

Project Two

AN ANIMATION ON
THE CITY OF MUMBAI

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Guide: Prof. Shilpa Ranade

IDC 2006

The Visual Communication project II entitled

"AN ANIMATION ON THE CITY OF MUMBAI"

by Anand Prahlad, Roll no. 05625802,

is approved in partial fulfillment of the requirements for the Master of
Design of Visual Communication

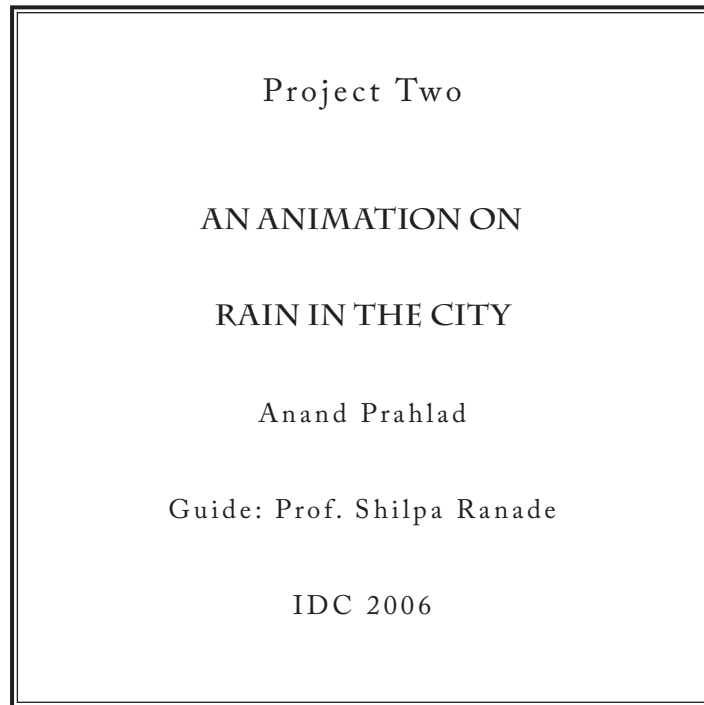
Guide: Prof Shilpa Ranade

Chairperson:.....

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What should you put in your films? What can you leave out? Would you leave the city behind and go to the village where cows graze in the endless fields and the shepherd plays the flute? You can make a film here that would be pure and fresh and have the delicate rhythm of a boatman's song.

Or would you rather go back in time- way back to the Epics, where the gods and the demons took sides in the great battle where brother killed brother and Lord Krishna revived a desolate prince with the words of the *Gita*? One could do exciting things here, using the great mimetic tradition of the *Kathakali*, as the Japanese use their Noh and Kabuki.

Or would you rather stay where you are, right in the present, in the heart of this monstrous, teeming, bewildering city, and try to orchestrate its dizzying contrasts of sight and sound and milieu?

*Satyajit Ray, as quoted by Amartya Sen in
The Argumentative Indian*

Abstract

The objective of this project was to go through the process of creating an animation using a blend of 3d animation and 2d techniques. The film, approximately 5 minutes and 18 seconds long, was created using a blend of conventional 3d modelling and animation and pixilation (stop motion animation using human actors).

The theme for the animation is the city of Mumbai. The story more specifically looks at how the rain affects people in the city. The premise for the story is set in a six floor, seemingly improbable building, where the inhabitant of each floor deals with the excessive rain.

* * *

Introduction

My first encounter with the city of Mumbai happened in the middle of July 2004, when the monsoons were at peak. I disembarked at Dadar station and proceeded to the platforms where the local trains ran. It was around seven thirty in the morning and I expected the city to be semi-asleep still. I assumed catching a slow local (whatever that was) would be a walk in the park after my previous experiences with crowded PTC busses in Chennai (the PTC, or the Pallavan Transport Corporation, being the Chennai equivalent of the BEST bus service).

I was overwhelmed by massive swarms of human bodies bursting forth from the train bogies onto the platform. An equal force was also applied by an even larger crowd of people trying to get into the train. I gave up any idea of taking a train and proceeded to take a taxi.

* * *

I returned to Mumbai towards the end of 2004 in search of a job as an animator. I eventually got a job at an animation production house in Andheri. I also moved into a small house in Lokhandwala, minutes away from work.

I also travelled a lot around the city, and eventually, slowly merged into its rapid pace. The mechanical movement of people rapidly switching between trains, platforms and stations was a fascinating phenomenon I had not observed in any other city I had ever lived in. In this fascination was the seed of my very first idea for an animation video.

In the following pages, I will elaborate on ideas and options I went through to finally come to the main theme of this project.

The report is divided into two parts, the first part dealing with the initial process and ground work that led to the final story line. Part two deals with the final story line and the final execution of the animation.

* * *

PART ONE



"As Gregor Samsa awoke one morning from uneasy dreams he found himself transformed in his bed into a gigantic insect."

-The Metamorphosis

Readings

Finding myself entrenched in the restricted perspective of real-world perception, I turned to a few books for inspiration and release.

The Metamorphosis

Franz Kafka

The story of Gregor Samsa, a man who wakes up one day to find himself transformed into an insect jumps into the world of the absurd from its very first line. This story was an important inspiration to take a departure from real world constraints and exploit the true freedom one can work with in animation.

Elementals: Stories of fire and ice

A S Byatt

The book is a collection of short stories, some of which could be described as post-modern fairy tales. Again, most of the stories fit into the genre of Magic Realism and break away from real world constraints.

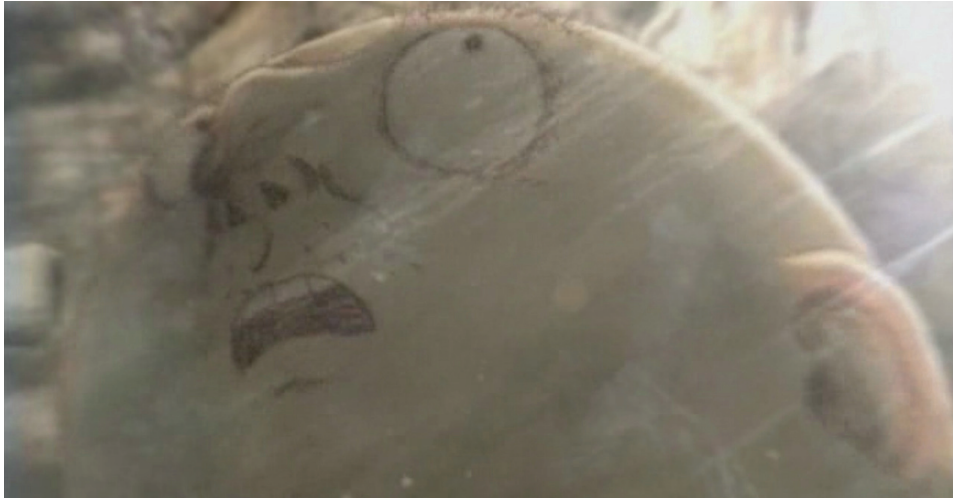
Maximum City

Suketu Mehta

There are many parts of the city of Mumbai that most of the people living in it will never come across. The stories in this book cover most of these places and also events and peoples of a nearly masked side of the city. It provides a very interesting insight into the events that occur within the bowels of the city.

These books helped in creating a story line that did not fear to deviate from the constraints of reality at points and delve into the world of the absurd. A certain degree of humour, blended with the story helps act as a vehicle for the apparent absurdity.

* * *



Atama-yama, 2002



Mind Game, 2004

Techniques

Even though 3d animation is my usual choice, I experimented with a blend of techniques. This is an attempt to blend conventional methods of 2d animation with 3d techniques. *Atama yama* (Mt Head), *Mind game* and *Steamboy*, to quote a few examples, are instances where a successful blend of 2d and 3d animations can be seen.

Mind game blends photographs and cel animation seamlessly and has a collage like quality to most of the film.

Steamboy as compared to the other two is a more mainstream film and uses the relatively simpler technique of cel-shaded and line-rendered outputs composited with 2d hand drawn images.

Films like *Who framed Roger Rabbit* used a technique that involved compositing 2d cel animation onto film. Live actors acted with imaginary characters that were added on later through early film compositing techniques. The cartoons are Tex Avery inspired characters who seem to move around and interact with people of the 3 dimensional world.

The technique used in this film though, is probably closer to *Tango*, a film by Zbig Rybczynski, a Polish animator. *Tango* was painstakingly put together using an optical printer and negative cutters over a period of seven months. The characters were shot on film and composited onto a background by hand. The point of view of the camera is static, and the characters go about their



Suchimubôï (Steamboy), 2004



actions in a sort of infinite loop. The characters enter the scene one by one, till the whole scene is bustling with characters. In much the same way, people leave the scene one by one till it is left devoid of any more characters.



(far left) Who framed Roger Rabbit (1988), (left and below) Tango (1980)





Initial ideas

In spite of the fact that I settled on one story line at the end of many weeks of ideation, it would be unfair to ignore the other ideas that contributed to the process of reaching the final plot. Some ideas remained concepts and one was transcribed as a script. These three initial ideas have been listed below.

The Mumbai Machine

The ritualistic hustle and bustle of everyday Mumbai formed the backbone of this initial idea. The people of Mumbai swarming over bridges in stations and roads all over the city formed a predominant image to this particular idea. The protagonist of the story is introduced as a newcomer to the city, and the plot follows his initial awe and nervousness when confronted with the machine like nature of the people and the city and culminated with his absorption into the system.

In some respects I was also inspired by the utopian imagery in Fritz Lang's *Metropolis* (1927).

* * *





Untitled

A series of work related nightmares formed the opening sequence of this second idea. I wrote a preliminary script for the story of "X". He works in a small company called "Supernova entertainment" creating DVD menus for a living. The story delves into his overexposure and subsequent numbness towards everything Bollywood.

Many people come to Mumbai in search of work. Some find that perfect job while others settle for what they get. There are many opportunities available in this city, sometimes for jobs that don't really fit within the definition of "normal" professions.

This story is semi-autobiographical and takes off from my first job in Mumbai designing "interesting" thematic 3d backgrounds for various hindi film DVDs.

* * *

The Fourth season

The idea for the Fourth Season came from my initial studies. I thought of creating a set of repeating scenarios in different degrees of chaos. To summarise, the plot builds on a set of three scenes, a bus stop, a bus and an apartment building with a security guard in front of it.

The plot buildup happens with a brief introduction to the other three seasons, with a commentary on the significance of each. The story then settles on the Monsoon and illustrates a growing level of chaos in the three aforementioned scenes. Finally the whole city floods up and everything gets submerged. One character then finds a plug he can pull to drain the city. With the help of people from every nook and cranny of the city, he finally unplugs the drain and dries out the whole city..

* * *

The Fourth Season

Title

(VO & title card)

Mumbai is a city with four seasons.

01. Winter

(November-February)

VO: Winter in Mumbai is a rather mild and almost nocturnal affair.

Scene 1

The bus

Mid shot of two people in a bus, rocking side-ways as the bus moves. A chilly wind blows in from the window on the left of the screen. One is dressed in a shirt and the other is zipped to the lips in a jacket. A person standing in the bus is dressed in a tank top and a woolen cap.

Scene2

The apartment building

Night time.

The watchman dressed in his khakis warms his hands on a small fire burning in a paint bucket.

02. Spring (or whatever you want to call it)

(March)

VO: There is no spring in Mumbai. It's just that month in between where the summer hasn't yet set in and the winter's just about gotten over.

Scene 1

The bus

Mid shot of the same people in the bus with Wind blowing in their hair. They're wearing



clothes in fresh shades of green and blue.

Scene2

The apartment building

Daylight.

Few people in front of the building apply colour on the watchman's cheeks.

03. Summer

(April-June)

VO: It is a hot and humid summer in Mumbai.

Scene 1

The bus

Mid shot of the same people, this time the man on the left of the screen keeps his shirt unbuttoned and fans himself vigorously as the guy next to him is dressed in a shirt and tie and is sweating huge slug-like beads of sweat.



Scene2

The apartment building

Daylight.

The watchman sits with his shirt unbuttoned and *banian* clad belly exposed. A *gola-wallah* hands him a slowly melting green *gola*.

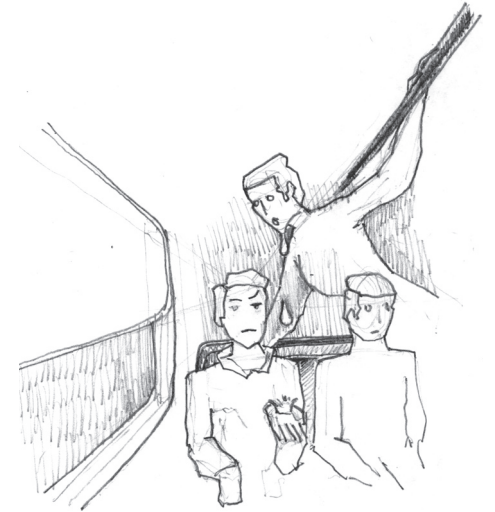
Scene 1

The bus

Close up of the man near the window. He's fanning himself with his tongue hanging out when a drop falls on his nose and drips down. He sticks his hand out and catches a few more drops. He's overjoyed because he thinks it's started to rain.

Camera pulls out to reveal that it's not rain, but is in fact the tall guy standing leaning over him dripping sweat.

VO: All these seasons are in fact a buildup to



the City's most characteristic season.

04. The Monsoon

(June-October)

Scene 1

The bus

From the previous frame, the skies grey over, with lightning and thunder in the background.



Scene2

The apartment building

The Watchman sits listening to the weather report on the radio as two school-children rush into the house. School's out early thanks to the storm warning.

Scene3

The Bus Stop

It continues to rain heavily as people standing at the bus stop look around anxiously, their eyes darting left and right.

Puddles are forming rapidly on the road and the water level seems to be rising. Some people scramble for higher ground.

The Double Decker bus arrives, full of water waiting to burst out of the windows. People float around inside it like assorted debris in a

sort of Brownian movement.

The bus slowly groans to a halt, as it fills to its maximum capacity and eventually bursts, filling the scene with water. Everyone grabs onto something and lifts off the ground as they get submerged. Those who weren't quick enough are carried up and out of the screen by the water.

Scene2

The apartment building

The entire ground floor is submerged and the Watchman hangs on for dear life to the first floor balcony. A watches as a rubber dinghy with an outboard motor chugs by slowly.



Cut to

Telephone pole, with man hanging from it.

Camera pans to the right to reveal a signboard, with the words "BMC, IN CASE OF FLOOD, PULL GENTLY" painted in large yellow letters. The graphic on the signboard is of a man pulling at a signboard while hanging from a telephone pole. He pulls at it, but is unable to make it budge.

The guy in the rubber dinghy pulls up beside him.

Cut to

The two of them now have fixed a rope to the signboard and are now tugging furiously. Camera pans across the rope, which extends beyond the twosome to a crowd of people standing on their roofs tugging.

Camera pans further showing the rope splitting into two and being pulled by people from their balconies.

Camera pulls upwards and we see the rope is split over the city, branching outward further still.

Close up of the rope, which trembles and finally comes loose.

The camera dives to the root of the signboard, where the earth swells and pops out.

Cut to a bird's eye view of the scene, as a fountain erupts from the center, spewing forth a chocolate brown cow, a TVS sunny, a helmet and other assorted rubbish covered in sticky chocolate brown goo.

The water drains out with a gurgle as everyone is planted squeaky clean on the ground in a brown sludge. The air is clear and the buildings are shiny and new.

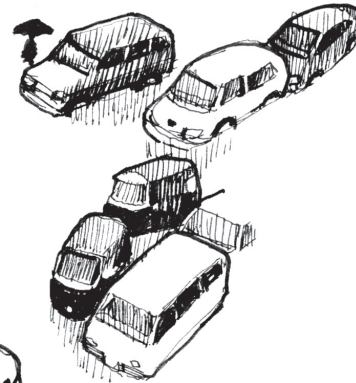
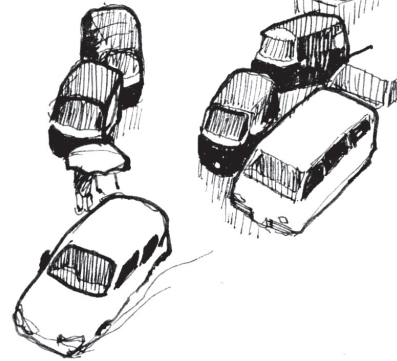
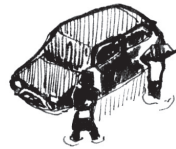
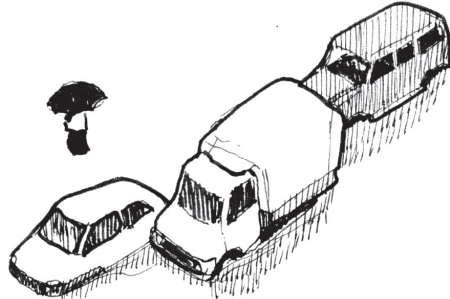
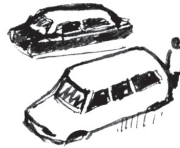
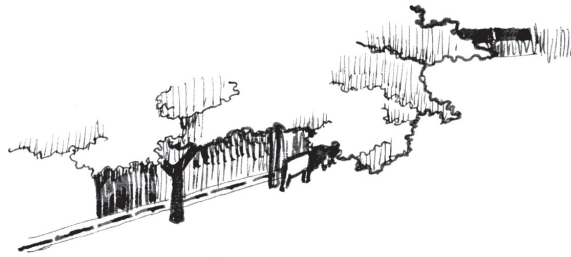
The scene fades to black. There is a sound of thunder and rain starts to fall again.

Credits roll.

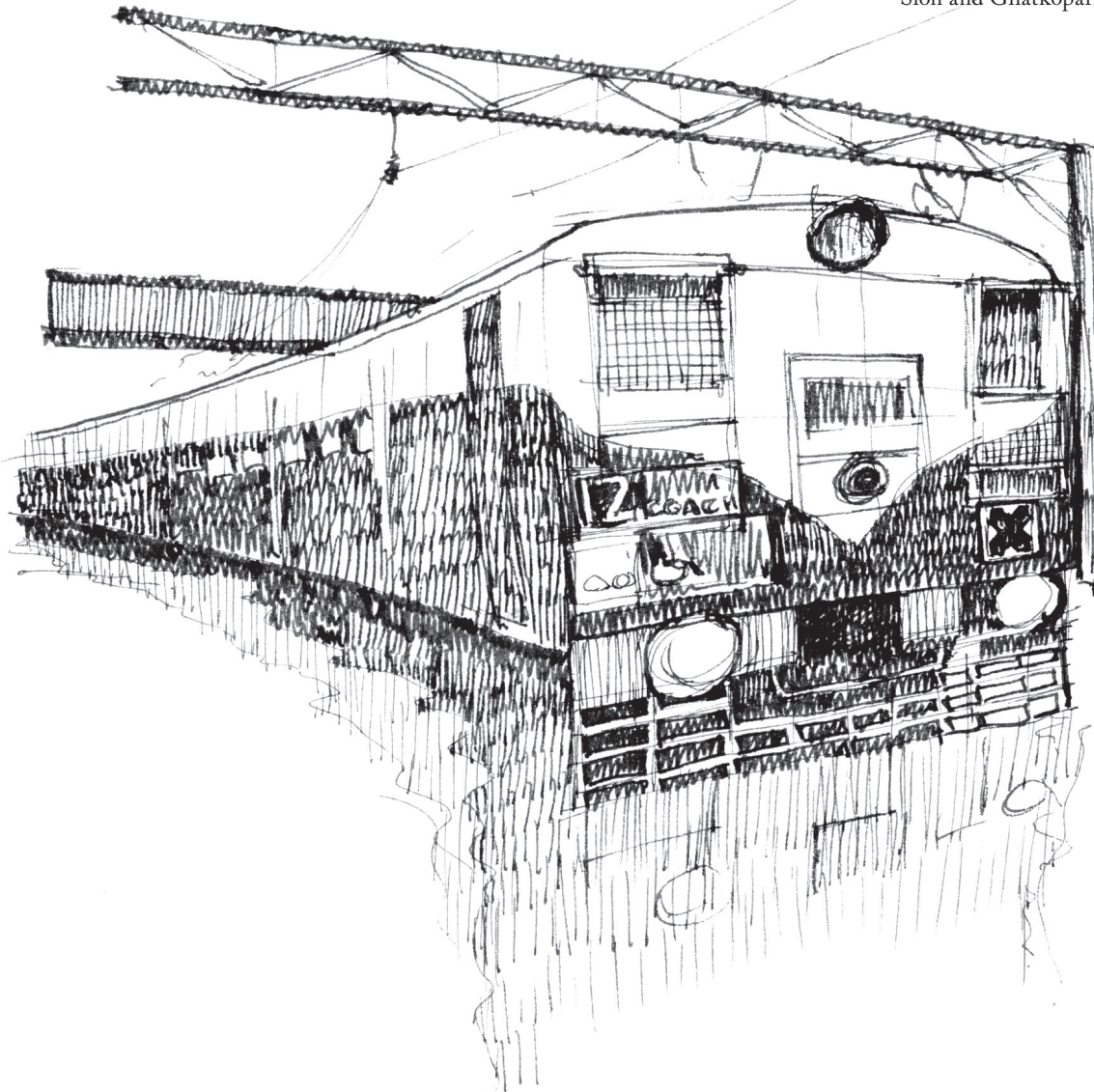


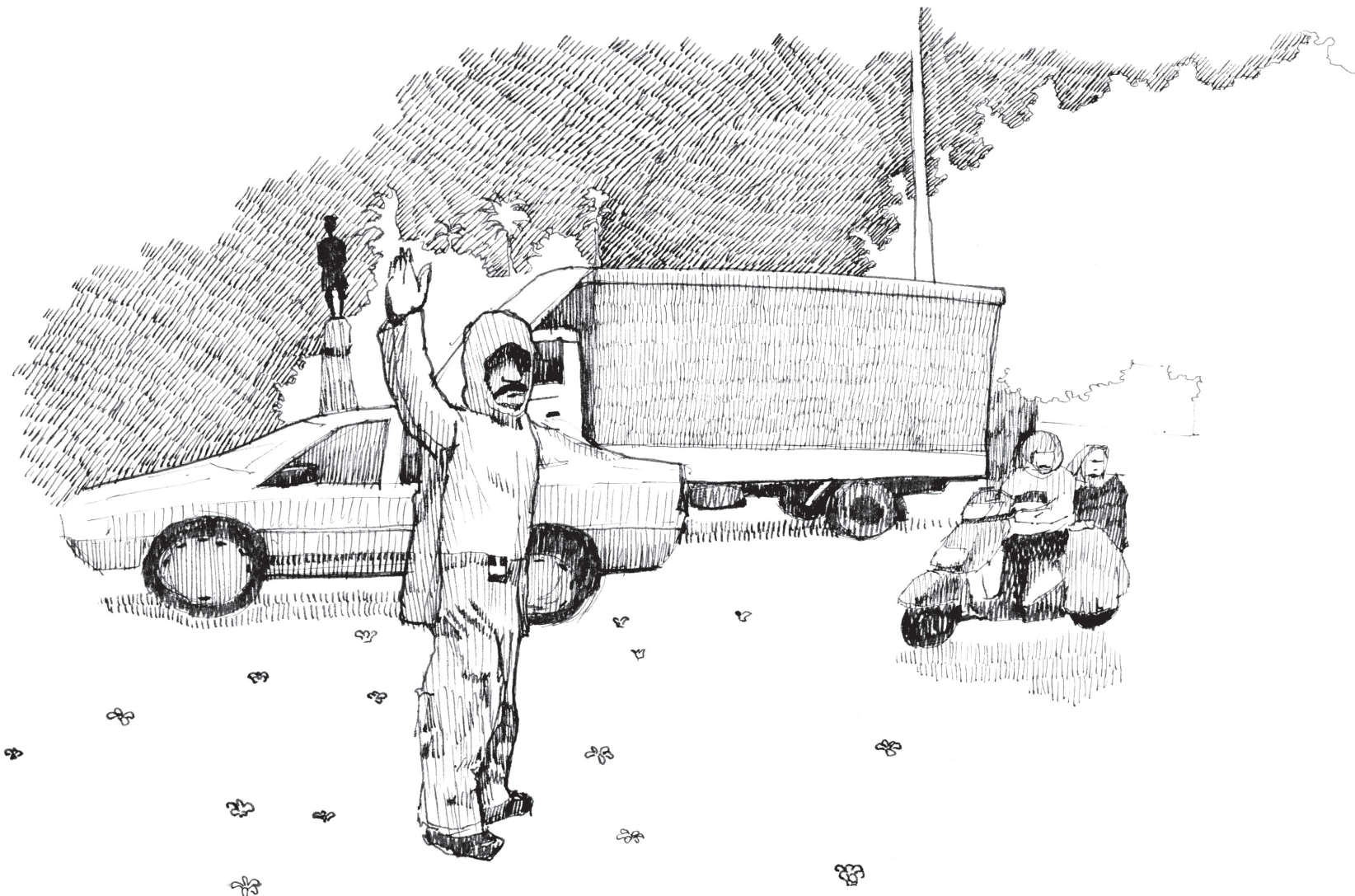
Early Studies

The Monsoon is probably one of Mumbai's most prominent seasons and is also responsible for affecting lives in more ways than any other season does. Early in the semester I went about collecting photographs and making sketches to capture some of these instances.

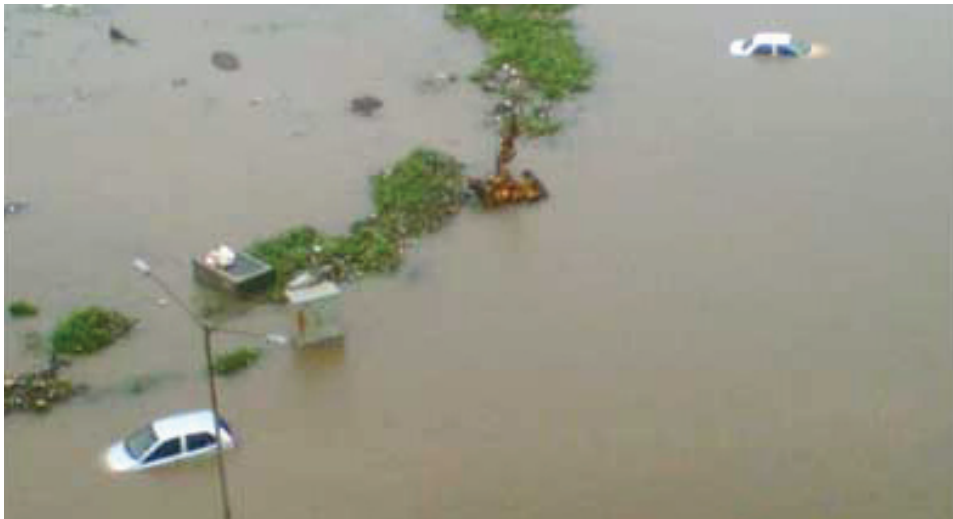


The Monsoons have a tendency to bring Mumbai's bustling life to a grinding halt. During the early part of the season, sudden heavy rain showers flood places and block drains. Railway cables fall apart and sometimes the Local trains get delayed for hours on end. The past few years have seen the railway service being suspended sporadically over the period of days thanks to floods at Sion and Ghatkopar.





Living up to its reputation for being amongst the cities in the world where daily life does not stop for anything, it is also true that it takes a lot to really make a dent in the day to day activities of the people in the city. Most adapt to the rain with rain gear and accessories to their vehicles and go about their daily business without a complaint.

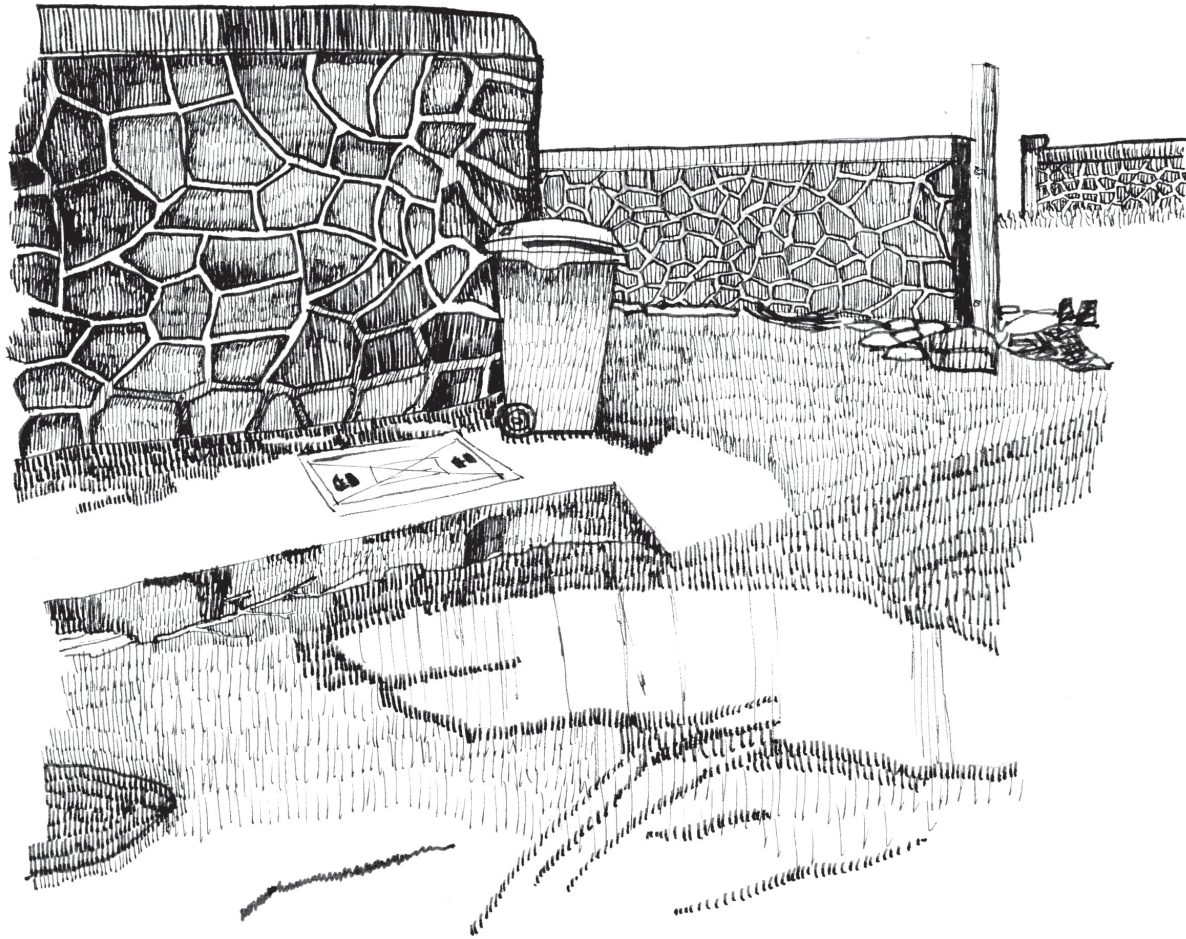


(far left and bottom left) a few images of the floods affecting everyday life in the city. Public transport is virtually nonexistent.

(top) The 26th July flood. The image is of the Hostel 8 mess, IIT Bombay.

(from the collection of Mr. Miheer Fyzee)

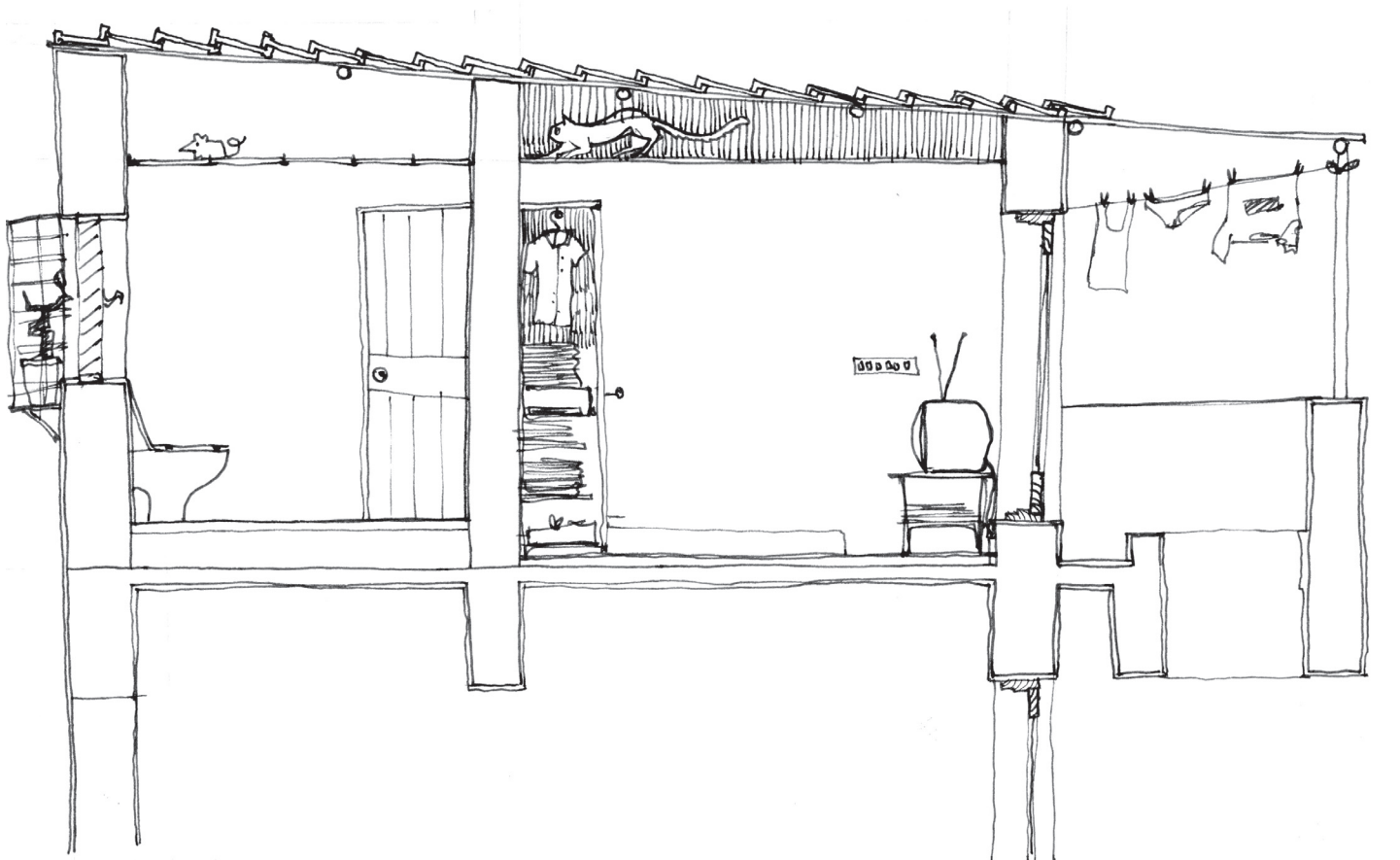
The rains also bring filth and disease to the city. With some initial ideas I did think of integrating it as an outcome of a plot, but ended up rejecting the thought for other reasons. The rain dislodges dirt and muck from everywhere and sends it flowing over roads and any other areas where puddles form. Stagnant water breeds mosquito larvae and other pathogens. The humidity and moisture aid in the growth of assorted bacteria and fungi. Some parts of the city gain a characteristic odour during the rains.



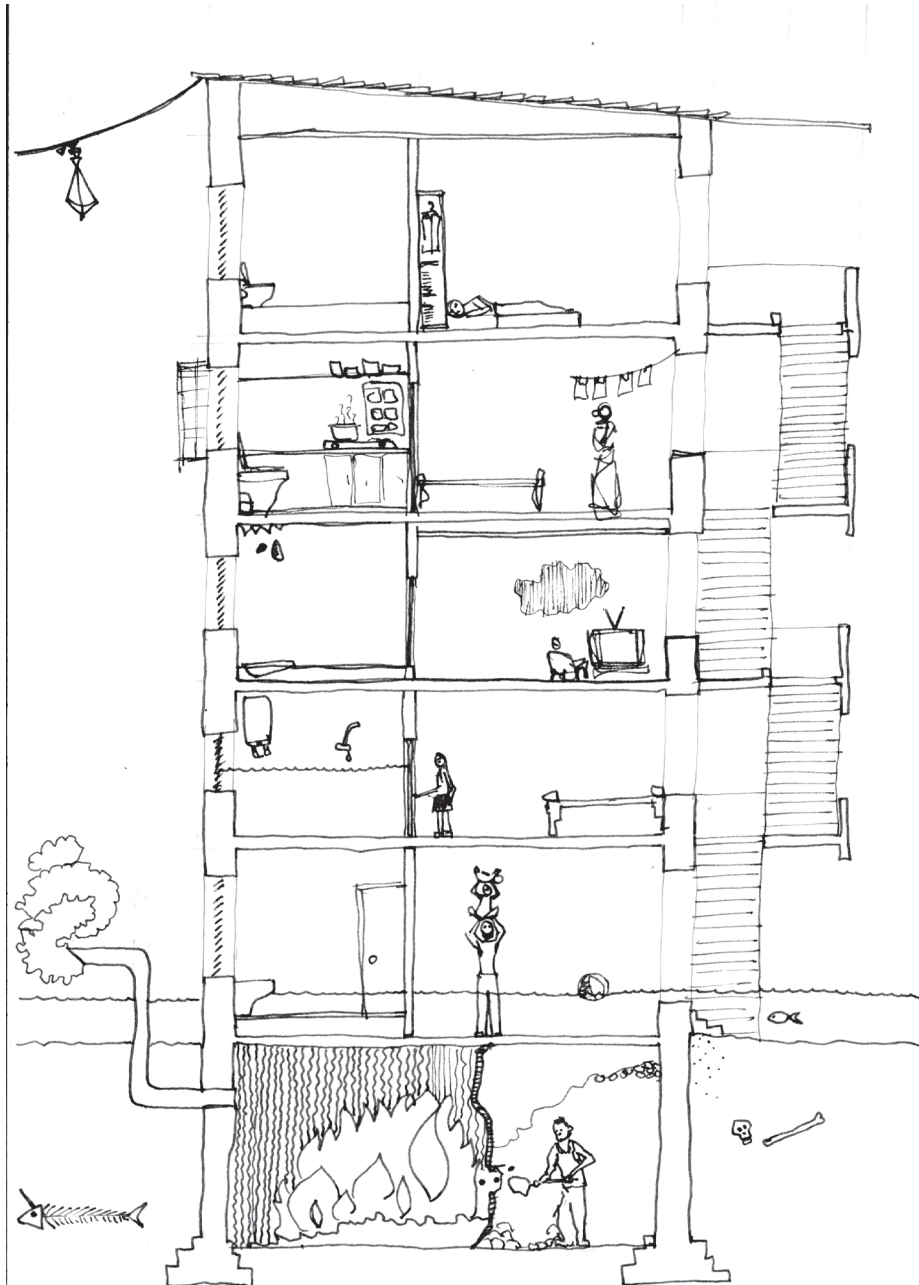
This sketch is a schematic representation of a house I lived in during the early part of 2005 and deserves mention as it was the harbinger of the final idea that I settled on. I left this house half-way through the monsoons to join IDC, but enough happened in that time to plant the seed for the story of this animation.

The walls would soak up water like a sponge when it rained. A huge crack ran along the side of the building around its middle and the sound of the rain on the corrugated roof sounded like gunfire. These and many more events influenced the final story line directly and indirectly.

Part two of this report goes through the production process and techniques.



PART TWO



Final Story line

One of the final ideas was a linear story set within a first floor house in a *chawl*. The story progresses in a linear fashion as the house becomes increasingly chaotic with the house absorbing water through the walls and going from bad to worse. As mentioned before, this was based on my experience in a similar house in Lokhandwala.

To break away from the obvious linearity of this story line, I decided to split the story line across seven different houses. Each house could represent one way in which the rain could overwhelm the lives of the people living in it. Each character could also represent one archetype of people who inhabit Mumbai.

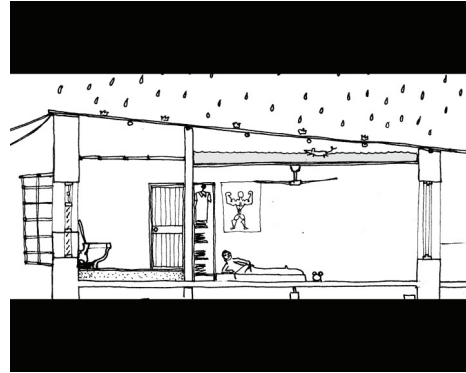
The seven main protagonists of the story are a bachelor, a father and his wife, a housekeeper, a couch potato and a woman. Each character is affected by the rain in some way or the other. One has his false ceiling fill up with water, one can't dry her clothes, one has his walls absorb water like a sponge and grow fungi, one has his bathroom fill up with water, one has her entire house fill up with water, while one has his entire ground floor house fill up with water.

* * *

The remaining part of this report is set as follows:

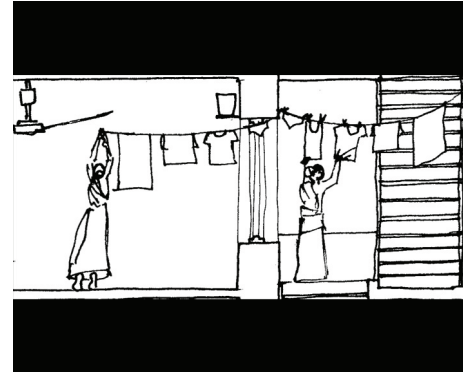
- ⚙ The storyboard
- ⚙ The set
- ⚙ Props
- ⚙ Character Design
 - ⚙ Overall character design
 - ⚙ Individual character profiles
- ⚙ Textures
- ⚙ Character animation
- ⚙ Live action photography and compositing
- ⚙ Lighting
- ⚙ Flat-plane animation compositing

STORYBOARD

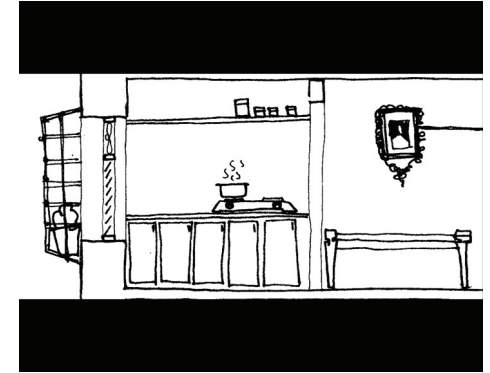


Scene opens with a view of a cross-section of a house, an alarm clock rings. A hand comes out from under the covers, and shuts it off. It starts to rain, and the loud clattering noise wakes him immediately. He slowly pulls off the sheets and steps out of bed.

Camera slowly pans downwards.

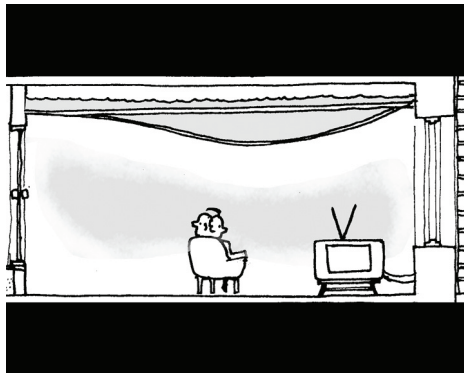


In the house below, the lady of the house hangs out her laundry. A sunbeam falls on her as she does so. A cloud passes above and lightly drizzles on her. She undoes the line and drags it back into the house. The clouds clear momentarily and she brings out the laundry again. Almost immediately it rains heavily. She hastily pulls the laundry in.



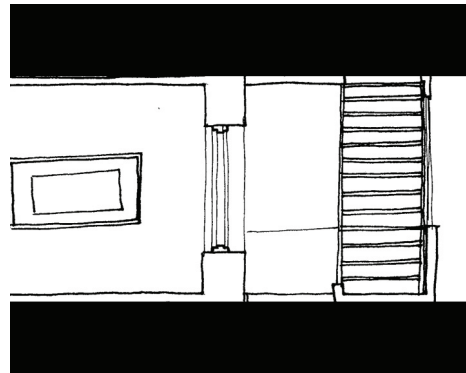
Camera pans to the left. Food cooks on the gas. Rain sprays into the house from the window.

Camera pans to the bottom right, moving to the next house.

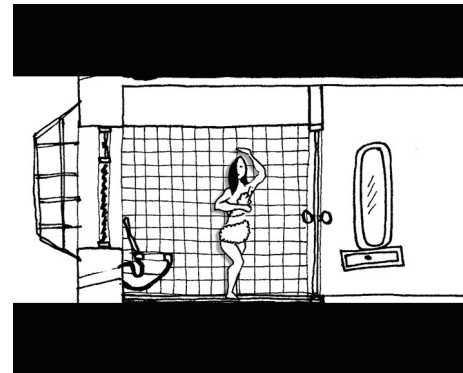


A man sits watching TV. The false ceiling warps and bends ominously and makes strange sounds of wood bending and cracking. The wall soaks water in and forms a big wet stain and grows darker and darker.

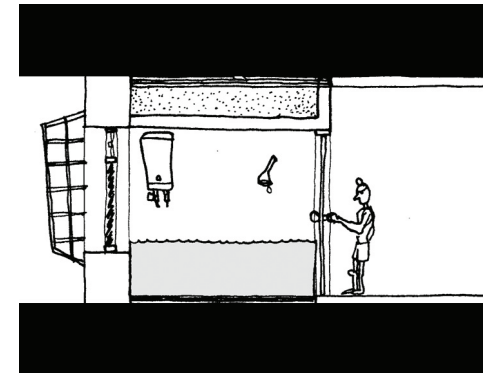
The camera pans vertically down.



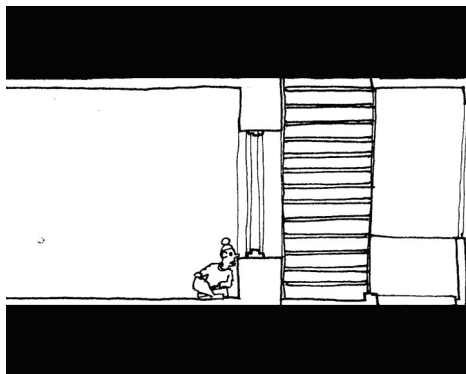
The camera slowly pans to the left. Clothes are seen strewn over the floor and furniture in the room.



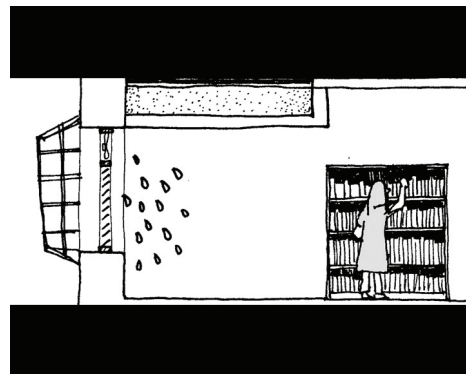
The camera continues to pan to the left and we see a woman bathing in the shower. There is steam and foam everywhere. Camera pans smoothly left till she is in the middle of the frame and then moves down, to the next house.



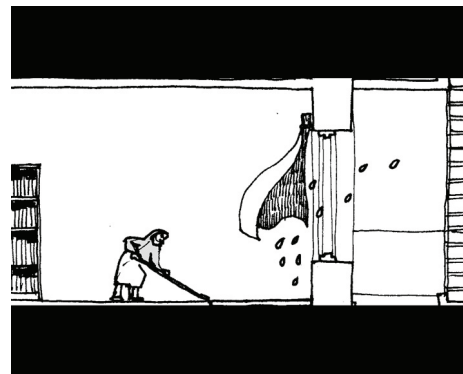
Camera pans down and to the right. The bathroom fills with water slowly. The camera continues to pan to the right.



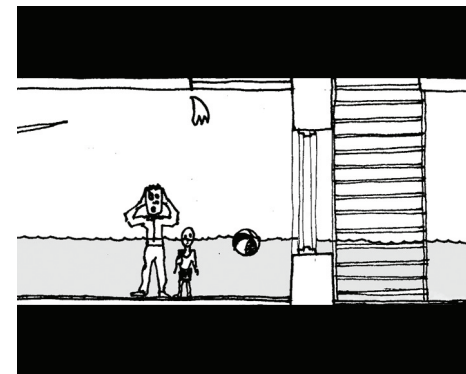
A boy sits there blowing bubbles in the rain. He notices a sound from his bathroom and walks over to it. His hand touches the door handle as the camera pans down slowly. The boy is off screen as a splash is heard (as the water empties into the room)



A window is seen with rain now streaming through. A woman packs books into boxes to keep them from soaking up. The camera follows her to the right.



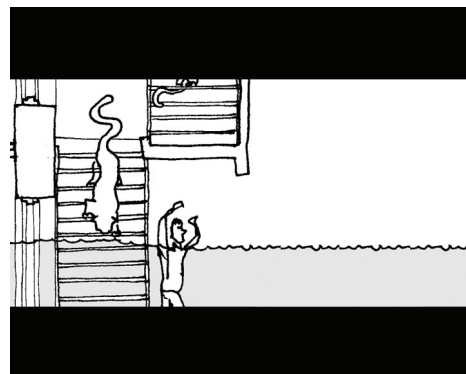
She continues to go about cleaning up her house, mopping the floor with a squeegee.



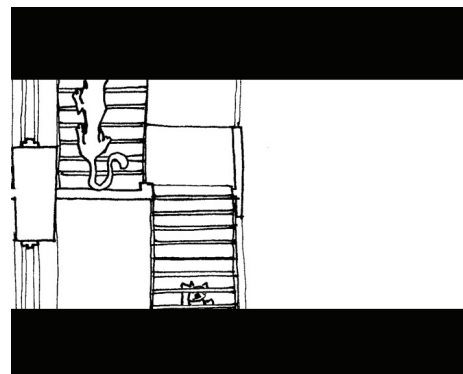
The camera follows the water spilling into the house below. The water level there increases rapidly up to the little boy's nose.



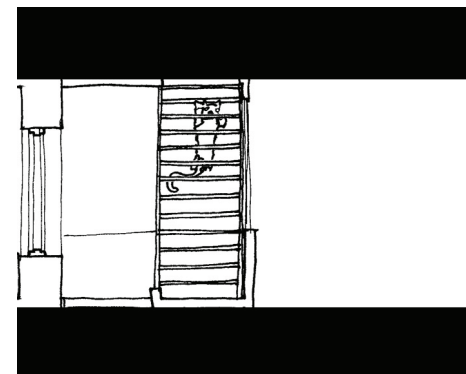
His father panics and holds his head in exasperation. The camera pans to the right, outside the house.



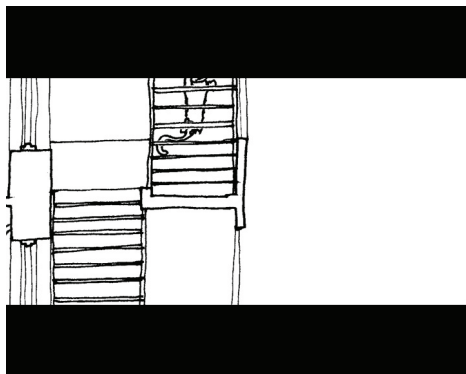
A cat sniffs and paws at the water rising slowly.



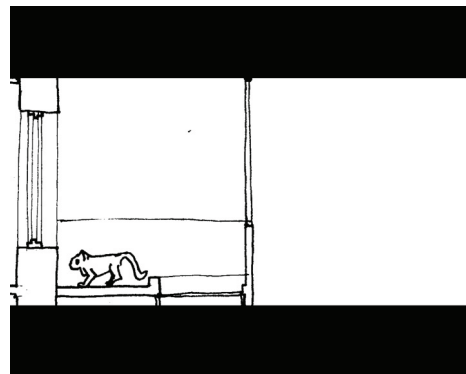
She turns around and darts up the stairs.



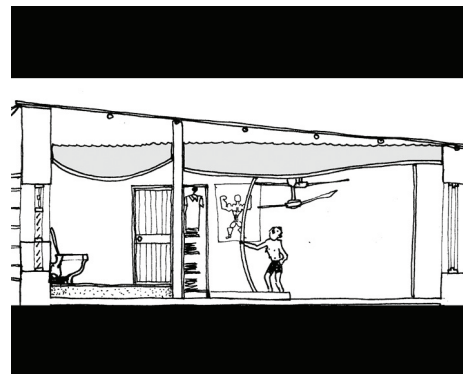
and runs higher and higher up.



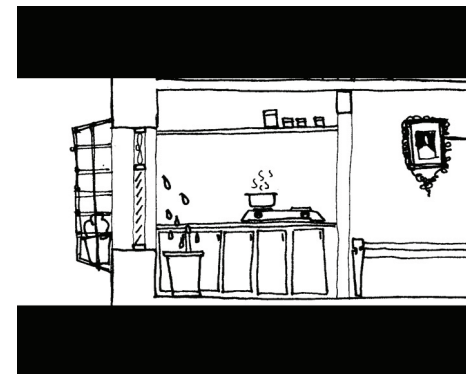
and higher.



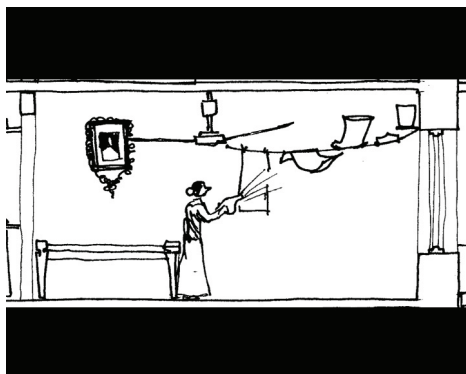
till she reaches the very top house.



In the topmost house, the false ceiling has filled up with water. The occupant of the house tries to prop up the warping surfaces with poles. The water flows left and right. The camera pans down.



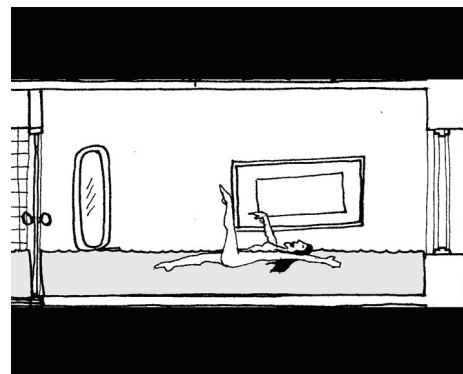
The intrepid housewife is attempting rain water harvesting with a bucket. She pours the collected water into the food she's cooking.



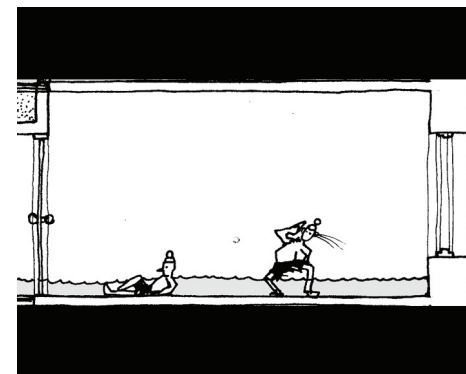
She then walks to the right of the house, with the camera following her. She pulls out an industrial strength hair dryer (from a box marked the same) and continues to dry her clothes (manually).



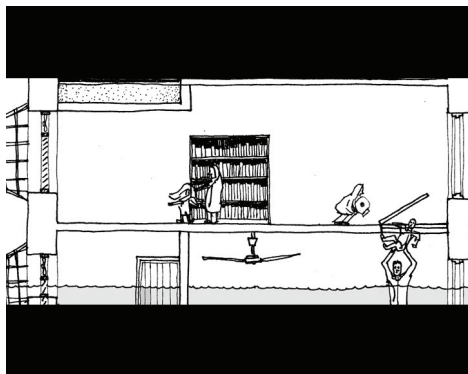
As the camera pans down, we see the repercussion of the water filled ceiling. It has crashed and spread itself over everything in the house.



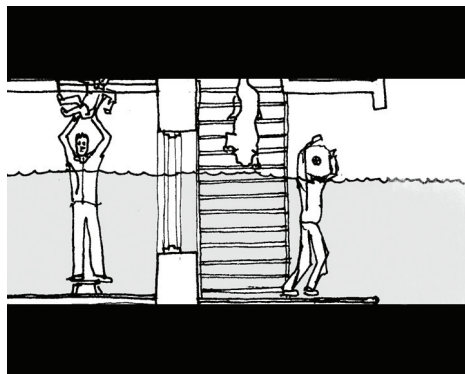
The camera pans down. All the water from the house above has fallen into the house below. The bathing beauty is now swimming in all the water, doing the backstroke.



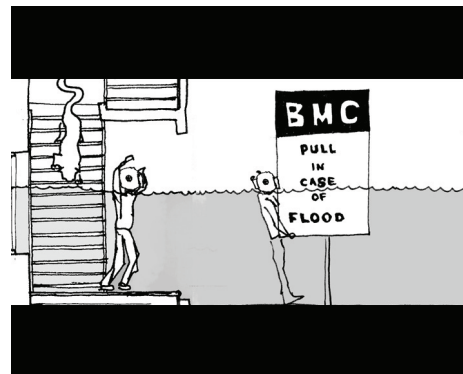
The camera pans down smoothly as we pass the boy with the bubbles picking himself up out of the water and knocking the water out of his ears.



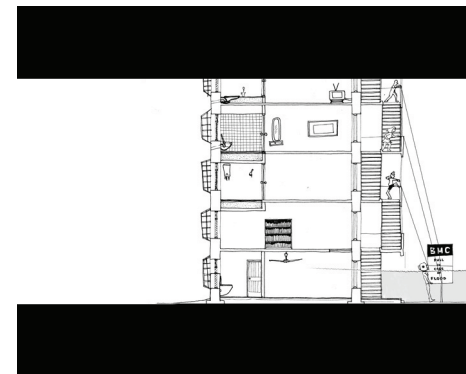
The smooth pan down ends on the lower two houses. The father hands the boy up to the mother. She hands him a deep sea diver's helmet.



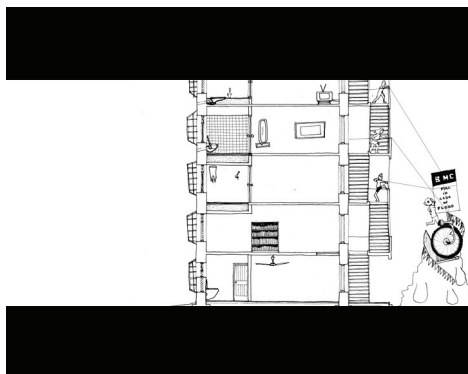
The camera follows him as he dons the helmet and proceeds out of the house. The mother dries the boy and rushes him upstairs as the water level rises.



An air-tube unfurls and goes to the surface. He moves up to a signboard. He positions himself near it and attempts (unsuccessfully) to yank it upward.



Three ropes fall through the water and fasten themselves onto the signboard.



The camera pulls out to show The four neighbours pulling together and slowly yank the board upwards. With a big squelching sound it comes undone and squirts upwards as a mountain of trash and junk. The water level drops almost immediately.



The camera pulls out further to show many similar buildings side by side. Some are filled with water and some are empty. The scene fades to black and the sound of light thunder is heard. The sound of rain falling again can be heard.

Credits roll.





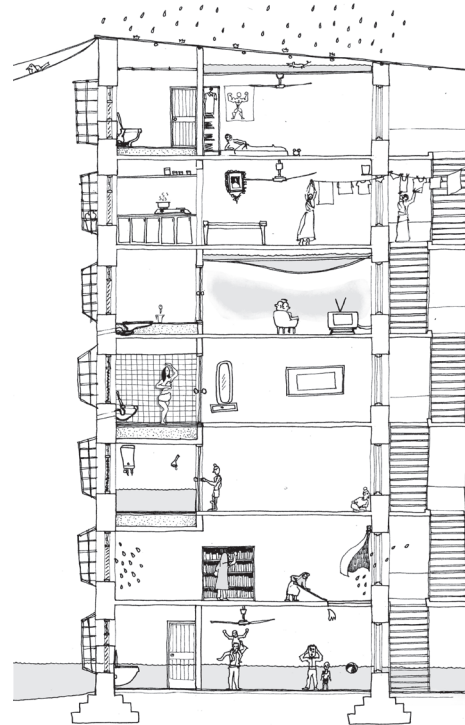
The set

The set is in the format of a 3 dimensional sectional view of a building. This representation has its roots in my background as an Interior Designer, the sectional view being a point of view I am only too used to.

The building in itself is an architectural impossibility. It is more a representation of seven domestic possibilities. The interiors of the houses are rather eclectic, and have a quality more akin to a magpie's nest rather than being an accurate representation of domestic interiors in the city (which are mostly eclectic in their influences in any case).

The set was built in 3d Max as per the concept sketch made for the storyboard. The building itself was modelled to scale in AutoCad and imported into 3d Max, where furniture and other props were poly-modelled into it.

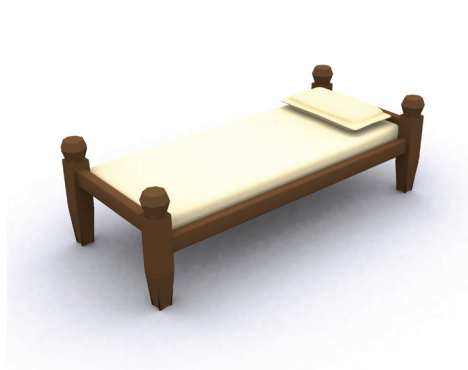
The texturing and painting of the walls was done in Photoshop. All other additions to the building were modelled in 3d Max.





Type A

The map above is the scanned texture map of the television set rendered above



Type B

A poly-model chair and cot. No texture map has been applied



Props

The props constitute a mix of found images on the internet, toys and simple archetypal designs of furniture commonly seen everywhere.

All the props were modelled in 3d Max. Three basic types of props have been used.

Type A- Low level of detail model with real textures scanned 1:1

Type B- Medium level of detail models with primitive textures

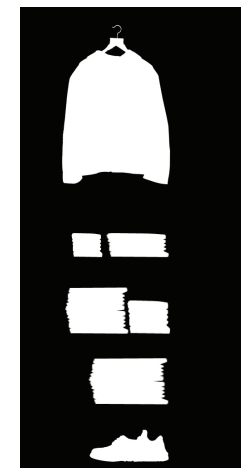
Type C- Flat plane mapped with photographic texture

Type D- Medium level model with a combination of primitive and detailed textures (put together in photoshop using brushes and photographs)



Type C

A flat plane with a photograph mapped on it forms the facade of this cupboard. The extruded shape behind is to give the illusion of depth.



Type D

The body of the cupboard is poly mapped whereas the clothes are flat mapped textures on planes. The front on view hides the flatness of the clothes.

Character Design

The characters in this story were chosen more with the intention of representing a few of the archetypes of people we see in the city. While the husband, the housewife, the bachelor and the couch potato are a few of the more common archetypes of everyday people we see everywhere, there is an obvious deviation in this rule with the characters of the bathing beauty and the housekeeper. These two characters are also represented as dolls in a deviation from the standard pixilation technique used for the other characters.

The idea for casting the Bathing Beauty as a doll stemmed from the fact that her scene involved using a near naked woman (with strategically placed foam) bathing an eventually doing the backstroke in a house a third full of water. Her neighbour upstairs is also represented as doll. She represents the mechanical housekeeper with her in built grace and penchant for improvisation.

Two methods have been used to generate Character animation. In the first method, the characters (actors, in this case) were shot against a blue screen and treated in photoshop and 3d max to generate two dimensional characters. These characters appear flat, as though they were painted on plywood surfaces.

The second method entails doll like characters being used instead of real human beings. The characters are 3d models generated in 3d Max with textures created in Photoshop. They are rigged as simple rigs that can be animated in three dimensions.





Character one

The intrepid husband

The intrepid husband in some ways is the pivot point in the story. He first rescues his child and then proceeds to go out and set the problem right. Initially he seems overwhelmed and inundated, but in a short while gets his bearings and goes about setting the whole situation right.

The character is in some ways a representation of the hard working man of the house, married only a few years and a father of a child. He is a late twenty-something man with a do-it-yourself attitude to most things in life.

The intrepid husband is played by Appu Shaji, a PHD student from the Computer Science department.



Character two

The housewife

The housewife goes about her daily chores trying to fix her house up as the rain constantly sets her up with new tasks. As the rest of her house below gets flooded with water, she rescues her child from the floor below.

She is the young wife of the Husband. She mirrors her husband's need to fix problems, and is a little more prompt about it.

The housewife is played by Fatema Barot.



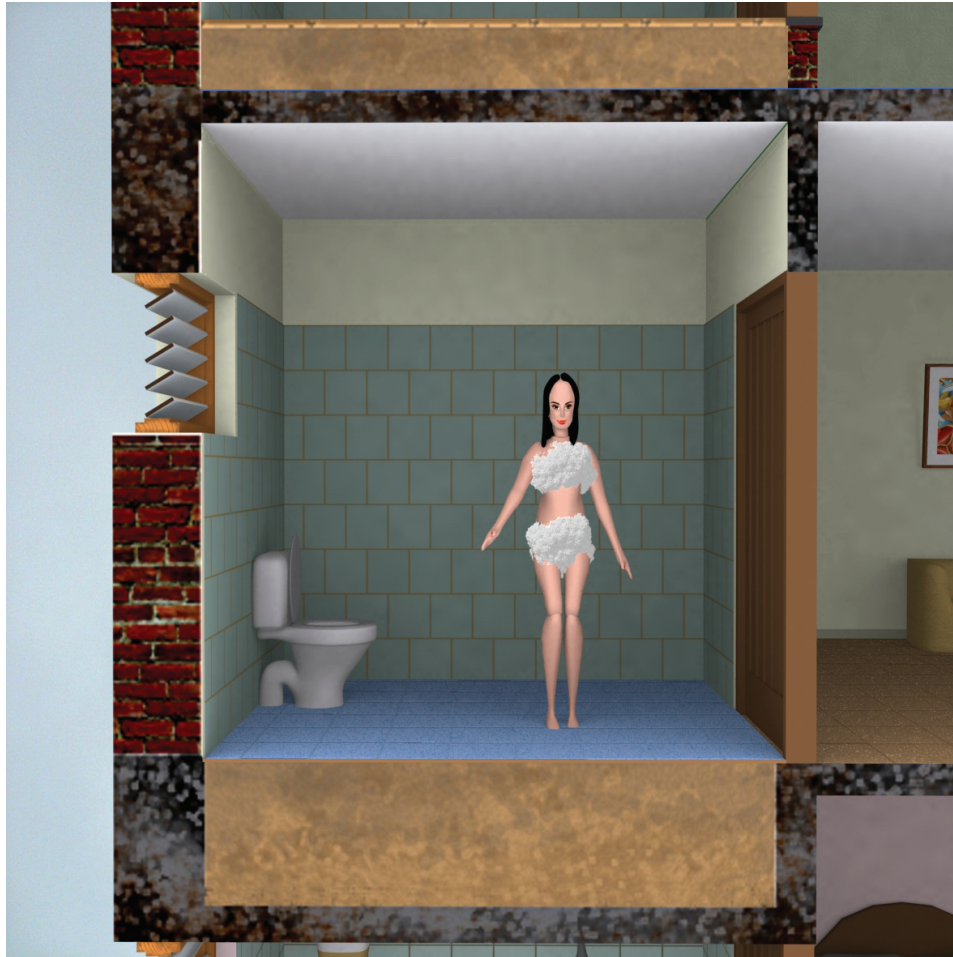
Character three

The little Sardar boy

The little Sardar boy is affected by the rain in a rather indirect way. His bathroom is filled with water from the drains and the rains.

The character of the Sardar is an almost iconic one in Indian cinema and entertainment. There are many stereotypes that go with this character. His role in this animation though is a purely humourous one, not serving to promote, advocate or even negate the more derogatory stereotypes that are more prevalent.

The little Sardar boy is played by Sarabjit Singh.



Character four

The bathing beauty

The bathing beauty is one of the less affected people in the building. She goes about the task of having a bath while the rain floods and dampens everyone's houses above and below. When the water from other flats leaks into her house, instead of being overwhelmed, she proceeds to do the backstroke.

The character of the Bathing beauty is a very open one. I use the word open here to delineate the fact that her personality or background can be set into any characters and does not follow any particular archetype. This possibly arises from the fact that her being unadorned literally strips her from associations to any sort of cultural groups, religion or caste. The decor in her house is more of an aid in judging her background, but that too is set in a contemporary format with no particular influences.

The bathing beauty is played by a 3d doll marionette, modelled and animated in 3d Max.



Character five

The couch potato

The couch potato's house slowly absorbs water like a sponge. As per the initial idea, which is part of the storyboard, his false ceiling and walls absorb so much water that everything falls apart.

The false ceiling comes crashing down on his head.

The new version has his house absorb water like a sponge as previously stated, but on the second run, his house catches fungus, with huge mushrooms popping all over his house.

Character six

The intrepid housekeeper

The intrepid housekeeper goes about fighting the elements and humidity as she tries to dry her laundry. The rain plays games with her initially as it keeps oscillating between sunshine and rain. She doesn't give up easy, and fights back with an industrial strength hair dryer.

The intrepid housekeeper is also a 3d marionette modelled in the likeness of a ceramic dancing doll.





Character seven

The bachelor

The bachelor wakes up to the sound of the falling rain on his rooftop, but has to later wake up to the reality of what the excessive rain is doing to his false ceiling.

He props up his warping false ceiling with poles.

The bachelor represents the many single young working men who come to the city to work and live in little matchbox houses. This character is closest to my own and echoes my personal experiences closely.

The bachelor is played by Ameya Athavankar.

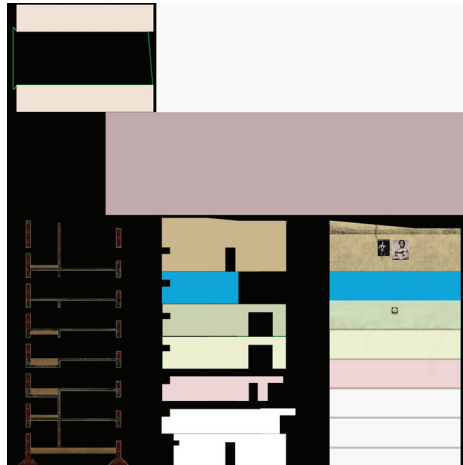
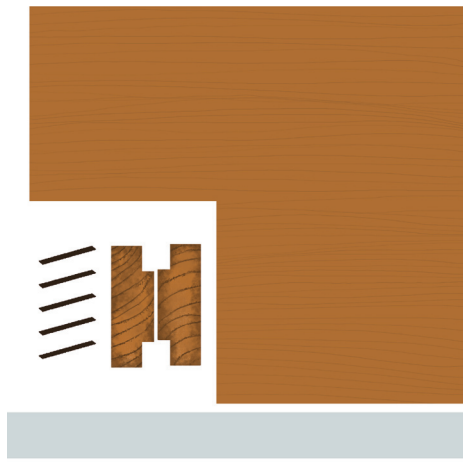
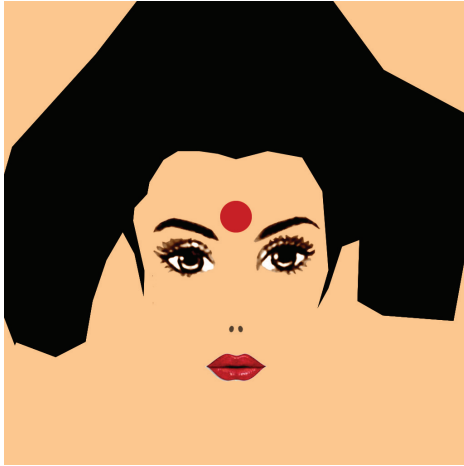
Secondary characters

The Cat

The cat acts as a connector between the two runs. After the first run leaves the ground floor room, it meets the cat hesitating above the water. The cat then runs up the stairs and re connects with the top floor.

The Baby

The Baby is a character both most and least affected by the flood. The water level rises to his nose, when his father picks him up and pushes him up to his mother on the first floor.



Textures

Textures play a vital role in the creation of the illusion of detail. Playing the illusion correctly is important, since detailing through poly modelling can be not only time intensive to create, but will also add unnecessarily to render-time per frame.

All textures have been put together in photoshop. In some cases, as mentioned previously, maps have been created using scanned images of objects. In the case of characters, the facial details have been added on in Photoshop as flat textures. Since the characters are never shot in close up, the loss of detail thanks to flat mapping is almost negligible.

Character animation

Two techniques were used to generate all character animation.

Pixilation (from *pixilated*) is a stop motion technique where live actors are used as a frame-by-frame subject in an animated film, by repeatedly posing while one or more frame is taken and changing pose slightly before the next frame or frames. The actor becomes a kind of living stop motion puppet. An effect similar to Pixilation can be achieved by dropping occasional frames from a conventionally-recorded film. While obviously easier than the stop-frame technique, this doesn't achieve the same quality.

3d animation uses a technique slightly closer to conventional puppeteering. A mannequin is created with pivot points at each joint. This allows the arms and legs to work almost like real doll's joints. The arms have been rigged with a simple bone system that uses Inverse Kinematics to effect limb movements.

Two characters, the Bathing Beauty and the Intrepid Housekeeper, were 3d models. Both are very simple character rigs. In other words, a very simple pivot-rotation system was used, in addition to character bones to generate the animation.



Live action photography and compositing

All live action photography was shot against a fabric blue screen in natural light. This was done so that the characters could be keyed out and composited onto planes with a transparent background.

The fabric was draped over a terrace wall. Additional props (like a foam mattress as padding to break the fall, in the scene at the bottom-right of the page) were also used. All photographs were shot on a Canon PowerShot A610 digital camera in the shutterburst mode. The camera shoots at a rate of approximately 2.3 frames per second. This meant that some actions had to be performed with an exaggerated slowness by the actors.

A total of 619 images were shot and edited.

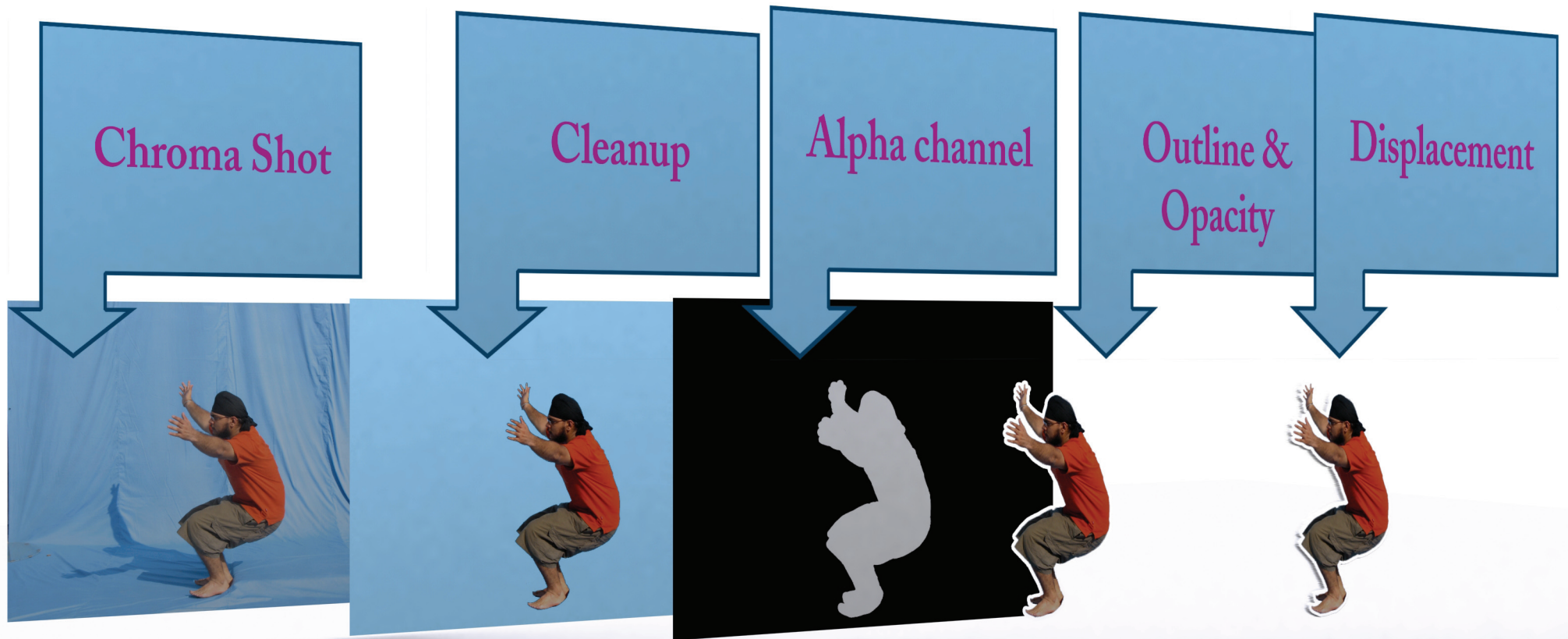




Lighting

In the initial tests, the set was lit using Skylight. The Skylight light models daylight. It is meant for use with the Light Tracer. You can set the color of the sky or assign it a map. The sky is modeled as a dome above the scene. One of the drawbacks about using Skylight is that it considerably increases render time. With the skylight on, each frame take about more than a minute to render.

For the final output, an elaborate combination of omni lights and spotlights will be used to simulate a similar light quality.



Flat-plane animation compositing

This diagram illustrated the basic procedure by which one type of character models were created. The chroma shot is first cleaned up and a white outline is added to each character. Then, an Alpha channel is created in the profile of the character. These maps (the cleanup and the alpha) are then mapped onto a plane. The Alpha map is used both as an opacity map (thereby rendering everything but the character's profile transparent, and a displacement map (to give it thickness).

Afterword

As much as the rain is the common binding theme that ties all the characters together, some of the more subliminal themes in this animation are of the diverse nature of the people that inhabit it and a degree of kinship that all these characters share as neighbours. The setting of the house, as a defective shell of the people living in it, echoes in some ways the low quality of living that most people in the city accept in a defeated sort of way.

The idea behind this story is not to generate awareness of the plight of the people of the city or to complain about the way things are. Neither is it a testament to the united spirit of the Mumbai-kars of Mumbai. It is probably best described as a representation of a few of my collected experiences of the city as a newcomer to it.

I intended this animation to be viewed by a very general audience. The core of the thought behind this project has been to look at our environment and the difficulties it poses in a lighter vein. It is my belief that humour is a potent vehicle to communicate an idea that will remain fresh in the mind of the observer.

The method used tries to break away from conventional 3d animation that has in many ways been over done and over used to a point where people are now almost numbed by overexposure to the medium. The attempt here is to use an older technique blended with a newer one to come up with a style that is hopefully fresh and adaptable by those who choose to do so.

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