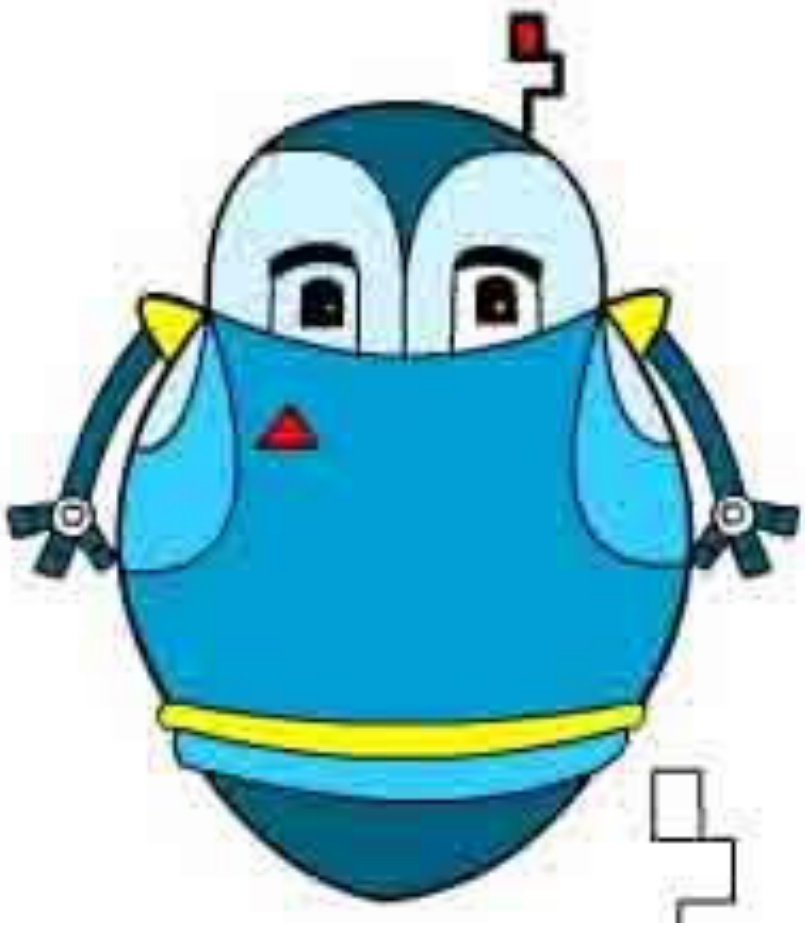


Chatacter Exploration and development.

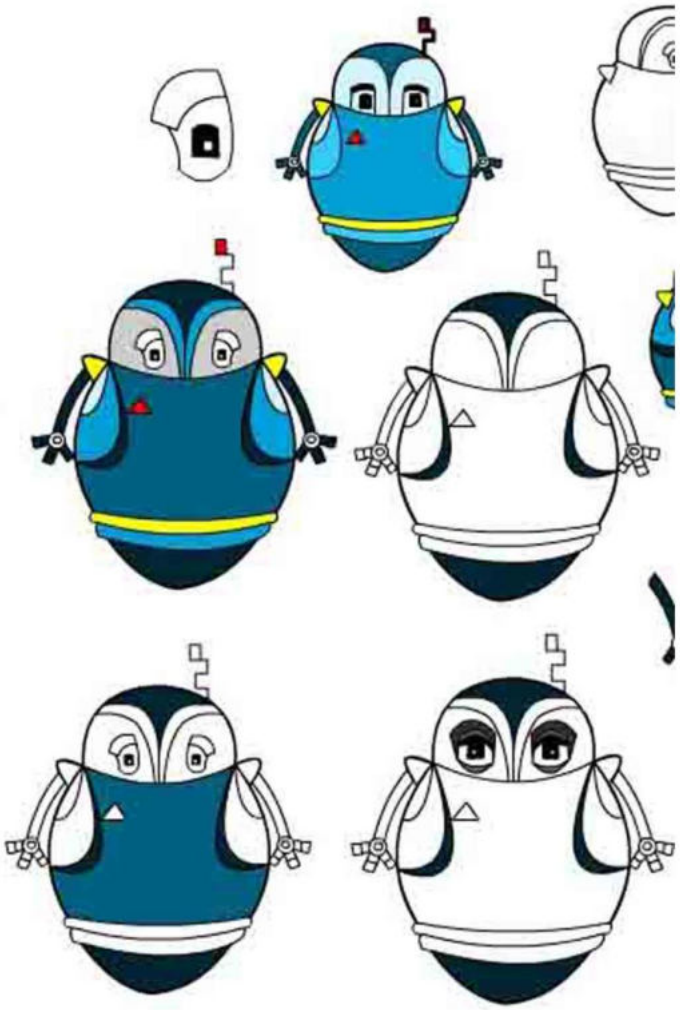


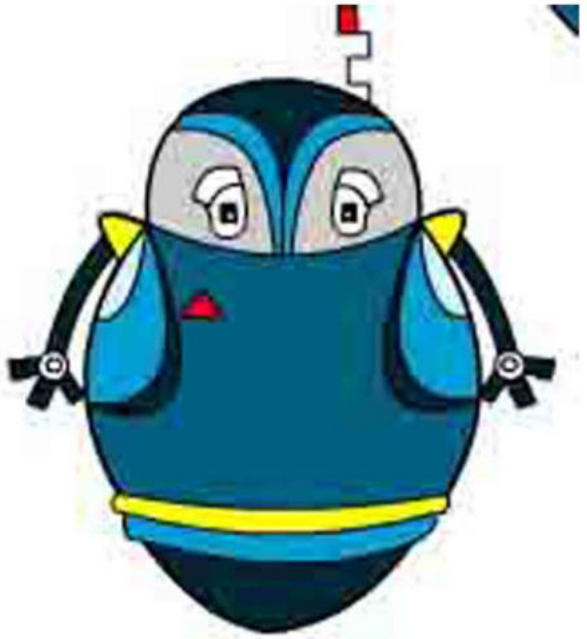




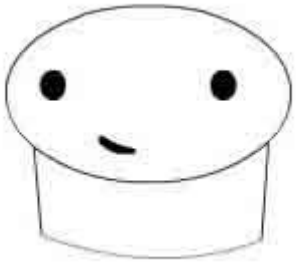


Final character - Liyo

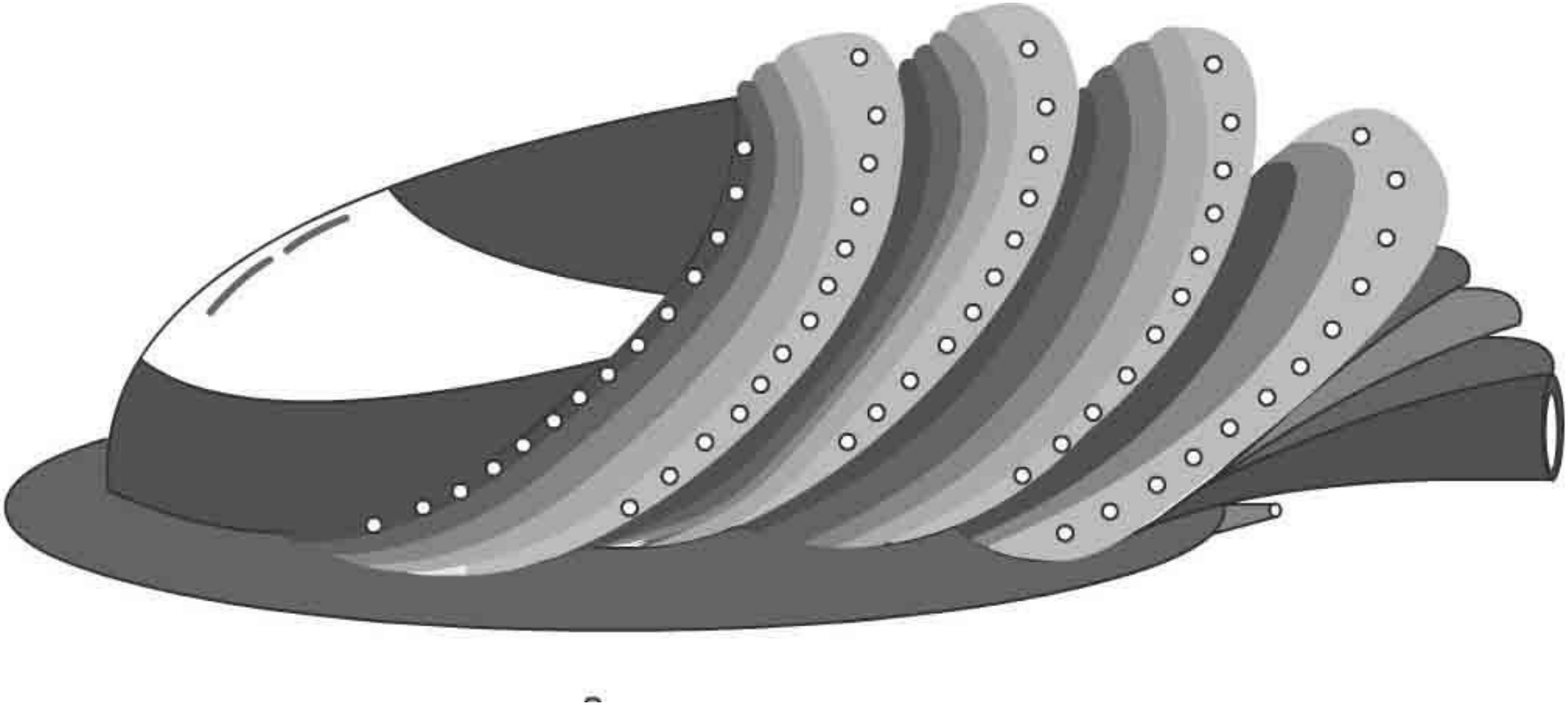




Liyo ‘s Grandfather

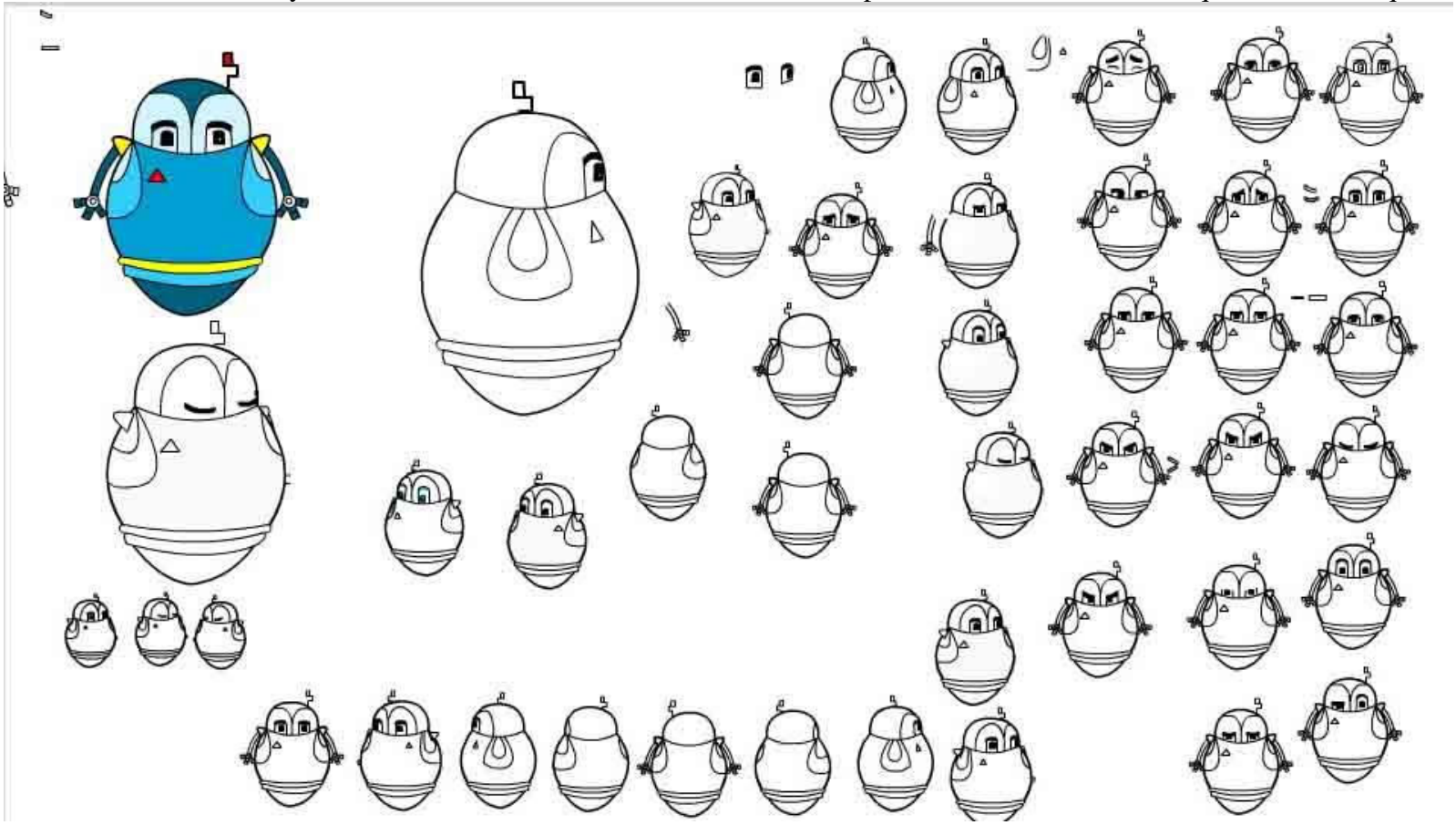


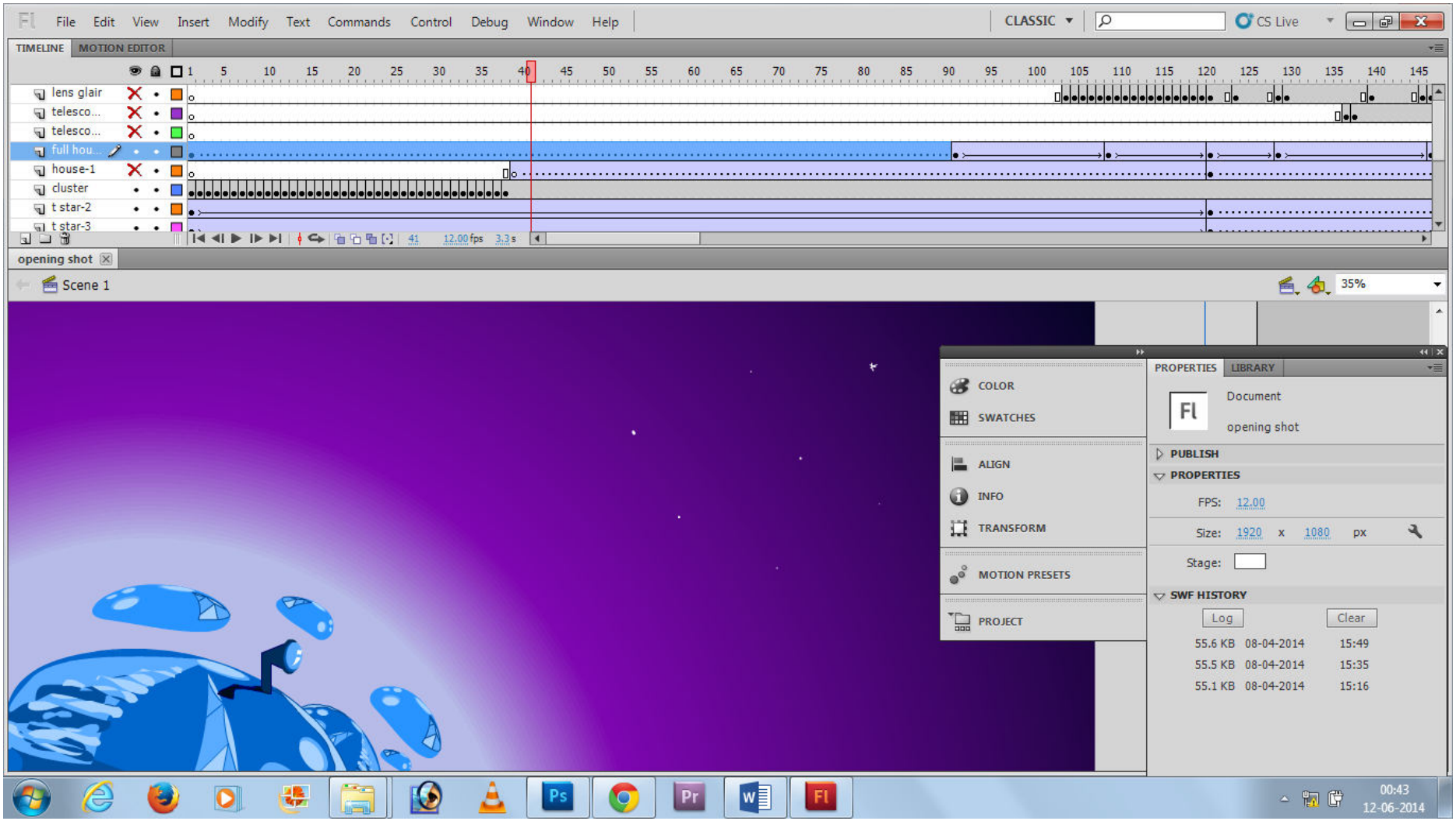
Loobies



Pre Production

The preproduction work started in January .
After finalising the concept sketches were made, of the character , back ground etc and then were processed digitally.
The software used mostly is Adobe Flash . Libraries were made to use Replacement Animation technique wherever required.




File Edit View Insert Modify Text Commands Control Debug Window Help
CLASSIC
CS Live
TIMELINE
MOTION EDITOR
lens glair
telesco...
telesco...
full hou...
house-1
cluster
t star-2
t star-3
opening shot
Scene 1
35%
COLOR
SWATCHES
ALIGN
INFO
TRANSFORM
MOTION PRESETS
PROJECT
PROPERTIES
LIBRARY
Document
opening shot
PUBLISH
PROPERTIES
FPS: 12.00
Size: 1920 x 1080 px
Stage:
SWF HISTORY
Log
Clear
55.6 KB 08-04-2014 15:49
55.5 KB 08-04-2014 15:35
55.1 KB 08-04-2014 15:16
00:43
12-06-2014

References :-

“Rules of Play” – by Katie Salen ,Eric Zimmerman
“The Art of Computer Game Design” – by Chris Crawford
“A theory of Fun for Game Design” – Raph Koster
http://www.rollercoaster.ie/Article/tabid/156/ArticleName/Stages_of_Development/Default.aspx - page-1
http://umu.diva-portal.org/smash/get/diva2:437916/FULLTEXT01.pdf
http://www.education.com/topic/emotional-development-ages-8-10/
http://www.bsc-cdhs.org/fosterparenttraining/pdfs/ChildDevelGuide.pdf
http://edtechdigest.wordpress.com/2014/01/20/fun-and-games/
http://www.vcaa.vic.edu.au/Documents/earlyyears/Edgar_Paper_20081223.pdf
http://life.familyeducation.com/computers/television/65248.html#ixzz2r3qF6JNO
http://life.familyeducation.com/computers/television/65248.html
http://www.mso.anu.edu.au/pfrancis/roleplay_copies.html