



PROJECT 3

Participatory Design with Bhil Artists

(Game Development Phase)

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Guide: Prof. Nina Sabnani

Tata Centre
Technology and Design, IIT Bombay

IDC
IIT Bombay

Participatory Design
with
Bhil Artists (Game Development Phase)

a Tata Center sponsored Project

Presented by:

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Under the guidance of:

Prof. Nina Sabnani

Submitted in partial fulfillment of the requirement for the
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IDC, IIT Bombay

Powai, Mumbai

Approval Sheet

The Visual Communication–Project 3 titled "Participatory Design with Bhil Artists - Game Development Phase" by Tapan Kumar, roll no 146250011 is approved in partial fulfillment of the requirements for the degree of Master of Design in Visual Communication.

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Declaration Sheet

I declare that this submission represents my ideas in my own words and where other's ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all the principles of academic honest and integrity and have not misrepresented or fabricated or falsified 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.

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Name of the Student: Tapan Kumar

Roll Number: 146250011

Date: 25 / 05 / 2016

Acknowledgement

I would like to sincerely thank my project guide Prof. Nina Sabnani for her guidance and support. I owe thanks to my faculty for their invaluable feedback, suggestions and encouragement. I would also like to thank Tata Centre for providing their support and a great opportunity.

I would like to thank my family and friends for their support and encouraging me to give my best all the time.

Tapan Kumar

Visual Communication-146250011

IDC, IIT Bombay

Dated:

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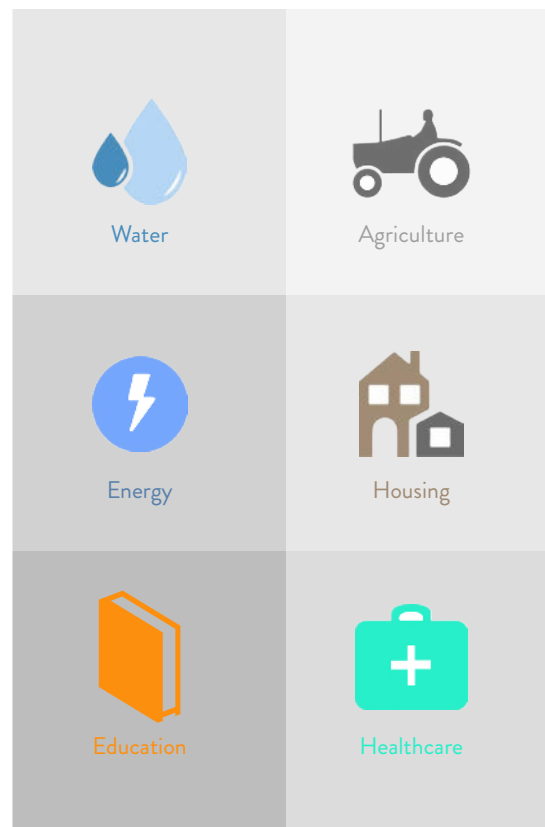
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Tata Centre

Technology and Design, IIT Bombay



Tata Centre for Technology and Design, IIT Bombay



Project Areas in
Tata Centre for Technology & Design

Tata Centre for Technology and Design (TCTD) was established at the Indian Institute of Technology Bombay (IITB) in 2014 with support from Tata Trusts. Currently, TCTD is a virtual Centre for teaching and research, drawing faculty members and students from various academic units of IIT Bombay. TCTD aims to address the challenges faced by resource-constrained communities within India and across the world by developing appropriate solutions. The Centre emphasizes on affordability as well as performance of solutions and focuses on the areas of Agriculture & Nutrition, Education, Energy, Healthcare, Housing, Water and Waste Management, which predominantly address the major problems faced by the common people in India.

In this view, the Centre undertakes various research projects in the above areas and trains future leaders in engineering and business to invent technologies and system solutions that serve human needs in the context of complex environment, social, and political factors.

The Centre closely works with its sister institute at the Massachusetts Institute of Technology, Cambridge, USA and with other partner organizations and stakeholders throughout India.

1.

Abstract

This project will be the next stage of my Academic Project 2 Participatory Design with Bhil Artists. In the previous phase (Project 2) the main focus was understanding the Bhils, their cultural values and their narrative paintings. The main goal of the project was to create a visibility for their art through game design. Thus the main focus was on understanding the community and then taking some aspects of their culture to conceptualize the game Bhagoria. The final output at this stage was the game play, graphic representations etc.

Now, moving on to the next level of this project which is Project 3. I am taking the same game project

Bhagoria to its implementation stage. In this stage, the focus would be on rectifying the feedbacks from previous stage, designing the game props, animations, sound effects, main and mid cutaway story animations, finalizing the game mechanics, coding of the game and finally packaging the whole game design into a working game application. And if possible I would like to test the game as well. This phase of the project would help me to understand and learn the game development process, which includes animation, sound effects and game mechanics: basically from the idea and concept stage to the final execution of the deliverable. The most important learning would be to understand how any digital design is likely to change and grow in its journey from concept to its final execution stage.

2.

Work Done in Project 2

Academic project 2 was mainly focused on the conceptualization of the game Bhagoria. The whole game was conceptualized after reading and learning about the Bhil Tribe as a community, their narrative paintings, rituals and festivals. A visit to IGRMS Madhya Pradesh helped in understanding their Art form and their way of living in the museum.

With the help of Bhil artists the ideas for the game and initial design was done. Game play was finalized based on their beautiful festival called Bhagoria. A small story highlighting the rituals and traditions of the festival was written to weave different game stages together. The visual representation and language of the game was designed by picking up elements from the painting done by Bhil Artists. The game flow and the application structure was designed in Project 2. The game UI was designed considering the different requirements in the conceptualized game play.

The game play of the finalized stages were designed and depicted in the Audio Visual format through animation. We can consider the whole Academic project 2 to be the ideation and conceptualization phase. Different aspects of the Bhil Community was closely experienced and the visualization of the game was done.

3.

Project 3 Focus Areas

The main aim of Academic project 3 is the development of Bhagoria game design into a working game application. Before initiating development of the application, following preparations are required to be done that will collectively contribute to the development of game application:

Bhagoria Festival:

A visit to festival Bhagoria in Jhabua, Madhya Pradesh in the month of march will be the most important part of this project. Bhagoria is celebrated once in a year in the month of March. Whatever I have designed in this game so far is based on the primary and secondary information gathered from books, internet and interacting with Bhils. It becomes very important to visit Bhagoria and experience the mood, settings, culture customs and overall ambiance of the place. I have to meet people in Bhagoria and try to discuss the customs and rituals in detail which would help me validating the steps I took in the game conceptualization.

Game Animation:

There are different phases of the game where animation is required which are Prop Animation, UI Animation and Story Cut Scene Animation. Story cut scene animation is the most important part because it will explain the user about the soul of the game which

is the festival Bhagoria and the story of the game. Without understanding the story of the game, it would be impossible to understand the different task given in different stages of the game.

Sound Design:

Sound design is an essential element in all fields of the entertainment industry. While playing video games, the sound design is one of the important factors in sustaining the excitement of the gamer. Sound effects in a game is very important element to achieve the immersion of the user. Every gesture, Interaction, or the game in itself becomes more interesting with a great sound design.

Game Mechanics:

Game mechanics are constructs of rules or methods designed for interaction with the game state, thus providing gameplay. All games use mechanics; however, theories and styles differ as to their ultimate importance to the game. Rules of the game and Point calculation of the game are some areas where more work is required. Store Option mentioned in the flow chart of the game is still need to be designed and and conceptualized.

UI Optimization:

Finalizing the game engine for the development of the

application is also very important because the whole UI and the Interactions in the game should be optimized as per the requirements of the game engine. Unity 3D would be the game engine which we will be using for the game Development process and the UI will be optimized accordingly.

Project 2 Feedback:

Following were the feedback suggested in the last stage of the Academic Project 2 :

- Point calculation criteria is to be improved and refined and should be more clear.
- Icons or game controllers on the game play screen should be improved.
- Game is quite short.
- Tata Centre's Feedback was to keep the game mallow in terms of introducing the use of Mahua in Taadi making or the Bhagoria rituals in itself.



Bhuri Bai

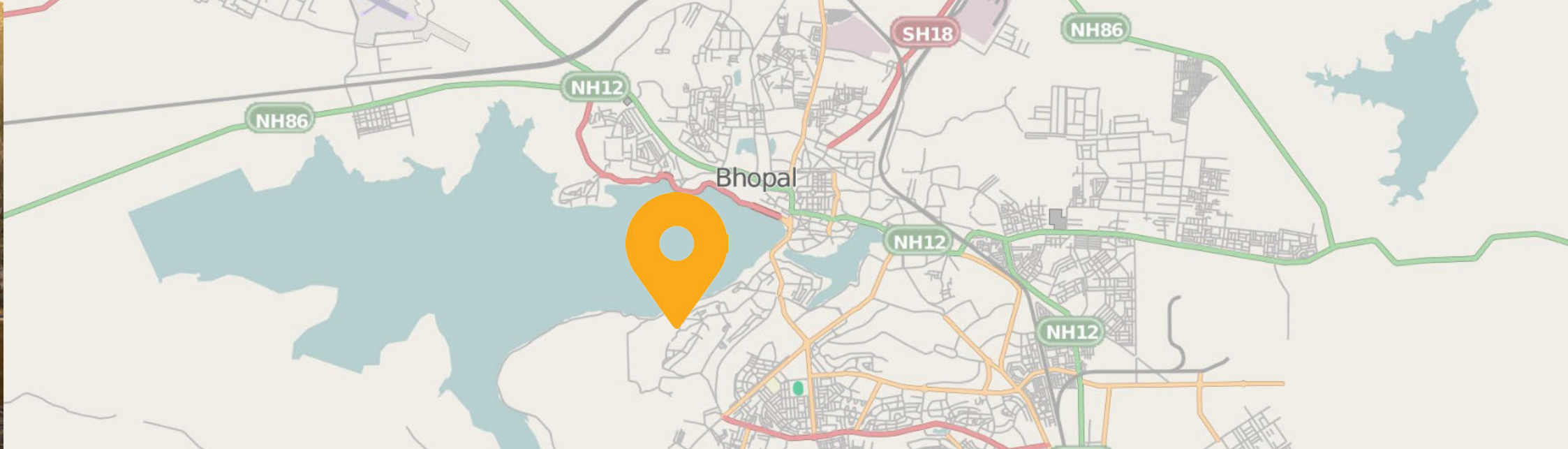


Kalla Teja



Sher Singh Bhil

**Indira Gandhi
Rashtriya
Manav Sangrahalya
Bhopal, M.P.**



4.0

Visit to IGRMS

IGRMS was conceived during early 1970s, started as subordinate office of Department of Culture in Delhi in 1977-78 and set-up in Bhopal in 1979. When I was reading about the Museum in IGRMS library I came across some of the distinct features that contributes to the popularity of this beautiful museum.

Firstly, stretching over a territory of about 200 acres of land in Bhopal, this is the largest anthropological Museum in India and one of the biggest in Asia.

Secondly, open air exhibitions constitute a hallmark of this Museum enabling visitors to experience the rich cultural diversity of this country. Open air display of house-types are present in the form of Tribal Habitat, Himalayan Village, Coastal Village, and Desert Village.

Open air exhibitions, constructed by the concerned ethnic groups using raw materials brought from their respective localities not only exemplify the ingenuity of human adaptation in diverse eco-system, but also symbolize the aesthetic expressions bringing a soothing respite to the people living in urban settings and bring them closer to Indian heritage.

IGRMS is one of the few museums in the world which has prehistoric rock paintings within its own premises, such rock shelters are also a part of the open air display. Besides, this museum has been carrying out the documentation, preservation and dissemination of various arts, crafts and traditional knowledge in the forms of 'Do and Learn' educational programmes and workshops, seminars and artist camps.



4.1

Bhagoria (Theme of the Game)

This game will be based on the themes of a colourful Bhil festival known as Bhagoria. In this festival beautiful fairs are arranged which are also known as Bhagoria Haat. Every one gathers in these haats to celebrate this festival of love, joy and happiness. During this festival, young boys and girls are allowed to elope after choosing their partners. These haats are organized in the districts of Jhabua and Alirajpur, Madhya Pradesh. The haat is organized in the form of a 'swayamvar' or a marriage market where young girls and boys are allowed to choose their partners. Bhagoria Haat Festival has an agricultural significance attached to it, that is, it coincides with the end of harvesting. Some people also celebrate it to mark the completion of their harvesting. But the star attraction of Bhagoria Haat Festival of Madhya Pradesh is the running away of

young boys and girls with their partner who are later accepted as husband and wife by the society. During the Bhagoria Haat Festival in Madhya Pradesh, the boys put red powder on the face of the girl to whom he wants to get married, if the girl too wishes to marry the same boy, she has to put the same red powder on the boy's face after which both of them run away. But if the girl does not agree in the first chance, the boy can go behind her to persuade her and may win her heart. Bhagoria Haat Festival at Madhya Pradesh is celebrated in the month of March before the Holi festival.

4.2

Game Description

This game will revolve around the festival Bhagoria and will explain the significance of this festival in Bhil marriage through fun game play. During this game, the player would discover the important aspects in a Bhil life. Game will consist of different levels in which player have to face certain situation which are important in Bhil life. For example: learning archery, importance of mahua tree, importance of water etc. Game would also take the player through the process of impressing a girl by different activities in fair and convince her to marry him. If the girl's father is not ready for marriage, in that situation he has to earn money to pay bride price which is called Dapa.

Through this game, one would know that in Bhil community, there is a freedom of choice in terms of choosing their life partners that is recognized and accepted by their community (very different that most of the civilized urban communities). It would also be interesting to know that in the Bhil community, the groom has to pay money (Dapa) to Bride's father which is totally in contrast to the Dowry system being followed in urban or rural settings.

4.3

Characters in the story

There are four main characters in the story which we will be using in our game:

Playable Character

1. Prema

Gender : Male

Age : 21 years

Place : Bhagor, Jhabua

Characteristics : He likes singing. He is energetic and likes adventure. He is brave and intelligent.

About : Prema is a young 22 years old boy who lives with his mother in a small house in Bhagor village of Jhabua district. He belongs to a poor Bhil family. His father died because of dengue when Prema was 12 years old. Since then, Prema started earning for his house and stood up for his family. He is an intelligent, brave and energetic boy. He likes singing and loves going for long walk in deep forests.

Non Playable Character

1. Lado

Gender : Female

Age : 18 years

Place : Bhagor, Jhabua

Characteristics : She likes dancing and painting. She likes to dress up everyday with ornaments and makeup. She likes to play with her friends.

About : Lado is an 18 year old girl who lives with her father and mother in Jhabua district. She helps her mother in making food and household work. She is a very beautiful and sensible girl. She likes going out with her friends. She believes in love. She studied till class 10th and after that she stopped going to school.

Characters in the story



2. Ramsingh (Lado's father)

Gender : Male

Age : 45 years

Place : Jhabua

Characteristics : He is very hard working man, he loves his daughter very much. He believes in the words of Shaman (Badwa)

About : Ram Singh is a 45 year old man belonging to the Bhil Tribe. He likes his daughter very much. He is a farmer and owns some land in Jhabua. He is worried now, as Lado's age is 18 and she is ready for marriage. He keeps on consulting the Shaman (Badwa) regarding his daughter's marriage. He believes that our ancestor should be happy and they should bless us whenever we celebrate something. He believes that Shaman is a very important link between them and their ancestors. They should always make shaman happy before any occasion.

3. Shaman (Badwa)

Gender :

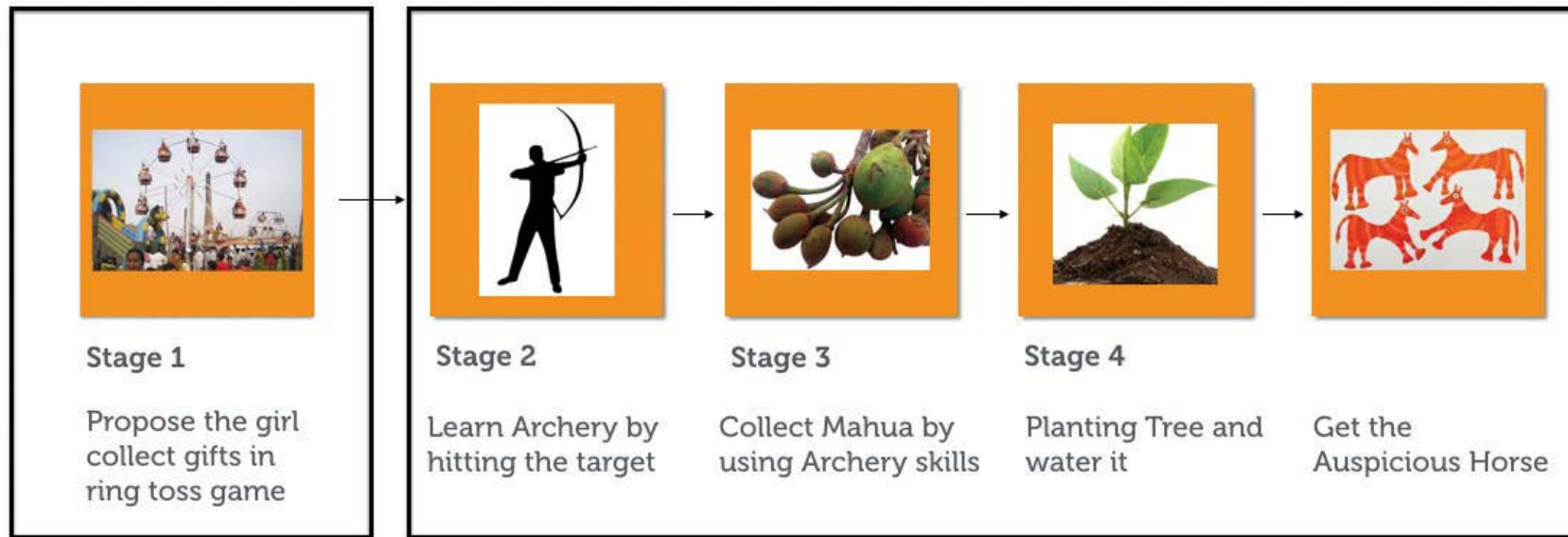
Age : 60 years

Place : Jhabua

Characteristics : He believes in supernatural activities. He likes to eat non veg and drink taadi (Mahua Liquor)

About : Shaman is a 60 year old man who lives in forest and keeps on wandering in forest. He believes that he has all the powers to contact with Bhil gods and ancestors. Everybody in the community invites him to perform rituals in their houses and to guide them for future in terms of harvest, illness, marriages. He asks for the sacrifice of rooster and some liquor (tadi) as an offering to gods and ancestors to make them happy and convince them to do good for the family.

Gameplay & Stages



stage in Bhagoria Haat

stages Prema has to cross in forest

4.4

Game Story

It is a beautiful bright morning. Young Bhil boys and girls in the whole Bhagor village are very excited and happy because of the most awaited festival Bhagoria is starting today. Bhagoria is considered to be the festival of love, life, music and colors. Everyone is getting ready for the Bhagoria Haat, where they can find their perfect life partner or express their feelings to someone they already like and convince them for marriage.

Prema is also very much excited for Bhagoria. He likes a girl from his village. Her name is Lado. He has been waiting for this day for one year as he decided to propose to Lado on Bhagoria by convincing her and share his feelings in the haat.

Lado is a very beautiful Bhil girl. She lives in the same village with her father RamSingh and her mother BhuriBai. Lado is also going to the haat with her friends. She is very happy with a feeling that she might find someone special for her in the Bhagoria Haat.

It is almost noon now, everybody is enjoying, dancing and singing songs. Young girls and boys are enjoying the haat and proposing to the one they like. Boys are trying to persuade girls in different ways. Prema is a bit nervous and hesitant as he is approaching Lado to propose to her. After a lot of hesitation, he asks Lado to come along with him for a small walk in the haat. Gradually they start talking and enjoying each others company. Prema takes her to different rides, shops and

fun places in the haat. Finally they reach a shop where they have to play a game by throwing the rings on different items placed at some distance to win them. Lado sees a set of bangles placed among different items in the game. She insists that Prema win her those bangles. Prema starts playing the game and promises Lado to get her at least three gifts with those rings. Finally, Prema throws the rings and collects three gifts for Lado - Bangles, a pack of Red Gulal (holi color) and Paan.

With all these gift items Prema proposes to Lado for marriage. Lado is surprised and happy as well in her heart, as she has also started liking Prema. Lado, being shy, takes some gulal and rubs it on Prema's forehead, and then they both shares the paan as a symbol of agreement. They are very happy, dreaming about their future life, and go back to their village. Both of them tell their parents about their choice, who had no objections with their marriage.

Ram Singh sends an invitation to Prema and calls him and his family to meet him for lunch. Ram Singh also calls the Shaman to give blessings and consults him regarding marriage dates. Everybody gathers at Ram Singh's house next day. Prema reaches Lado's place with his mother. The couple is very excited and filled with joy for their marriage dates. Ram Singh asks the Shaman to tell them some auspicious dates suitable for the marriage and bless their children. After deep

meditation shaman tells Ram Singh that Prema is not eligible for Lado. He has some doubts regarding their future. Ram Singh always had a firm belief in Shaman. He gets scared and ask Shaman to give some solution regarding the problem. The Shaman tells Prema that if he really want to marry Lado, then he has to pass certain tests which are very important in Bhil Life.

The Shaman Says:

- You have to go deep into the forest and learn archery.
- Use your archery skills to collect Mahua fruits as mahua plays a vital role in our lives to make medicines.
- Use those magical Mahua seeds, plant a tree and water that plant by breaking clouds through your bow and arrow. Most importantly, do not waste the cloud water as it is limited source of water. Use it wisely.
- Your last task will be to find the auspicious horse from the forest as you have to present it to our holy ancestors for their blessings in your marriage'.
- Earn at least 500 golden coins throughout your journey and give it to your father in law (Ram Singh) as Dapa (Groom has to pay bride price to bride's father)'.

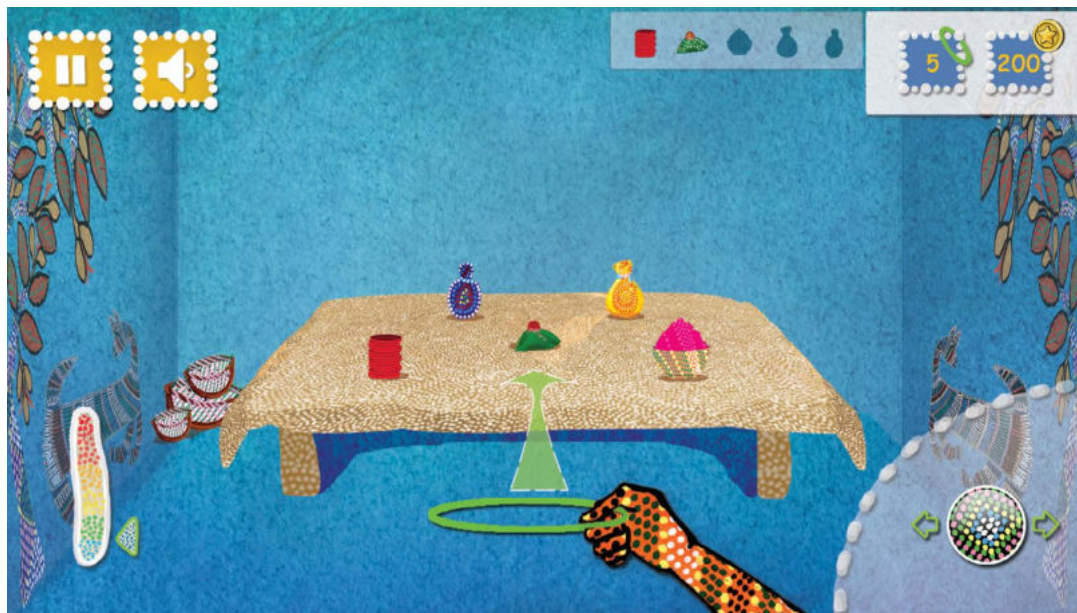
These are the conditions the Shaman puts in front of Prema. Prema is a bit worried initially but he promises Lado and Ram Singh that he will fulfill all the conditions and will definitely come back to marry Lado.

4.5

Game Plot Points

Stage 1:

Convincing Lado in Bhagoria Haat



Prema asks Lado to come with him for a small walk in the haat. They are enjoying the haat very much. Now they have reached a stall where they have to play a ring toss game and can win multiple items by throwing rings over them. Prema starts playing the game and he has to win at least three gift items which are :

1. A pack of bangles (Lado insisted him for it)
2. A packet of Gulal (Necessary to propose Lado)
3. A Paan (Token of Acceptance)

There will be many more items placed in ring toss game. But the number of rings would be limited. After getting 3 mentioned items, he can target other items as well (as bonus).

Cutaway Scene 1

Shaman giving tasks to Prema

After this, when both of them tell their parents about their choice. Ram Singh calls Prema with his family to his place to fix the marriage dates by consulting a Shaman. After meditation Shaman tells Prema that he is not fit for Lado right now. He has to go through different tests if he really wants to marry Lado.

Test are :

- Learning Archery ,
- Collecting mahua fruits using Archery skills,
- Use mahua seeds to plant a tree and water it through rain water from clouds
- Find the auspicious horse in the jungle which is very important for the marriage.
- Collect at least 500 gold coins and give it to RamSingh as Dapa (Bride Price)

Stage 2: Learning Archery

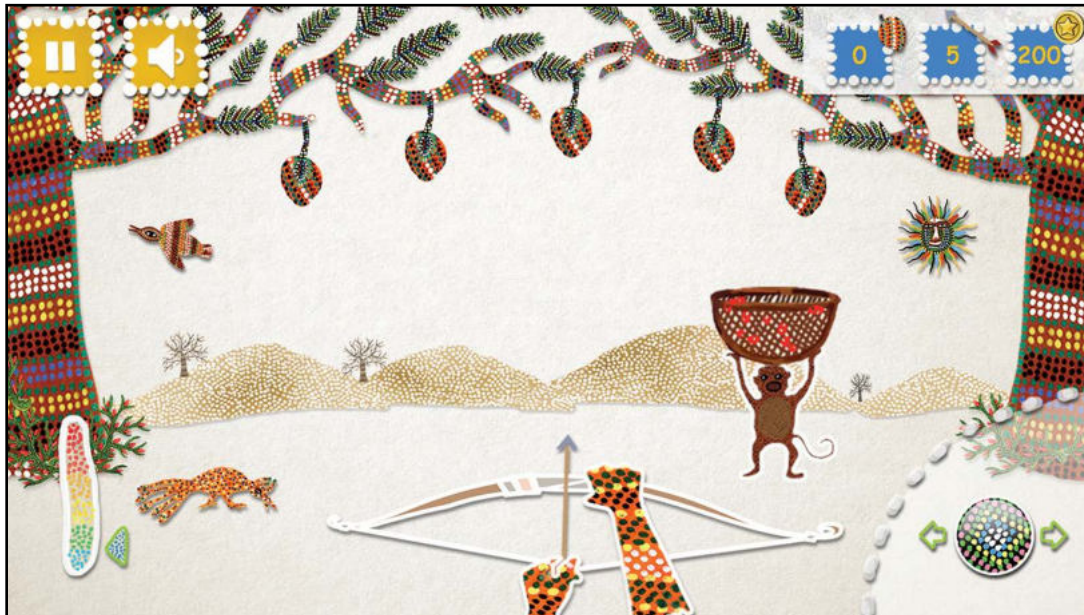


Prema is now in the middle of the forest with his bow and arrow. He has to complete this journey and finish all the tasks successfully. For that he need to learn archery because all the future tasks will require archery skills. In this stage he has to practice archery deep in the forest.

He has to hit a moving target suspended from a tree branch. He has limited arrows. He has to anticipate the movement of the target and hit at least 5 arrows correctly to prove himself to be a good in archery and cross the stage. Every correct hit will add some golden coins in his baggage.

Stage 3:

Collecting Mahua Fruits with Gillu (the monkey)



Prema is now in front of a Mahua tree with his bow and arrow. He can see some mahua fruits hanging on the tree branch. In this level a monkey will move continuously on the ground with a basket on his head to collect the mahua fruits in it. In this level Prema has to anticipate the movement of the monkey and hit the mahua fruit with arrow and successfully collect them in the basket with the monkey. Every fruit collected in the basket will add some golden coins in Prema's baggage.

Stage 4:

Plant a tree, water it carefully



Moving ahead Prema sees the auspicious horse which he has to get for his marriage. But between him and the horse there is a big chasm which he has to cross to reach the horse. The only way is to plant a tree with magical mahua seed (that he has collected from in stage 3) in the chasm and grow it bigger by watering it. The only source of water is available in the clouds moving in the sky. He has to break the cloud to bring water on the small plant in the chasm.

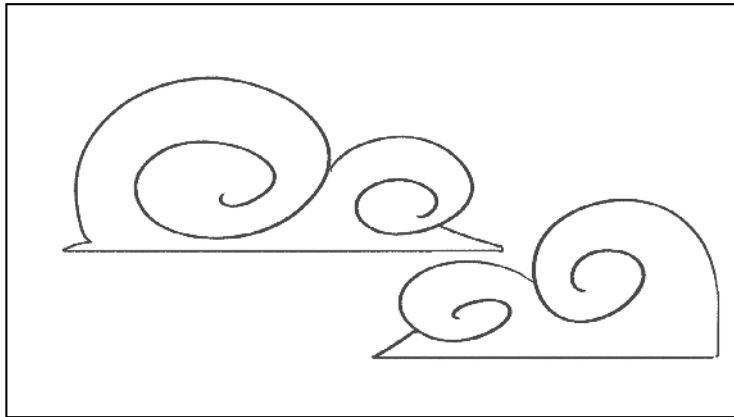
The biggest challenge in this stage is that he can not afford to waste water from the clouds as these clouds come once in a year and he has limited water resource. He has to target clouds when they are exactly at the top of the plant. Every time he wastes the water by hitting the cloud in wrong position, it will deduct some amount of golden coins from his baggage. Every time he hits the cloud in right position, the plant will grow big. In this stage, not only does he have to grow the tree bigger by watering it carefully but he has to maintain enough golden coins in his baggage for Dapa as well because it is the final stage of the game. After successfully growing the tree, he can easily cross the chasm and reach the horse successfully.

In the end, after completing all the tests in the forest. He goes to Lado's place and marry her.

4.6

Game Storyboard

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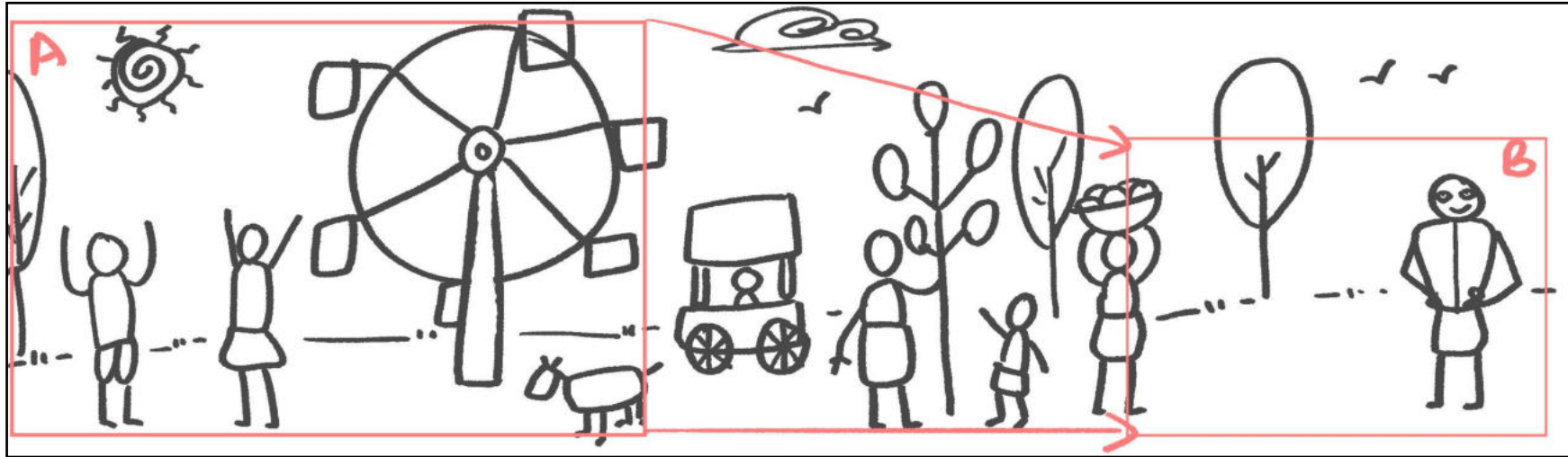
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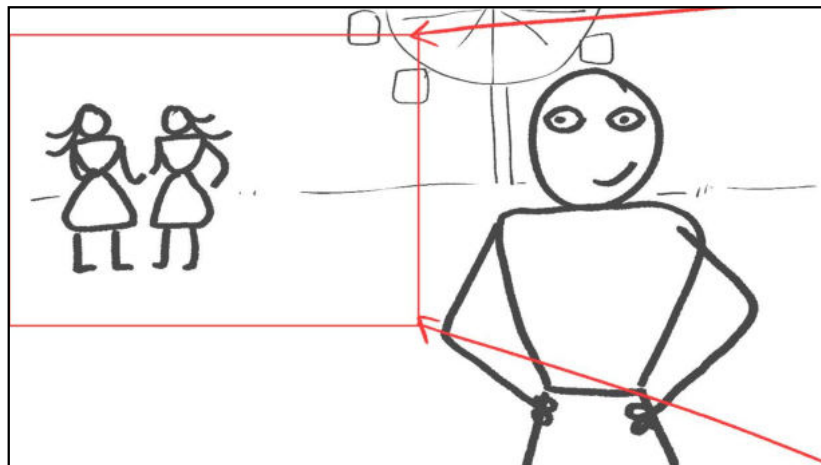
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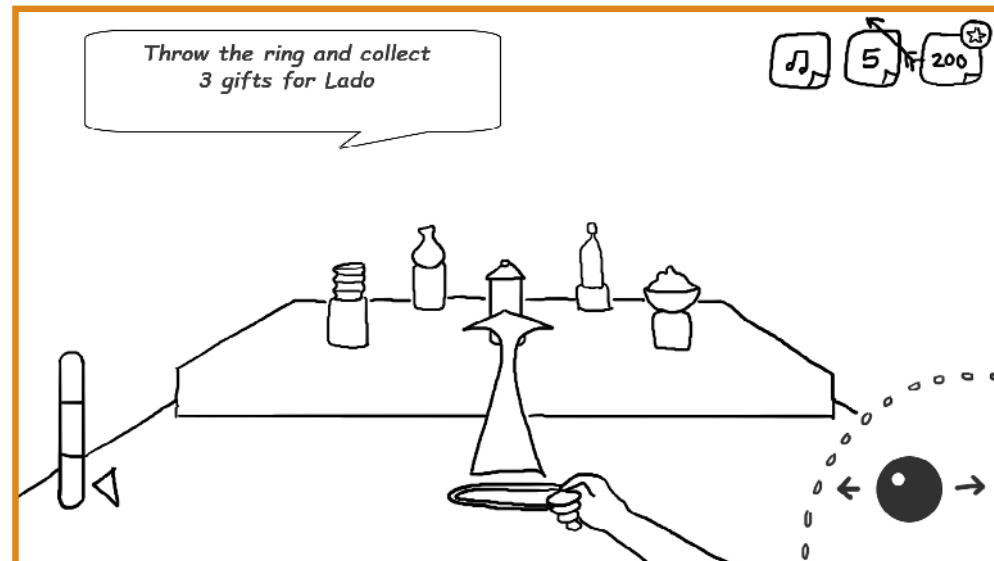
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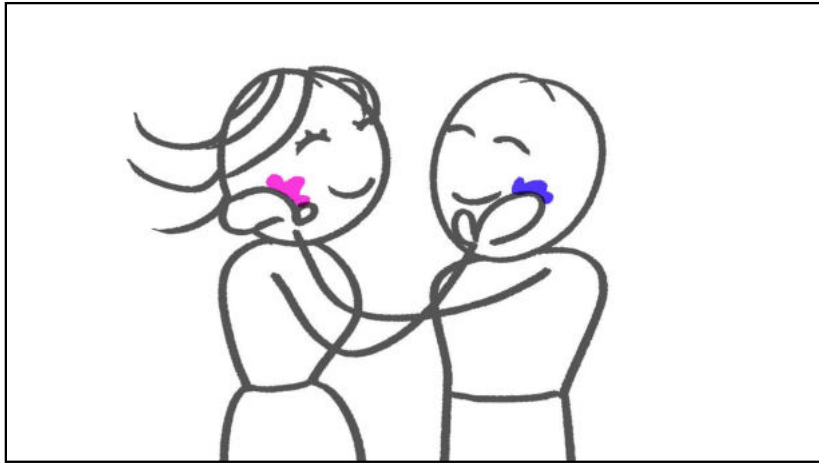
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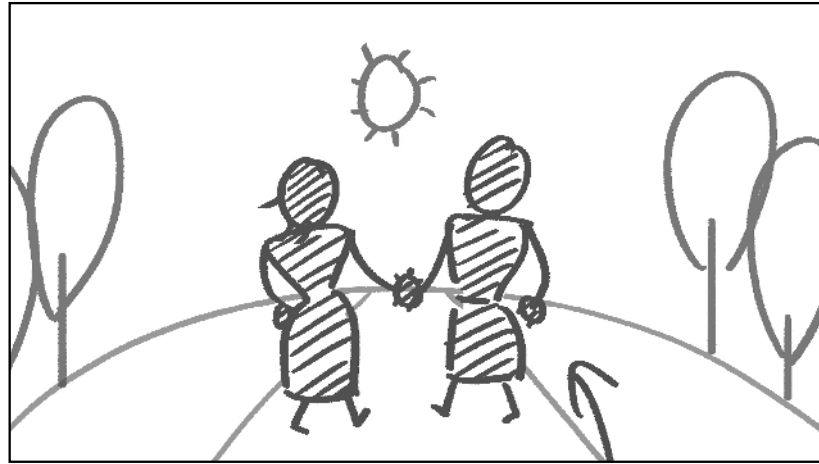
Stage 1



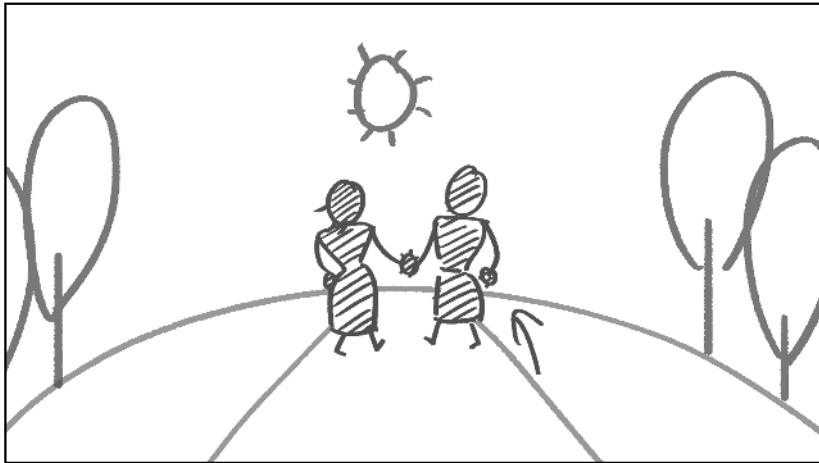
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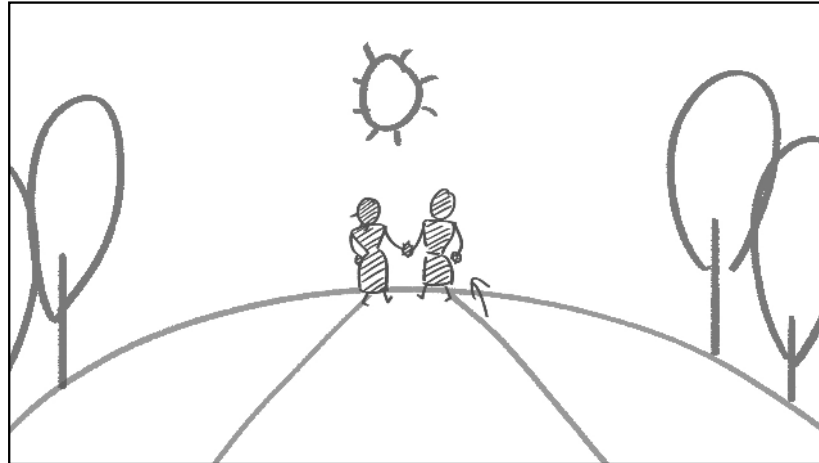
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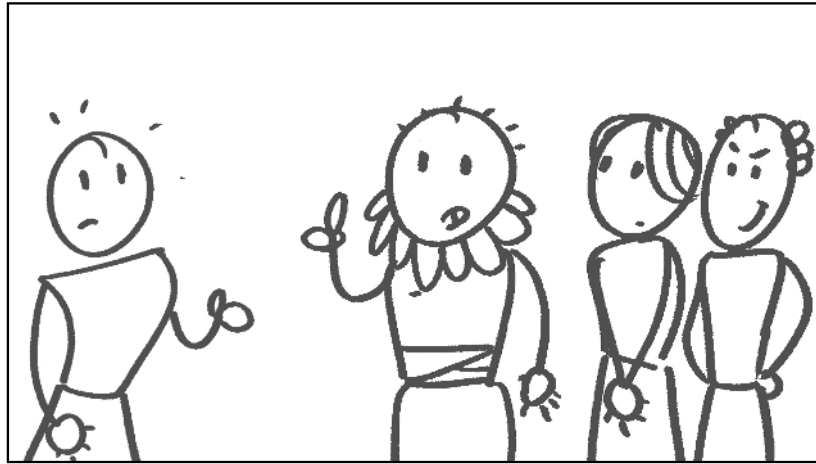
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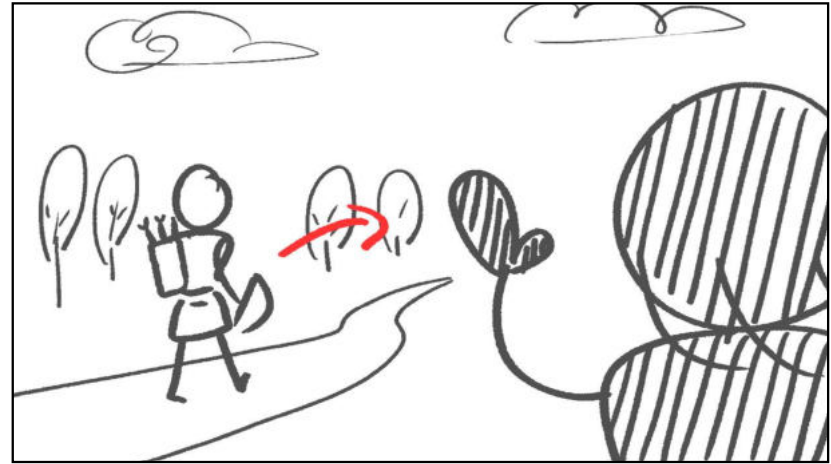
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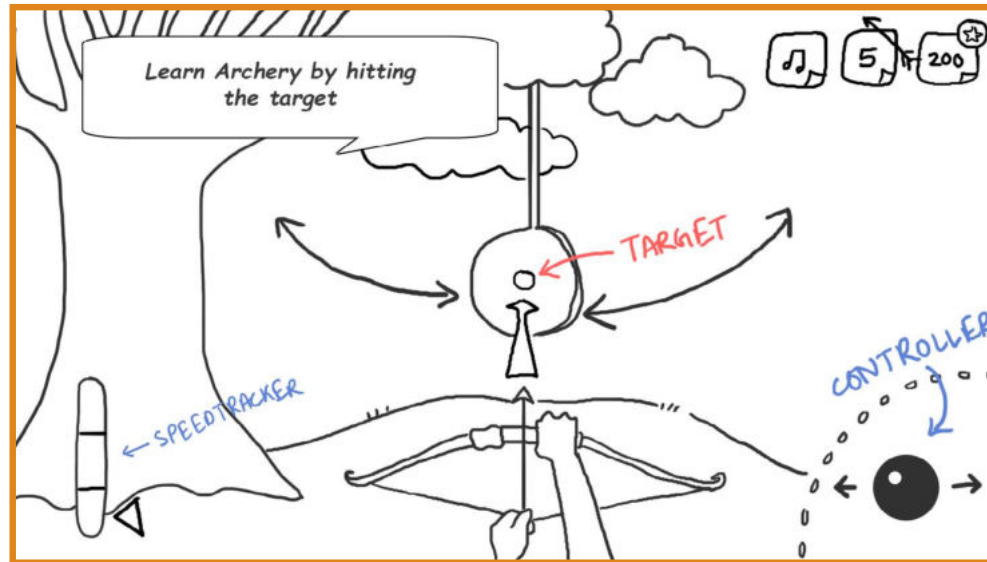
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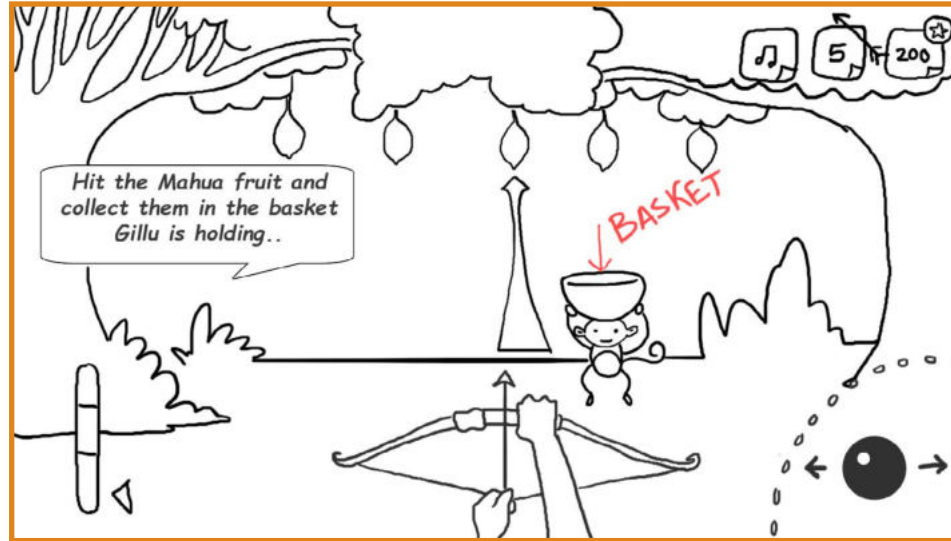
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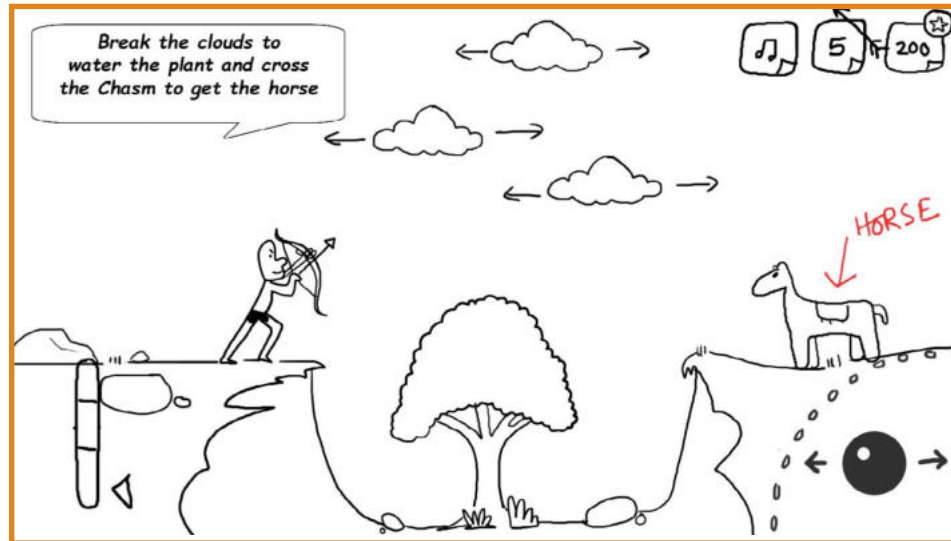
Stage 2



Stage 3



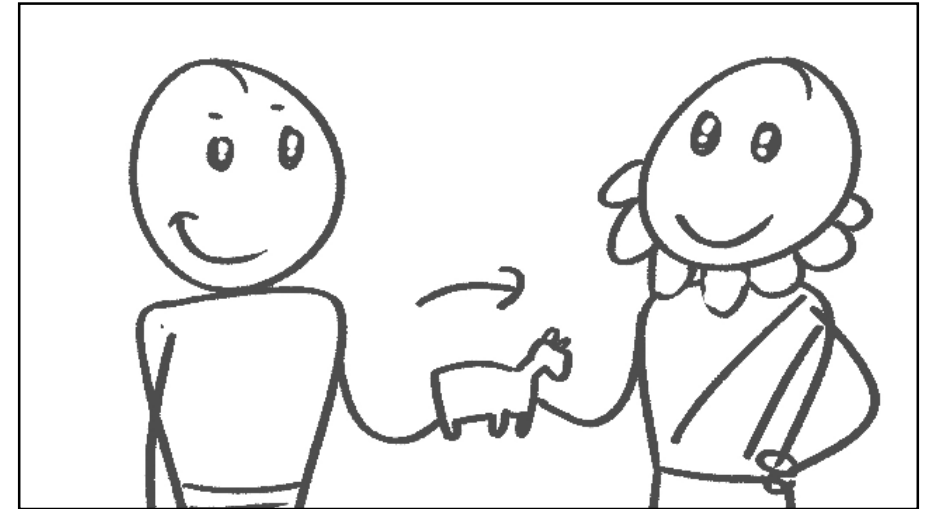
Stage 4



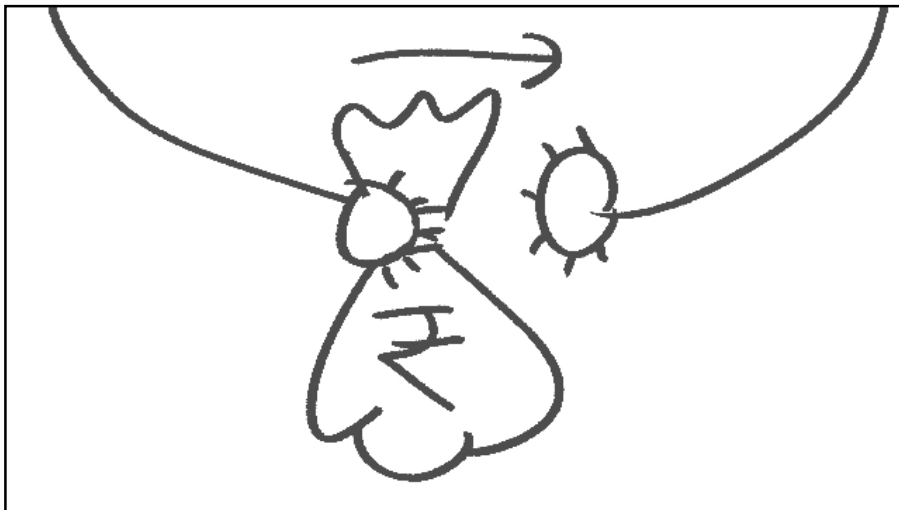
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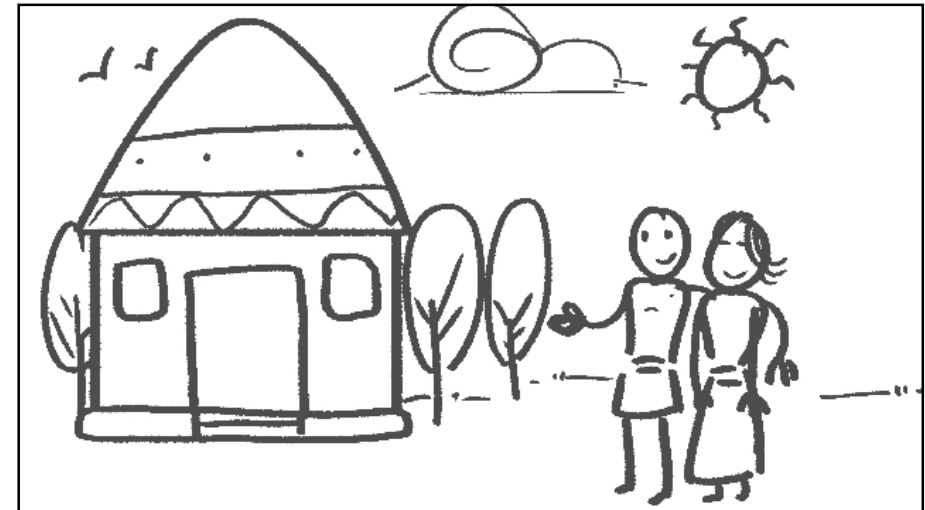
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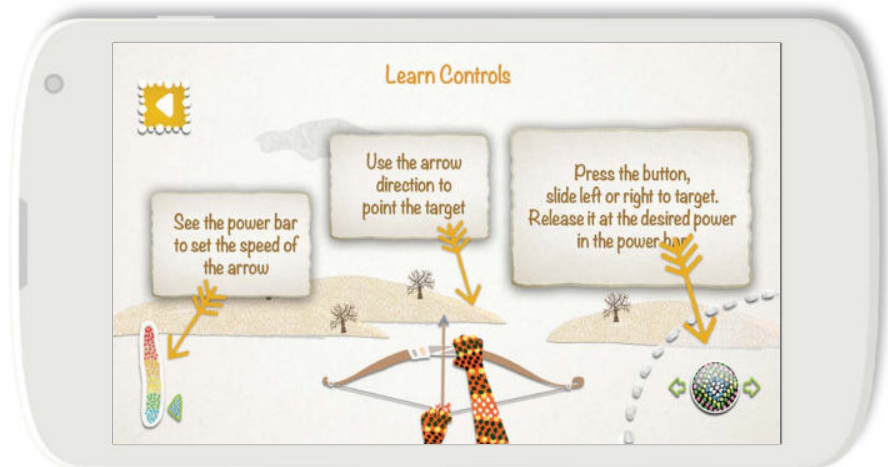
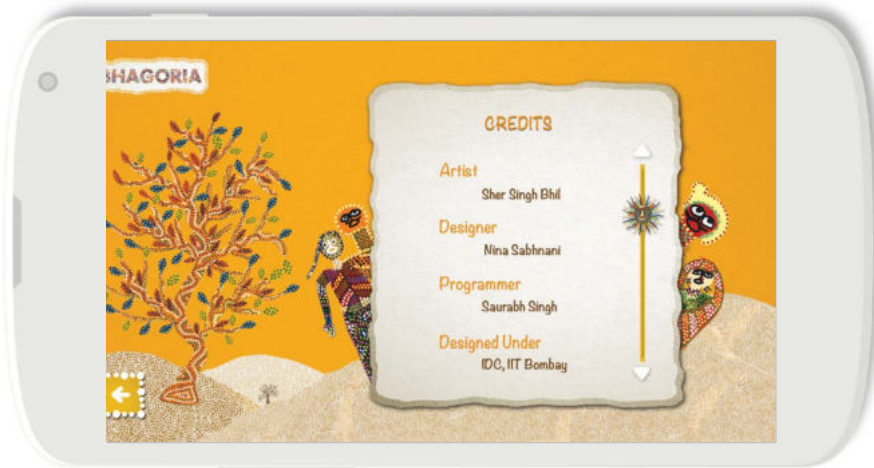


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Game UI Optimization



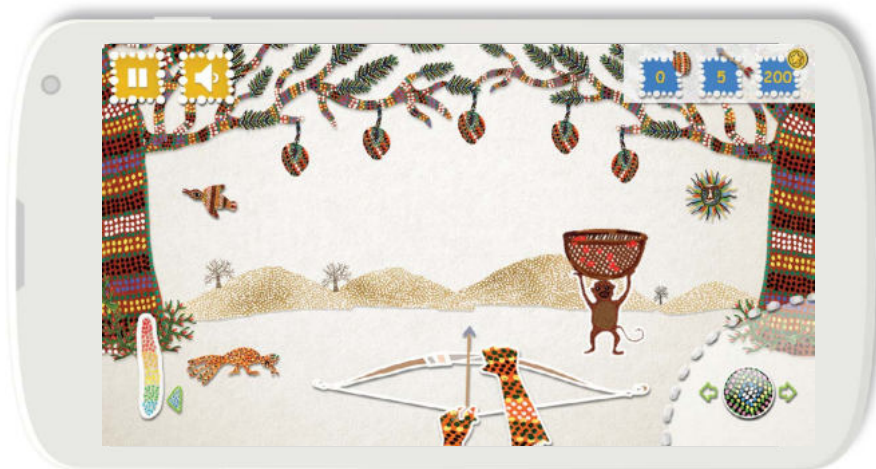
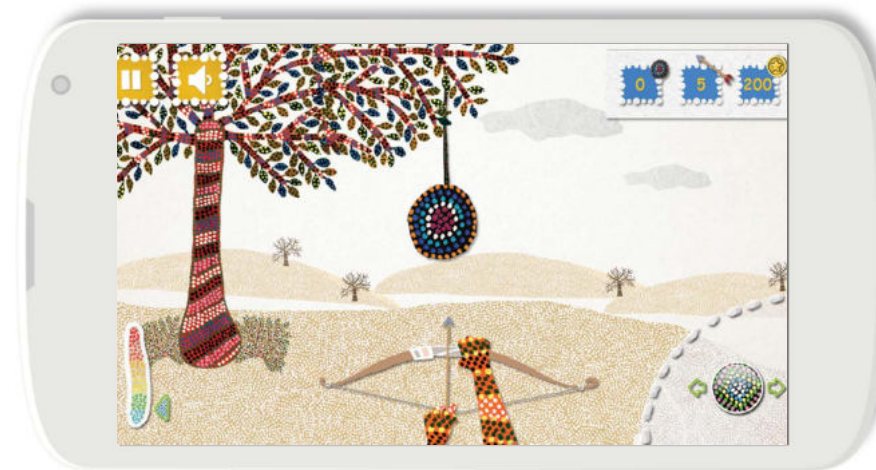
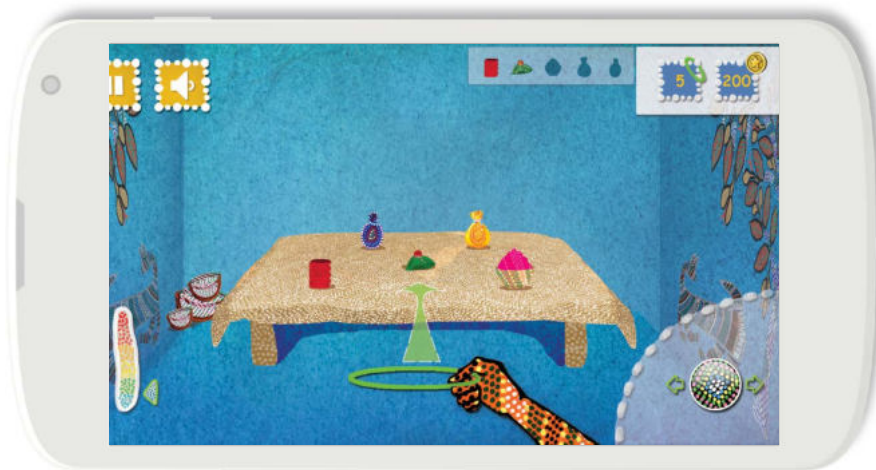
Game UI Optimization



Game UI Optimization



Game UI Optimization





BHAGORIA

the festival of love



5.1

Logo Design

Identity of a project plays a very crucial role in the visibility of the product and its placement in the market. Logo of the game was designed by keeping the theme of the game in mind i.e Bhagoria Festival. As the whole game design and visual language is Bhil Art in the project, I decided to design the logo of the game with the same treatment. I have designed two logo options for the game. Dots are main feature in Bhil art, I tried to keep the illustrations in a round dot cut out of a textured paper background. Text used in the logo is also stippled text.

In first logo (left page), illustration of a boy and a girl is used. Boy holding girl's hand and asking him to come with him, suggesting the theme of Bhagoria Festival. In second logo (same page) I have used an illustration of a very important character of Shaman which actually guides the player throughout the game or we can consider him Sutradhaar of the game. After a lot of feedback on the logo designs, I decided to pick the first one as it fits well with the theme of the game and it seems to grab attention and gives an idea of love and fun in the game.

6.0

Next Step in the Project

Online course on Introduction to Game Development:

Introduction to Game Development is an online course available on Coursera.com. This course is conducted by Prof. Brian Winn and Prof. Casey O'Donnell of Michigan State University, Dept of Media and Information. Making games is a creative and technical art form. This course will introduce the tools and practices of game development. It will teach us developing video games using the industry standard game development tools, including the Unity3D game engine and C#. At the end of the course there will be three hands-on projects which will help us to leverage an array of game development techniques to create basic games.

This course is for individuals interested in becoming a game designer, game artist, or game programmer. It's a 4-week course focussing on number of events one needs to learn before starting development on Unity 3D and learning Unity 3D itself for creating a game.

Visit to Jhabua, Madhya Pradesh to attend Bhagoria Festival

This game will be based on the themes of a colourful Bhil festival known as Bhagoria. In this festival beautiful fairs are arranged which are also known as Bhagoria Haat. During this festival, young boys and girls are allowed to elope after choosing their partners. These haats are organized in the districts of Jhabua and Alirajpur, Madhya Pradesh. The haat is organized in the form of a 'swayamvar' or a marriage market where young girls and boys are allowed to choose their partners. Bhagoria Haat Festival has an agricultural significance attached to it, that is, it coincides with the end of harvesting. Some people also celebrate it to mark the completion of harvesting. A visit to Jhabua will be planned to attend Bhagoria festival and to have a first-hand experience about it. It will help in acquiring great inputs for our game and we can possibly make relevant changes to it. I am planning to record videos and sounds in the festival to design sound for the game.



7.0

Visit to Bhagoria festival in Jhabua


Since the beginning of this project, I have been reading about Bhils, their origin, culture, paintings, rituals, festivals etc. Bhagoria festival was always one of the prominent and significant festival for Bhils in my readings. Every festival in Bhil culture is unique in itself but I feel that Bhagoria is the most interesting and unique with its rituals and ceremonies. And I always felt that the rituals in this festival could be gamified and presented in a simple but unique digital game format. Through which we can bring the tribe, their beautiful paintings and this interesting festival in the visibility of the new generation audience.

This festival is celebrated in the month of March, one week prior to the Hindu Festival of Colours, Holi. This becomes very important for me to attend this festival in this stage of the project because everything is now dependent on my first hand experience of Bhagoria. I have gamified certain rituals of the tribe and the festival in the gameplay. These decision were taken on the basis of information gathered from the tribe and the secondary data available. I think experiencing

the festival itself would give me an idea of the overall ambiance. There are so many decisions for the game that I could only take after going to the festival. For example: I have to find appropriate logic behind every playable stage of the game, Sound is one of the most important factor that could only be decided after the visit, it becomes necessary to attend this festival once while doing a project on it. Keeping all these ideas with me, I decided to plan a trip to attend Bhagoria in Jhabua, Madhya Pradesh. On 17th March I started my journey from Mumbai to Jhabua via Bhopal. Visiting Bhopal was also very important because I always needed a local Bhil person who understands everything in Bhil culture and guide me through this trip. Sher Singh Bhabor (Bhil Artist) managed to convince his nephew to come with me for the festival.



2:42 hr.
145 km

includes  0 min
total delay

start



7.1

Mumbai to Jhabua via Bhopal

In the month of March, One week before Holi I decided to go and visit the most important field visit to Jhabua to experience Bhagoria Festival. So the plan of my trip was to go first from Bombay to Bhopal. On 17th March I took a train in the evening and reached Bhopal next morning. In Bhopal I visited IGRMS for the purpose of getting a person who is familiar to the village Jhabua and Alirajpur. Sher Singh helped me in this matter. He asked one of his nephew Dinesh to help me and guide me on this trip. We decide to go for an over night bus journey from Bhopal to Jhabua. We boarded a bus from Bhopal to Jhabua on the same day at 9 p.m. It was almost a 5 hour bus journey. Through out my journey to Jhabua I was scared as I have read on internet that this place is not safe because of the Nexalite influence. Next morning at around 4 a.m. we reached our destination. We stayed in a local lodge for rest of our days in Jhabua. Same day we visited the most famous Bhagoria Haat of Ranapur. Ranapur is a small village in Jhabua district.



7.2

Bhagoria Haat, Ranapur

Ranapur is a town and a nagar panchayat in Jhabua district, Madhya Pradesh. We took a bus from main Jhabua bus stand to Ranapur and reached to its famous Bhagoria Haat. It was around 8 kilometres deep inside the district. Young girls, boys and even adults were all dressed up and charged with the enthusiasm of the festival. Buses were all running packed on the road. Even people were travelling hanging on the back or on the top of the buses. Big cars and every local commute vehicle were loaded with people. People were sitting even inside as well as on the top of them as well.

Ranapur haat is famous because it is considered to be the most crowded and biggest haat of the area. All the castes in Bhils from different villages and nearby towns visit this haat because of its location. Ranapur lies in the middle of many villages. It could be considered as the meeting point for all the villages around. And people does not miss the chance of meeting their relatives on this festival which gives them the chance to enjoy this togetherness once in a year.

Roads were all crowded starting from almost 1 km before the location of Haat. People are dancing and singing in the groups, enjoying playing a kind of repetitive music with big drums and aluminium plates. Making different noises with their mouth with the sync of the music played. People from all age groups were there. Young boys wearing colourful shirts, coloured hair and sunglasses is the most prevalent fashion. Girls were all dressed up beautifully in their traditional dresses and ornaments. The whole Haat was filled with crowd and different stalls. Everybody in the crowd is happy and dancing. Different announcements could be heard on loud speaker. People were busy enjoying variety of food, games and swings in the haat. I tried talking to some of the young boys and girls and asked them about the festival. They were all shy discussing about that to a stranger. I asked some of the adults there and tried to understand the present status of the Bhagoria festival. How it is celebrated now a days as Tribals are now a days more aware and educated. And how it is now different from earlier Bhagoria celebration.



7.3

Baba Dev Temple, Jhabua

While I was roaming and enjoying the Bhagoria Haat. I met Naval Singh, who is a local but influential person in Ranapur. Naval's elder brother is the chairperson of Ranapur's youth association. Naval offered to take us to Baba Dev's Temple in his car which was almost 16 to 17 kilometres away from Ranapur Haat. Almost 10 kilometre distance is plain road but rest of it is climbing up hill, as the temple is situated on the top of a hill.

When we reached to the temple I have seen the faith people have in Baba dev. People come to the temple from distant places for sacred Darshan. I met two shamans in the temple and ask them the logic behind the piles of Pithoras and horses offered in the temple. They explained me that, people promise Baba Dev to offer these Sacred horses if they got there wishes fulfilled. People offers liquor, rooster and well as Coconuts. Young boys and girls wishes to pass in the examination by keeping a copy of admit cards near Baba's Deity. Naval told me that by doing that, children can focus more in their study and do well in the Examinations. Offerings are considered very important in Bhils before any special occasion or festival.











7.4

Take away from Ranapur haat

A day in Ranapur haat was full of joy, fun and happiness. I got a chance to see a lot of new and unique things that one can never experience in books or on internet. People in the haat were so happy and in good mood that you can stop anyone and ask them about their life, culture and even click their pictures. In this haat I also took some of very important interviews which delivers very important content to support the decisions that I took in game play. For example: In my game story when Lado and Prema fell in love in the

haat, they go to their parents and ask for the permission to marry each other, same thing Bhanu Bhuria told me in his bite that now a days nobody run away for elopement. Everybody consent is very important before marriage. In a way, this feedback validates the game story and gave me a sense of approval for the game.

Visit to Baba Dev's temple was also an amazing and spiritual experience. I have been reading that Bhils have great faith in their Gods and they always worship them before any celebration. During Bhagoria, people who were coming to haat had it very clear in their mind to visit Baba Dev's temple. I have seen how faith in God helps in reducing the pain and tensions of the people as they think that Baba Dev will take care of their miseries from now on and they go back in peace.

Offerings to Gods in Bhils, before any auspicious occasion is very important as it brings good fortune in their lives. Bhils always worship and praise their God in almost all occasions of life from birth of the child to their wedding. And the most sacred offering to the God is the Horse. As they believe that Baba Dev use to ride horse and because of that no Bhil can ride a horse. This ritual validates the last stage of my game where Prema has to get the horse from the forest and take it to the Shaman as on offering for the marriage. In Ranapur Haat, I met so many people of different age, different castes but the only thing that I found common in them was love and happiness for their culture and for each other as well. Everybody is enjoying and are lost in their own world of Bhagoria. For me, meaning of Bhagoria was totally different before this trip.



7.5

Bhagoria Haat, Jhabua

Next day, our plan was to go to the Bhagoria Haat of the main Jhabua district, which was near to the bus stand only. As this haat was close to our hotel, it was easy to reach there by walking. Me and Dinesh started walking towards the haat. And right away when we crossed our hotel road, there were thousands of people walking on the other side of the road. I couldn't find a single vehicle on the way. All the routes were diverted because of Bhagoria haat, bus stand was also shifted to somewhere else for the day. We started walking with the crowd and reached Jhabua haat. As it was morning, haat was not fully filled or started. Preparations were going on. Food stalls were set up beautifully. One thing that I noticed after talking to people that these Bhagoria haats are the major source of income for some of the food stall owners, small street vendors. They have to sit there whole day in that heat to earn their living.

This haat is a bit different in terms of the energy which was there in Ranapur. May be it was because of the timing. But it was a huge haat with huge number of swings and food stalls. There were photograph stalls

where newly married couple and families were getting themselves clicked with multicoloured backgrounds having foreign country's sceneries. One of the most interesting thing that I found there was Ring Toss Game. I saw people playing that game on a stall and going crazy for it. This Ring Toss game is the first stage of my game in which Prema has to impress Lado by winning at least three different gifts from the stall.

The only difference in both the games were that in place of the gifts, there were money kept wrapped on wooden blocks and people were going desperate to win some money by tossing the ring over them. I was worried initially because I was not sure that whether this game is played there in Bhagoria haat or not and I have kept this ring toss game play in the first stage of the game. Again, this is also a solid validation for the decision I took in the game. Visiting Bhagoria actually helped me not only in knowing the tribe and festival with close proximity but it actually clarified so many misconceptions I had initially during my secondary research.



7.6

Take away from Jhabua Haat

I spent my whole day in the Haat. I talked to so many young kids there for whom this festival is an event which they celebrate every year with lots of joy and happiness. Very few of them know the real meaning of this festival and why it was started initially. Throughout the day hundreds of people were coming and going in the haat as if these people were waiting for this day since whole year and today nobody is going to miss it.

Swings were the main attraction of Jhabua haat. There was not a single swing which was mechanised or run through electricity. People were operating such giant swings through their physical strength. I was enjoying every bit of this musical festival and tried their local alcohol called taadi as Prasaad. I was constantly recording videos as well as sounds from the surroundings and tried to capture maximum possible ambient feel in videos as well as sound recordings. Jhabua was the last Bhagoria haat I visited due to the lack of time in the planned schedule. I will definitely visit Jhabua once more with a different purpose or maybe a different festival.



8.0

Process followed in the Project



9.0

Game Development

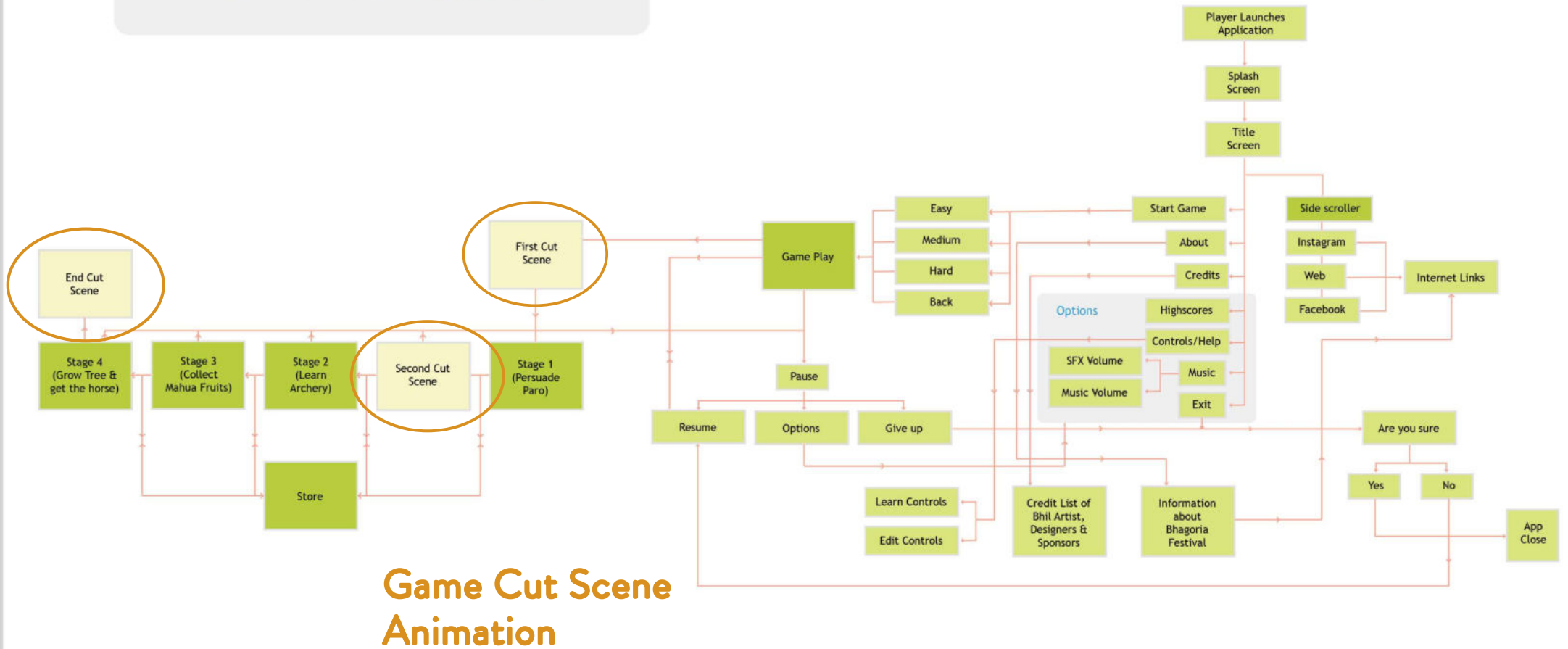
Development of this game application is quite lengthy and crucial process. Neerav Malsattar, a Research Associate from Industrial Design Centre is helping me in the development of the application. Developing this game in an android application is a combination of different individual tasks. These task includes four major stages which are:

- Developing Game play and setting the game logic right in the coding.
- Creating Game play animation and game story animation so that user can get a connection between the game and the game story.
- Work on the Sound design of the game play responses and of game story. Sound should be in sync with the theme of the game.
- Testing of the game play and getting user feedback is also very important to check whether the logic is functioning fine.

These are the different tasks that are required to fit nicely in this game application. We have started working on the development of the game and trying to set the logics for all the stages perfectly. I am trying to work on all the tasks simultaneously so that it can be finished on time. But its kind of a challenging task to work on animation, Sound and Coding requirements single handedly. My priority in this stage is to finish the game play logic coding and move to user testing as fast as possible in the remaining time. Neerav is developing this game in Unity Game Engine and we are developing it for android platforms.

BHAGORIA

Game Architecture



9.1

Game Animation

The whole game animation process in this project is divided in two different types:

- Game Cut Scene Animation
- Game Play Animation

Game Cut Scene Animation:

Game cut scene animation focuses on the story line of the game. It is very important to deliver all the information to the user or player that what is the game all about, what is going on in the story, why he is doing the task in the stage and what is he going to do when, at any stage in the game. When we have to give all this information in a game, its becomes important to weave the whole story into small scenes and deliver them in the game at appropriate stage where it is most required. Our game Bhagoria is based on a story line. Different game stages will come at different point in the story. In this game the whole story is divided into three cut-scenes which weaves all the game stages together and make sense before every playable stage. It is very important for this project because the purpose of this game is bring the Bhil culture and rituals in an interesting format.

Game Play Animation:

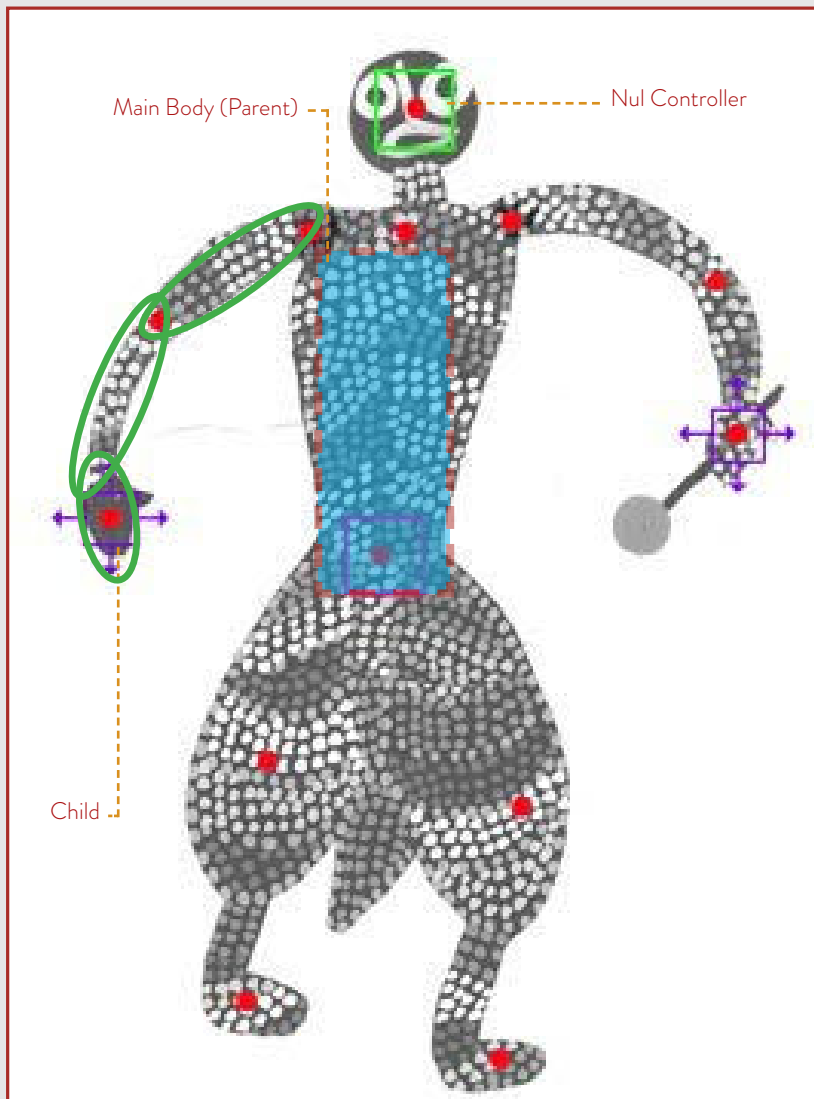
In any digital game format, when we do any action or give any input in the game play. There is always a feedback in the form of animation whether it could be a positive feedback or it could be a negative feedback as well. In our game play, when the user hits the target, there are two possibilities, either it will hit the target or it will not. In both the cases we require feedback that gives a sense of what happened in the game. Subsequently it makes the game more interactive and intuitive for the player if we will provide him feedback sound and animation for different actions in the game. There are some of the common feedback animation for every stage such as hitting the target or not hitting the target feedback. But, there would be other specific feedback animations for different stages which depends upon the task in the game play.



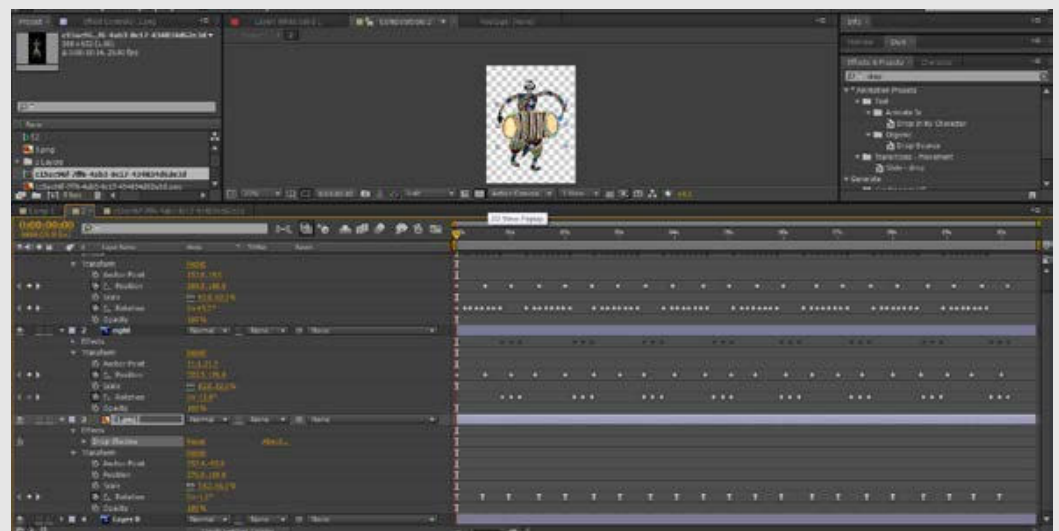
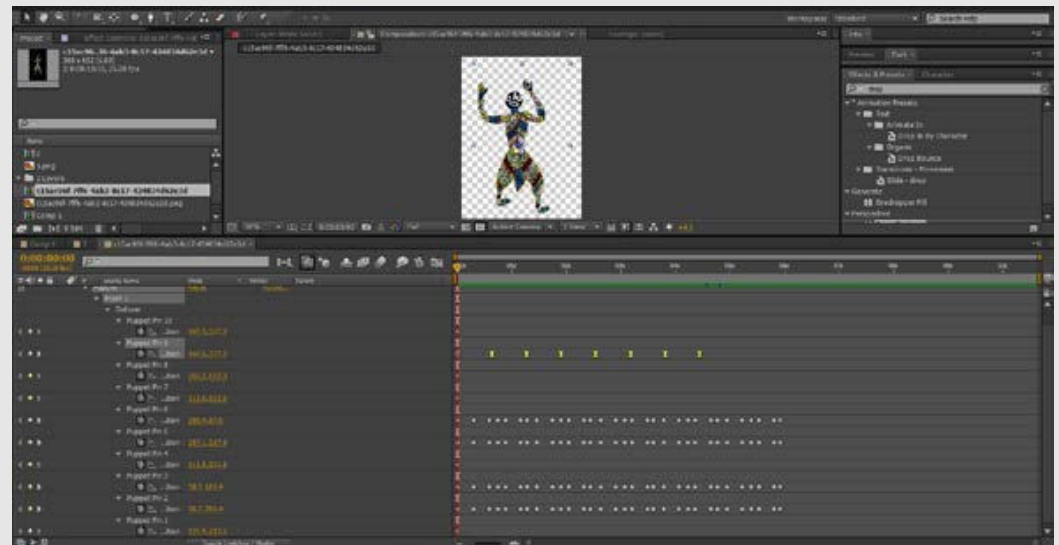
Bhagoria Painting by Sher Singh

The whole process of game animation requires assets which we have to animate in the game. I asked Sher Singh to paint something on Bhagoria theme. Sher Singh took 4 days to paint a beautiful painting which depicts the scene of Bhagoria haat. In this painting Sher Singh illustrated people enjoying Bhagoria haat. He drew ice cream vendors in the painting, a boy who is selling Paan, people enjoying swings in the haat and girls, boys dancing in Bhagoria festival. On the top he painted a boy and a girl holding hands in Bhagoria haat.

We commissioned this painting to use it in the game animation and asset making. We scanned the painting and cut out every image from the painting in photoshop. All these assets will be extracted to animate them as per the requirement of the game story. I am thankful to Sher Singh that he made this painting on my request. I will always keep this beautiful painting with me and would always be thankful to him.



Character Rigging



Key Framing & Animation

9.2

Animation Style

Rigging Animation

I am focusing to keep the animation minimalistic because in an android game application, we can not afford to keep heavy animation. To keep it light but effectively suited to the style of art, we are going with rigging animation technique. Anagh Saha, M. Des (Animation) is helping me with this technique.

A character rig is essentially a digital skeleton bound to the 3D mesh. Like a real skeleton, a rig is made up of joints and bones, each of which act as a “handle” that animators can use to bend the character into a desired pose. We used the same technique in our 2D characters and animate them with the rigs. We cut our characters in a way that they can be easily moved from different joints and create better movements. In a character, we created torso to be the parent (main body) and linked other joints as child. In this way we rigged and animate all our character in after effects.





9.3

Sound Design

As per the plan of the trip to Bhagoria, I have tried and recorded many sounds from Bhagoria Haat and its surrounding. I have recorded the sounds of drums and metal plates in sync creating a repetitive music. Sounds of the people dancing and singing loudly with the beats of drums. Girls and boys singing their folk songs and dancing on the roads. I have also recorded the ambient sound of the haat, sounds of the loud speakers, advertisements, local music etc.

In the sound design for the game we have to create separate sounds for the game cut scenes and game play responses. In game cut scenes a normal background music with the essence of Bhagoria will be designed. The game cut scenes will be designed like motion comics with minimalistic sound and movements. So we would not require to load the application with different sound files. Sounds for the game play animation will be a little loaded in terms of multiple sound responses according to the events in the game. Negative and positive feedback sounds in the game would be different. When a person loses a game, it would be a different sound from the sound for winning a game. A list of negatives and positive feedbacks at different events in different stage will be created. Accordingly, the sound will be allotted to different events in the game play.

9.4

Game Testing

Game testing, a subset of game development, is a software testing process for quality control of video games. Primary function of game testing is the discovery and documentation of software defects (bugs). Game testing is very important because multiple users picks multiple problems which helps in correcting the early mistakes in the foundation of game development. Creating fast prototypes and testing them helps to create clean and finish game play. At this point, we have come up with the workable prototype of a stage. In this prototype, the main focus was to make it simply playable. We did not focused on anything else but the primary functioning of the game.

After three iterations, the game logic is working fine in the third iteration. I gave it to my friends and faculties and tried to come up with the multiple feedbacks from different user. There were some genuine errors that people have noticed and we are working on them. As this was a very basic and rough prototype of game play, we have to refine it in terms of actions, animations, multiple feedbacks, responses and sounds etc The whole game developments is in its process.

10.

Present Project Stage

The present stage of the project is that we are working on different aspects of the game development in parallel. First playable prototype of the game stage is ready. This is tested among the students of our hostel and IDC. Setting the game logic is the main consideration in this prototype.

Game story animation is in the process of rigging and animating multiple scenes in the story. All the assets and game props in digital format are ready to be rigged and animate. We have started working on the game animation in after effects. For the game play animation, we have to design multiple sprite sheets for multiple feedback and response animations. In the next prototype, we are trying to add feedback animations in the game play with a small background sound.

Sound designing for the game is also very important part of the game. We have all the recordings from Bhagoria Haat. We have to work on the sound production. Before the development of the second prototype, I am trying to create the feedback sounds for the stage. So that we can take the next prototype much further in its development process.

11.

Conclusion

I realized that this project has increased my personal understanding and sensitivity towards Indian Folk Art and Culture. Games can be an excellent way to understand an abstract concept. They encourage peer interaction which enhances learning. As a player has to pay maximum attention to win the game, the involvement level is always high. The strength of Games as a tool to spread any information in a fun way is

The project is in development stage. The game concept along with game story, game stages and game play is finalized. The structure and the work flow of the game application is also finalized. Visuals in the screens of different game stages are done. A working mock up of the game application to show the work flow is ready. I would like to carry forward this project to the final developed stage. We have to work and develop on the previous version of our game play prototype.

We have to work on the complete game animation, Sound design for the game and compilation of the whole game into an android application.

12.

Challenges

Through out the process of this project there was a big challenge to understand the rich and vibrant culture of Bhil Tribe. It becomes very important to thoroughly understand the Art and tribe in their cultural context. Diving deep into their culture and looking for a totally new story was a challenging task.

As we are designing a digital game through Bhil art visuals, we have to consider that it is going to be a totally new visual language for gamers and audiences with which they are not familiar with. At the same time using the Bhil visuals for designing a game also created limitations in terms of visual design rules. Bhil art includes pictographs with dots. These dots collectively creates cognitive load on user while playing the game. While designing the game, we have to design or arrange game visuals in such a way that it should not hinder the game play.

Without making it exotic, coming up with a new story and a ritual which can be converted into an interesting game play was a big challenge in itself. Incorporating every aspect of the ritual in different stages of the game and preserving its consistency in game levels was also an important aspect.

We always tend to consider a tribe to be backward and orthodox in their ways of thinking and doing things. We have to understand that tribal peoples are as modern as us in different ways. They have developed ways of life that are largely self-sufficient and extraordinarily diverse. Even so, tribal people are portrayed as backward and primitive simply because their communal ways are different. This was the main view point this project has to deliver to the audience that tribes have a lot with them through which urban people can learn and incorporate their approaches towards life and way of living. For example: issues related to love marriages, dowry, water conservation and living in harmony with nature were some of the main touch points in the game.

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