Visual Communication Design for Digital Media
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Lecture - 17
Visual Design Methodology Part-III

Hello students. Welcome to the NPTEL online course Visual Communication Design for Digital Media. In the last two lecture we have discussed the generic methodology of visual design methodology. Today onwards will go into deep; go deep into the different paradigms of visual communication design for digital medias and their methodologies.
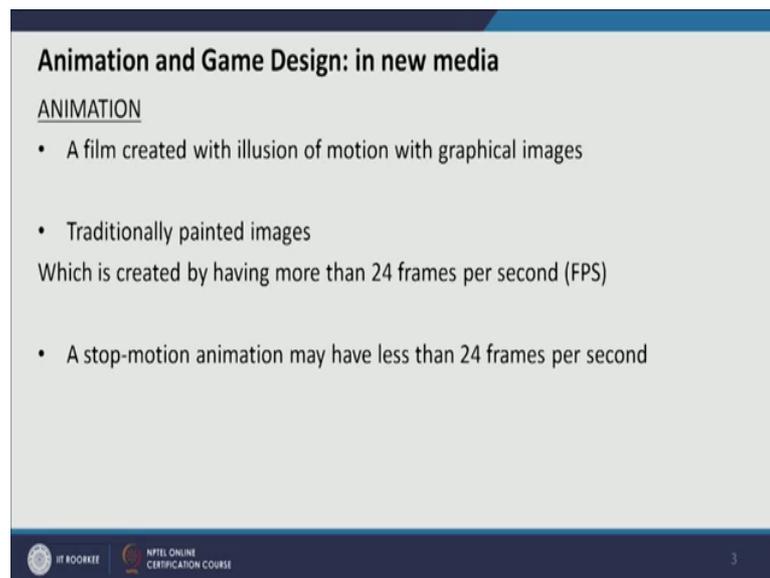
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So, today as we will discuss in details with animation and game design methodologies and particularly the part of visual communication design part of animation and game design and then visual design for the web. And we will not discuss the programming part of the web design will only discuss the visual communication design part of the web design as well as we will also discuss some user interface design process and interaction or human computer interaction design process as well, because this is closely linked with visual communication design.

And then will shortly discuss the graphic design process the visual communication element that is the complete process of graphic design is visual communication design process that will discuss after that.

So, today we will start with animation and game design methodologies and here, we are only as the course suggests we are only discussing the visual design part of the animation and game design. There are lot of programming and other parts of the game design even the cinematography part comes in the animation and game design that we are not discussing as it is a the scope out of the scope of this course. So, animation as we all know is a film created with illusion of motion with graphical images.

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So, there will not be any real actor and actress and the real natural setup; so all this right. Now in today's paradigm, it is digitally created, but traditionally as we see the traditional form of animation is was mainly hand painted graphical images and they were actually moved into and changed into 24; more than 24 frames per second that is 24 FPS if they move in the more than 24 four FPS per second the frames move then we can have an illusion of continuous motion. So, there will be a continuity in the time frame.

So, that was the traditional process of animation where handmade hand painted images were there and if we want to create a stop motion animation then there has to be a less than 24 frames. So, that we can create the particular visual style of stop motions; so, there will not be any continuity in the time frame. So, the picture frames will break and the name new picture frames will appear, it depends on how many it depends on the style of the stop motion; how many frames we select, but it has to be definitely less than 24, otherwise it will be a continuous normal animation. So, if we try to find out what was the

animations earlier origin in terms of Indian context, then we can see there are many other forms which was not animation, but which was the graphical storytelling and narratives of our traditional Indian origin.

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So, for example, there was a shadow puppetry of Andhra Pradesh, this is the first images that.

So, the shadow puppets were the leather puppets that was created by hands painting and leather cutting the leathers and hand painting and each and every different joineries were created differently and then they were joined together with stitched together and this was done this is the process of shadow puppetry here in the picture you can see. So, there was a white background and all these shadow puppets where they just behind the background and it will be backlit. So, from the back side there will be illumination and. So, that the colours and movements of the shadow puppets were there.

So, these were the traditional south Indian mainly Andra Pradesh was the origin that was the traditional storytelling process from this; we created animation in digital with the emergence of a digital media and platform we created adopted animations which evolved from this, even there were examples in Rajasthan like coward wooden train of Rajasthan was also related to the narrative and even in Bengal and Orissa, there were scroll paintings which was of a traditional form of narratives and in the traditional form of narratives as we can see you in animation we have sound and dialogue. So, in this

process traditional narratives there were songs which accompany this puppet's motion.

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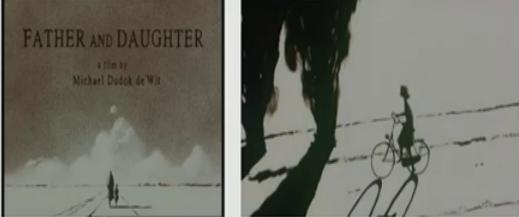| Name of artist/ animators	Paradigm used	Art style	Name of the project
Nina Sabnani	animation	Madhubani painting, Appliqué work, Kaavad etc.	Mukund and Riaz, Baat wahi hai, etc.
Gitanjali Rao	animation	Kalamkari	Girgit
Nina Paley	animation	Chayanatak and Jajput painting mixed with contemporary art style	Sita sings the blues
Artists of 'Tara Publication'	Graphic novel	Various Indian vernacular art style	Flight of the Mermaid, Sita's Ramayana, etc.

So, visual as well as audio was also there in this traditional form of narrative this is the chart we are not; I am not going in details of this; so, where the new animators the contemporary animators add up adapting this Indian traditional style and making new animations using this. So, this is actually a example of a paradigm shift from a traditional media which was for some example. For example, in Mukund and Riaz, the first example it was Applique stitch which Nina Sabnani an animator as well as the professor of IDC has adopted and translated that into a new media application which is animation. So, if we go take other examples of films which is adopted from a 2D painting we have a father and daughter by Michael Dudok which won Academy Award in 2000; for short animation movie this was hand painted, but then it was transferred into the digitalized and computer generated animation is created using this.

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So, you can see this is all hand painted water colour. So, frame by frame it has been painted and then as according to the rule to more than 24 frames were painted per second and then it was the animation was created. So, another example was Eric Carles animation of a very hungry caterpillar and there is also I see a song.

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So, here in this process acrylic pair sheets are used as a base and acrylic paintings paint acrylic colours are used on each and every acrylic shape to paint each and every frame and then after that each and every frames were shot and then 24 frames were repeated or

more than 24 frames were repeated per second and the animation is created by that process. So, if we discuss the generic design methodology of animation.

So, this will be first selecting the story or story writing if we start from the scratch then generating a screenplay which is at which will be adopted in the animation. So, proper screenplay of with dialogue and each and every frames detail has to be done and based on that screenplay a storyboard has to be evolved we will discuss what storyboard and other things are in the next slide.

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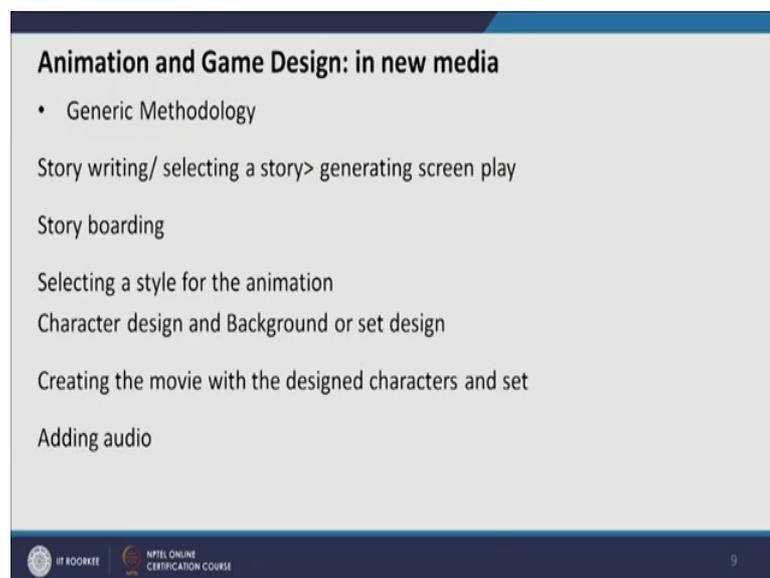
So, from the storyboard then the selection of particular style of animation whether it has to be 2D animation or 3D animation and in 2D animation or in 3D animation what kind of particular style colour palette what kind of textures and illumination levels each and everything has to be decided.

And in part of that there is also from that we have to do design the character and as well as a setup or the background has to be designed and then the creation of the movie has to be done with the movements of characters and changes of the background or set. And then the audio has to be added on this or audio can also be sent before whether audio comes first or animation comes first that is that is up to the animator, but then audio has to be synced with the visual design will discuss the visual design process not the audio part and the story writing our screenplay writing part.

So, we will discuss with the selection of a particular style of animation and character design; how we can design a character based on a particular style selected style and how it has to be how; what are the process of creating of a movie after that.

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So, we will take a case of a 2D animation first and the 2D animation is designed this 2 are what we are seeing here 2 are already design animation in 2D platform. So, first case and both of these animations are derived from a particular a single story board. So, storyboard remains the same and in both the animation only the visual style is different. So, on based on a particular storyboard different 2 visual style has been generated and 2 different animation has been generous generated that we will discuss.

So, first one is based on a traditional Indian narrative that is a Bengal Pattachithra this is the style of the style from where this animation is generated or the mood board which in the mood board the style of Bengal Pattachithra is selected here. And in this one the second option the same on the same storyboard traditional serigraphy or boot cut or linocuts printing that is the tragic traditional print media style that has been taken as a visual inspiration.

So, first in case of 2D animation will go into detail the visual communication design part of 2D animation.

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So, after designing the characters and background each and every 3 key frame has to be composed and according to the storyboard and then other; this is done in this particular case is a in Photoshop, then each and every frames are composed frames and frames are composed with the iterating the character as well as the background. This is also done in Photoshop because this animation was actually a stop motion animation. So, they were very less than 24 frames per second.

So, this was possible to do with the adobe Photoshop otherwise other softwares has to be used and then the sound effects are mulched with the timeline.

So, storyboarding as we were discussing earlier is it contains the description of a particular shot. So, and the key frame of the shot the first shot somewhere the it will start has to be sketched like here in the example and then the camera angle; what kind of camera angle whether it is low angle high angle with the starting camera angle has to be written and then what kind of camera movement whether there would be a pan shot whether there will be a dolly shot, whether it will zoom in; that has to be written as well and then details of the sound and everything has to be written.

So, this is a typical for format of a storyboard. So, here the key frame the first initial frame has to be drawn and the description has to be written here. So, here we are seeing a famous example from a storyboard of Pather Panchali that is by Satyajit Ray; he won Oscar for his lifetime achievement in movie. So, this is also applicable in movie and also in animation. So, this is the storyboard created by Satyajit Ray himself.
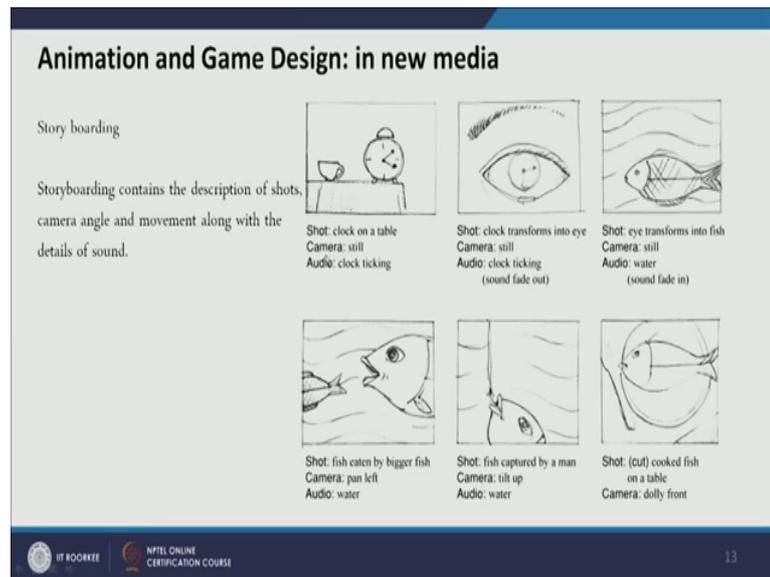
So, in case of this animation this is was the storyboard created. So, the Sha key frame is drawn each and every key a key frame is drawn and then what kind of the description of the shot and the camera is in these cases is a still camera here in this case there was a tilt upwards in the camera which was also discussed here in the camera was dolly and front dolly. So, this everything and here it was pan left in the left side there will be a pan shot. So, everything was written even the sound effects were also written in the storyboard.

So, after making the show you both; then a particular visual style has to be selected and here comes the main part of a visual designer the visual communication design is the most important here. So, here in this case, what we are discussing Pattachithra which is a traditional Indian narrative of Bengal which is selected as a visual style. So, here there are 2 different Pattachithra 2 3 different style of Pattachithra in Bengal.

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One is the Kalighat which is urban Kolkata is the centre for this Pattachithra and other 2 is the Midnapur and Birbhum which were the other 2 centres which Midnapur and Birbhum Pattachithra are mostly similar in style, but Kalighat Pattachithra is very different from Midnapur Pattachithra. So, in this animation all these Pattachithra, some of the elements from this Pattachithra of Bengal has been adopted into stop motion animation and for this a interview ethnographic survey or the interview is done with a original Pattachithra curve is the whose name is Moyna Chitrakar, she has also done some graphic narratives with design some graphic narratives with Para books.

So, this is a photograph of ethnographic surgery to understand the colour palette texture; what kind of the design principles and elements of the traditional art form.

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So, here is the stylistic analysis of design principles and elements of Bengal Pattachithra. So, here we can see the colour palette is derived from this. So, this is an element of design and also the line quality if we see in the photograph. So, line quality; there is a black and red and as well as white borders which they use as highlighting the figures. So, this is the line quality. So, we have black and red borders here around the particular shape, colour, field, shape and the white borders to show the jewelleries and here we can see a flat colour.

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So, node in gradient is used and the colour used is a very opaque in nature that was the Midnapur Pattachithra. Now we are seeing the Kalighat Pattachithra where there is a difference the colours are drastic colours are very soft. And the vibrant colours are not used and more of a neutral colour palette that is derived from the Kalighat Pattachithra and also the line outlines were not in all the places.

And also we can see there is no flat there is less areas where there are flat colours were here in the weight and black borders are there which is flat, but mostly the skin colours and the draperies where the gradient colour shades are used in that, and also if we look at the design principles and what kind of ideologies what kind of ethos they have in the design.

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So, we have in Kalighat Pattachithra with a human faces and the Midnapur Pattachithra human faces; they are quite different. The intricacy, the line quality, the thicknesses of line, the colours, they are also quite different that has been analyzed first before going to the character design for the final animation. So, here are the textures which are derived from the particular style.
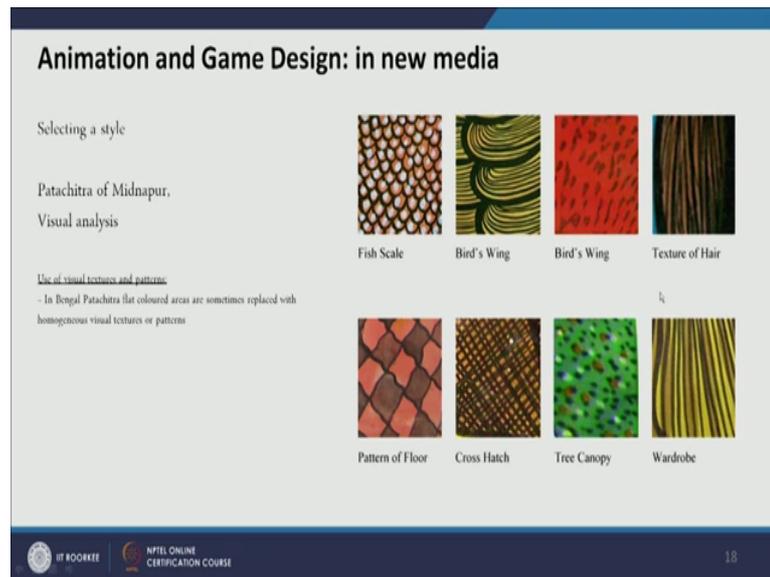
So, fish scales ball swing and different things as to depict different things with different textures and different colours has been used. So, the texture which is also a element of design which has been derived from the particular source or the origin of original source of the style and also what kind of borders line qualities and Pattachithra also has a border which are the spaces of different dividing which divides different key frames of Pattachithra, there are there is a border there is a floral border there which is also taken from this and from this traditional art form.

And also if we see as we are we were discussing these were the origin of firm of our animation. So, here we can see this is actually the storyboard evolved from this. So, these are actually the key frames and each and every frame has one story one song attached with this. So, one particular frame has is actually the key frame and the mainframe where the all these characters were there and a particular song will be attached with each and every frame of the Pattas. And the frames are divided with this particular kind of borders which is there in this is in Midnapur and Kalighat Pattachithra.

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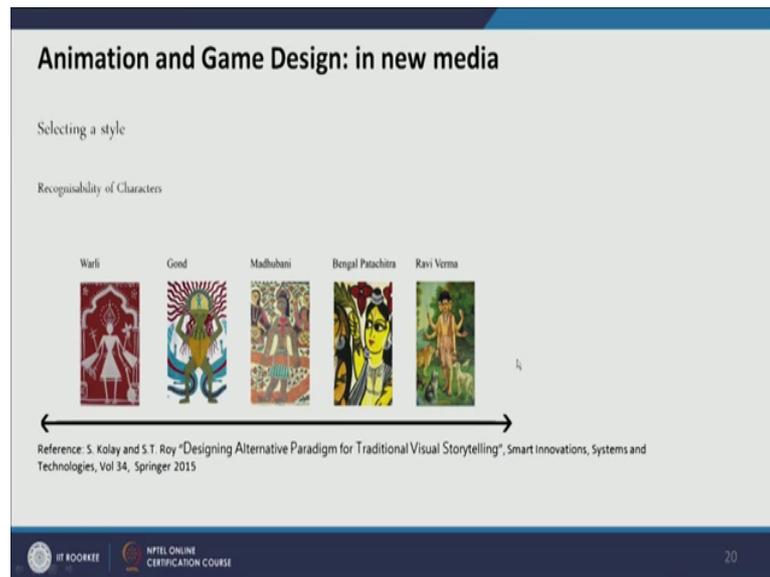
So, while selecting a style we also need to know; what kind of style we can adopt in animation and what kind of style will be difficult for adopt adoption in animation and what kind of style will be much easy to adopt in animation. So, here from a paper of myself and Doctor Shatruptha Takur Roy; we discussed the features to select a particular art form which can be adopted in animation, because most main many of the art forms might not be easily adopted in the animation without destroying the arts; particular elements and principles of design and the ethos particular nature of the art form. So, here the first principle was recognisability of the character. So, the characters in the particular source art form has to be properly recognizable. So, here there is a recognisability graph derived from a different art form of traditional art form of India.

So, we have Warli, Gond, Madhubani, Bengal Pattachithra and also we have taken Ravi Varma's art style because that is not a traditional vernacular art, but the classical the famous painter Ravi Varma's painting is also taken to understand the recognisability the feature of recognisability. So, here we can see the Warli, if we see look at the character and the back backdrop there are very less elements of design and the very less features of features are there to depict the particular character and set up. So, here if we start transferring Warli into animation all the characters might look similar. So, that is the problem with Warli, but if we go in this direction, Gond and Madhubani has a higher value of recognisability, but Bengal Pattachithra has a more-more recognizable the characters portrayed in Bengal Pattachithra; they are more recognizable than Madhubani;

even the Raghuraj Pattachithra's character support training or Raghuraj Pattachithra also are more recognizable than Madhubani and Gond as an indefinitely boldly a style.

So, there are more details in the eyes more details in the characters and more details in the backdrop, but the Ravi Varma's Pattachithra as it is a more it depicts or every features in minute detail. So, the less level of abstraction is there. So, as we are going in the left hand side the more level of an obstruction is there Warli is the most abstract. So, all the features are not features of the characters character and the backdrop is not defined and the Ravi Varma's painting is a more natural is the less abstract in nature.

So, if we are trans translate Ravi Varma's style which will be a very easy to animate and the next feature of adopting selecting of animation style is a move movement capacity of the character many of the animation style might not have a proper; might not have all the movement a different kind of movement capability, but in Bengal Pattachithra

All the hands and legs; all the limbs can be moved in a different direction as because they were portrayed in the Bengal Pattachithra if you see the they portray hands and the hands and all the limbs position in the different various opposition.

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In some of the Patta some of the traditional style; like Warli style the hands and limbs position will be particularly in this manner. So, we can see the position of the hands which will be on the side of the shoulder in Gond also, it will be in the side of the

shoulder Madhubani; it the face will be turned always on the right side or in front, but Bengal Pattachithra does not follow all these guidelines. So, there are different there are possibilities of hand the limb movements in different directions the same thing is also with the faces in Bengal Pattachithra which is very rare in the Indian traditional style the face is turned in the fourth 3 quarter angle or the 45 degree angle in the with the picture frame.

So, that gives the details of nose eye and the even the face profile which in terms of for Madhubani, we can see its always mostly turns on the right on the side and gone with mostly turn in the front side. So, it does not give a nose feature and the face profile. So, on also this feature or gives provision of using different camera angles and in Bengal Pattachithra also sometimes the face turns on the purely in the front and sometimes, it also turns on the on the side different angles of portraying face is used in the Bengal Pattachithra. So, there is a probable provision of using different camera angles in while adopting this style into animation as well.

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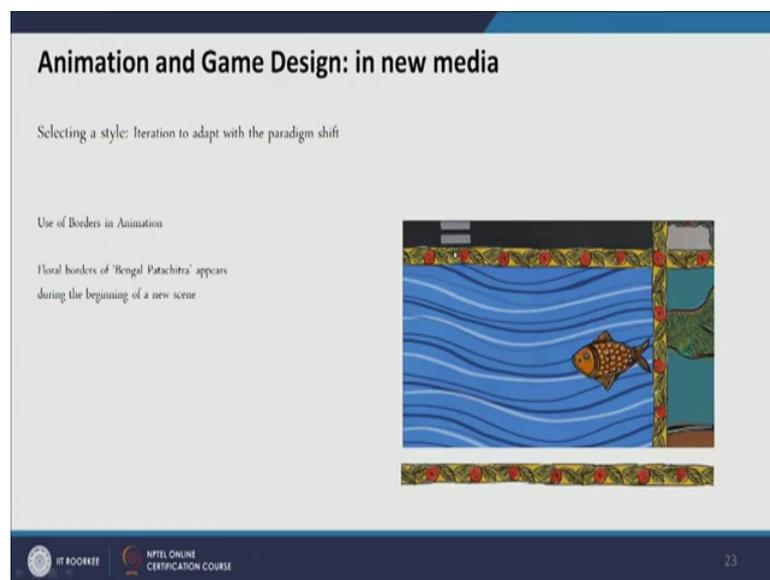
And while decoding the style the different features of the Bengal Pattachithra is also using the final animation this is the frame of the final animation where the borders which I was showing earlier has been used to during the transition of one key frame to another key frame.

So, this borders appears while from transferring from one key frame of the animation to another frame of the animation even in the animations features the flat colours. And the line outline are painted in Photoshop, it is painted in a different 2 different layers. And in the final animation which I will show you later the anime in the animation, this layer with the outline and the layer with the flat colour moves differently. So, that to depict the colour the motion of the brush of while of the traditional artisan while the painting the Bengal Pattachithra that is depicted in the animation by the moving different 2 different layers of colour and the outline.

So, we come to the character design the character design here we have the examples of character design of course, which is done by again by Satyajit Ray in his film Gupi Gain and Bagha Bain.

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So, here drew all these characters of ghosts; how the ghost will appear in this; there is a particular song in this movie. So, during for that he have designed the characters which is actually a China which is adopted from the principles of China Turk. So, there is a white frame and all this ghosts the dancers in Katha-kali style, they dance and then they appear as it looks like a Chaya Natak. So, you can go and see this famous movie. And particularly this particular portion of this movie in coming back to the particular case of our 2D animation design the characters are designed from the traditional art style as well as thinking about the contemporary features of our people.

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So, this here we can see this was the traditional feature of the character well where the hair style. And the ornamentations were based on the traditional social cultural attributes were from that a contemporary human figure is evolved from this traditional features even the other characters has been designed from this traditional style. While also designing different animals the traditional the blend of traditional and contemporary is there.

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So, this is a traditional Bengal Kalighat Pattachithra; this is a Pattachithra by Jamini Roy; who is a famous painter from Bengal; so, who also adopted this style stylistic adoption of cat's character design from this traditional art form. So, this is the final design of the cat which is also there in the animation as a animal character and here we can see a lion which is designed from based on a Narasimha or also the lions portrayed in the Kalighat Pattachithra, and the Bengal Pattachithra looks like this which is not like a typical lion.
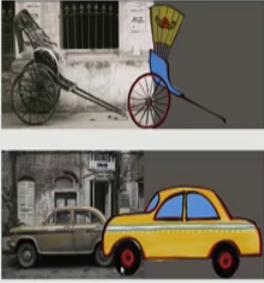
So, that traditional style has been retained while designing the characters for this animation. And I now coming to the set design and the backdrop design the even the contemporary vehicles and the contemporary which is there in the Kolkata set up which is evolved from Kolkata scenario is translated into the traditional art style.

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So, there is a handful ratio and the shared taxi which is a public taxi which is designed from the particular design based on the visual style of a traditional art form.

And here is the setup where the typography we also discuss the typography how typography is important in the visual communication design typography is adopted in to create a scenario create a background of this animation. And the features of the architectural features and elements of from the buildings and local vegetation has been adopted in the backdrop of the to create the backdrop setup for the animation. So, this is the final design and we will see the animation movie of this the small key for them in an animation movie.

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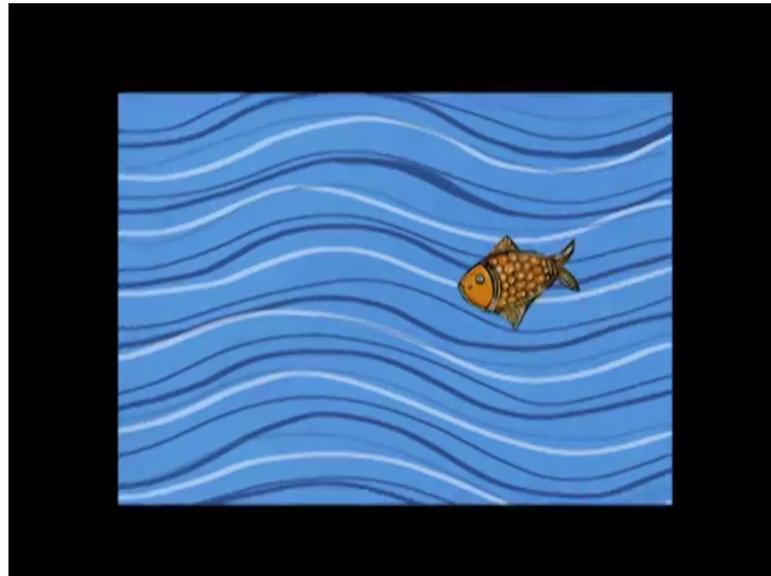
So, we have seen the animation which is based on the traditional Indian Bengal Pattachithra. Now based on the same story board, another 2D animation is designed which is based on the same story board, but the visual style is different where the visual style is woodcut linocut or serigraphys which is adopted in the animation.

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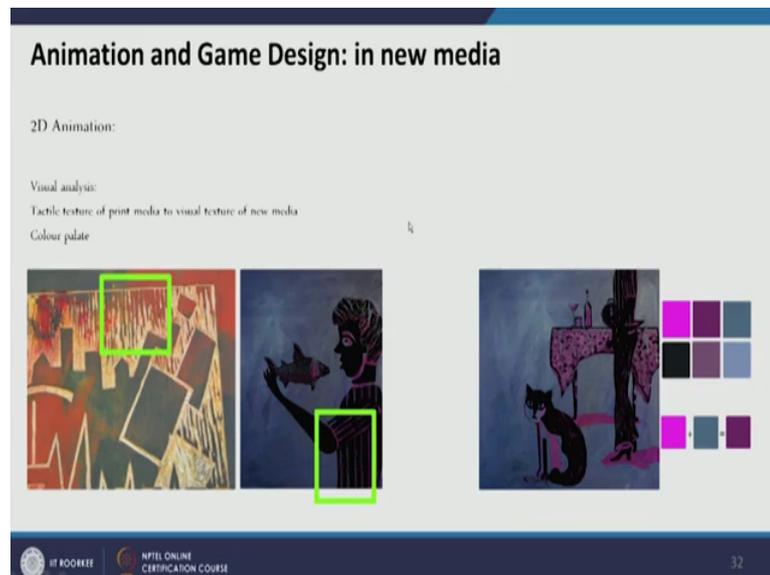
So, here we can see the typical wood cut and this is how the visual analysis again though the same process has been adopted; so, visual analysis of the source or the origin which is there in the mood board of the design and how that is translated in the final design. So,

here the textures of the wood cut this is a woodcut print. So, wood cut prints texture is translated in the final and animation design and the colour palette of a woodcut if we see the woodcut is and serigraphy or linography is done which is a traditional print media. So, the different wood prints will be there for the each and every colour. So, one print for one form the print of the wood will be only on one colour and the next wood print will be on the next colour and those will superimpose on each and on each other.

So, that will generate that might generate a third colour if there is a super imposing area. So, here we can see if there is a blue colour printed first and then is a pink colour printed which will give a purple colour in the section. So, here in the; if we consider this as a calligraphy or wood cut or linocuts print. So, first there is a blue colour printed all over the picture frame, then if we add a pink colour. So, then there will be a purple colour which will generate in the intersection between the blue and pink.

So, there is also some part of the pink highlights; you can see if you see minutely pink highlights are also there where there is no blue colour only pink is there and then after that there is a black colour which will be printed on top of this. So, there will be a pure black element on this on top of this. So, that is how the colour palette is also colour palette of the final animation design is also derived from the serigraphys principle. And here also each and every colour as we discussed earlier different colours move differently so to give different the feel of a different colour that you will see in the animation.

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So, the pink colours layer blue colours layer and the black colours layer they move differently to give a illusion of 3 different layers integer differently.

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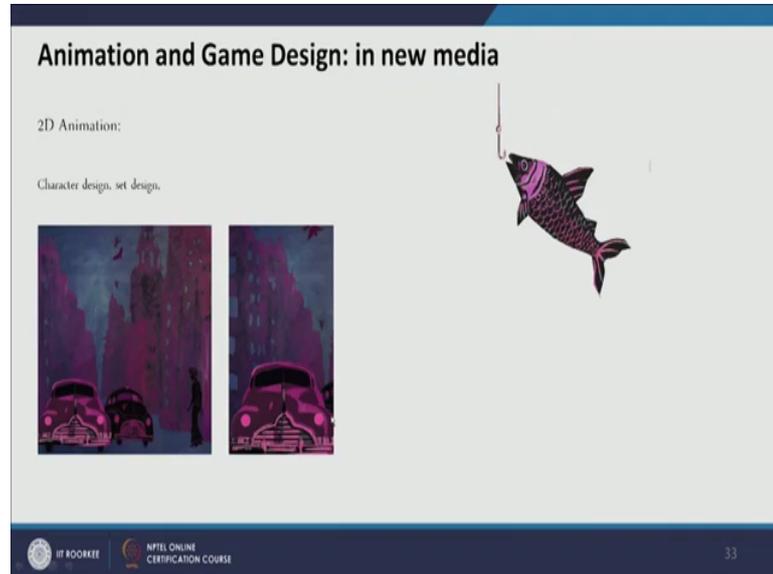
So, this is the again for the character design the similar the serigraphy and linography style is kept in mind as well as the different features of cityscape as well as were human and animal figures has been designed according accordingly.

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So, as we have seen; we have discussed the process of 2D animation; right now moving on to the other part of animation; 3D animation which we also will decide by the visual

designers part of 3D animation is limited because this will be the character designers or 3D model; the people who do that your 3D modelling with different softwares; they will be involved in the 3D animation. So, visual designers will design the anime; the develop the character; the concept design for the characters and then 3D animators 3D models the 3 characters and the set; they will model it and then the anime then the sound and sound engineers and the sound audio will be added to this, but we will discuss the 3D animation process. So, one example is up by Pixar.

So, there if we see the first the visual communication designer they will sketch the concept design for the characters which will be there in the animation, then this is the final design for the characters which is give design in the 3D software where 3D monitor characters has to be modelled first and then each and every textures will be added on the character and colours everything has to be added on the character and this characters with the bone to or the process of in which process depends on which software you are using.

So, the characters will be mu characters will move even the set and even the background will change in the time frame and the animation will be created. So, this is a typical 3D animation, but there is another example if we see Disney's paper man.

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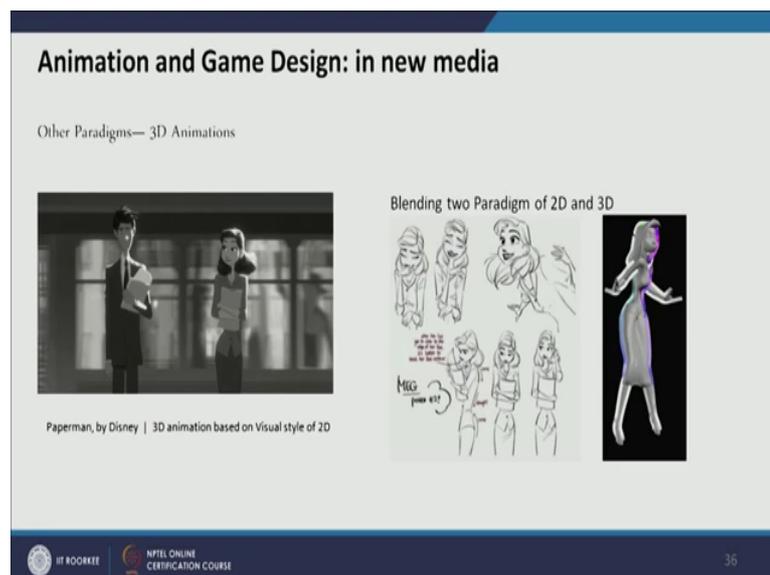
So, this will look like a 2D animation if we see if you see this animation which is available in YouTube you can see this. So, this animation by first glance will look like a

2D animation and it gives the effect of hand painted old Disney style which we see in the traditional Disney style by each and every frames are painted. And then again 24 frames per second will move in 24 frames will move per second. And then that was a traditional 2D painted animation style, but here in this particular animation paper man it is actually a 3D animation which is not the traditional Disney style, but they wanted to keep the style and the visual language of visual elements, and visual principles of a 2D traditional Disney animation in this 3D animation.

So, again they have definitely gone through the line qualities what kind of particular texture what kind of colour is there in the 2D animation. So, here we can see the particular lines which the visual communication design of the animator who sketched and the line qualities are taken from this and then they finally, made a 3D model because 3D animation is right now easy and is less labour intensive. So, they adopted a 3D animation process to generate a visual look of a 2D animation. So, this is the first sketch of a 2D animation then this is the 3D modelled version of the particular character. And this is how the 3D model of the first image here you can see the 3D model character and here the line qualities colours and all the design elements is taken from the 2D animation is superimposed on a this.

So, all this using a particular software they have identified a particular, they have translated the 3D volume into 2D lines and then the final animation looks like a 2D animation, but through a 3D process of adopting methodology of a 3D animation they have generated a style of 2D animation. So, right now moving on to the game design; so, that is also a quite similar of a mean animation if we take out the part of a game play and development part of this which is not part of the visual communication design.

So, storyboarding character design and say design also is there in the game design as well. So, that is the visual communication component of our game design. So, that also will discuss a small game design which is also a 2D game design based on a flash platform. So, this is the game which is designed by myself and developed by Mayur Chakravarthi and this is available in Samsung Smart TV. So, this is a TV game; this is the screenshot of the different stages of the game they are in the process also.

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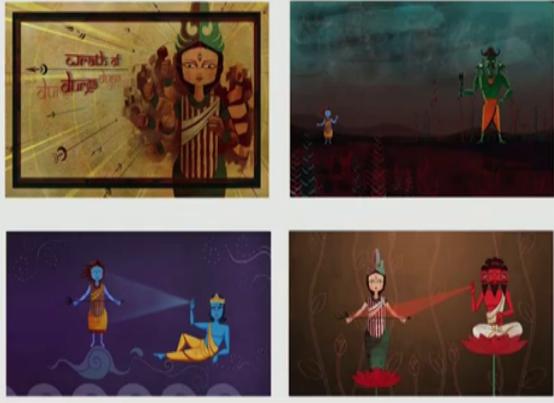
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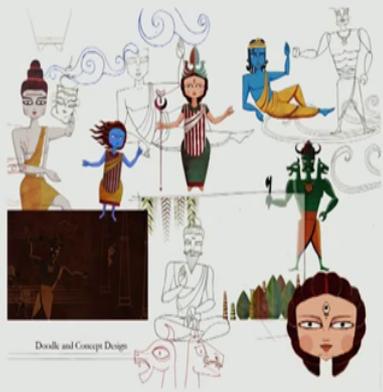
Again it is a trance translated from traditional Indian style. So, here we can see different influence of different tradition Indian style as well as Gemini Roy's Pattachithra is also there is there was in the mood board.

So, here we can see influences of Thanka painting for designing the cloud, here we can see the particular show dance mask is was in the mood board to generate the style for the demon of the game. And even the some of the features are evolved from the Gemini Roy's Pattachithra and to mix by mixing different traditional and traditional Indian art

form the design is created while designing the character as well as the background and then the final design is there. So, this is the final game we will see the final game.

So, we have discussed the animation and game design methodologies in this lecture. So, in next lecture, we will move on to the web design methodologies and then we will briefly discuss the graphic design methodologies.

Thank you.