

**"SEEING THE SOUND AND  
SOUNDING THE SCENE"  
INTERACTION DESIGN SPECIAL PROJECT  
INSPL-39**

**BY  
SOURABH PATERIYA  
126330001**

**GUIDE  
PROF. C. P. NARAYAN**



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**Special Project Report**

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# **“Seeing the Sound and Sounding the Scene”**

Submitted by

**Sourabh Pateriya**

**(126330001, Interaction Design)**

Guided by

**Prof. C.P.Narayan**



## Approval Sheet

The Special Project entitled “Seeing the Sound and Sounding the Scene” by Sourabh Pateriya is approved, in partial fulfilment of the Master in Design Degree in Interaction Design at the Industrial Design Centre, Indian Institute of Technology Bombay.

Chairperson:

Project Guide:

Date:

Place:

Industrial Design Centre, IIT Bombay



## Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/ source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Sourabh Pateriya  
126330001  
Interaction Design

Date:

Industrial Design Centre, IIT Bombay



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I would also like to mention Shantanu Yennemadi for helping us consistently and telling the basics whenever required.





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## Abstract

**Seeing** the *Sound* and **Sounding** the *Scene* is rhythmical and beautiful at the same time. This sounds poetic but makes utmost sense if you read carefully. In this project, we figured out the relation of visuals with sound and vice versa as individually they look and sound empty.

Aim of this project was to explore the relation between “sound and scene” and how they complement each other.

Exploration was done by documenting some movies after seeing and analysing them and talking to industrial expert, Oscar award winner sound designer “Glenn Freemantle” who also owns sound24, a UK based sound design firm. He has done more than 70 films till date. By talking to him, we got some out of the ordinary insights giving interesting ideas and leaving us with lot of other questions.



## Introduction

This project began with a line, a line which was rhythmical yet so thoughtful and powerful. There is an entire universe which can be built upon those pillars, and is already built.

**“Seeing** the *Sound* and **Sounding** the *Scene*”

Let’s break them down.

“Seeing the Sound” and “Sounding the Scene”

They become self-explanatory and somewhat clearer after breakdown. Sound and Visuals together creates such an impactful impression, which creates everlasting experiences. Movie industry is living example of this. Movie industry is exploiting these two dimensions and coming up with more and more indulging experiences.

It all started with black and white films, with no sound. People like it but engagement towards the movie was comparatively lesser. But as industry grew and businesses started growing around them, they came up with new cutting edge technological and design solutions to make more involving experiences.

In these 100 years, these two dimensions of visuals and sound are evolving with a speed which you can’t feel but is fast enough. We’ve evolved from No sound to Dolby Atmos sound systems;

and black and white low resolution black and white movie to 4k ultra HD 3 Dimensional IMAX Screen with a dome like structure.

Imagine an IMAX theatre without sound system. Will you still get the same impact? Or imagine someone doing live dialogue delivery and music playing while the movie is running. Will that be effective and good enough for people to concentrate on movie? We think, "NO".

To take this project forward, I and Sourabh Pateriya worked in a team and analysed some movies, how their sound design is done and talked to an industrial expert who is also academy winner.



**DOLBY ATMOS**

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<sup>1</sup> Logos used here belong to respective companies.



## Sound Design

*"Film sound is rarely appreciated for itself alone but functions largely as an enhancement of the visuals. By means of some mysterious perceptual alchemy, whatever virtues sound brings to film are largely perceived and appreciated by the audience in visual terms. The better the sound, the better is the image."*

**-Sound Designer Walter Murch**

Though we might think of film as an essentially visual experience, we really cannot afford to underestimate the importance of film sound. It is meant to support the story of a narrative, documentary, or commercial film or television program. Sound may tell the story directly, or it may be used indirectly to enhance the story effects of the movie.

In most instances, film and television sound is constructed in post-production utilizing many pieces of sound, mixed flawlessly together to create a complete whole. This process is known as sound design. It most commonly involves the manipulation of previously composed or recorded audio, such as sound effects and dialogue. In some instances it may also involve the composition or manipulation of audio to create a desired effect or mood. A *sound designer* is one who practices the art of sound design.







## History of Sound Design:

History of sound design in theatre is very long. Today is known that in India and China there were theatre productions, around 3000 BC, accompanied by music and sound. In ancient Japan also, theatrical events called *kagura* were performed in Shinto shrines with music and dance. Most probably the first use of recorded sound in the modern theatre was a *phonograph* playing a baby's cry in a London theatre in 1890.

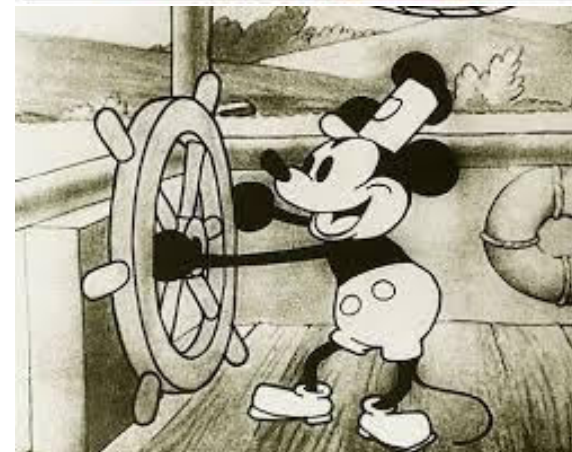
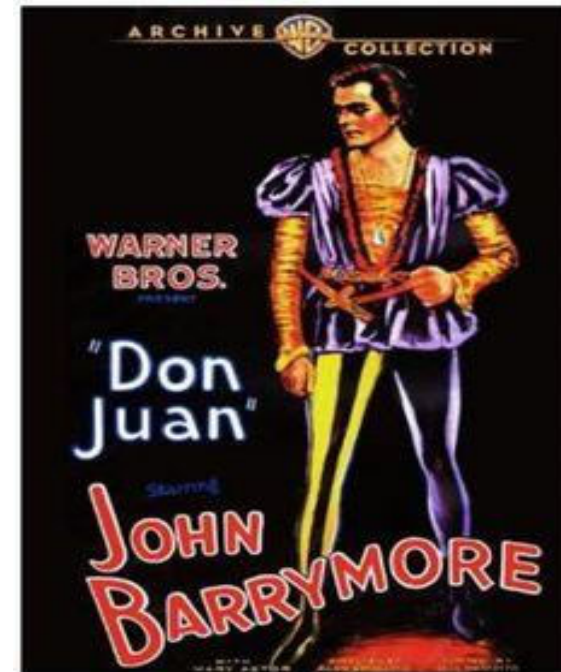
Sound design in film is directly connected with the development of sound in film, and although this history is not so long as the history of sound design in theatre, it is actually film, who inaugurated the profession of sound designer and opened a new creative field for sound professionals. In theatres it was stage manager's duty to find the sound effects and an electrician used to play the recordings during performances.

From the inception of motion pictures, various inventors attempted to unite sight and sound through "talking" motion pictures. Nevertheless, sound with film as an idea seems to have started fourteen years before the invention of the motion picture, during the phonograph's infancy. In 1913, a different version of the Kinetophone was introduced to the public. But, due to the technical imperfection this early film-sound attempt caused the disapproval from the audience. For that reason the idea of sound movies was till 1915 almost totally abandoned.

Warner Brothers, whose Vitaphone system was first embraced in August 1926, debuted the first sound film named *Don Juan* but there were no dialogues. Further, *Lights of New York* (1928) was released by Warner Brothers as the first all-dialogue film. Although Disney's cartoon *Steamboat Willie* (1928) was the first film for which was completely created a soundtrack in post-production stage including sound effects, music, and dialogue, it was considered the *King Kong* released in 1933, was the very first film that started sound design history.

After quite a range of inventions (Fantasound, cinerama, cinemascope etc) influenced with the development of television, the one of most important steps was inventing of the original professional Dolby A-type noise reduction, introduced in 1965.

From that time sound recording and reproducing systems are constantly developing and improving to satisfy the demand of top quality sound in films.





## Types of Sound:

There are two basic roles of sound in film. These are: storytelling and story supporting. Story telling is the most significant characteristic of the films in the "sound era", and is possible in film using dialogues, monologues or off-narration. Story supporting relates on the sound effects that boost the tension in film and suggest the audience how to feel. Special sound effects and music are the basic tools which enable it. The sources for the sound used in film could be: recordings made during principal photography on sets, sound effects libraries and customized recordings, and music, both that composed from the film and from pre-existing sources.

The basic roles of sound in film are accomplished utilizing different types of sound in film, such as:

1. Speech (Dialogue, monologue, voice over)
2. Music (Recorded music, re-recorded music, live music, background, music, etc.)
3. Sound effects
  - Hard or "Cut" effects
  - Foley sound effects (Mixed with music)
  - Ambience (Backgrounds)



## 1. Speech:

It is the most revolutionary thing which appeared in film history. It changed totally the visualisation of movies, which now differ very much from the films in the silent era. Today the speech is one of the most important tools for understanding the story of the film, so it is very important to be understandable and as more realistic, as it could be.



## 2. Music:

At the beginning music in film was used for two very different purposes at once: to drown the noise of the projectors and to give emotional atmosphere. As cinema developed commercially, the music became more elaborate and played a larger and larger part in the show as a whole. There are quite ranges of different appliance of music in the film according to its role in the movie.



### 3. Sound effects:

Almost every sound we hear at the movies that isn't dialogue or music is a sound effect. It is the expectation of the audience that everything we see on the screen that in a real life makes noise, should be heard, and thus covered by sound effects.

- **The hard or cut effect**

Hard in this context means that the sound was obtained from a source other than a production sound, Foley, or ambience, and the sound was cut in by a sound-effects editor to match the picture. The hard effects are never recorded on the set, thus the basic sources of these effects are sound-effects libraries.

- **Foley sound effects**

Foley sound effects are those made in a recording studio called a *Foley stage*, while watching the picture a Foley artist performs the acting more or less synchronously with the picture (the perfect example of Foley effects are footsteps, who are always made with this sound effect). The Foley sound effects are the most responsible for realistic impression of the movies. However, they often exaggerate the real-life sounds to make them audible.

- **Ambience**

It is the recording of background sounds present on the location or set. It gives artificial "presence" of the space. Ambience most typically consists of more or less continuous sound.



## Fundamental techniques of sound design:

The process of sound designing for film purposes usually consists of the four phases:

1. Recording,
2. Mixing
3. Synchronisation, and
4. Editing



### 1. Recording:

The general aim of the recording phase is to record every sound potentially useful in sound design processing and with the best possible quality.

### 2. Mixing:

It became the basic part of the sound editing. The term mixed sound relates today on the completed soundtrack of the movie.

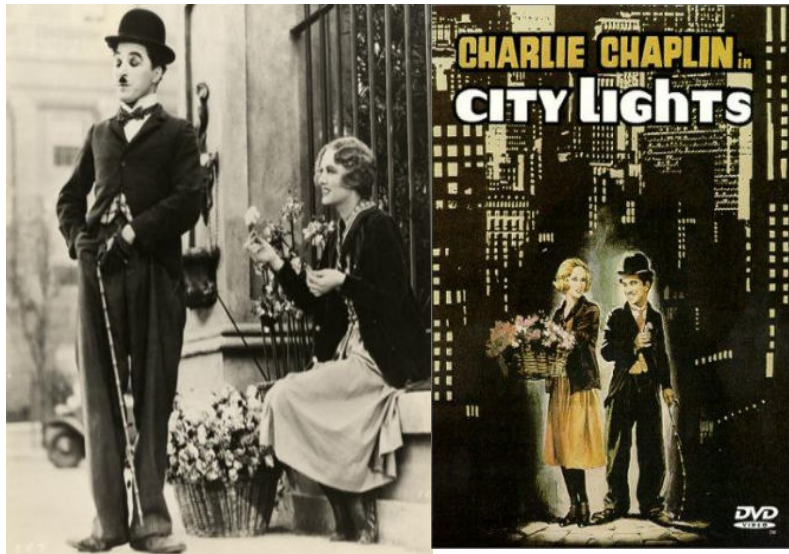
### 3. Synchronisation:

At the 1st place it refers on the technique which enables the picture and sound to be in the same phase and to "move" synchronously. And 2nd meaning relates on the process of later recording of the dialogues and sound effects (Foley) in studios, which couldn't be recorded on the set with the appropriate quality.

### 4. Editing:

It is the final step of sound design, and results in getting the final mix (or the soundtrack) of the movie.





## Analysis of Movies:

To have more understanding about sound design we watched some movies and did sound analysis.

### City Lights by Charlie Chaplin (1931)

City Lights (1931), one of the most cherished films by Charlie Chaplin, is also his ultimate little "Tramp chronicle". This "Tramp" character is considered one of the most significant figures in the history of the film industry. As the writer-director-star in City Lights, Charlie Chaplin achieved new levels of grace, in both physical comedy and dramatic sadness, with this silent tale of a lovable wanderer falling for a young blind girl (Virginia Cherrill) who sells flowers on the street and mistakes him for a millionaire. And side by side he also develops a turbulent friendship with an alcoholic millionaire (Harry Myers).

By 1931 the silent cinema was effectively dead and all the film maker started using sound in their films though sound quality was not very good, still Charlie Chaplin took significant courage to lavish two years of rather expensive production on a silent film (and even more courage with Modern Times five years later), we think Chaplin correctly perceived that he had very little choice for experimenting



with sound because if he does it then the Tramp would lose his poetry and grace if he were projected to speak like humans. He foresaw that sound would force him to sacrifice the “pace and tempo” he had so laboriously perfected.

As a silent film, when we watch this film we can feel a very well synchronised musical score which goes with the mood of the film, sometimes very comic, sometimes romantic and sometimes very sad. And if we carefully watch it then we notice that many times he had introduced some sound effects. For example: The film opens with "Peace and Prosperity" to describe and introduce the Tramp character and satirically mock the proceedings of a public presentation - a clever in-joke against 'talking' films. In the big city, an ugly monument to Peace and Prosperity is dramatically unveiled before an assembled, dignified civic group. A boring speech is being presented at a microphone by a stereotypical, pompous Establishment figure. Instruments are used as voices to parody and make fun of talking films and the characters. A quacking, kazoo-sound is substituted for the voice of the mayor, imitating the rhythm and intonation of a typical political speech that has little intelligible content. When a female civic leader approaches the microphone



and begins her speech, a similar garble and squawking is heard, only with a higher feminine register. This makes the entire sequence very funny.

There's also the sequence after Charlie swallows the whistle and inadvertently stops a concert, hails a cab and surrounds himself with dogs, all these sounds were used to make the scene more humorous, effective and real.

And for the first time in "City Lights" Charlie Chaplin composed the film score to one of his productions, otherwise he used to use live orchestras sound for his films. This thing also makes this film's sound very significant and describes Charlie Chaplin a true master of film making.





## Avatar by James Cameron (2009)

Avatar is an American sci-fi action film written, directed, co-edited, and co-produced by James Cameron in 2009 with music is given by James Horner. This was James Horner's third collaborative work with Cameron after Aliens and Titanic. This film takes you in mid-22nd century on Pandora, a fictional Earth-like moon far away in distant planetary system. Humans, as it is told are involved in mining Pandora's valuable mineral known as unobtainium, whereas the Na'vi — the sapient and sentient race of humanoids indigenous to the moon — counterattack the colonists' extension, which threatens the continuous existence of the Na'vi and the Pandora's ecosystem. This film's title talks about the remotely controlled and genetically engineered human-Na'vi bodies used by the human characters in the movie to interact with the native population of Pandora.

Music and soundtrack of Avatar is considered as one of the best work in in the field of music and sound design, credit of which goes mostly to James Horner. He stated in an interview, "Avatar has been the most difficult film I have worked on and the biggest job I have undertaken." When film starts it starts with a very fast moving imagery of Pandora and a kind of very loudly designed sound which provides lots of weightage to the dialogues and gives a good kick start to the Movie.



In our opinion there were various challenges for sound designer to design the 3D sound for this film which is visually very high tech. There were futuristic machines and aircraft straight out of Cameron's brilliant imagination. And then there is the Na'vi, a peaceful race of tall, blue-skinned, long-tailed, humanoid tree dwellers who have their own customs and language and some very weird looking native creatures of Pandora still we were able to get lost in the completely new alien environment.

We are truly very impressed to understand the process and the way they have designed the sound of plethora of living creatures and very high-tech weapons used by humans. Moreover, we enjoyed the war and destruction sequences of Pandora since the sound effects were ultra-realistic. During the scene, Na'vi population and creatures were screaming loudly when the tree was falling down, we felt like we are witnessing this destruction through our own eyes. One more thing we would like to add is that the entire film's background music provokes the emotions and augments in each and every scene. And when we watch the film it seems as James Horner composed the film score as two different scores merged into one. First he created a score that reflected the Na'vi way of sound and then combined it with a separate "traditional" score to drive the entire film. A very



beautiful theme based song "I See You" sung by a British singer Leona Lewis is also seems very engaging and soulful. So in conclusion "Avatar" is a movie that sets new record in the world of sound designing.







## Baran by Majid Majidi (2001)

“Baran” is an Iranian movie written, directed and produced by Majid Majidi. He is one of the most eminent directors in Iran, who has been working in the Iranian film industry since eighties, and has directed several feature films and documentary shorts. He has succeeded to challenge several matters facing Iran and Islamic philosophies, all the while continuing to expose many attractive features of the Islamic belief. This is why his films act as a window to Islamic religion and philosophy that has been critically argued in last few years.



Majid Majidi’s fifth feature film Baran (2001), is a love story. In his previous internationally acclaimed films like “Children of Heaven” and The “Colour of Paradise”, Majidi has used children as main protagonists because presenting love between a man and a woman is undoubtedly challenging in Iranian society and film industry is censored by Iranian government’s film agency. Several Iranian directors have been concentrating on children in their movies to avoid the obstacles of showing women and men relationships, while this may be the case for Majidi, his later film, “Baran (2001)” deals with women’s issues and male-female relationships.

Majid Majidi's film making style is very close to the Italian neorealist style (a well-structured screenplay that delivers real emotions about the lives of ordinary people, outdoor shooting on real locations, lighting and sound, naturalistic performances from actors and an emphasis on existing social problems). Ahmad Pejman is the music director of this film.



In Baran Movie Majid Majidi uses many locations in Iran like Tehran Market, outskirts of Tehran where Afghan refugees stay mainly the construction site, in evocative and impressive manner. The movie starts with hand's close-up shot of baking breads and real sound of which helps make it more natural. In the similar way in this film diegetic sound has been used most of the times. Seldom has a very subtle kind of background music been used to showcase the protagonist's real emotions, once when Baran leaves the job because Afghans get discovered to be working at the construction site and Lateef finds it very miserable and starts walking on the street alone in a heavy snowfall. At this instance background music is very well merged with the environment sound and gives a strong feeling of hopelessness and loneliness. Second time when he comes to

know that Baran's entire family is shifting to Afghanistan he becomes speechless and starts running and a strange drum sound supports this scene which explains the heartbroken condition of Lateef. And the third time when he was extremely disappointed and looks at the curtain of an open door, here background music gives a feel of his inner conflicts.



One scene we really admired in this film is the scene when Lateef discovers the true identity of Baran. There is no background sound in this scene, only environmental sound makes it very strong and appealing. As Lateef hear her sing in a

female voice and combing her long hair, strong wind and cloud howling sound come. There is no dialogues in this scene still it conveys its message in a very powerful manner.

To conclude, we would say that in Baran, Majidi has used natural sounds of atmosphere and these soundtrack of wild river, wind and rain, steam, birds and fire all gathers to displace sentiments metaphorically onto the neutral world all around the characters



of his film, to generate a sensitively charged environment that surrounds them, standing in for the emotion of love they dare not admit externally.





## Bicycle Thieves by Vittorio De Sica (1948)

Bicycle Thieves also famous as “The Bicycle Thief”, is one of the greatest movies ever made. It is an Italian film written primarily by neorealist pioneer Cesare Zavattini and directed by Vittorio De Sica in 1948. Music and sound was designed by Alessandro Cicognini and Biagio Fiorelli. This film features all the assurances of the Italian neorealist style: a well-structured screenplay that delivers real emotions about the lives of ordinary people, outdoor shooting on real locations and lighting, naturalistic performances from non-actors, and an emphasis on social problems in the consequences of World War II.

In this film Lamberto Maggiorani plays Antonio (an unemployed man) who finds a coveted job that needs a bicycle but unfortunately it gets stolen on his first day of his job. With his son Bruno (Enzo Staiola) in tow, he explores working-class Rome in search of the thief, but it wasn't that easy so he grows more restless until he sees a theft of his own as the last and only way of saving his family. The movie focuses on both the relationship between the father and the son and the larger framework of poverty and unemployment in post war Italy.

Visually this film looks very strong and touching because of effective use of camera angles, natural acting by non-actors on real location and expert editing. Aside from visual aspect, sound is also





a very important part of this movie. It enhances the emotions of protagonist and problems faced by the working class in the face of existing socio economic conditions. Beginning with sound (classical guitar sound), the gloomy non-diegetic music is the first sound the viewer hears and a similar musical theme continues throughout the film because it gives a feel of sadness which was present in that time. As neo realistic films are visually very natural looking and to make it more realistic they have used diegetic sound throughout the film, such as the performers in the music hall or the gossiping of the sellers in the market square, is used to compliment the locations and further ground them as authentic physical spaces.



The scene where Antonio and his son Bruno go for lunch at an upper class restaurant, we find this scene very good for sound analysis because it shows the difference in social status during that time period in Italy. In this scene some higher class families are celebrating, having lunch and enjoying music played by a group of singers at the same time Antonio and his son are very depressed and trying to console each other. There is diegetic and non-diegetic sounds both in this scene. The music playing is coming from the band inside of the restaurant. And the voices heard are that of the main characters, and also the extras. This makes the scene feel real and it also gives the audience to have

a better understanding of being in a real Italian restaurant during that time period.

The music and sound is the last part of the film is also very significant because it drives confusion and tension into the scene. In the beginning of the film, music is used to build tension and suspense in the viewer's mind. After Antonio steals the bike the music and sound changes to become more suspenseful until he is caught, then becomes saddle mellow background noise, below the intensity of the people screaming and shouting and slapping at Antonio. After he is let go, the music becomes very depressed and produces a sensitive reaction in the viewer that causes great sadness when paired with the shots of Bruno and his dad crying. This makes the viewer feel what Antonio is feeling, and thus how Italy is feeling, giving off the idea the director wanted to radiate. This is how the music and sound of Bicycle Thieves is quite substantial and intensely rich in human insight.





## Omkara by Vishal Bharadwaj (2006)

Omkara is 2006 Indian crime drama film which is directed by Vishal Bharadwaj. This movie is based on Shakespeare's Othello and stars Ajay Devgan, Kareena Kapoor, Saif Ali Khan, Vivek Oberoi in lead roles.

The music director of this film is Vishal Bharadwaj only. It has won various awards at Kara Film Festival, Asian Festival of Fine Arts, National Awards and Filmfare Awards. It was screened at Cannes Film Festival, Cairo International Film Festival etc.

Lyrics are penned by legend Gulzar. This movie has 8 soundtracks, including an instrumental. Background Score was also done by Vishal Bharadwaj only.

The thing which attracted us in this movie was the person who is telling the story (Director) is also the music director of the whole film. So, he has the complete control of the movie and knows what has to be conveyed and when. This movie is like a text book for people who want to learn the art of complementing music with the story. The director/music director has very clear idea of all the elements of sound, he used in this film to make it a powerful film.



In one of the last scenes of the movie, when Ajay Devgan doubted Kareena Kapoor for having bad character in whole story, and is forced to believe in some of the last sequences. He kills Kareena by choking her breath. But later when he realizes, that whatever he believed was truth is not true, movie gets tensed.



Saif Ali Khan's entry adds to the tension of the whole scene. "Jhooth bol rahi hai Omi bhai, Humein fansana chah rahi hai", Saif says while harps are playing slowly in background, suddenly viola starts playing given intensity to the whole scene while visuals are from the point of view of Ajay Devgan. It clearly tells the state of mind of Ajay, it helps to transfer an abstract emotional state of Devgan to the audience by music. Suddenly it comes to an end with an ambient sound which is so bizarre that it gives you chill everywhere, slight voice choirs, slight strings with exotic chords which is in complete synchronization with the dialogues and makes question everything that happened making you unsettled.



The moment Ajay devgan close the door after having conversation with Saif Ali Khan, it seems the music also switched point of view and started representing the turmoil Saif Ali Khan is going through. This is one of the most brilliant pieces undoubtedly in modern cinema. This music is not so intelligent, technical; it is very subtle yet stuns you by blending with the visuals. This is how intelligently music director has played with the feelings of audience and gave them a chilling experience in the name of Omkara.





## Gravity by Alfonso Cuarón (2013)

Just before beginning this project, we were blown by the movie Gravity. With stunning visual effects of more than 80-90 minutes and breath-taking sound design, we were blown by the work and amount of effort which was put together to come up with such masterpiece. This movie gave us hangover for more than a day is a proof that we lived the experience director was intended to do.



Gravity is a 3D science fiction released in 2013 which was directed and produced by Alfonso Cuarón and stars Sandra Bullock and George Clooney as astronauts. This movie is

revolves around destruction of a space shuttle and how the main characters try returning back to Earth.

Gravity won a total of seven Academy Awards including Best Director, Best Cinematography, Best Visual Effects, and Best Original Score. It also bagged six BAFTA awards for various categories.

Film is shot for IMAX, but along with visuals what made this movie stand out was creative and artistic approach to the sound design.

Even after watching several times, we never got enough of this movie and were constantly amazed by the kind of detail sound designer has put in it. Instead of puzzling around, we contacted Glenn Freemantle to talk about how his intuition came into the play while working on this movie and some more interesting questions.







## Interview with Glenn Freemantle

Glenn Freemantle is one of Great Britain's most well-known and experienced sound designer/mixer/editor who is now known around the globe for his work in more than 70 films. He began work in the cutting rooms at the age of sixteen. He learnt his trade from the bottom up in a burgeoning British film industry, and over the past 30 years has produced soundtracks for films from all over the world, working with some of the industry's best known directors.





With such varied credits, (among others) as 'Yentl' (1983), Legend (1985), 'Little Buddha' (1993) and 'Backbeat' (1994), to 'Hackers' (1995), 'Wing Commander' (1999) and 'The Beach' (1999) then onto the two Bridget Jones movies in 2001 and 2004, 'Love Actually' (2003) and, in the last few years 'V for Vendetta' (2005), '28 weeks Later' (2007), 'Sunshine' (2007), 'Golden Compass' (2007) and 'Slumdog Millionaire' (2008), Freemantle has come to be known in the industry the world over for his passion for creative, inventive sound and his enthusiasm and unbounded energy, both in the cutting room and on the mix stage.



Because of this passion for sound for film, Glenn has been careful to surround himself with a core team who can work together under his guidance and who display the same kind of excitement and enthusiasm for the job at hand. As many directors, producer, post production supervisors and re-recording mixers the world over will attest, working with Glenn and his team is easy, relaxed, smooth running and very enjoyable. You'll get everything you ask for, everything you hope for and far more besides.

Out of curiosity, to more about how the sound design of Gravity (2013) was done, we (Pratigya Beniwal and I) contacted the academy winner sound designer. We were fortunate enough to get a reply back from him and an interview was scheduled. Because of time constraints from his side, we had a short informal talk.

While we started the talk, Glenn looked calm and he was having coffee while resting in his studio called Studio24. He wore a white T-shirt and Jeans and we greeted while thanking him to accept our invitation. He said a "Namaste" and laughed. We briefly told him about the special project we are working on, our guide Prof. C.P. Narayan, his recent movie as music director "The World of Gopi and Bagha" and our Institution. He very well

connected to our talk when we told about our educational background (Interaction Design and Animation). He was curious to know about the projects our department is working on, and we gave him idea of all the specializations, outline of projects our batch-mates are doing and Design Degree annually. After this, agenda of interview was set.

Agenda of this interview was to discuss the process he followed for Gravity (We restricted it to Gravity intentionally because of several reasons)<sup>2</sup>and the challenges he faced while working on this movie.



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<sup>2</sup> We had watched Gravity multiple times and had some predefined questions. Also we came to the mutual decision that we'll be able to connect better if talked about one specific movie. That process can be later generalized to get an idea of some more movies.



He starts with “In this film, space is silent, but touch is the best way to hear.” He explained that before even starting the movie most of the preliminary work was done. He along with the director Cuarón , designed sound for 45 minute pre visualization of the movie which was screened to studio executives. That was the time when they decided that sound design will be done from the perspective of touch through vibration and contact. Initially

lot of experimentation was done by recording lot of objects at different frequencies.

Glenn knew someone who worked in NASA, which helped him to understand various materials which are used by Astronauts. He also knew a person in General Motors, England. They allowed him to record different materials using contact mics. They recorded same stuff with different microphones with lot of layers. This gave them sounds of altered levels which could be layered in different frequencies.

When movie came to production, first task was to coordinate and gel up with Steven Price (Who was also nominated in academy awards for the category of Best Music) and Skip Lievsay. As per Glenn, Price is also good friend of him and they communicated lot of ideas and kept on discussing different perspectives and possibilities.

He then asked us “where did you watch Gravity”. “A nearby IMAX”, we told him. To which he said, that the ideal way to watch Gravity is in IMAX with Dolby Atmos sound system. But IMAX system comes with a sound system which is not as good as Dolby. He said that “This system of IMAX with no Dolby sound is not good enough! Something definitely should be done about this system.”

The thing about this film is, you hear things from the inside.

Sandra’s heartbeats and breath is incorporated right from the beginning. So you hear through touch and through a person.



One of the challenges was to decide what is important and what is not. As there can be so many sounds which can be incorporated at any point of time, but the challenge was not to bombard every scene with lot of sounds. It later on became beauty of the movie. Every design decision which was taken added to the beauty of whole movie.

He then added that this whole sound had to be mixed in Dolby! “You know, the moment when you thing you are in space, an open space, the first thing you think of reproduce similar sound is ‘Dolby’” Dolby Atmos is an immersive sound system because



you can control your sound in any coordinate of space. "You feel that everything is moving and you get a sense that you are part of it"

He added that working with Price (Music Director) was very crucial, as the score he wrote was not at all traditional. Price used the sound effect as melody and built his sound track over that and it impressed everyone.



We asked him, is there any finer detail which you would like to elaborate which you found while working. Glenn added that "Let me think.. Yes! So there were certain scenes where we didn't want audience to hear anything, rather, we wanted them to feel. So, to accomplish such a tricky task, we used punchy bass which vibrates all around you and you feel that someone is shaking you up, but you are not hearing anything in actual. So, we used sound as medium to bring that tactility of movie to life!"

We thanked him and exchanged some final words.

This whole interview was much more than just an interview. It was a lesson, in which we learned lot of finer details and how his sound design process is! This kind of information is usually not found in books until we talk to a real person, who is using his/her intuition to design wonderful experiences.





## Conclusion

This project was like a slow and calm journey which helped me learn a new paradigm of sound design. It started with casual discussion with our faculty, and I started to learn from that. Every word used by him had some clue to an entire new universe. Analyzing movies gave me an edge of how important dimensions of visual and sound are, how connected they are, how they can result into immersive experiences. But in my opinion, talking to people like our faculty, team mate and industrial expert helped me learn things which can't be found in any text book.

My learning from this Project was, Sound Design is an art of intuition and you need to rely on your senses. To make best experiences, you need to simulate a whole new world and consider everything possible to go ahead and then eliminate things which are not required. It goes parallel to Interaction Design and techniques used in either field can be used over each other.

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