

# Digital Puppetry

a story telling approach

Visual Communication Project III report by A.Anand



This project( Project III ) in Visual Communication, entitled '**Digital puppetry- a story telling approach**' by **A. Anand** is approved in partial fulfilment of the requirements for M.Des. Degree in Visual Communication.

Signature of the guide

Signature of External Examiner

Signature of Internal Examiner

Signature of Chairman



## Abstract

Multimedia enhanced children's games and storybooks are available in plenty these days. Most of them in the process of achieving a great deal of interactive entertainment and powerful imagery fail to understand a child's way of imagination and their creative strength in story telling. In addition, children of today are being more and more exposed and attracted to violent arcade games and entertainment concepts that fall short of any good virtues.

This project is the result of a study of South India's traditional puppetry, its story telling methodology and its subsequent application in developing a multimedia story telling/creating application, which is interactive, giving the child options to create his own characters and stories. Further, it also allows forming an active team and enacting a play with the characters and stories they made. Thus, integrating a great source of learning from traditional visual forms and developing a highly participatory and hence dynamic play environment, 'Puppettooner'- the multimedia application provides 'edutainment' rather than just entertainment.



## Acknowledgements

This project was conceptualised in its raw form after seeing a film by Sri.R.V.Ramani. I thank him for the time he spent with me, giving me my introduction to the graphic medium of puppetry.

Smt.Bhanumathi helped me a lot by providing me with the research materials she collected over the years. I thank her for the help she offered and wishing all the best for her efforts to revive puppet theatre.

Sri.Viswanathan and Sri.Appukkukkuttan Pulavar, two veteran puppeteers in Kerala, demonstrated shadow puppet theatre. The night I spent with them in the Koothumaadam- the puppet stage, will remain in my memory for ever.

Prof.Raja Mohanthy through his ideas and criticism took the project to varying premises. Each time an idea was presented we got in to heated debates and I think the subsequent form that the project took is deeply the result of those sessions.

I thank my guide Prof.Shilpa Ranade for her immense support and confidence in my work.

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One person I am deeply obliged in the project work is Abhishek Thakkar, a Flash enthusiast always ready to crack a scripting challenge.

Thanks to Muthu, Senthil, Sachin and Shaunak for their timely help.

I dedicate this work to Sri.TA.Joseph, who told me; 'colours are made to be put on a canvas, not in the tubes of the manufacturer'.



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## Introduction

Storytelling is one of mankind's oldest traditions. From the tribal fire to the dinner table, narrative communication is an effective and cohesive way to educate, persuade and entertain. Stories tell who we are, where we have come from and what we stand for in a memorable, meaningful way. By encouraging their audiences to become emotionally involved in their narratives, good storytellers create a receptive atmosphere for their messages. Each organization has a unique set of stories. Telling those stories well to the right audiences is an important advantage for attracting attention in an information-saturated environment.

Historically, storytelling involves information relayed by a narrator working from a single perspective. However, digital media and the Web are rapidly changing this passive dynamic. Through Cyberspace everyone can easily "talk story" with a global audience. Now, storytellers can

create rich, uniquely interactive experiences that attract more than mere attention - they can also capture the thoughts, imaginations and emotions of audience members in ways that were never possible until now.

This project attempts at creating a story telling experience enhanced with the possibilities offered by the digital tools, which is not only interactive but also participatory. The various storytelling techniques that present storytellers have tested out successfully- animations, audio narrations, live plays and cinematic techniques were studied and those components, which deliver a richer, more experiential, story, were extracted. In addition, a great amount of time spent on studying the manipulation techniques and styles of representation in traditional Indian folk art forms like Shadow puppetry, Mudiyyettu and mural paintings from Kerala.



## Story telling today

Digital storytelling uses the power of words, images, sounds and interactivity to communicate messages. Weaving stories with a rich array of multimedia resources, the storyteller is able to provide a unique experience. Some stories may involve each member of the audience in the storytelling process.

Stories can have multiple endings decided upon by participants. In some situations, stories can be added to or transformed by other storytellers. Digital technology allows for many possibility and the Internet provides a way to disseminate the story material worldwide.



Few of the most popular methods of story telling today are Digital stories broadcast over the internet, Computer games, Multimedia story books and Personal blogs.

### Digital stories

An electronic memoir, a digital story popularly known as Micro movies is a mini autobiographical movie that spins its tale through a combination of digital media. Blending photos, images, and artwork with sound bites and video clips, the digital storyteller multiplies the effect of each medium as a form of self-expression. These short films not only describe the individual's experience, but also attempt to convey their voice, emotions, and perspective. A sneak peek into the soul, a Micro movie gives its audience a brief glimpse of the world as seen through the eyes of the storyteller. Communities and individuals make low budget digital stories themselves with open resources and simple postproduction techniques and publish these stories through the internet

thus reaching to a wider audience. Despite being very personal and strongly political stories many a time, Digital stories received a wide viewer ship over few years in its current form. The micro movie provides both a challenge and opportunity in the age of the Internet and digital cinema. The challenge is to communicate in sight and sound an idea, story, or experience in a very short period. The goal for many is telling an exciting, well-told story which could be quickly screened by today's Internet audiences. Animations, picture albums, personal diaries, movie clips... all form great methods for storytelling in the digital world.





### Computer Games

Most popular computer games of today tell a story through strategy based environments. The hurdles that a player had to cross or decisions he has to make form part of a core story. Multiple player games allow players to interact/compete with each other to win the gaming task. Computer graphics gaming is popular these days. It is observed that R.P.G's (role-play games) and strategy based games creates wide acceptance among kids and teenagers alike.

### Blogs & Community forums

Blogs or Digital diaries are the happening means to communicate and share ideas and experiences over Cyberspace. People make notes of things that attract or influence them every day and tell those ideas and stories through the internet. The success of Blogs comes from the notion of its immediate reference to a personal diary.

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Although the newer means of story telling in the electronic age provide a richer visual experience and sharing of ideas, the essence of story telling as an intimate participatory experience between the storyteller and the audience is a missing component in many. Computer games for instance while creating a competitive environment for the participants to tell the story, miss out the finer aspects of good stories like a message, critical thinking or, just a thought; "I want to tell this story to some one".

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Ammu, a seven year old little girl made and illustrated the above story.

### What can be done with the Digital media of today

Today's technology should allow children to tell stories in powerful ways. Children form a fabulous world of characters in their minds whenever a story is told or read. They should be provided with tools to visualize and tell those stories to others, with all their individual creative skills to narrate (singing, acting, drawing etc.). We need to remember what makes great stories for children. In today's media, we are inundated with scores of sub-plots, plots, and messages that can overwhelm the senses. It is easy to become a mental couch potato and forget the art of creating story. Children need to be able to see themselves as producing good content. They need to know how and be able to tell stories.

Good teaching that helps students think is usually good storytelling. The teacher/storyteller knows the content, sizes up the audiences, and gives a great delivery. Good stories and good teaching can get even the most reluctant brain working.



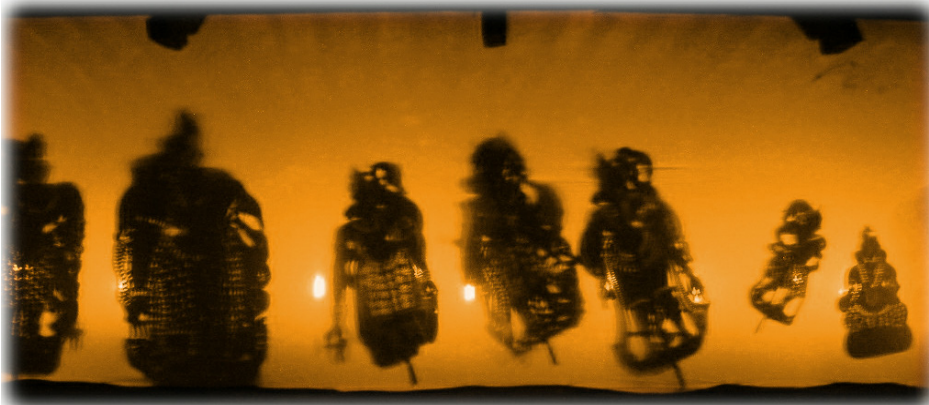
### Traditional story telling practices



Warli art-work includes figures of gods and goddesses, wedding processions, folk dancing, festivals and rituals, farming and domestic works, motifs of sun and moon, ladder, comb, etc. and forest scenes which consist of varieties of trees, birds and animals.

Traditional story telling practices in India were songs, miniature paintings, and popular folk art and dance forms. A great level of personal interaction between the storyteller and the audience makes the stories told by these storytellers unique. For example in the performing arts of Kerala, though the same story is being told over and over, there is often a religious or community significance to the art form that makes the audience closer to the characters of the story. In shadow puppet theatre of Kerala, which is a ritual in Bhagavathi temples, the story of Ramayana is told for a period of 22 days every year. The people in the locality identify each day during the performance with the story that the puppeteer narrates on that day.

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One can adopt many visual representation techniques from traditional art forms. Tribal art, miniature paintings, puppetry, regional folk dances, and theatre are just a few sources for powerful graphic imagery and representation techniques for designers even today.  
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### Shadow puppets

All around India, puppetry was once a major form of mass entertainment. An indigenous art form that was one of the most popular forms of mass entertainment in the days of yore, the Leather Shadow puppetry (tolbommallattam in Tamil Nadu, Tolpaavakkoothu in Kerala), was performed by wandering families of performers. It conveys the social and religious messages across a wide spectrum of viewers in an intimate manner.

The family of puppeteers wander around places with the shows. As they came to a village, they would camp on an open ground/temple nearby, and would announce their presence by going through the streets of the village beating a drum. Performances were in the evening, after dusk fell. A white dhoti stretched between two trees or a bamboo structure formed the stage. As dusk fell, the audience would gather in front of the stage and wait for the show to begin. After dark, torches were lit and the performance began with an invocation to Ganapathy.

The Ramayana was the theme of the show, and in the warm glow of flickering torches, the doll-like puppets enacted the perpetual struggle of Good against Evil. The performance was punctuated with laughter and comedy through the machination of the crafty Brahmin and other characters. The king, Rama, and Lakshmana were never far from view, their steadfast and calming demeanor commanding the screen. The story unfolded, the battles were fought, trials undergone and the climax achieved as good prevailed. The audience was fulfilled and their life's struggles were again validated. Through the medium of entertainment, powerful messages that gave meaning to the lives of the masses were conveyed.



### Tol-Paava Koothu; Shadow puppets from Kerala

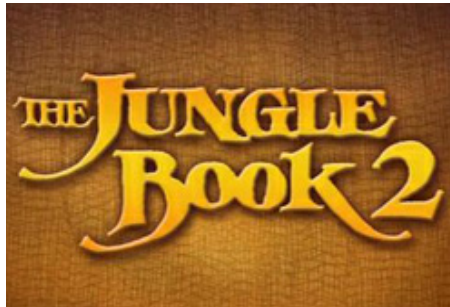
'Tholpava Kutto,' the shadow theatre of Kerala is performed in the districts of Palakkad and Trichur. The play is an all-night open-air function taking as many as forty-one nights for an exhaustive treatment. The duration these days has however been considerably reduced. These dramas form part of the festivities of the spring festivities of the spring festival in February, March and April.

The shadow puppet stage in Kerala is a necessary adjunct to religious life and is as such associated with temple festivals. The text is from the Tamil Ramayana of Khambar and the performers of the shadow theatre form a special community called 'Pulavar'. The performing season starts from January to May.

The innumerable chinks in the puppet figures emphasise the silhouette picture or shadow cast on the white screen. They are generally small, the largest being about two and a half feet. The screen consists of a piece of white cloth about 18 yards in length and five feet in width over a platform wall of three to four feet in height screening the puppeteers. Behind the

screen on a split bamboo are the foot lights, 41 in number. All the puppets have wooden handles to facilitate manipulation. The screen is divided by a wooden pole into two parts, the right side reserved for the noble characters of the play like Rama and Sita, and the left for the evil characters like Ravana.

Temple rituals and ceremonies precede the commencement of the show each night. After the preliminaries which take a couple of hours, the story proper starts and the puppets become dynamic though their movements are few and restricted. The story-teller is expected to be a sort of encyclopaedist, learned in the scriptures - Vedas, Upanishads, Puranas and Itihasas. The dialogue and verses are chanted in a peculiar way that suggests wailing. By modulation the trained voices of the story tellers create in the audience the exact aesthetic emotion desired and a sense of the supernatural. A realistic and startling effect is achieved when Sita enters the flames to prove her chastity. Leaping camphor flames cast lurid shadows on the screen as she emerges unscathed, resplendent in all her glory.



Titling sequence for Walt Disney's Jungle Book movie. Animation style inspired from shadow puppet theatre.

### Contemporary puppetry

Puppetry though, is experiencing a worldwide revival, and with it, traditional Indian forms are being resurrected everywhere. Whether it is the Kogga kamat marionettes from Karnataka or the Tolpavakoothu of Kerala, all these forms are seeing a resurgence of sorts. Contemporary puppet troupes are combining traditional forms with modern themes.

More over, puppetry itself is changing. Puppetry as a technique inherits a kind of abstract quality, which allows creating an illusion, which may not follow the logic of reality. Therefore, the puppets can break the rules of gravity and fly on the screen area to fight, walk, and talk. As an expressive, creative activity of the child or young adult there is little to rival the skills and enjoyment that puppetry reinforces. For only puppetry can create the grand illusion, and with the magic technology that contemporary digital tools offer the contemporary puppeteer has brought this art form to new heights.

A new dimension has been added to puppetry with digital animation. Figures broken free from strings, yet bound strangely by their creator's ideas and stories, digitally animated cartoons and figures are the new age puppets.



### Design objectives

Puppetry as a graphic form and storytelling medium has immense visual and narrative potential in children's stories. Transferring the essence of puppetry as a narrative medium to the digital world requires a lot of effort. Although to emulate the experience of watching a traditional shadow/string puppet show to the digital medium is unachievable, a designer can study the elements in the medium that makes it a unique visual form and adopt it in the digital format.

Shadow puppets present us with a graphic form, which is captivating and expressive, yet very simple. A study of puppet manipulation and story telling techniques could help to develop a new style in animation and motion graphic. The basic style involves simple yet effective animation techniques that could be simulated with software such as Flash. In addition, the traditional puppetry allows a great deal of freedom in storyline manipulation. Though there is no instance where the puppeteer himself appears on screen, there are certain characters that are more human like (example; Komali- the buffoon, Konakkundian- the ugly moron, Kudakkaran- the umbrella carrier etc.) who comment on the facts stated in the conventional story and allow the performer to justify or criticize the facts.



Villagers paying homage to tree spirits and a procession lead by children to the performing stage.  
Cherpulasseri temple, Palakkad, Kerala



From the study of a traditional shadow puppet performance, a set of tasks were developed which would form the guidelines for the design of the new story telling medium.

### *Providing the dynamics in puppetry*     *Interactive/participatory experience*

Like many performing artists, a puppeteer gauges his audience. Scenes and characters, songs and dialogues, lighting; he manipulates everything under his control to suit the story to the mood. This could be compared with a grandmother telling the same story to a child, each time with something more in the story- new characters, new events, or some times a new story itself!.

A traditional puppeteer in Kerala performs at a temple site for a period of 10 to 21 days every year. He tells the same story of Ramayana every year. This ritualistic performance has been gelled in to the life of the locals that they refer each day during the performance with the part of the story that the puppeteer would be narrating that day. Hence Lanka Dahanam, Pattabhishekam; all become part of a living experience of a day. The act of people gathering to see the puppet show itself is rendered with lot of events, which give a participatory experience amongst a community. The oracle's blessings, the procession leading to the stage with lit torches in hands, homage to the tree spirits, all form part of an act of good will. This participatory experience makes Shadow puppetry as a unique story telling tool.



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The interactive components in the medium should provide means to experience the stories as a group. It should engage the kids with a participatory mode of interaction; interaction with the story as well as interaction with in a group, developing a sense of togetherness and collective spirit that will enrich the story. If possible, each child can become a storyteller and narrate his very own story.

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### Concept

From the design brief developed after the analysis, an interactive medium for a group of children to narrate and visualize stories themselves was conceptualized. The average age group of children for whom such an authoring platform can be targeted was found to be from 7 to 12 year old. At this age children likes to form groups, exhibit creative skills, and collect storybooks.

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## **Puppettooner**

### *Exploring the fun in story telling*

An authoring application, which allows children to create characters for a story, modify them, and animate the characters while telling the story.

With the interactivity that Puppettooner offer, children develop their story telling skills, artistic inclinations, and group dynamics. It could be a tool, which brings knowledge and entertainment in to classrooms. With the simple techniques of puppet construction and manipulation, characters can be made and scenes can be manipulated to achieve a unique user experience. With the library of character parts provided with the application, children can make puppets in specific styles. While exploring this library, children could also get to know more on different graphic styles.

Knowing graphic forms and ways of expressions, which are strongly rooted in their own culture, develops their sensitivity for art and culture, right from childhood.

They can add their stories and characters to the application and the puppet plays that they perform can be recorded inside the application, which can then be published as an animation ready for broadcasting over the internet or television.



## Traditional Shadow puppetry and Puppettooner

Puppettooner is a multimedia enhanced puppet play environment, which is inspired from the traditional narrative styles of Shadow puppet theatre of South, mainly Kerala. The essence of story telling in shadow puppet theatre is the way in which the puppeteer improvises his narrative as the play build up. The puppet manipulation techniques are fairly simple in the traditional puppetry.

The main concept behind the structure of the application is to allow space for a more creative space to narrate stories, and develop the skills in story telling. The animation and visual effects are kept very minimal yet effective. Apart from the graphical styling that is adapted for the graphic user interface, it is the importance given for narrative with group participation that makes Puppettooner a unique application of its kind.



Kalam, the ritualistic rangolis of Kerala portrays Kali

### Developing puppets and library elements for characters

Traditional shadow puppet construction of South India reflects clear influence from the regional styles of mural paintings and sculptures in their form and decoration. They are well executed as a fabulous graphic expression of an idea. One single puppet contained a lot of detail and stories within itself. The craftsman's execution of detailing the figure and ground was extra ordinary.

However, the proportions of these puppets can be seen exaggerated much more than in sculptures, consciously to express an idea or feature of that puppet when it appears on screen. References to regional folk dance/art forms and folk literature influenced the building up of the character library for Puppettooner.

The task to create characters was started after understanding the type of story. For example our mythological stories present a strong imagery- full with action, drama, and superhuman characters. In the selected mythological story, references to the imagery of fights between Kali and Darika were taken from other visual and performing art forms like Mudiyettu and Kalam-ezhuthu and from songs of these performing arts.

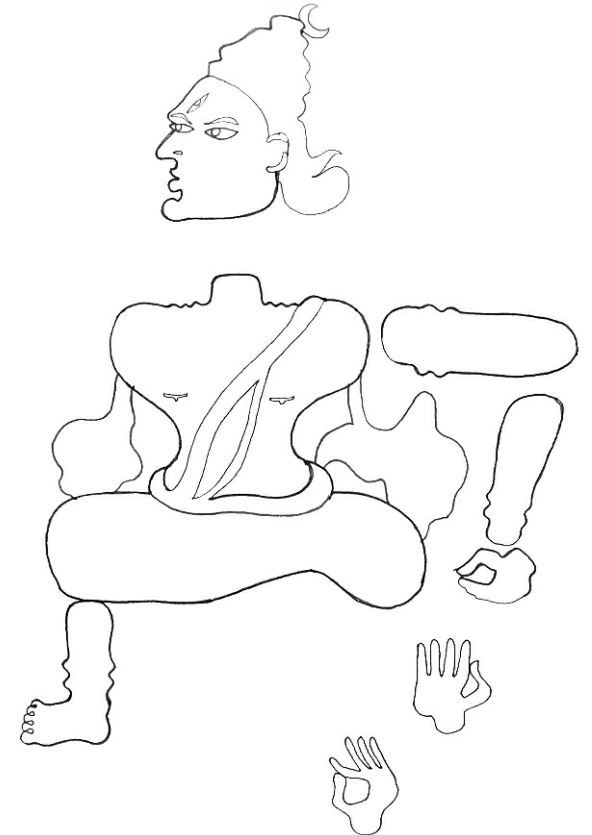
For example, Kali is described as a warrior woman fighting on top of the fierce demon Vethal, in one song. Vethal spreads its tongue over the battlefield and stops the blood of Darika, the demon from falling on the battlefield. As they approach the battlefield, they meet a flock of wild elephants and terrorize them.



Initial sketches showing Kali in the battle field. Vethal is spreading its tongue over the battlefield and the scared elephant king clinges to its tongue.



Characters are broken down on to puppet components and various iterations for the same components have been developed.





*Kali's* image is drawn by a Kalamezhuthu artist with natural colours.

Colour schemes developed for the character of *Kali* in the story



### Colour schemes

Other references from mural paintings of Kerala and puppets of South India aided the colour schemes for puppets. If a South Indian traditional puppet has a green face, it means it is a hero or a god. If the puppet has, a red or black face it means it is a bad person. If the puppet has, an orange face it means that it is a woman, or a wise person.



*Sita* the golden deer, a character from *Tolpaavakkoothu* of Kerala. Intricate detailing on the leather to bring the character of puppet when placed in a bright background



Characters of *Kali* and *Siva* in the story. Colour schemes uses dark hues of colours but the detailing on the figures bring out the characters



### Figure and ground relationships

The basic style of shadow puppets of South India with intricate perforations, and clever relationships with positive and negative spaces to bring out the basic character of the puppet even in its silhouette was studied and adopted for developing the characters.

However the characters were developed with great care on modularity and compatibility that would be needed for it to offer a wide range of character creation possibilities.



*Kali on top of Vethal*



*Kali with smallpox pustules*



*Kali captures Manodari*

**Creative options for the same characters**

Character attributes can be changed over each scene as per the story requires, Say, the story can take a twist altogether and the characters can be modified accordingly also.



*Manodari*



*Manodari with Siva's sweat*



*Kandakarnan*



### Animation style

Puppet movement styles of traditional puppetry, added with the possibilities offered by Multimedia applications like Macromedia Flash had been chosen for animating the characters. This software allowed for assigning a particular type of character movement inside a movie clip which can be reused anywhere during the movie playtime. The added advantage of this system was the ability to control these animations with user inputs, making the animation style interactive. Hence basic character animations were stored inside a number of pre assigned movie clips and they were attached together to form a full character.

### Character movements and controls

<i>Basic animation</i>	<i>Puppet A</i>	<i>Puppet b</i>
Moving a puppet	mouse click and drag	PgUp, PgDn, Right, Left
Flipping the puppet	q	/
Rotating the puppet	w	*
Swinging the puppet	s	PgUp
Hand/leg movements	a	.
Enlarge puppet size on screen	r	+
Reduce puppet size on screen	e	-
Illuminating the lanterns on screen	1,2,3,4,5	
Default movement of parts	Can be assigned while making the characters	

The player could control the character as well as its body parts with his inputs and individual manipulation techniques. The characters developed were raster images which helped in moving away from the usual 'light-vector graphic' quality of Flash generated characters. Further steps in developing the graphic environments for the application also followed the same approach, keeping raster image formats and there by a more ethnic feel.



### Graphic User Interface Concepts

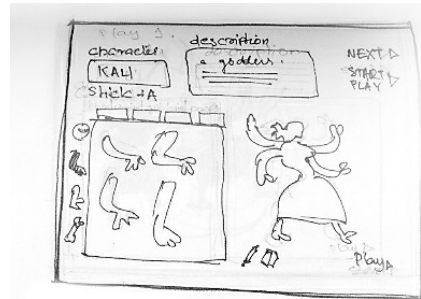
A preliminary set of storyboards were developed for the GUI for the application and fine-tuning of the graphic components was started on the computer. The screen metaphor of a well-lit stage and backstage area were developed with the graphic forms representing a traditional puppet play. For example, the puppet library appears in a basket just like the way a puppeteers basket contain many puppets.

The screen environment itself is set like a puppet show at night with a well-illuminated stage. The colour scheme that was followed hence mainly consisted of hues of yellow and orange. A combination of smooth and jerky transitions are used between scenes of the play and character preparation.



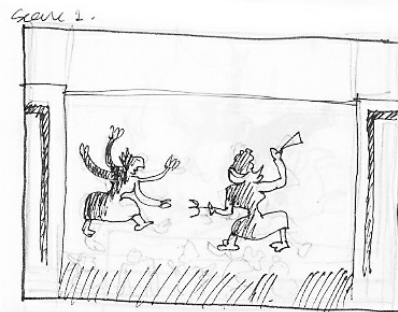
Concept story boards and concept notes which lead to the final look and feel of the final graphic user interface.

metaphors, fairy, folk  
err bad



Story → create and character  
Kali  
Shikharika

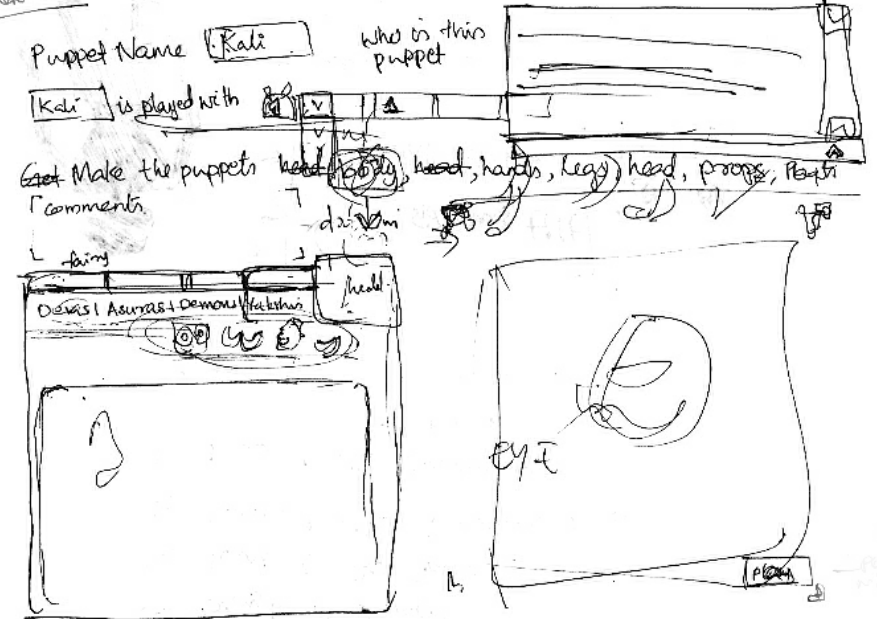
(start making puppets for the story.)



In the end of the scene Kali and Shikharika both goes to the right side of the screen, and make up room re open



Final screen



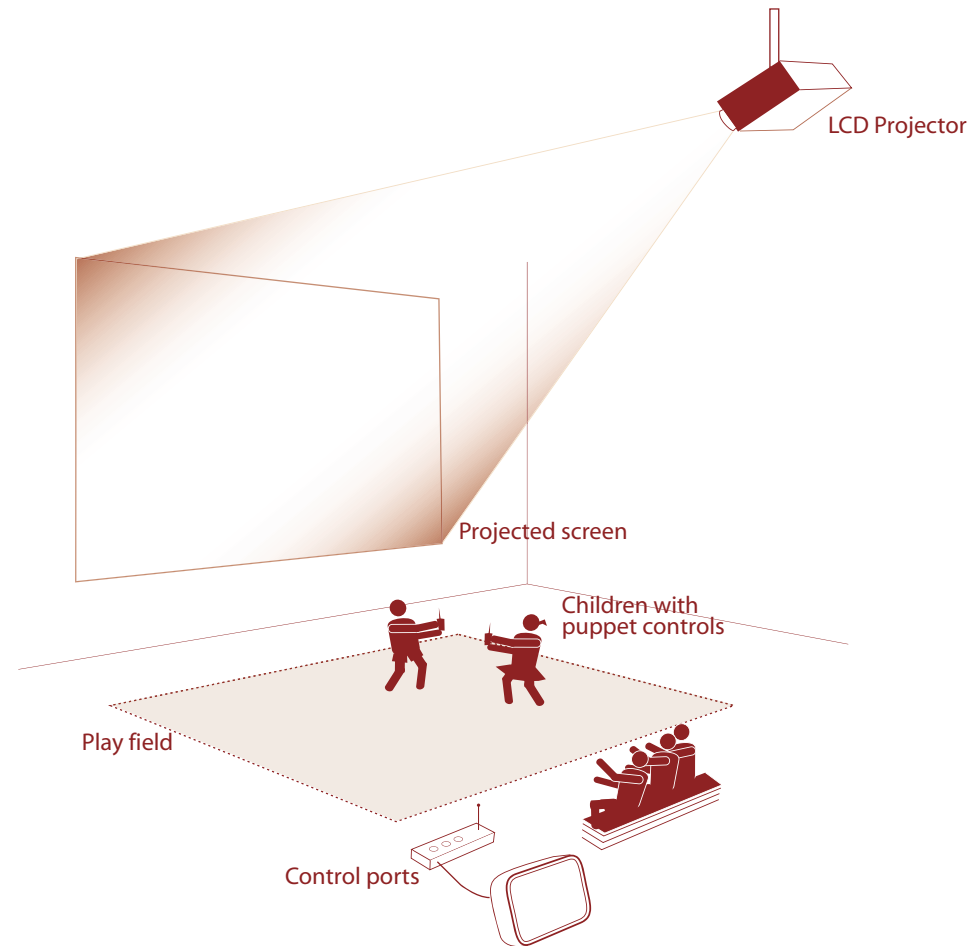


### *Integrating the hardware and GUI*

The input devices for Puppettooning is designed as a combination of keyboard and a dedicated set of hardware components to control the characters on the play area. The GUI is designed with integration of these special hardware units for usability aspects like affordance and mapping.

For example in the keyboard-mouse controlled play area, the characters appear at the bottom of the screen area when the mouse pointer is moved down. The user can drag and place the character then on to the required position on the monitor. The same sequence when played with stand alone control devices, make the characters to pop-up on the projected screen when a player walk down to the lower portion of the play area where the other players will be seated. He then can go back and sit next to other players and a new player can activate his character and walk in to the play area to play his role.

Similarly, essential sequences of the play like changing the scene or modifying the characters also happen in a similar manner. The stage crew can activate the changing screen menu from both sides of the screen which would slide in like a curtain and they can select an option to change the scene, modify the character or putting an end to the story.



### Hardware

In the testing stage, Puppettooner controls characters partly with the help of simple computer hardware like mouse and key board. However, its interface and story narration is designed for a mouse/key board free environment.

The puppet interface can be projected on to the wall using an LCD projector or it can be an input signal for a large video display unit. The puppets can be controlled with separate control devises (like wire-less joy sticks) specially designed for puppet manipulation and thus the player can move around, talk and sing along with the other players in narrating the story.

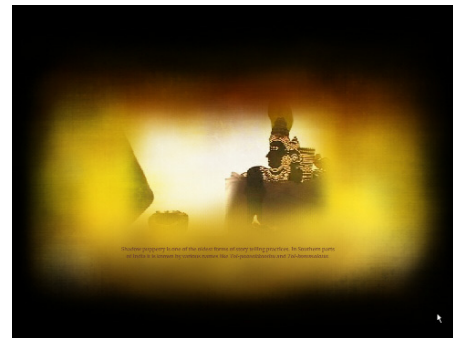
The field of control for such remote tracking devises can be adjusted to fit small classrooms to big stages.



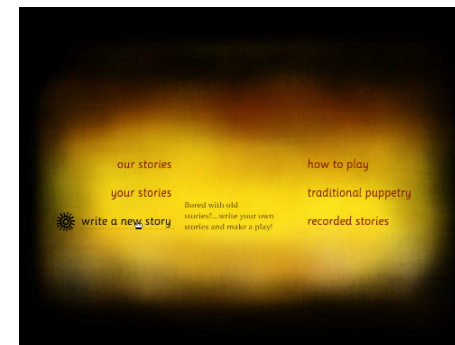
### Application Sequencing

#### Intro sequence

The intro movie begins with a clip from the traditional puppet show of Kerala, then move on to the animated titling scene with moving type which finally assemble together to read the application name; puppet-tooner.



Intro sequence ends with the main menu. Main menu consists of options to select, read, or write stories in 'Puppettooner'. There is also a section explaining traditional puppet theatre of Kerala and a help section.





## Making puppets

The task here is to make an exhaustive library with puppet parts that will make a basic puppet. The puppet library changes contextually with the type of the story and character that you want to narrate. Therefore, a fairy character will have a puppet library with heads, body parts, and props that belong to fairy characters.

Once all the puppets are made, one can proceed to the performing area where they play with the characters they made.

During the play, if a character needs to be modified and brought back again to the stage, the players could get back to the assembly area and modify the puppet.



Students can enter character attributes (what they feel about that character, any other information about that character from other stories, who in the group played that character etc.) which can be referred by other children who want to narrate the same story later.

An overall graphic ambience of a backstage event is given to this interface. The puppet parts appear inside a puppeteer's basket.

A screen metaphor of a standing traditional puppet is used to navigate through the libraries of basic parts. Within each library, one can select a character part and modify those parts to customize to their needs. Therefore, a character head can have closed, open, or angry eyes to select. Once the part is selected, they can be moved on an assembly area to customize scaling, tilting, and flipping. Once the character is made up to meet the story, it can be saved as a complete puppet.



### Puppet play area

The saved puppets appear on the screen and by selecting and manipulating them with the external device; the puppets can be moved around the stage to narrate the story. Apart from providing those basic puppet movements adopted from the traditional puppet theatre, the puppets can be manipulated with different techniques offered in the digital media. The dark puppets of the traditional shadow puppetry are replaced with colorful puppets. The puppets can be zoomed in and out to show parts more clearly. There are controls to boost up the ambient light around small regions by increasing the flames of lamps; a technique used by the shadow puppeteer to highlight characters during fight scenes. There are options of traditional percussions of Kerala to choose from for a scene which would suit the basic rhythm for narration.

#### Basic puppet movements

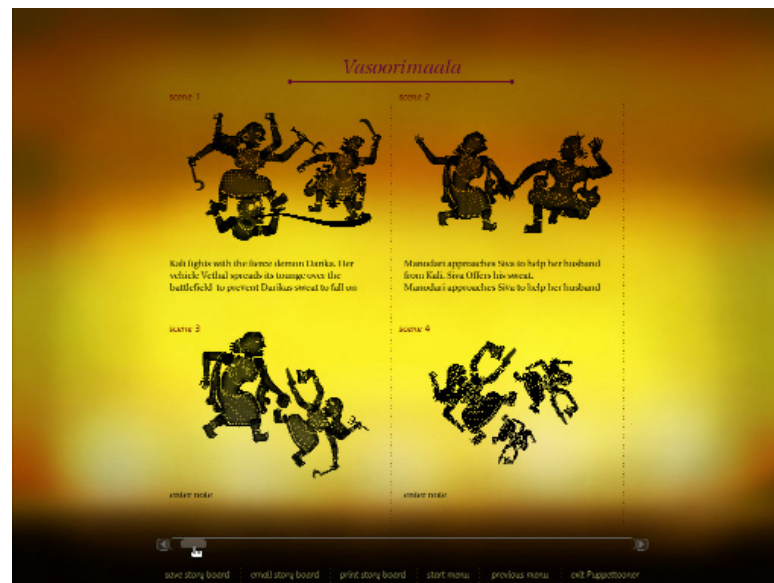
- 1.Default movements which loops.  
eg.A tilting head to keep the puppet active
- 2.Movements of parts- Hands, legs
- 3.Body movements- Rotation, flip  
To depict an angry character, just like a puppeteer rotating his puppets, the player can rotate his puppets.



### Changing scenes and ending the play



The change scene option allows the story to enter a new scene and continue with a set of new characters or with the characters appeared before. At this stage, a snap shot of the previous scene is stored and placed on top of the screen, which shows the sequence in which story, is proceeding. Thus, this serves as a storyboard, which, at the end of the play can be printed or e-mailed.



To put an end to the show the menu appear with options to save, replay, see story board edit storyline or start a new play all together. Further options like the story board for example can be taken out in the form of a printable or e-mail output or the play sequences can be saved as an action sequence which can be recorded and saved or can be sent by e-mail as a compressed output format for a global distribution.



### A story

A Mythological story was selected for narration using the application. The story is based on a myth in Kerala about small pox.



### Vasoori-maala Story of the small pox goddess

In primeval times, Darika, the Asura gained immense power through deep austerity and penance and continuously threatened the Devas. The wrath of Devas made Lord Siva to create Kali, fierce warrior woman to destroy Darika. While Kali fought with Darika, Manodari- Darika's wife appeased Lord Siva to protect her husband. Siva blessed her by giving his sweat to sprinkle over humans who would in turn offer her everything she ever wanted.

Manodari, on her way back saw Kali approaching victoriously with her husband's decapitated head in her hand. In a fury, she sprinkled Siva's sweat on Kali and there erupted the smallpox pustules. Kali burned with pain and she had sent her attendees to inform Siva. Siva created a goblin called Kanda-karnan who removed Kali's pustules by licking her body. However, Kali prevented her brother

to lick her face so the pustules remained on her face.

Kali captured Manodari, chopped her legs, and took away her eyes to leave her blind. However, feeling happy with her devotion for her husband she made her one of her attendees and named her 'Manodarimala.' Kali, when she is displeased sends 'Manodarimala' to spread the deadly disease. Therefore, people made a temple for her in a place called 'Manodari Pattanam.' In colloquial usage over the years, she came to be called 'Vasoorimaala' or 'Vasoori.'

She attacks the household much unnoticed, approaches crawling- since she cannot walk. Therefore, wise men advice not to cook wafers in houses since that would attract a blind Vasoori.



### Story narration- techniques

The story being a mythological event, was decided to be narrated with lots of folk elements in it. Static puppet forms in a story should get complete expression in the vocal narrative since the character formation itself takes place with a lot of literature and picture book references inside a class room. Hence, the story was transcribed in to verbal narratives and folk songs, which would be sung along while the puppets play on the screen. The folk songs followed a style very similar to the narrative style of 'Ottamtullal' a popular dance form of Kerala.

Set of percussion instruments selected consisted of traditional drums of Kerala- Chenda, Mridangam, Timila, Idayka, Maddalam and Ghatam. A single complete 'Taalavattam'- one complete rhythmic cycle, of each drum had been provided to select for a narrative. While the narration takes place on the spot, the beats can also be turned on to enhance the ambiance. Also, while singing the folksongs on the spot with the puppet show, plastic buckets served as drums to demonstrate the fun and easiness with which one can narrate a story!



### Scenario 1

Miss. Lathika believes in teaching methods, which impart great knowledge with lots of fun in learning it. She takes over the charge of the class during extra circular activity hours and each time she tell her students a story, make them draw a picture or just let them talk. One day she tells the story of small pox goddess to the children and asks them to visualize the characters and events with 'Puppettooner'.

She asks five students to come forward and select the characters they like. As expected, there was a small fight in deciding who would do which role. However, she assured every one that each time they play, they could switch the roles, and thus every body would get to play the characters they like.

She made the kids write a song for the play. A group of three people started working on the song. The rest of the class started making the characters together. Lathika brought many picture books with her that day and she showed the children various stories and pictures of Kali. In 'Puppettooner' they made the characters and they were ready to be played. The players were seated on a bench and the

leading characters started acting out the story by moving and talking to each other in the play area. The rest of the children sung the song for them and cheered them. While the actors moved and acted in the play field with the control devices, there was a team assigned to control the scene ambience and zoom level of each character on the screen. They manipulated the flames on the screen, enlarged the characters, and controlled the scenes. When the characters asked for a change in looks, they took them to the backstage area of the software and made the changes required.

After the play, Lathika took a print out of the storyboard as it appeared on the pin up area and kept it for display. They even saw the recording done on the software of the play that they just finished. Together they all wrote their experience and feed back along with the story and posted the characters and story to the remote server to be published on the internet.



Puppettoonery develops in to a children's play, with an educating and entertaining experience.



## Scenario 2

Puppettooner can also be installed on places like entertainment centers, shopping malls, and multiplex complexes where a large number of people gather together with the sole objective of entertainment and 'shoppertainment'.

Mr. Hari Nair goes to a local shopping mall with his wife and kids Achu and Veena. Achu is 8 year old and Veena is 11 year old. While his wife Parvathi got busy with shopping, Hari had to take care of both the kids. He takes the kids to the 'Puppettooner' kiosk. There they found many other kids. While some of them came along with their parents, some came alone. Hari and few other parents helped the kids form a group, the kids selected a story, and the kids played it, which was screened on the big digital display units in the atrium. Then they posted the story to the children's TV channel that was sponsoring the 'puppettoning' kiosk (they had floated a competition entry for new stories using Puppettooner). Then they all went back home waiting for the results.



### Testing prototype with kids

A group of children was invited to review the prototype application, which was programmed for keyboard, and mouse input. The children were between age groups of 7 to 12 year old. All of them had beginner's exposure to computers from school. The story was told to them first and then we demonstrated how the story could be played with Puppettooner. After that, they were asked if they would be able to perform a story. After some initial hesitation, kids came forward to play with the application. We explained the controls to two kids who then explained it to other kids. Slowly they got adapted to the controls in hand and started interacting with each other.

The major draw back for the prototype tested was that it was not close to the actual hardware components that would be used in the application. In the beginning, it was thought that controlling the characters and play area with a lot of controls and that too on a single keyboard might make the learnability of the application a little bit difficult for the kids. However, it was observed that the kids were comfortable with the keyboard-mouse and they fiddled around and explored the controls. Hence, it was concluded that the other interactive options with separate control devices for character manipulation and stage control would also be explored and handled with the similar curiosity.



## Conclusions

"It may be argued that an interactive medium is the best tool for young children but there are several drawbacks to this. The main one being that there are already many interactive media in use by those teachers who care to do so and the communicator's input should be to provide what a teacher cannot. The audiovisual medium offers the richest utilization of analogy, metaphor, and fantasy. Designing for conventional media restricts the educator's message to reach the masses. Moreover, it is never possible to ensure that interactive media will be used as they are intended to and the generations to come, familiar with performing toys may respond better to the audio-visual media."- Lloyd Morriset in his introduction to 'Children and television-Lessons from the street'.



Though today's child is exposed to a number of fabulous visual medium, few actually give a chance for him to make and play with characters he likes. In the growing scenario of multimedia aided educational and entertainment industry, "Puppettoony" can provide a unique story-telling environment. Puppettooner gives complete control over story, character building, and the way they are narrated. This could be compared with a play, which improvises every time it is played. On a kid's psychological development, the environment that 'Puppettoony' offer will be a healthy one with immense group dynamics with great learning.



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**Technical**

**Illustration tools**

Adobe Photoshop  
Macromedia Fireworks  
Adobe Illustrator

**Animation and Application simulation**

Macromedia Flash MX

**Sound editing**

Sound Forge 5

**Technical resources**

[www.flashkit.com](http://www.flashkit.com)  
[www.actionscripts.org](http://www.actionscripts.org)  
[www.kirupa.com](http://www.kirupa.com)