Summer Internship Project

Guide: Bang Creative Solutions, Mumbai.
          (Animation Studio)

Submitted by: Sumeet Kumar Kalindi
                   Animation and Film Design
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Content

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BANG
CREATIVE SOLUTIONS

20/06/2010

Certificate of completion of Summer Training

This is to certify that Mr. Sumeet Kalindi has successfully completed his one month summer training in computer graphics from our studio during the period 15/05/2010 to 15/06/2010.

During this period, he was given training in 3D Studio Max and Adobe Aftereffects.

In addition to this he also successfully completed an assignment for developing a concept for a short film, storyboarding the concept, character designing and creating the character models in 3D Studio Max.

Additionally he was also involved in the production of a graphics based advertisement film for citi bank and an Animatic film for HDFC Bank.

During this period he had been a good team player and an attentive student.

We wish him all the very best for a bright future.

Yours Sincerely.   For BANG

Hari Sudhakaran SOLE PROPRIETO*

Abstract

The summer internship project was at BANG Creative Solutions, Mumbai. Here I got a firsthand exposure to the production process involved in 3D animation project and a 2D animatic for pitching a concept. Here I got to learn the industry standard software tool for 3D animation – Autodesk 3DS MAX. I did a photorealistic render of a product as a part of learning 3DS MAX.

I also worked on developing a story for a short film. In the process I worked on the look of the characters, the storyboard, and modelling one of the characters in 3D.

I got to work in the production of an animatic made for HDFC bank.

Through the internship I intended to observe and learn the production pipeline required to be followed in the making of an animation film in 3D computer modelled medium. This was also to gain an exposure to the working methods of an animation studio in general.

The Studio

BANG is a compact creative team of young artists and Animators catering to the various areas of animation for the television and entertainment media. They have expertise in both traditional 2D cel animation as well as 3D computer modelled animation.

Hari Sudhakaran, founder and creative head at BANG, holds a post graduate degree in Industrial Design. He has a vast experience in character animation, Cel animation and 3D computer animation.

Sandeep Shridhar, 3D artist and animator at BANG. He supervises the artists in the studio and looks over the workflow of the undergoing projects.

**Location of internship** – Sewri, Mumbai.

Learning the tool – 3DS MAX

In the beginning of the internship I had to learn 3D studio MAX for doing all the CG work. 3D Studio is used as a standard software package in the studio for creation of 3D content. I had earlier worked with the open source software package Blender and had done a few character models.

Learning new software involves going through all the basic exercises to get a hang of the software specific tools. Instead of doing that I chose to model a product: an Ipod shuffle. This would take me through all the basic exercises to know the necessary modelling tools.
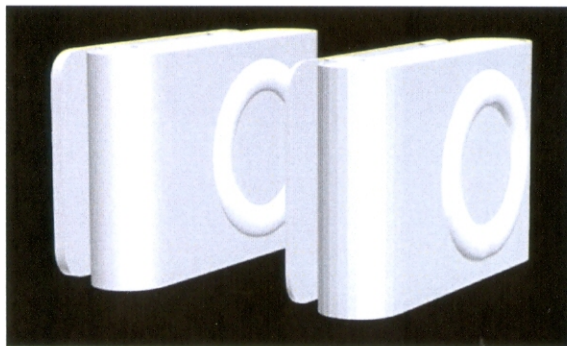
The initial attempts at modelling the shuffle resulted in the following images.
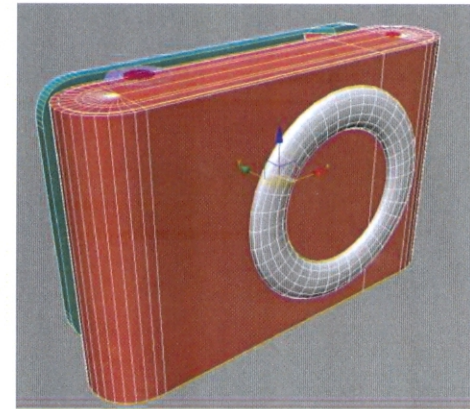
These models are very primitive in terms of the methods used to create them. While discussing with Mr. Sandeep I came across other methods of modelling that take less time.

The final model was a result of mesh modelling after trying out a few different modelling techniques. Each technique had its own advantages and disadvantages. Like for an animation the object mesh has to have a

low polygon count so as to reduce rendering time. This allows for having a less detailed model. The details are created using bump mapping and displacement maps. Whereas for a 3D still image of a product or 3D illustration the details are usually modelled in the object mesh since rendering time is not a constraint.

Photorealistic 3D images are usually used to showcase product concepts. All design ideas can be visualised in full detail.

The process of rendering an image from a 3D model involves setting up the camera and lights as required by the visual needed. The surface finish, the ambient reflections, diffused lights, shadows, etc are what give a
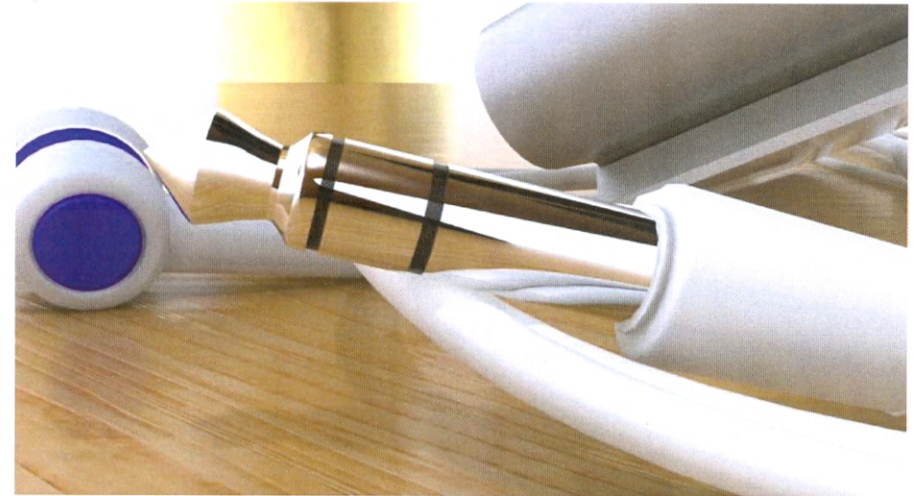
3D model its level of photo realism. For the ambient reflections I used an HDRI image that would reflect off
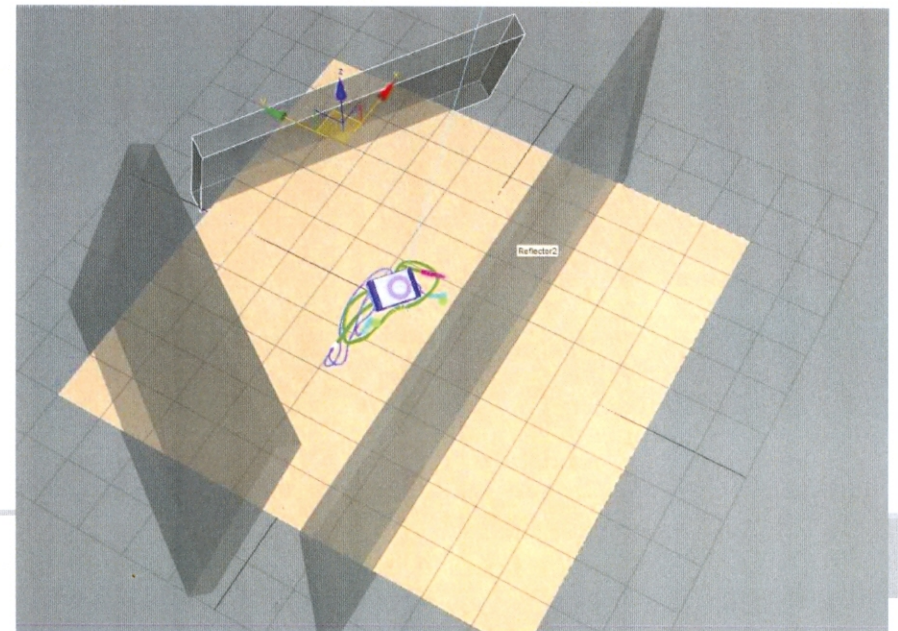
the surface of the shuffle body.

In the image to the left there is a slight reflection of the HDRI image in the table surface which gives it a realistic look.

Lighting is also an important aspect of the renders. The objective here was to create a studio lighting setup for the Shuffle. Using a single area spot light and three reflectors; the basic lighting was setup. The product

was lit uniformly by adjusting the placement and alignment of the reflectors.

The above image had a too strong light reflected that was
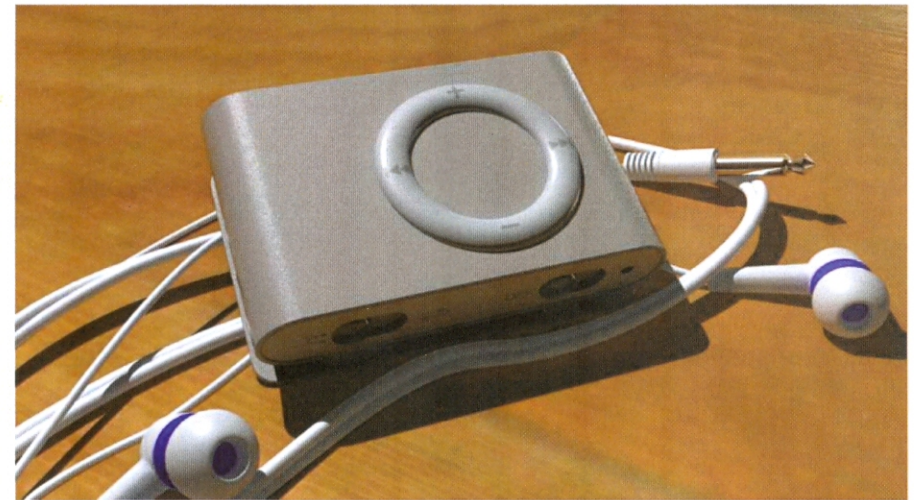
The above image is one of the initial renders which lacked a certain feel. The shadows were too stark and the background had blurred out considerably.

The final rendered image

Ideas for short film

In the beginning of the internship I had an idea of coming up with a one minute film having only one character. This film was supposed to be finished till the end of the internship using the newly learnt tool. Situations where a single character will be sufficient to bring forth a small story was thought upon. The objective was to ideate a concept with characters and then create the characters as close to the concept as possible within the time frame.

A lot of story ideas were discussed with Mr. Hari Sudhakaran. Some ideas were discarded on the complexity of characters involved in the story. While some ideas though possible as a film lacked a certain punch line.

After some discussions we ended up with a story of a small kid who discovers a Mantis in his garden. There is a childish curiosity and affection which is the crux of the story.

The story begins with the kid running to his father and telling him of his discovering an unknown insect. The kid pulls his father from his work and takes him to the tree where he saw the insect. The father explains to the kid that the insect is a praying mantis. The kid finds the insect very calm and friendly. Through a series of situations it is revealed that the kid has a special bond with the mantis which it calls Manty. Situations like the kid rushing through his breakfast and then running out to meet his friend, or that of the kid scrambling through the closet to find some food for the insect, etc were thought of to establish the bond between them. The insect is a female praying mantis which has laid eggs on the tree crevice. The kid doesn't know this. A few days later the kid finds the mantis motionless and finds out that his 'Manty' is dead. He becomes sad and dejected for the loss of a friend. He creates a shed over the crevice in the tree so that the crevice is protected from rain. After a few weeks he again comes back and sits by the trunk and recalls his interactions with the mantis. It is at the end of his melancholic

reverie that he realises that there is something moving in the crevice. He takes a closer look and to his amazement finds a number of small mantises crawling out of the crevice. One of the mantises which resembles the mother mantis looks at the kid and the kid is delighted again on having found his friend.

Character sketches

Coming up with a character having a peculiar charm in it is quite difficult for me with my limited sketching skills. For the initial sketches I did a lot of rough sketches for different sources to get an idea of a kid's anatomy. The body language of the kid needs to convey his curious and enthusiast nature. This needs to be observed and captured on paper before getting to create a 3D character. Also the praying mantis being an important part of the story deserved a good consideration on its look. After practising sketching to free up the stiff strokes, I sketched a few kid characters.
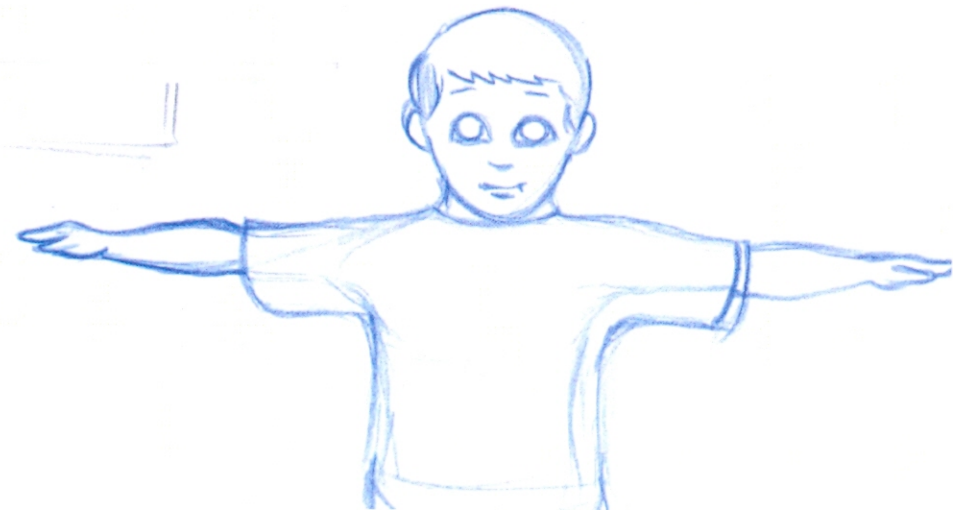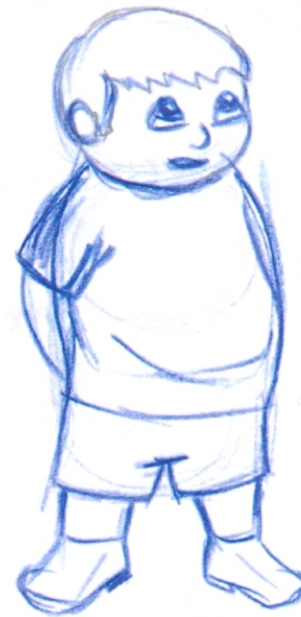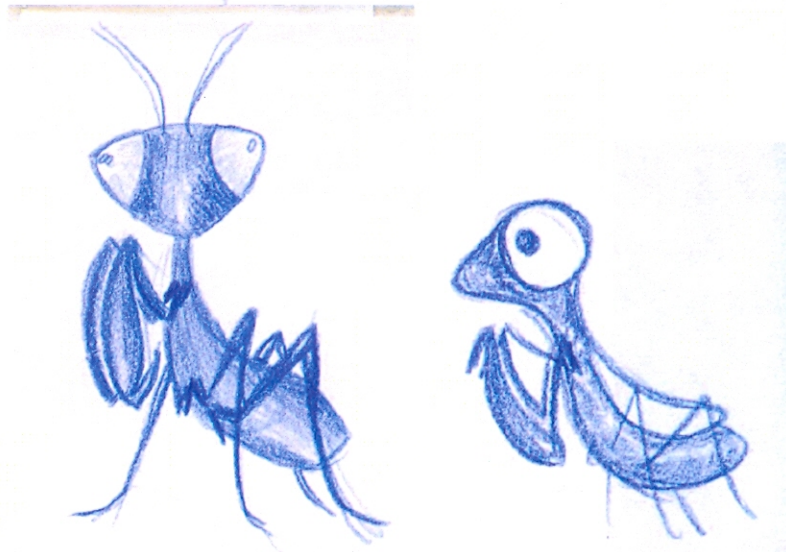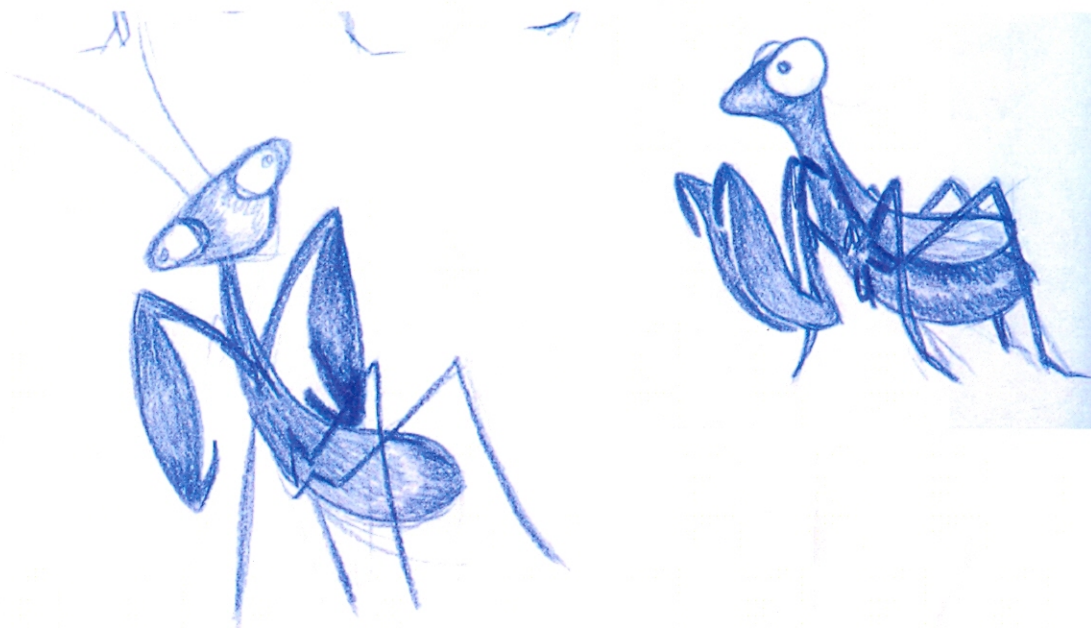
Character models
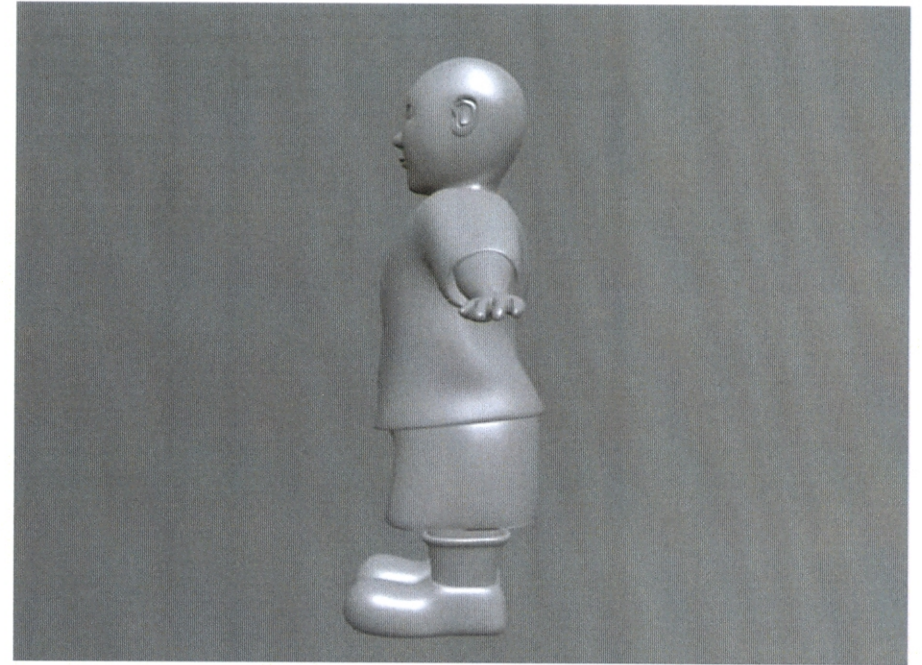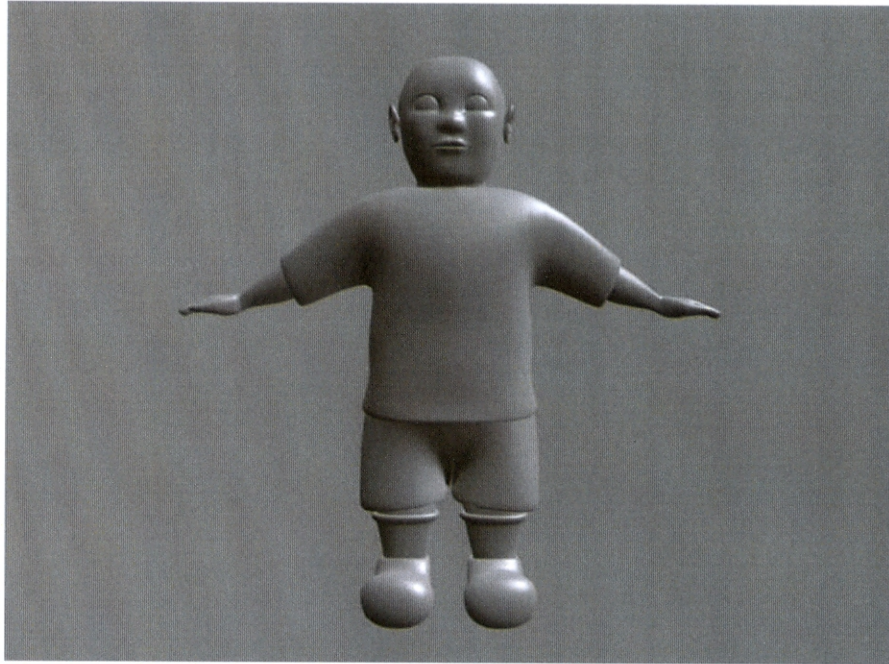
I also got to work on an animatic made for HDFC bank which was a Corporate concept pitch for microfinance M-Paisa. In this project I observed the effectiveness of using AfterFX in doing Cut-put styled animation.

Difficulties faced

Being new to the 3DS MAX interface meant a lot of searching through the manual, and menus to achieve a particular result. Many a times the modelling methods using a particular tool seemed complicated to implement as compared to the tools in Blender. Then I modelled certain parts in Blender and then imported the model into MAX. This helped me learn about the cross platform standard formats of files that can be used to share 3D assets between different softwares. Thus as an artist one need not be restrained by only one software tool and can extract the best of each tool.

While learning to model a human character in 3DS MAX, it was difficult to maintain an organic feeling of the character. This was primarily because of different names of similar tools which took a while to register. Also creating the model itself is a very time consuming process requiring a lot of attention to detail.

Sketching required a lot of effort from my side but the sketching improved gradually.

Scheduling things to finish on time was another hurdle. Estimating the time required to finish a task comes with practice as I learnt during the internship.

Conclusion

The internship overall presented to me a lot of different situations and learning experiences. I got to learn an industry standard software and finished with a decent 3D photorealistic render. Also I got to work on developing a story and got a first-hand experience of learning from a live project.

Getting to know the tedious workflow of a CG production helped me to admire and appreciate the efforts people put in making such films. It also made me realise the efforts it is going to take if I chose to do my next projects in 3D medium. Working with professionals also made me realise the importance of deadlines in a team effort.

Though I could not finish the film I learnt a lot in the process of developing the story and characters. There is a lot of scope for improvement in the efficacy of the work flow that I practice.

Acknowledgements

I am thankful to Mr. Hari Sudhakaran who gave me a chance to learn at his studio as an intern. He gave valuable inputs throughout the duration of the internship towards improving my work. He was always open for discussions while we were working on the story and provided helpful guidelines to direct the right course of action for improving the story.

I am also grateful to Prof. Shilpa Ranade because of whom I got an opportunity to work with Mr. Hari Sudhakaran.

In addition, I would like to extend my thanks to Mr. Sandeep Shridhar who shared his expertise in 3D and helped me to learn 3DS MAX. He gave me important tips and tricks to use the tools in a better manner.

Last but not the least, I would like to thank all my friends with whom I kept discussing my ideas and who helped and encouraged me to improve my skills.