Audio Visual Production

Block – IV: Video Production (Post Production)
Audio Visual Production

This course has been developed with the support of the Commonwealth of Learning (COL). COL is an intergovernmental organisation created by Commonwealth Heads of Government to promote the development and sharing of open learning and distance education knowledge, resources and technologies.

Odisha State Open University, Sambalpur (OSOU) is the first Open and Distance learning institution in the State of Odisha, where students can pursue their studies through Open and Distance Learning (ODL) methodologies. Degrees, Diplomas, or Certificates awarded by OSOU are treated as equivalent to the degrees, diplomas, or certificates awarded by other national universities in India by the University Grants Commission.

© 2018 by the Commonwealth of Learning and Odisha State Open University. Except where otherwise noted, Audio Visual Production is made available under Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) License: https://creativecommons.org/licenses/by-sa/4.0/legalcode

For the avoidance of doubt, by applying this license the Commonwealth of Learning does not waive any privileges or immunities from claims that it may be entitled to assert, nor does the Commonwealth of Learning submit itself to the jurisdiction, courts, legal processes or laws of any jurisdiction. The ideas and opinions expressed in this publication are those of the author/s; they are not necessarily those of Commonwealth of Learning and do not commit the organisation.
Acknowledgements

The Odisha State Open University and COL, Canada wishes to thank those Resource Persons below for their contribution to this DMA-05:

Concept / Advisor
Dr. Srikant Mohapatra
Vice- Chancellor
Odisha State Open University, Sambalpur

Course Writer
Kaushik Nath
Promo and Creative Producer,
News 7, Bhubaneswar

Course Editor
Padmalochan Das
Audio & Visual Programme Producer
All India Radio and Doordarshan

Video Production
Durgadatta Kanungo
AIDB trained, Media Person, Doordarshan

Pragyan Padhi
Freelance Anchor

Published by :
Dr. Jayanta Kar Sharma
Registrar on behalf of Odisha State Open University, Sambalpur

Contribution of following staff members of Odisha State Open University is acknowledged:

- Sambit Mishra
- Debidatta Behera
- Prashansa Das
- Radhakanta Suna
- Abhinandan Tripathy

OSOU and COL acknowledge the support extended by Prof. Madhu Parhar, STRIDE, IGNOU, New Delhi in conducting several workshops in the process of preparation of course material for DMA.
Contents

Course Overview

Welcome to Video Post-Production .......................................................... 5
Compiling the Concept ......................................................................... 5
Crew Members & Equipments ............................................................... 5
Editing & other Things ....................................................................... 5
Transmission, Distribution & Rating .................................................. 6
Course outcomes ................................................................................ 6
Timeframe ......................................................................................... 7
Study skills ......................................................................................... 7
Need help? ......................................................................................... 8
Assignments ....................................................................................... 8
Assessments ....................................................................................... 8
Video Resources ................................................................................ 9

Getting around this Course material .................................................. 10

Margin icons ....................................................................................... 10

Unit-1 .................................................................................................... 11

Compiling the Concept ....................................................................... 11
Introduction ......................................................................................... 11
Outcomes ............................................................................................ 11
Terminology ......................................................................................... 11
Post-Production .................................................................................. 12
Post-Production Activities ................................................................. 12
The overall Post-production Workflow Explained ................................ 13
Post Production Workflow .................................................................. 16
Linear video editing ............................................................................. 17
History ................................................................................................. 18
Early technology .................................................................................. 18
Introduction of computerized systems .............................................. 19
Current usage ....................................................................................... 21
Non-linear editing system ................................................................. 21
Linear and non-linear editing ............................................................. 22
Direct access ....................................................................................... 22
Basic techniques ................................................................................ 22
Broadcast workflows and advantages ............................................... 23
Accessing the material ..................................................................... 24
Edit decision list ................................................................................ 24
Various Formats of Video ................................................................. 25
# Unit 2

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crew Members and Equipments</td>
<td>28</td>
</tr>
<tr>
<td>Introduction</td>
<td>28</td>
</tr>
<tr>
<td>Outcomes</td>
<td>28</td>
</tr>
<tr>
<td>Terminology</td>
<td>28</td>
</tr>
<tr>
<td>The Editing Process</td>
<td>29</td>
</tr>
<tr>
<td>The Principle of Editing</td>
<td>29</td>
</tr>
<tr>
<td>People involved in Post-production</td>
<td>30</td>
</tr>
<tr>
<td>Compositing</td>
<td>31</td>
</tr>
<tr>
<td>Sound/Music</td>
<td>31</td>
</tr>
<tr>
<td>Different Types of Video Editing</td>
<td>32</td>
</tr>
<tr>
<td>Working method of Editing Software</td>
<td>37</td>
</tr>
<tr>
<td>What to Look For in Editing Software</td>
<td>38</td>
</tr>
<tr>
<td>Digitising/Capturing Video in NLE</td>
<td>38</td>
</tr>
<tr>
<td>The Editing Workspace</td>
<td>39</td>
</tr>
<tr>
<td>Creating Video output</td>
<td>39</td>
</tr>
<tr>
<td>Unit summary</td>
<td>40</td>
</tr>
<tr>
<td>Assessment</td>
<td>40</td>
</tr>
<tr>
<td>Resources</td>
<td>40</td>
</tr>
</tbody>
</table>

# Unit 3

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editing &amp; other things</td>
<td>41</td>
</tr>
<tr>
<td>Introduction</td>
<td>41</td>
</tr>
<tr>
<td>Outcomes</td>
<td>41</td>
</tr>
<tr>
<td>Terminology</td>
<td>41</td>
</tr>
<tr>
<td>Effect:</td>
<td>41</td>
</tr>
<tr>
<td>About Open Shot Video Editing Software</td>
<td>42</td>
</tr>
<tr>
<td>Main Window</td>
<td>43</td>
</tr>
<tr>
<td>Keyboard shortcuts to work faster</td>
<td>44</td>
</tr>
<tr>
<td>How to Import Files to the Project</td>
<td>45</td>
</tr>
<tr>
<td>Color grading</td>
<td>49</td>
</tr>
<tr>
<td>Motion Tracking</td>
<td>50</td>
</tr>
<tr>
<td>Digital Intermediate</td>
<td>50</td>
</tr>
<tr>
<td>Publicity</td>
<td>51</td>
</tr>
<tr>
<td>Unit summary</td>
<td>53</td>
</tr>
<tr>
<td>Assessment</td>
<td>53</td>
</tr>
<tr>
<td>Resources</td>
<td>53</td>
</tr>
</tbody>
</table>
## Unit 4

Transmission, Distribution & Rating ................................................................. 54  
Introduction ................................................................................................. 54  
Outcomes ..................................................................................................... 54  
Terminology .................................................................................................. 54  
Distribution .................................................................................................. 55  
Transmission ................................................................................................. 55  
Various Methods of TV Transmission ......................................................... 57  
New technologies ......................................................................................... 60  
RATING .......................................................................................................... 64  
Unit summary ............................................................................................... 66  
Assessment .................................................................................................... 66  
Resources ...................................................................................................... 66
Course Overview

Welcome to Video Post-Production

In this block, you will learn about how to compile a concept. You will find out the crew members and utilisation of equipments involved in the post production stage. Other than that you will learn the skill to edit the shooting materials, and acquire the skills to distribution and transmission etc.

Compiling the Concept

The post work process may take more time than pre and production work. The work flow is based on indoor sound and video editing studio. Many mistakes happened during shooting are to be corrected in post production work. The concept is being compiled in this stage.

Crew Members & Equipments

Post-Production involves a lot of other work like sound mixing, colour correction and mastering which required experienced individual to complete the process. After all a number of equipments are necessary to do the work successfully.

Editing & other Things

Editing is so important to the visual storytelling process because it duplicate the manner in which the mind sees. We all edit reality with our eyes and mind. The art of editing lies therefore in creating illusion and new realities, new relationship and controlling emotional responses.
Transmission, Distribution & Rating

Distribution is the important part of the Television Industry and Movie Business, it is the way a financier or a film producer gets back their returns. India is the fastest growing cable & satellite market in the world, with exciting growth for Television industry as well as Distribution Company.

This video will provide a brief overview of this course.

<table>
<thead>
<tr>
<th>Topic</th>
<th>YouTube link</th>
<th>QR Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video 1 –Marketing &amp; Publicity</td>
<td><a href="https://youtu.be/MwxkLU6-fs">https://youtu.be/MwxkLU6-fs</a></td>
<td></td>
</tr>
</tbody>
</table>

Course outcomes

Upon completion of Video post-Production you will be able to:

- Get a whole idea about Post work in video production
- Understand the history & various process of video editing
- Know about the persons involved in Editing
- Get a whole idea about Editing using Editing software
- Understand the process of transmission system in India
Timeframe

This course will be completed within “1” classes.
This course is of “1” credits.
2 Hours of study time is required to complete this unit.

Study skills

Learning about the audio visual productions are a part of Multimedia Coaching. But, when it comes to creation of an output, there is no specific ABC formula for doing so. It is just like a painting in which the artists choose the colour and proportion according to the need, not as per a written plan.

In creating outputs for TV, Films etc. we have to utilize the software tools from one corner to another randomly. So for every project, the formula is different. There is no fixed recipe for all kind of output. So, the more and more you learn about the options, more variety you will get. Each and every option is explained step by step in the course material.

Apart from this course material, the learner has to adopt the tendency of learning from multiple sources i.e.,

- Internet tutorials
- Video tutorials on youtube
- Collaboration with people working in the industry etc.

Only classroom study will not make you a professional. You have to be active to grab the opportunity of learning wherever you get a chance.
Course Overview

Need help?

In case of any help needed you can browse the internet sites like youtube.com for video tutorials about the subject.

Assignments

There will be some assignments at the end of each unit.

These assignments are mostly practical based and should be submitted in CD or DVD. Theoretical assignments are to be submitted neatly written on A4 size sheet.

All assignments will be submitted to respective study centre of Odisha State Open University or as directed by Co-ordinator.

All assignment should be unit wise on separate CD/DVDs clearly mentioning course title and unit on Top. Theoretical Assignment will be neatly filed or spiral bind with cover clearly mentioning necessary information of course.

Assessments

There will be “1” assessment for each unit.

All practical assessment will be submitted to OSOU.

Assessment will take place once at the end of each unit.

Learner will be allowed to complete the assessment within stipulated time frame given by the university.
Video Resources

This study material comes with additional online resources in the form of videos. As videos put in human element to e-learning at the same time demonstrating the concepts visually also improves the overall learning experience.

You can download any QR code reader from Google Play to view the videos embedded in the course or type the URL on a web browser.
Getting around this Course material

Margin icons

While working through this Course material you will notice the frequent use of margin icons. These icons serve to “signpost” a particular piece of text, a new task or change in activity; they have been included to help you to find your way around this Course material.

A complete icon set is shown below. We suggest that you familiarize yourself with the icons and their meaning before starting your study.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Assessment</th>
<th>Assignment</th>
<th>Case study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion</td>
<td>Group activity</td>
<td>Help</td>
<td>Note it!</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Reading</td>
<td>Reflection</td>
<td>Study skills</td>
</tr>
<tr>
<td>Summary</td>
<td>Terminology</td>
<td>Time</td>
<td>Tip</td>
</tr>
</tbody>
</table>
Unit-1

Compiling the Concept

Introduction

Post production is the last and most critical piece of film making and TV production. The completing item wants broadcast after this procedure. The post work process may take additional time than pre and production work. The work process depends on indoor sound and video editing studio. But visual editor, illustrations creator, sound recordist and color grading artist have a key part in post production. Numerous mix-ups occurred amid shooting are to be rectified in post production work. The entire yield of the item relies upon the general population occupied with post work.

Outcomes

Upon completion of this unit you will be able to:

- Get a whole idea about Post work in video production
- Understand the history & various process of video editing
- Set up your own editing machine
- Explain the different rule of editing and
- Make your own film

Terminology

**Digitising:** It is a process to input raw video and audio into computer hard disk in digital format.

**Color Correction:** It is the process to correct the visual clip which was shot in low light or high exposure condition through an engine or tools incorporated with editing software.
Audio Balance: Audio balance is to arrange the ambience sound, BGM and sound effect in such a manner which is clearly audible to audience.

Mastering: Mastering the video is the process to give final output of the edited product in high quality for telecast purpose.

Compress: Compress video is the way to create the final video for preview or upload in social site using a compressor.

Post-Production

Post-production is the third and last significant period of the production procedure. It is frequently alluded to just as post, e.g. "We can deal with that in post".

There are numerous things which can occur in post-production. Normal assignments include:

- Editing video footage
- Editing the soundtrack, including sound effects, music, and so on.
- Adding titles and illustrations
- Colour and introduction correction
- Adding special effects
- Re-shooting certain scenes if required ("get" shots)

Now and again post-production generally direct, comprises of picking and masterminding footage in the right grouping. By and large be that as it may, post-production is a tedious activity taking longer than the genuine production stage.

Post-Production Activities

Post-production starts with the finishing of filming and proceeds until the point when the project is conveyed to the system for the telecast. The three fundamental exercises of post-production are the editing or collecting of video footage; colour correction and the formation of an entire soundtrack or sound adjust.

Editing may start amid production. In single-camera shoots, the film from every day is checked on at a later time by the director, producer, and network in the request in which it was shot. These films are then separated and collected into scenes by the editors. The main full assemble is appeared to the Director, who rolls out
further editing improvements and makes the director’s cut. From that point, the producer and the system roll out improvements until the point when a finished product is made.

The final cut is given to the sound department, which is in charge of setting up the music tracks or recordings; sound effects; and discourse tracks for final mix into one track. The final mixing of all the sound is called dubbing. Amid this period, the sound architects will recognize the music— that is, select the focuses at which music will be inserted— and musicians will compose and record the music. Sound designers additionally alter dialogue recording for production quality and record new or replaced the dialogues in a procedure called looping. Sound effects are likewise included as of now. The subsequent dubbing session, which can take a few days for a motion picture or only a couple of hours for a multiple camera tape production, can include the blend of 5 to 25 separate sound tracks.

The final phase of post-production is the expansion of transition and effects, for example, scene fade-outs or dissolves, inclusion of titles and credits; making of special visual effects, for example, animations; and color correction.

**The overall Post-production Workflow Explained**

In present time it’s anything but difficult to work in computerized arrange in TV or film production. It relies upon each individual how they orchestrate post production function. Some superior editing software is accessible in the market to work in computerized arrange. Regardless of what camera you are utilizing the software will import any configuration. The workflow will be a real-time preview.

Before examining Post-production workflow how about we see the means you need to experience amid this post work.

**Stage 1: Ingesting or Capturing raw files**

The first stage in any post-production work is to ingest the film-began, tape-based, or tapeless media records that you shot. Distinctive kinds of media require diverse ingest techniques; for instance, ingesting from tape requires the Log and Capture window, and ingesting from a tapeless format requires the Log and Transfer window.

Amid ingest, you’ll as of now be finding a way to sort out your media by picking what media to ingest and by including logging information, for example, cut names and notes. After ingest is finished, you promptly find a way to sort cuts into bins and survey, check.
In the vast majority of the editing studio, they utilize Storage area network to capture diverse format video and alter it in various editing framework. The visual can be gotten to from any PC connected to the capacity gadget. Extra storage room can be included at times amid the work.

In the film, for most activities, low quality visual is utilized for editing and after culmination of work uncompressed visual are connected to give final output.

**Stage 2: Rough cut Edit**

Editorial development is done when your clips are assembled. Sometimes, it is alluded to as the disconnected alter or the story alters, this is the place the raw media that you have ingested in stage 1 is transformed into an edited program.

A few programs are gathered completely inside editing software, where you can make every one of the titles and effects you require and do any vital sound outline right in your arrangement while you alter. Be that as it may, keep in mind that there are different applications in editing software that you can swing to for specialized errands. For instance, you can make ace layouts in Motion gfx for use as generators from inside editing software, or you can utilize Motion to make communicate illustrations and composites that you would then be able to alter into the editing software Timeline. As you work, you can likewise send particular sound clips from the editing Timeline specifically to Sound editing to do things like eliminate noise, make ambient noise to fix openings, and do balance coordinating on a clasp by-cut premise.

Regardless of whether you utilize one application or many, the greater part of the program’s components met up in your altered grouping, controlling your editorial choices as you work to finish the program’s content.

**Stage 3: Preview for Producer**

In case you’re chipping away at an undertaking for a customer, successive and particular input is a flat out prerequisite. In case you’re working in a directed session, you can just play your undertaking from the editing software Timeline. Nonetheless, there are events when you might work with customers who are remotely found and you need to give an adaptation of the program for their screening at their places. Editing software gives numerous methods for conveying singular clips or whole groupings to customers for remote survey, for example, by means of a QuickTime film or DVD, on the web, or even intelligently in I-Cloud.
Stage 4: Finishing the movie

Subsequent to editing the story on the timeline and finishing the content work, it’s time to give the program it’s final shape and tweaking, suitably alluded to as wrapping up. In the initial segment of completing, the offline-nature of media in the event that you are utilizing as a part of the project, should be changed over to the most elevated quality form accessible in the first source through the altered grouping. The most ideal approach to do this relies upon how the first media was procured, how you ingested the media, and how painstakingly you dealt with the media amid editorial development.

On the off chance that your offline alter consolidates source media in a few unique formats; it is the time to change over any unmatched clasp perfect to final arrangement settings so the whole program is simple for send out. The format-change ability of the Compressor encourages this procedure.

This is additionally the time when every single impermanent component like placeholder titles, offline effects, and other placeholder media must be supplanted with their final, online-quality renditions with rendering. These components can be made inside the editing software or in conjunction with Motion gfx.

In conclusion, once your succession has been deliberately arranged, your program is prepared for color correction and the final sound mix.

Stage 5: Mastering

Mastering is the way toward giving a final output of your project in various arrangement and quality according to a request from the director. It’s simple and less time taking to give final output by request ahead of advanced editing software.

Sometimes, a mixed and unmixed adaptation of the final item as requested by the customer can be given effectively inside less time. A different output without graphics work can likewise be given.

Stage 6: Output and Delivery

Output and delivery are the last stage of the post-production process. As the name infers, it's the process of making the final, playable media that you can hand over to the customer and group of onlookers. Output can take numerous organizations: High quality tape arrange, making a DVD, or compressing your program to a configuration appropriate for web playback.
Post Production Workflow

Establishing a solid workflow can help eliminate time waste, make you more profitable, and result in a better product. This course is designed to teach you about the different steps of the post-production process, as well as how to jump from application to application all the while staying organized. Editing technique is one thing, but proper workflow is what truly elevates editors to pro-status.

Background

Video editing is the process of editing segments of motion video production footage, special effects and sound recordings in the post-production process. Motion picture film editing is a predecessor to video editing and, in several ways, video editing simulates motion picture film editing, in theory and the use of linear video editing and video editing software on non-linear editing systems (NLE). Using video, a director can communicate non-fictional and fictional events. The goal of editing is to manipulate these events to bring the communication closer to the original goal or target. It is a visual art.

Early 1950’s video tape recorders (VTR) were so expensive, and the quality degradation caused by copying was so great, that 2 inch Quadruplex videotape was edited by visualizing the recorded track with ferro fluid and cutting with a razor blade or guillotine cutter and splicing with video tape. The two pieces of tape to be joined were painted with a solution of extremely fine iron filings suspended in carbon tetrachloride, a toxic and carcinogenic compound. This "developed" the magnetic tracks, making them visible when viewed through a microscope so that they could be aligned in a splicer designed for this task.

Improvements in quality and economy, and the invention of the flying erase-head, allowed new video and audio material to be recorded over the material already recorded on an existing magnetic tape and were introduced into the linear editing technique. If a scene closer to the beginning of the video tape needed to be changed in length, all later scenes would need to be recorded onto the video tape again in sequence. In addition,
sources could be played back simultaneously through a vision mixer (video switcher) to create more complex transitions between scenes. A popular 1970-80s system for doing that was the U-matic equipment (named for the U-shaped tape path). That system used two tape players and one tape recorder, and edits were done by automatically having the machines back up, and then speed up together in synchrony, so the edit didn't roll or glitch. Later, 1980-90's came the smaller beta equipment (named for the B-shaped tape path), and more complex controllers, some of which did the synchronizing electronically.

There was a transitional analogue period using multiple source video cassette recorder (VCR)s with the Edit Droid using Laser Disc players, but modern NLE systems edit video digitally captured onto a hard drive from an analogue video or digital video source. Content is ingested and recorded natively with the appropriate codec which will be used by video editing software in order to control the shot film. HD video is ending up more famous and can be promptly altered utilizing a similar video editing programming alongside similar movie graphic software’s. All the clippings of video are sequentially arranged in the time line, on it addition of titles, music tracks, computerized onscreen graphics are done, creation of special effects is made and the completed product is "rendered" into a completed video. The video may then be circulated in an assortment of methods including DVD, video tape, CD-ROM, iPod, QuickTime Movies, , or web gushing..

**Linear video editing**

Linear video editing is a video altering after production procedure of choosing, organizing and adjusting pictures and sound in a foreordained, sequentially as ordered. Despite whether it was caught by a camcorder, tapeless camcorder, or TV studio recording on a video recording device (VTR) sequence access of content should be done on priority. Mostly linear editing is replaced by video editing.

In the early 1990s until the appearance of PC random access non-linear editing systems in general “linear video editing" was referred as "video editing".
History

Live TV is still basically delivered in an indistinguishable way from it was in the 1950s, albeit changed by present day specialized advances. Before tape, the main method for airing similar shows again was by taping demonstrates utilizing a kinescope, basically a video screen combined with a motion picture camera. In any case, kinescopes (the movies of TV programs) experienced different sorts of picture debasement, from picture twisting and clear sweep lines to relics conversely and loss of detail. Kinescopes needed to be processed and imprinted in a film research center that makes them questionable for broadcasts postponed for various time zones.

The essential inspiration for the improvement of video tape was as a short or long haul authentic medium. Simply after a progression of specialized advances spreading over decades did video tape altering at last turn into a practical production instrument, acceptable with film editing.

Early technology

The foremost generally acknowledged video tape in the United States was 2 inch Quadruplex tape and with a motion of at 15 inches every second. To increase more head to tape speed, four video recording and playback heads were spun on a head wheel crosswise over a large portion of the two-inch width of the tape. (Sound and synchronization tracks were recorded at the edges of the tape with stationary heads.) This framework was known as Quad, for quadruplex account.

The subsequent video tracks were marginally not as much as a ninety-degree point (keeping in mind the the vector expansion of fast spinning heads following over the 15 inches every second forward movement of the tape).

If we see from the origin, video was altered on viewing the recorded track with ferrofluid and cutting it with an razor blade or guillotine shaper and joining with video tape, in a way like editing of the movie. This was a burdensome procedure and as possible generally avoided. If utilized, the two bits of tape to be joined
were painted with an answer of to a great degree fine iron filings suspended in carbon tetrachloride, a harmful and cancer-causing compound. This "built up" the magnetic tracks, to view them when seen through a magnifying instrument with the goal that they could be adjusted in a splicer intended for this errand. The tracks were needed to cut amid a vertical follow, not disturbing the ordered odd-field/even-field. The slice likewise must be at a similar point that the video tracks were set down on the tape. As the video and sound read heads were a many inches separated it was almost impossible for physical editing that would work accurately in both video and sound. The cut was made for video and a bit of sound then re-replicated into the right relationship, the similar method like for editing 16mm film with a combined attractive track.

There were various detriments of physically altering tapes. Few broadcasters proclaimed that altered tapes cannot be used again, in a time when the moderately high cost of the machines and tapes was adjusted by the funds associated with having the capacity to wipe and reuse the media. Others, for example, the BBC, permitted reuse of spliced tape in specific conditions as long as it adjusted to strict criteria about the quantity of splices in a given term. The procedure required extraordinary ability, and frequently brought about editing which might roll (lose match up) and each editing requires many minutes for performance, in spite of the fact that this was additionally at first valid for the electronic editing which arrived later.

**Introduction of computerized systems**

In 1960s a framework to edit Quad tape "by hand" was produced. This was factually only a methods in order to sync two machines playback in such a way that the new shots signal could be "punched in" with a sensible possibility at progress. An issue with this and early PC controlled frameworks was that the sound track was inclined to endure the artifact in light of the fact that the video of the recently recorded shot would record into the side of the sound track. A business arrangement known as "Buzz Off" was utilized to limit this impact.

Around over 10 years, PC controlled Quad altering frameworks were the standard after production instrument for TV. Quad tape
included costly equipment, tedious setup, and moderately long rollback times for every edit and indicated misalignment as not agreed "banding" in the video. Notwithstanding, it ought to be specified that Quad tape has a superior data transfer capacity than any littler arrangement simple tape, and legitimately taken care could deliver a photo strongly similar to that of a live camera.

---

**Title** - Linear editing system

**Attribution** - Channel R

**Link** - [https://commons.wikimedia.org/wiki/File:Linear_suite.jpg](https://commons.wikimedia.org/wiki/File:Linear_suite.jpg)

At the point when helical scan video recorders turned into the standard it was never again conceivable to cut the tape physically. Now editing the video turned into a procedure of utilizing two video tape machines, playing back the source tape (or "crude film") from one machine and duplicating only the bits wanted on to a second tape (the "edit master").

The heft of linear editing is done basically, with two machines and an edit controller gadget to exercise control over them. Numerous video tape machines are equipped for controlling a second machine, disposing of the requirement for an external editing control gadget.

This procedure is "linear", as opposed to non-linear editing, since according to the feature of the tape-to-tape duplicating needs that laying of all shots should be done as per the final edited order. On
tape if once the shot is placed, nothing can be put in front of it without overwriting whatever is there as of now. On the off chance that totally essential, material can be named by replicating the altered substance onto another tape, since with every copy the picture is corrupted in total, this isn't attractive.

One disadvantage of early video altering strategy was that it was illogical to deliver a raw slice for presenting before an Executive producer. Since Executive Producers are never sufficiently comfortable with the material to have the capacity to view the completed item from examination of an alter choice rundown (EDL), they were denied of the chance to voice their suppositions when those sentiments could be effectively followed up on. Hence, especially in documentary TV, video was opposed for a significant long time.

Current usage

While PC based video altering programming has been received all through the majority of the business, film, industrial and consumer video enterprises, editing of linear video tape altering is as yet ordinary in TV station newsrooms for TV news production, and production facilities of medium-size who till date did not plan to invest capital in latest technologies.

Non-linear editing system

![Non linear Editing System](https://commons.wikimedia.org/wiki/File:Videowisconsinstudio.tif)

**Title**-Non linear Editing System  
**Attribution**-Nullcron  
**Source**- Link-[https://commons.wikimedia.org/wiki/File:Videowisconsinstudio.tif](https://commons.wikimedia.org/wiki/File:Videowisconsinstudio.tif)
Non-linear editing is a form of audio, video or image editing where the original content is not modified in the course of editing – instead the edits themselves are specified and modified by specialized software. A pointer-based playlist—effectively an edit decision list (EDL)– for video or a directed acyclic graph for still images is used to keep track of edits. Each time the edited audio, video, or image is rendered, played back, or accessed, it is reconstructed from the original source and the specified editing steps. Although this process is more computationally intensive than directly modifying the original content, changing the edits themselves can be almost instantaneous, and it prevents further generation loss as the audio, video, or image is edited.

A non-linear editing system (NLE) is a video (NLVE) or audio editing (NLAE) digital audio workstation (DAW) system that performs non-destructive editing on source material. The name is in contrast to 20th century methods of linear video editing and film editing.

Linear and non-linear editing

Non-linear editing is the most natural approach when all assets are available as files on video servers or hard disks, rather than recordings on reels or tapes—while linear editing is tied to the need to sequentially view film or hear tape.

Direct access

Non-linear editing enables direct access to any video frame in a digital video clip, without needing to play or scrub/shuttle through adjacent footage to reach it, as is necessary with video tape linear editing systems. It is now possible to access any frame by entering directly the time-code or the descriptive metadata. An editor can, for example at the end of the day in the Olympic Games, easily retrieve all the clips related to the players who received a gold medal.

Basic techniques

The non-linear editing method is similar in concept to the "cut and paste" techniques used in film editing or in IT. However, with the use of non-linear editing systems, the destructive act of cutting of film negatives is eliminated. It can also be viewed as the
audio/video equivalent of word processing, which is why it is called desktop video editing in the consumer space.

**Broadcast workflows and advantages**

Video and audio data are first captured to video servers, other hard disk-based systems, or other digital storage devices. The data are either direct to disk recording or are imported from another source (trans-coding, digitizing, transfer). Once imported, the source material can be edited on a computer using application software, any of a wide range of video editing software. For a comprehensive list of available software, see list of video editing software, whereas comparison of video editing software gives more detail of features and functionality.

In non-linear editing, the original source files are not lost or modified during editing. This is one of the biggest advantages of non-linear editing compared to linear editing.

Professional editing software records the editor’s decisions in an edit decision list (EDL) that is exportable to other editing tools. Many generations and variations of the original source files can exist without storing many different copies, allowing for very flexible editing. It also makes it easy to change cuts and undo previous decisions simply by editing the edit decision list (without having to have the actual film data duplicated). Generation loss is also controlled, due to not having to repeatedly re-encode the data when different effects are applied.

In comparison with the linear method of tape-to-tape editing, non-linear editing offers the flexibility of film editing, with random access and easy project organization. With the edit decision lists, the editor can work on low-resolution copies of the video. This makes it possible to edit both standard-definition broadcast quality and high definition broadcast quality very quickly on desktop computers that may not have the power to process huge full-quality high-resolution data in real-time.

The costs of editing systems have dropped such that non-linear editing tools are now within the reach of home users. Some editing software can now be accessed free as web applications; some, like Cinelerra (focused on the professional market)
and Blender3D, can be downloaded as free software; and some, like Microsoft's Windows Movie Maker or Apple Inc.'s i-Movie, come included with the appropriate operating system.

**Accessing the material**

The non-linear editing retrieves video media for editing. Because these media exist on the video server or other mass storage that stores the video feeds in a given codec, the editing system can use several methods to access the material:

- **Direct access**: the video server records feeds with a codec readable by the editing system, has an Ethernet connection and allows direct editing. The editor previews material directly on the server (which it sees as remote storage) and edits directly on the server without trans-coding or transfer. This method is new.

- **Shared storage**: the video server transfers feeds to and from shared storage that is accessible by all editors. Media in the appropriate codec on the server need only transferred. If recorded with a different codec, media must be trans-coded during transfer. In some cases (depending on material), files on shared storage can be edited even before the transfer is finished.

- **Importing**: the editor downloads the material and edits it locally. This method can be used with the previous methods

**Edit decision list**

An **edit decision list** or EDL is used in the post-production process of film editing and video editing. The list contains an ordered list of reel and time-code data representing where each video clip can be obtained in order to conform the final cut.

EDLs are created by offline editing systems, or can be paper documents constructed by hand such as shot logging. These days, linear video editing systems have been superseded by non-linear editing (NLE) systems which can output EDLs electronically to allow auto conform on an online editing system – the recreation of an edited programme from the original sources (usually video tapes) and the editing decisions in the EDL.
They are also often used in the digital video editing world, so rather than referring to reels they can refer to sequences of images stored on disk.

Some formats, such as CMX3600, can represent simple editing decisions only. Final Cut Pro XML, the Advanced Authoring Format (AAF), and AviSynth scripts are relatively advanced file formats that can contain sophisticated EDLs.

**Various Formats of Video**

**DV**

Another leap came in the late 1990s with the launch of DV-based video formats for consumer and professional use. With DV came IEEE 1394 (FireWire/iLink), a simple and inexpensive way of getting video into and out of computers. Users no longer had to convert video from analogue to digital—it was recorded as digital to start with—and FireWire offered a straightforward way to transfer video data without additional hardware or compression. With this innovation, editing became a more realistic proposition for standard computers with software-only packages. It enabled real desktop editing producing high-quality results at a fraction of the cost of other systems.

**HD**

In early 2000, the introduction of highly compressed HD formats such as HDV has continued this trend, making it possible to edit HD material on a standard computer running a software-only editing application.

Avid is still considered the industry standard, with the majority of major feature films, television programs, and commercials created with its NLE systems.\(^7\) Final Cut Pro received a Technology & Engineering Emmy Award in 2002 and continues to develop a following.

Avid has held on to its market-leading position in the advent of cheaper software packages, notably Adobe Premiere in 1992 and Final Cut Pro in 1999. These three competing products by Avid, Adobe, and Apple are the foremost NLEs, often referred to as the A-Team.\(^8\) With advances in raw computer processing power, new products have appeared including NewTek’s software application SpeedEdit.

Since 2000, many personal computers include basic non-linear video editing software free of charge. This is the case of
Apple iMovie for the Macintosh platform, various open source programs like Kdenlive and PiTiVi for the Linux platform, and Windows Movie Maker for the Windows platform. This phenomenon has brought low-cost non-linear editing to consumers.

4K

As of 2014, 4K Video in NLE is fairly new, but it is being used in the creation of many movies throughout the world, due to the increased use of advanced 4K cameras such as the Red Camera. Examples of software for this task are Avid Media Composer, Apple's Final Cut Pro X, Sony Vegas, Adobe Premiere, VSDC Free Video Editor, and Edius. Open source Video editing software also responds the 4K format.
Unit Summary

In this unit you learned the basic principle of Editing. You will be able to edit your own video using Non linear video editing. You can understand about various processes of Linear and non-linear video editing. You have a basic idea about different format used during editing workflow.

Assignments

1. Explain difference between Linear & Non-linear Video Editing?
2. List the steps to follow during editing?
3. Describe the use of Ambience sound in editing.
4. What is the aspect ratio of DV, HD and 4K video?
5. What is Online and Offline editing?
6. Why color correction is important in Post production?
7. What is the role of Time-code (TC) in editing?
8. What is EDL?
9. Which is easier for you? LE or Non-LE?
10. Name 2 Bollywood film editor who became Director?

Resources

2. Video Production by Vasuki Belavadi (Oxford University Press)
3. Television Field Production And Reporting by Fred Shook (PEARSON Education)
4. www.wikipedia.org
5. www.documentmx.com
Unit 2

Crew Members and Equipments

Introduction

Post production activity is the phase where the film actually takes shape. Most people assume that post-production activity ends with editing the film. It involves a lot of other work like sound mixing, colour correction and mastering which required experienced individual to complete the process. After all, we do not produce a video just for ourselves, we may want to distribute it through DVD, compressed video for website or even get it telecast and exhibits.

Outcomes

Upon completion of this unit you will be able to:

- Know about the persons involved in Editing
- Understand the grammar and functions of video editing
- Setup editing machine
- Choose different editing techniques

Terminology

Capture Device: A hardware or firmware device used to convert analogue video into digital video.

Compressors & Codec’s: Software or firmware used to compress and decompress digital video. Compression makes the file size smaller.

Encoding: The process of converting digital video into a particular format, for example, saving a video project in MEG-2 format for DVD distribution.
Layering: Adding multiple layers of superimposed video.

Transition: The way one shot changes to the next.

Non Linear Editing: An editing method which uses computer software to edit the footage.

The Editing Process

Video editing is the process of controlling and reworking video shots to make another work. Editing is typically thought to be one a player in the post-production process — other post-production undertakings incorporate titling, color correction, sound mixing, and so on.

Title-Screenshot of NLE Timeline

Many people use the term editing to describe all their post-production work, especially in non-professional situations.

- Rearranging, adding and/or removing sections of video clips and/or audio clips.
- Applying colour correction, filters and other enhancements.
- Creating transitions between clips.

The Principle of Editing

There are numerous motivations to alter a video and your editing approach will rely upon the coveted result. Before you start you should plainly characterize your editing objectives, which could incorporate any of the accompanying:

Evacuate undesirable footage

This is the least difficult and most basic undertaking in editing. Numerous videos can be significantly improved by essentially disposing of the imperfect or undesirable bits.

Pick the best footage
It is regular to shoot significantly more footage than you really require and pick just the best material for the final alter. Frequently you will shoot a few variants (takes) of a shot and pick the best one when editing.

Create a flow

Most videos fill a need, for example, recounting a story or providing data. Editing is an essential advance in ensuring the video flows in a way which accomplishes this objective.

Include effects, graphics, music, and so on

This is frequently the "stunning" some portion of editing. You can improve most videos (and have a considerable measure of fun) by including additional components.

Adjust the style, pace or state of mind of the video

A decent editorial manager will have the capacity to create unobtrusive mind-set prompts in a video. Procedures, for example, inclination music and visual effects can impact how the gathering of people will respond.

Give the video a specific "angle"

Video can be custom fitted to help a specific viewpoint, grant a message or serve a plan.

People involved in Post-production

Editor

The editor works under the supervision of the director and executive producer to gather the movie. Particular obligations will include:

(I) To gather the footage into progressive cuts until the point when a final cut is achieved,

(II) To assist the DP (Director of Photography) with color correction and other post-production effects,

(III) To make the output of the final cut to a few organizations.

Assistant Editor
The assistant editor functions as an assistant to the editor, helping him/her with by logging and catching footage, sorting out and overseeing media as a team with the script supervisor's log. Particular obligations will include:

- Logging and capture media.
- Preparing harsh cut alter on timetables for the director.
- Managing media in a joint effort with the script supervisor's log.
- Maintaining an arrangement of reinforcements.
- Assisting with compression and multi-format output

**Compositing**

**Lead Compositor/Visual Effects Supervisor**

The lead compositor works under the supervision of the director, DP, and art director and in a joint effort with the editor to outline and execute compositing effects. Particular obligations will include:

(I) Supervision of all compositing work,
(II) Assist the art director and DP in the innovative and specialized outline of composite shots,
(III) To actualize the composite shots

**Compositors**

The compositors work under the supervision of the lead compositor and the art director to actualize compositing effects. Particular obligations will include:

(I) Digital scrubbing and cleaning
(II) Implementation of composite shots

**Sound/Music**

**Sound Designer**

The sound designer, working in conjunction with the director, is in charge of the ideation and formation of the general soundtrack of the movie. The sound architect regulates the blend of music,
dialog, ADR, Foley, and sound effects.

Sound designer’s work also includes:
• Realization of sound effects, textures, and landscapes
• Supervision of the mix for different output formats

**Sound Composer**

The composer composes unique music to be heard in the film, both diegetic and non-diegetic. Particular obligations will include:
(I) Writing music as requested in both pre and postproduction,
(II) Supervising the recording of the music

**Mixing Engineer**

The mixing engineer, under the supervision of the sound designer, blends the general soundtrack into its last blends for an assortment of yield formats. Particular obligations will include:
(I) Mixing sound in stereo and additionally multi-channel formats, for home framework and theatrical discharge.
(II) Preparing last mix for mastering audio.

**Foley Artist**

The Foley artist makes sound effects to go with particular visual items, developments, and sound sources, for example, footsteps or punches. Particular obligations will include: Generating and recording sound to go with particular on-screen sound sources.

**Different Types of Video Editing**

There are a few diverse approaches to alter video and every technique has its upsides and downsides. Albeit most editors choose computerized non-linear altering for most ventures, it bodes well to have a comprehension of how every strategy functions.

**Film Splicing**

Actually this isn't video editing, it's film editing. Be that as it may, it is justified regardless of a say as it was the main method to alter moving pictures and theoretically it shapes the premise of all video editing.
Traditionally, the film is altered by cutting segments of the film and adjusting or disposing of them. The procedure is exceptionally clear and mechanical. In principle, a film could be altered with a couple of scissors and some joining tape, in spite of the fact that in all actuality, a grafting machine is the main down to earth arrangement. A grafting machine permits film footage to be arranged and held set up while it is cut or joined together.

**Tape to Tape (Linear)**

Linear editing was the first technique for editing electronic video tapes, before editing PCs ended up noticeably accessible in the 1990s. Despite the fact that it is not any more the preferred choice, it is as yet utilized as a part of a few circumstances. In linear editing, video is selectively copied from one tape to another. It requires at least two video machines connected together — one acts as the source and the other is the recorder. The basic procedure is quite simple:

1. Place the video to be edited in the source machine and a blank tape in the recorder.
2. Press play on the source machine and record on the recorder.

The idea is to record only those parts of the source tape you want to keep. In this way desired footage is copied in the correct order from the original tape to a new tape. The new tape becomes the edited version.
This method of editing is called "linear" because it must be done in a linear fashion; that is, starting with the first shot and working through to the last shot. If the editor changes their mind or notices a mistake, it is almost impossible to go back and re-edit an earlier part of the video. However, with a little practice, linear editing is relatively simple and trouble-free.

**Digital/Computer (Non-linear)**

In this strategy, video footage is recorded (caught) onto a PC hard drive and afterward altered utilizing specific programming. Once the editing is finished, the completed item is recorded back to tape or optical plate.

Non-linear editing has numerous noteworthy favorable circumstances over linear editing. Most quite, it is an exceptionally adaptable technique which enables you to roll out improvements to any piece of the video whenever. This is the reason it's called "non-linear" — in light of the fact that you don't need to alter in a linear manner.

A standout amongst the most troublesome parts of the non-linear advanced video is the variety of equipment and programming alternatives accessible. There are additionally a few normal video principles which are inconsistent with each other, and setting up a strong editing framework can be a test.

The exertion is justified, despite all the trouble. In spite of the fact that non-linear editing is more hard to learn than linear, once you have aced the nuts and bolts you will have the capacity to do considerably more, substantially speedier.

**Live Video Editing**

In a few circumstances, multiple cameras and other video sources are directed through a focal mixing console and altered progressively. Live television coverage is a case of live editing.

Live editing is a reasonably expert theme and won't concern a great many people.

**Requirement for a Non Linear Edit Suite**

To edit video on a PC you will require:

- A source device to play the first tape or circle. Commonly a VCR or camera.
• A PC with at any rate these specs: Intel Core i5 processor/4 GB RAM/Fast hard drive with 1 TB or all the more free space and a devoted illustrations card like AMD Radeon or Nvidia GeForce.

Note: If you need OK comes about, you'll require significantly higher specs. Some editing programming requires a superior PC to try and work legitimately.

• A video capture device. To capture video from a simple source, (for example, VHS or Video8) you require a device to change the video into an advanced organization. This can be an independent device which connects to the PC or a video capture card which turns out to be a piece of the PC.
In the event that you are utilizing a source device which yields a computerized flag, (for example, Firewire or USB) you needn't bother with a capture device, yet you do need to ensure your PC has the fitting info accessible.

• Connecting prompts to connect the source device to the capture device or PC.

• Software to control the catching, editing and outputting.

• A video screen (or television).

We'll return to the product on the following page. Before we start, let's look with, the hardware and physical connections. There are different alternatives relying upon your equipment.

Connectors

Title-Firewire Connector
Attribution- Mikkel Paulson
Link- https://commons.wikimedia.org/wiki/File:FireWire_cables.jpg

The main work is to connect your video camera straightforwardly to your PC by means of a computerized link, for example, Firewire or USB. These connections and enable you to "dump" footage
straight from the camera to the hard drive. This is a helpful and cheap approach to work. Counsel your camera manual for points of interest.

On the off chance that your camera doesn't have a digital output, however, has simple AV output, you can utilize a capture device.

In the event that your camera doesn't have any video outputs whatsoever, you should utilize a VCR as the source device.

**Connection between Computer & VCR**

A VCR is utilized for the source gadget, associated with a computer with the assistance of capture card. A video monitor (or TV) is utilized to monitor the videos. Sound can be monitored with the TV speakers, a separate sound framework or with an earphone.

1. If the VCR has at least two AV outputs, utilize one of the outputs to plug as AV input for monitoring. On the off chance that there is just a single AV output, utilize the RF (aeronautical) output rather, and utilize the AV output for the subsequent stage.

2. The second AV output of the VCR plugs into the AV input of the computer's capture card.

3. The AV output of the capture card plugs into the AV input of the VCR.

In this system, footage is played from the VCR to the computer, edited and after that played again from the computer to the VCR (for recording).

**Amateur Editing Suite**

This suite is meant for editing of home videos, DVDs, television-quality productions, and authoring for internet upload.

**Different Editing Software**

Choosing which video editing software to utilize isn't simple. There is an enormous range available, from exceptionally fundamental applications, for example, Windows Movie Maker to proficient bundles, for example, Final Cut Pro, ULead Media Studio, Avid and Adobe Premiere.
For many people, the primary imperative is cash. Best editing software is costly and frequently requires an extravagant computer to run adequately. Clearly the more cash you can spend the better, however you can accomplish sensible outcomes with ease software.

Exceptionally modest or free software (e.g. Windows Movie Maker) has a tendency to be exceptionally restricted and to some degree unfeasible. In the event that you are at all genuine you should spend some cash.

Note that numerous capture gadgets and cameras accompany their own editing software, or maybe a constrained adaptation of an expert bundle. This can be a financially savvy approach to begin.

**Working method of Editing Software**

Mainly editing software does the basic three things:

1. Capture
2. Edit
3. Output

This implies the software controls the capturing (recording) of the footage, gives an approach to edit the footage, and enables the completed item to be output to a recording device, for example, a VCR or DVD.

On the off chance that you like, you can utilize isolate software for catch or output, yet at first, you will presumably think that its more helpful to utilize a similar program for all assignments.

**What is a project?**

The term “project” may vary one non linear editing software to another. A project is a compilation of different elements like video clips, audio clips, titles, gfx, animations, sound effects, still images etc from start to finish.

The project likewise incorporates data about how these components are orchestrated in the edit. As a result, a project comprises of all the individual components and directions on how they are assembled. When you make a video project, you import or catch the components you require, at that point mastermind them in the request you need (including effects and different treats on the off chance that you like).
What to Look For in Editing Software

1. Make beyond any doubt it is good with your hardware and operating system.

2. Check the catch, import and fare alternatives. Ensure it can deal with the configurations and determination you need to utilize.

3. Does the software take into account layering and effects? What other propelled highlights does it have?

4. Is there some other software packaged with the bundle (e.g. sound editing)?

5. Is it perfect with other regular software (e.g. Adobe Photoshop)?

Digitising/Capturing Video in NLE

Once your edit system is set up effectively, you have to record (catch) the footage from the source machine (e.g. camera or VCR) onto the PC's hard drive. The catch procedure goes this way:

Turn everything on and dispatch the video catch software. Precisely how this functions will rely upon your software, yet by and large you will have a menu choice to open a catch window.

Press "play" on the source machine. In the event that fortunes is your ally the catch window will demonstrate the photo originating from the source. If not, counsel your software enable record to perceive what you to need to do.

Search for a record or catch in the catch window. Essentially click this catch to record (similarly as you would press the record catch on a VCR). Continue recording until the point that you have all the footage you need. As a rule you will need to catch just the footage you are probably going to require, however it is smarter to catch more footage than less — you can dispose of undesirable clips later.

When you have caught every one of the footages, spare the video file(s) to your hard drive.
The Editing Workspace

Once you have done your capturing of footages, you can ready to start your project.
Almost every professional/amateur non linear editing software have same type interface like- project window, monitor window, Timeline, effects controls etc. But the terminology may be varied. The most straightforward approach to organize components on the course of events is to move them from the project window. You would then be able to modify the components, for instance, trim video clasps to make them shorter or decrease the volume of sound clasps. You can adjust components as much as you prefer and review the outcomes previously finishing them.

Any great software bundle will likewise enable you to include different layers of video, sound and graphics which can be mixed and superimposed to make different effects. Before you start editing you should read the manual of that software carefully.

Creating Video output

Since you have wrapped up your artful editing and you have your timeline all concluded, you are prepared to output the video record. The two most normal approaches to do this are:

1. Encode the video to a computerized arrangement, for example, MPEG-2 and record it specifically to DVD or other optical disk.

2. Output the video through your PC's video card to a recording device, for example, a VCR.

Once more, you should counsel your software/hardware manual for particular guidelines.
Unit summary

In this unit you learned the process of Editing. Able to know the role of all the members involved in editing. How to install an editing machine. Various technical term used during the editing process.

Assessment

1. What is the role of Editor & Asst. Editor in Post production?
2. What is the main work of a Compositor?
3. Describe the job of Foley Artist.
4. What is Live editing?
5. Why a monitor is important during editing?
6. What is Transition?
7. Why a clip shows offline on timeline during editing?
8. What is the most general purpose of editing software?
9. What is the minimum system configuration required for a professional editing work?

Resources

7. Video Production by Vasuki Belavadi (Oxford University Press)
8. Television Field Production And Reporting by Fred Shook (PEARSON Education)
10. www.documentmx.com
Unit 3

Editing & other things

Introduction

Editing is so important to the visual storytelling process because it duplicate the manner in which the mind sees. We all edit reality with our eyes and mind. The art of editing lies therefore in creating illusion and new realities, new relationship and controlling emotional responses. No matter in which software you are doing the editing work, it’s always the mind game. The final product should be communicative and informative. Editing is to be done in mind, software is the tool only.

Outcomes

Upon completion of this unit you will be able to:
- Get a whole idea about Editing using OPENSHOT Video Editor
- Understand the tools and project setting
- Learn about color correction
- Final output in different format
- How to make promotion and publicity of your own film

Terminology

Effect: In addition to the many clip properties which can be animated and adjusted, you can also drop an effect directly onto a clip.

Transition: A transition is used to gradually fade (or wipe) between two clips

Color grading: It is the process of altering and enhancing the colour of a motion picture, video image, or still image either electronically, photo-chemically or digitally.
About Open Shot Video Editing Software

Open Shot Video Editor is an open-source video editor, available on Linux, Mac, and Windows platform. You can create stunning videos, films, and animations by using Open Shot Video Editor. It has a user friendly interface and flexible set of features.

System Requirements

Every Video editing system needs large memory, advance CPUs, and fast hard disks. Here are the basic system requirements to run Open shot Video Editor:

- 64-bit Operating System (Linux, OS X, Windows 7/8/10)
- Multi-core processor with 64-bit support
- 4GB of RAM (16GB recommended)
- Minimum 500 MB of hard-disk space for installation
- Optional: Solid-state drive (SSD), if utilizing disk-caching (and an additional 1 TB of hard-disk space)

Main Features

- It’s a Cross-platform software that Supports Windows, MAC OS X, and Linux.
- It Supports multiple video, audio, and image formats
- You can create attractive curve-based Key frame animations
- It supports desktop integration (drag and drop support)
- It has Unlimited tracks / layers
- Clip resizing, scaling, trimming, snapping, rotation, and cutting options are available in this software.
- It has Video transitions with real-time previews options.
- Compositing, image overlays, watermarks are easily can be done.
- Title templates, title creation, sub-titles can be done here.
- It supports 2D animation (image sequences).
- 3D animated titles are possible with effects.

Audio balance: Re-arranging the audio track i.e. voiceover, bgm and ambience track in such a manner that is clearly audible to the viewers.
• It has SVG friendly facility to create and include vector titles and credits.
• It can Scroll motion picture credits.
• Like any other editing software it has advanced Timeline options that include Drag & drop, scrolling, panning, zooming, and snapping.
• Time-mapping and speed changes on clips (slow/fast, forward/backward, etc…) is easily can be done.
• You can mix and edit audio.
• Digital video effects, and color correction options including brightness, gamma, hue, greyscale, chroma key (blue screen / green screen), and many more are available in this software.

Main Window
### Unit 3  Editing & other things

<table>
<thead>
<tr>
<th>SL. no.</th>
<th>Name</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Main Toolbar</td>
<td>Contain buttons to open, save, export your project</td>
</tr>
<tr>
<td>2</td>
<td>Function Tabs</td>
<td>A switch between project files, Transition and Effects</td>
</tr>
<tr>
<td>3</td>
<td>Project Files</td>
<td>It shows all video, audio and image files.</td>
</tr>
<tr>
<td>4</td>
<td>Preview Window</td>
<td>Playback video will show here.</td>
</tr>
<tr>
<td>5</td>
<td>Edit Toolbar</td>
<td>It contains buttons that is used for adding tracks, snapping, markers and jumping between markers.</td>
</tr>
<tr>
<td>6</td>
<td>Zoom Slider</td>
<td>This will adjust the time scale of the timeline.</td>
</tr>
<tr>
<td>7</td>
<td>Play-head/Ruler</td>
<td>This shows the current playback position.</td>
</tr>
<tr>
<td>8</td>
<td>Timeline</td>
<td>This shows the each track, each clip, transition, effects, titles and graphics.</td>
</tr>
<tr>
<td>9</td>
<td>Filter</td>
<td>It is used for finding, what you are looking for.</td>
</tr>
<tr>
<td>10</td>
<td>Playback arrows</td>
<td>It shows the play, pause, rewind, forward, jump to start, jump to end arrow to control the playback.</td>
</tr>
</tbody>
</table>

### Keyboard shortcuts to work faster

<table>
<thead>
<tr>
<th>Shortcut</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl+H</td>
<td>About OpenShot</td>
</tr>
<tr>
<td>Ctrl+M</td>
<td>Add Marker</td>
</tr>
<tr>
<td>Ctrl+Shift+T</td>
<td>Add Track</td>
</tr>
<tr>
<td>Ctrl+W</td>
<td>Add to Timeline</td>
</tr>
<tr>
<td>Ctrl+B</td>
<td>Animated Title</td>
</tr>
<tr>
<td>Ctrl+P</td>
<td>Choose Profile</td>
</tr>
<tr>
<td>Ctrl+C</td>
<td>Copy</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete Item</td>
</tr>
<tr>
<td>Backspace</td>
<td>Delete Item</td>
</tr>
<tr>
<td>Ctrl+D</td>
<td>Details View</td>
</tr>
<tr>
<td>Ctrl+E</td>
<td>Export Video</td>
</tr>
<tr>
<td>L</td>
<td>Fast Forward</td>
</tr>
<tr>
<td>F11</td>
<td>Fullscreen</td>
</tr>
<tr>
<td>Ctrl+F</td>
<td>Import Files</td>
</tr>
<tr>
<td>Ctrl+End</td>
<td>Jump to End</td>
</tr>
<tr>
<td>Ctrl+Home</td>
<td>Jump to Start</td>
</tr>
<tr>
<td>Ctrl+N</td>
<td>New Project</td>
</tr>
<tr>
<td>Right</td>
<td>Next Frame</td>
</tr>
<tr>
<td>Ctrl+Right</td>
<td>Next Marker</td>
</tr>
<tr>
<td>Ctrl+O</td>
<td>Open Project</td>
</tr>
<tr>
<td>Ctrl+V</td>
<td>Paste</td>
</tr>
<tr>
<td>Space</td>
<td>Play/Pause Toggle</td>
</tr>
<tr>
<td>Up</td>
<td>Play/Pause Toggle</td>
</tr>
<tr>
<td>Name</td>
<td>Functions</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Drag and Drop</td>
<td>Drag and drop the files from your file manager (file explorer, finder, etc...)</td>
</tr>
<tr>
<td>Right Click-&gt;Import</td>
<td>Right click in the <strong>Project Files</strong> panel, choose <strong>Import Files</strong>...</td>
</tr>
<tr>
<td>File Menu-&gt;Import</td>
<td>File menu-&gt;Import Files...</td>
</tr>
<tr>
<td>Import Files Toolbar</td>
<td>Click the <strong>Import Files</strong>... toolbar button (on the top menu)</td>
</tr>
</tbody>
</table>
Quick operation Manual

It is very to operate and use Open shot Video Editor. It is very easy to make a five minutes output from your images or videos that you have shot previously.

- Importing Files (Photos & Music)
- Working in Timeline
- Adding Background Music to create mood
- Adding titles
- Finalising your project
- Export your project

**a- Importing Files (Photos & Music)**

Before we can start making a video, we have to import records into Open Shot. Intuitive a couple of pictures (JPG, PNG etc...) and a music record (most configurations will work) from your Desktop to Open Shot Video Editor. Make sure to drop the documents where the arrow is indicating.

**b- Working in Timeline**
Next, drag each visual onto the timeline. The timetable speaks to your last video, so arrange or sort your photographs in whatever grouping you need them to show up in your video. In the event that you cover two clips, Open Shot Video Editor will naturally make a smooth transition between them, showed by blue rounded rectangles between the clips. Keep in mind, you can improve the clips the same number of times as required by essentially moving them.

c- Adding Background Music to create mood

To influence your photograph to slide indicate additionally intriguing, you have to include some music. You ought to have imported a music record in stage 1. Tap on the music document, and drag it onto the timeline. In the music is too long, get the correct edge of your music clip, and resize it littler.
d- Adding titles
Including text and titles in a video is a vital part of video editing, and Open Shot accompanies a simple to utilize Title Editor. Utilize the Title menu (situated in the main menu of Open Shot video editor) to dispatch the Title Editor. You can likewise utilize the keyboard shortcut Ctrl+T.

Screenshot

e- Finalising your project
To preview what our video looks and sounds like, click the Play catch under the preview window. You can likewise stop, rewind, and fast-forward your video venture by clicking the relating buttons.

Screenshot
f- Export your project

When you are content with your photograph /video is ready, the subsequent stage is to export your video. This will convert your Open Shot venture into a solitary video document, which will take a shot at most media players, (for example, VLC) or sites, (for example, YouTube, WhatsApp and Facebook etc...).

Click on the Export Video icon at the highest point of the screen (or utilize the File > Export Video menu). Browse one of the numerous preset export choices, and click the Export Video button.

Now you have an essential understanding of how Open Shot functions. Importing, Arranging, Previewing, and Exporting. Read whatever is left of this learning material for a more point by point understanding of Open Shot software.

Color grading

Color grading is the process of adjusting and improving the color of a motion picture, video picture, or still picture either electronically, photo-chemically or carefully. Color grading envelops both color and the age of imaginative color effects. Regardless of whether for dramatic film, video dispersion, or print, color grading is by and large now performed carefully in a color suite. The prior photo-chemical film process, known as color timing, was performed at a photographic research facility.
Motion Tracking

When attempting to separate a color adjustment on a moving subject, the colorist customarily would have expected to physically move a mask to take after the subject. In its most basic shape, motion tracking programming computerizes this tedious process utilizing calculations to assess the motion of a gathering of pixels. These techniques most part gotten from match moving techniques utilized as a part of special effects and compositing work.

Digital Intermediate

Digital intermediate (regularly condensed to DI) is a motion picture completing process which traditionally includes digitizing a motion picture and controlling the color and other picture attributes. It regularly replaces or increases the photochemical planning process and is generally the last creative adjustment to a motion picture before distribution in theatres. It is distinguished from the telecine process in which film is scanned and color is controlled right on time in the process to encourage editing. However the lines amongst telecine and DI are persistently obscured and are regularly executed on similar equipment by
colorists of a similar foundation. These two stages are commonly part of the general color administration process in a motion picture at different focuses in time. A digital intermediate is additionally generally done at higher resolution and with more noteworthy color loyalty than telecine exchanges.

Albeit initially used to depict a process that began with film scanning and finished with film recording, digital intermediate is likewise used to portray color adjustment and color grading and even last acing when a digital camera is utilized as the picture source and/or when the last motion picture isn’t yield to film. This is because of late advances in digital cinematography and digital projection innovations that endeavor to match film origination and film projection.

In traditional photochemical film completing, an intermediate is delivered by presenting film to the first camera negative. The intermediate is then used to mass-deliver the films that get distributed to theatres. Color grading is finished by shifting the measure of red, green, and blue light used to uncover the intermediate. This tries to have the capacity to supplant or increase the photochemical way to deal with dealing with making this intermediate.

The digital intermediate process utilizes digital apparatuses to color review, which considers substantially better control of individual colors and zones of the picture, and takes into account the adjustment of picture structure (grain, sharpness, and so on.). The intermediate for film generation would then be able to be created by methods for a film recorder. The physical intermediate film that is an aftereffect of the recording process is now and then additionally called a digital intermediate, and is normally recorded to internegative (IN) stock, which is naturally better grain than camera negative (OCN).

One of the key specialized accomplishments that made the transition to DI conceivable was the utilization of the 3D look-up tables (otherwise known as "3D LUTs"), which could be utilized to imitate how the digital picture would look once it was imprinted onto discharge print stock. This expelled a lot of talented mystery from the film-making process, and permitted more noteworthy opportunity in the color grading process while decreasing danger.

Publicity

Anybody with a camera, PC or advanced cell can make a film today. To collect production cash, you can sidestep organizations completely and go directly to the general population by means of
sites. It's likewise no longer extraordinary to do dramatic appointments and different types of distribution, from celebration positions to overseeing download and DVD deals, all alone and exposure.

However frequently, the professional writers and best faultfinders whom each filmmaker needs to achieve feel awkward managing direct. Setting up a relationship (one of the foundations of advertising) makes desires, and these media professionals must don't hesitate to react sincerely to a film, regardless of whether that reaction is negative. They consider irreconcilable circumstances important and will make a special effort to maintain a strategic distance from them. A different publicist gives an attractive unbiased support zone.

So in a perfect world, you should contract a professional publicist or dole out somebody to speak to you as a "whiskers" or go-between. In the event that you can't, tread delicately in any direct collaboration, particularly with prominent professional media. Endeavor to see the experience from their point of view and spotlight on genuine reasons why your task may be specifically noteworthy. Be exceptionally particular about how and why you approach them.

Regardless of whether you've employed a professional publicist, what you do unsupervised and all alone—particularly through postings on social media and funding sites—impacts the general advertising result. And it won't be useful.

Like film production, attention has its own particular peculiar rationale. It can be particularly disappointing and exhausting. Equipping yourself with a general understanding of some of reputation's subtle riddles is a decent method to take full advantage of your assets, regardless of how rare.
Unit summary

In this unit you learned the whole process of editing using Open Shot Editing Software. You will understand the various tools visual effect and transition. You can understand the process of colour correction. You have a got a basic idea about what steps should be taken for the publicity of a TV program.

Assessment

- Make your own project setting in Open Shot start making a short film.
- Shoot an interesting story in your mobile in HD format and start editing using Open Shot editing software.
- Make a sepia color sequence using color grading in Open Shot.
- Try to make an “End Scroll” like Hollywood film using title tool.
- Make a montage sequence using BGM and ambience sound.
- Take some production photos and make a publicity plan for your film.
- Make a promo video using photographs of on location shooting.
- Make a list of recent Blockbuster Bollywood film using unique strategy for huge publicity i.e. Dangal of Amir Khan Production.

Resources

2. Video Production by Vasuki Belavadi (Oxford University Press)
3. Television Field Production And Reporting by Fred Shook (PEARSON Education)
4. www.wikipedia.org
5. www.documentmx.com
Unit 4

Transmission, Distribution & Rating

Introduction

Distribution is the important part of the Television Industry and Movie Business, it is the way a financier or a film producer gets back their returns. India is the fastest growing cable & satellite market in the world, with exciting growth for Television industry as well as Distribution Company.

Globally the broadcasting & distribution sector is moving from analogue to digital. DTH operators have already invested over 15,000 crores in India.

Outcomes

Upon completion of this unit you will be able to:

- Get a whole idea about Film & TV Program Distribution
- Understand the process of transmission system in India
- Learn about Digital and Analog signal
- Get full idea about Digital satellite TV
- How to calculate TRP in TV channels in India

Terminology

**Distributor:** A person who distributes the film through the theatres is called film distributor. The distributor buys the “distribution rights” from the producer, mostly in the very beginning itself or sometimes after previewing the final cut.

**Exhibitor:** A person who owned theatre is called an Exhibitor.
TRP: (Television Rating Point) is a tool provided to judge which programmes are viewed the most. This gives us an index of the choice of the people and also the popularity of a particular channel. For calculation purpose, a device is attached to the TV set in a few thousand viewers’ houses for judging purpose.

Distribution

Film or TV distribution is the way toward making a TV program movie accessible for review by an audience. This is ordinarily the undertaking of a professional film distributor, who might decide the marketing strategy for the film, the media by which a film is to be displayed or made accessible for survey, and who may set the discharge date and different issues. The film might be displayed specifically to the general population either through a movie theatre or television, or personal home survey (counting VHS, video-on-demand, download, television programs through broadcast syndication). For business ventures, film distribution is generally joined by film promotion.

At the point when a film is at first produced, an element film is regularly appeared to audiences in a movie theatre. Commonly, one film is the highlighted presentation (or highlight film). Prior to the 1970s, there were "twofold highlights"; commonly, a high calibre "A photo" leased by an autonomous theatre for a single amount, and a lower-quality "B picture" leased for a level of the gross receipts. Today, the main part of the material appeared before the component film consists of sneak peaks for upcoming movies (otherwise called trailers) and paid advertisements.

Transmission

The standard release routine for a movie is controlled by a plan of action called "discharge windows". The discharge windows framework was first considered in the mid-1980s, on the very edge of the VHS home stimulation showcase, as a procedure to shield distinctive cases of a movie from contending with each other, enabling the movie to exploit diverse markets (cinema, home video, TV, and so forth.) at various circumstances.

In the standard procedure, a movie is first discharged through movie theatres (showy window), at that point, after roughly 16 and one-half weeks, it is discharged to VHS and VOD services (entering its video window). Following an extra number of months, it is normally discharged to Pay TV, and roughly two years after its
dramatic discharge date, it is influenced accessible for free-to-air to TV.

A concurrent discharge happens when a movie is made accessible on numerous media (cinema, DVD, internet...) in the meantime or with next to no distinction in timing.

Synchronous discharges offer incredible points of interest to the two consumers, who can pick the medium that most suits their requirements, and production studios that lone need to run one showcasing effort for all discharges. The other side, however, is that such distribution endeavours are regularly viewed as trial and in this way doing get generous investment or promotion.

Cinema proprietors can be influenced genuinely on the off chance that they need to share their chance window, particularly toward the start of the movie lifecycle, since, as indicated by Disney; around 95% of all box office tickets for a film are sold inside the initial a month and a half after introductory distribution.

A straight to video (or straight-to-DVD or straight-to-Blu-ray contingent upon the media whereupon the movie is influenced accessible) to discharge happens when a movie is discharged on home video groups, (for example, VHS, DVD, and so forth.) without being discharged in theatres to start with, accordingly not thinking about the "showy window".

Because of solid DVD deals, Direct-to-video discharges likewise made higher progress and have turned into a gainful market of late particularly for independent moviemakers and companies.

Internet look into is still new with regards to the film distribution platform. The volume of downloaded movies is hard to discover yet none thinks about to the considerably more problematical revelation of their root.

Internet investigate is still new with regards to the film distribution platform. The volume of downloaded movies is hard to discover yet none looks at to the considerably more problematical revelation of their root.
Various Methods of TV Transmission

There are a few kinds of TV transmission systems and that are:

1. Analogue Terrestrial TV
2. Digital Satellite TV
3. Cable TV

**Advance technologies:**
1. Digital terrestrial TV (DTTV)
2. High Definition Television (HDTV)
3. Pay-per-view
4. Video-on-demand
5. Web TV
6. IPTV

1. ANALOGUE TERRESTRIAL TV

The term refers to the modes of television broadcasting, which is not involved with satellite transmission or via underground cables. The main non-terrestrial method of conveying TV signals that not the slightest bit relied upon a signal beginning from a conventional terrestrial source started with the utilization of communications satellites amid the 1970s of the twentieth century.

Simple TV encodes the image and sound data and transmits them as a simple signal in which the message transmitted by the telecom signal is made out of amplitude as well as frequency varieties and tweaked into a VHF or UHF bearer.

The simple TV picture is "drawn" a few times on the screen (25 in PAL framework) all in all each time, as in a movie film, paying little heed to the substance of the image.

2. DIGITAL SATELLITE TV

Satellite television will be television signals delivered by methods for communications satellites and received by satellite dishes and set-top boxes. In numerous zones of the world it gives an extensive variety of channels and services, regularly to zones that are not serviced by terrestrial or cable suppliers.

Satellite television, like different communications relayed by satellite, begins with a transmitting radio wire located at an uplink facility which has large uplink satellite dishes, as much as 9 to 12 meters (30 to 40 feet) in width what results in more accurate pointing and increased signal quality at the satellite.
The uplink dish is indicated to a specific satellite and the uplinked signals are transmitted inside a specific frequency range, in order to be received by one of the transponders tuned to that frequency range on board that satellite, which 'retransmits' the signals back to Earth however at a different frequency band, a process known as "translation", used to evade interference with the uplink signal, typically in the C-band (4– 8 GHz) or Ku-band (12– 18 GHz) or both.

The down linked satellite signal, very weak in the wake of travelling the immense distance, is collected by a parabolic receiving dish, which reflects the weak signal to the dish's focal point where is a "down converter" device called LNB (low-noise block) that is essentially a waveguide that accumulates the signals, amplifies the relatively weak signals, filters the block of frequencies in which the satellite TV signals are transmitted, and converts it to a lower frequency range in the L-band range.

The evolution of LNB was a need, so the plans for micro strip based converters were adjusted for the C-Band exploiting its central outline that was the concept of a block for down conversion of a range of frequencies to a lower, and technologically more easily handled block of frequencies, the IF - intermediate frequency.

Title-DigitalTV Set top Box
Attribution-
Source-Pepito5
Link-https://commons.wikimedia.org/wiki/File:Tuner_DVB-T_Cabletech_URZ0083.jpg

The upsides of utilizing a LNB are that cheaper cable could be utilized to connect the indoor receiver with the satellite TV dish.
and LNB and that the technology for handling the signal at L-Band and UHF was far cheaper than that for handling the signal at C-Band frequencies.

The shift to cheaper technology from the 50 Ohm impedance cable and N-Connectors of the early C-Band frameworks to the 75 Ohm technology and F-Connectors allowed the early satellite TV receivers to utilize what were in reality modified UHF TV tuners which selected the satellite television channel for down conversion to another lower intermediate frequency centred on 70 MHz where it was demodulated. This shift allowed the satellite television industry to change to a much more commercial large scale manufacturing one.

The satellite receiver demodulates and converts the signals to the coveted shape (yields for television, sound, data, etc.) and once in a while, the receiver includes the capability to unscramble or decrypt; the receiver is then called an Integrated Receiver/Decoder or IRD. The cable connecting the receiver to the LNB must be of the "low loss" type, RG-6 or RG-11 and should not be utilized the standard RG-59 cable.

3. CABLE TV

Cable Television or Community Antenna Television (CATV) is a framework for distribution of audiovisual content for television, FM radio and different services to consumers through settled coaxial cables, maintaining a strategic distance from the traditional arrangement of radio broadcasting antennas (broadcast television) and have across the board utilize, mainly through the pay-TV services.

Technically, the cable TV involves the distribution of various television channels received and processed in a central location (known as head-end) to subscribers inside a community through a system of optical fibre or potentially coaxial cables and broadband amplifiers.

The utilization of different frequencies allows numerous channels to be disseminated through a similar cable, without discrete wires for each, and the tuner of the TV or Radio selects the coveted channel from among all transmitted.

A cable television framework starts at the head end, where the program is received (and some of the time began), amplified, and after that transmitted over a coaxial cable system.
The architecture of the system appears as a tree, with the "storage compartment" that carries the signals in the lanes, the "branches" carrying the signals for buildings and, finally, the "arms" carrying the signals to individual homes.

The coaxial cable has a bandwidth capable of carrying a hundred television channels with six megahertz of bandwidth each; however the signals decay quickly with distance, hence the need to utilize amplifiers to "recharge" the signals periodically to help them.

Backbone trunks in a local cable system frequently utilize optical fibre to limit noise and eliminate the requirement for amplifiers as optical fibre has considerably more capacity than coaxial cable and allows more projects to be carried without signal lost or commotion including.

The majority of the TV tuners can directly receive the cable channels, which are usually transmitted in the RF (radio frequency) band, be that as it may, numerous projects are encrypted and subject to a tariff itself and in such cases, you should install a converter between the cable and the receiver.

New technologies

1. DIGITAL TERRESTRIAL TV

Digital Terrestrial Television (DTTV or DTT) is an execution of digital television innovation to give a more prominent number of channels and additionally better nature of picture and sound utilizing aerial broadcasts to a conventional antenna (or aerial) rather than a satellite dish or cable connection.

The measure of data that can be transmitted (and consequently the quantity of channels) is specifically influenced by the modulation method of the channel.

The modulation method in DVB-T is COFDM with either 64 or 16 state Quadrature Amplitude Modulation (QAM). When all is said in done a 64QAM channel is fit for transmitting a more noteworthy piece rate, however is more helpless to impedance. 16 and 64QAM can be joined in a solitary multiplex, giving a controllable degradation to more imperative program streams. This is called hierarchical modulation.
New advancements in pressure have brought about the MPEG-4/AVC standard which will empower two top-notch administrations to be coded into a 24 Mbit/s European terrestrial transmission channel.

DTTV is gotten through a digital set-top box, or coordinated accepting gadget, that translates the flag got by means of a standard aerial antenna, nonetheless, because of recurrence arranging issues, an aerial with an alternate gathering (ordinarily a wideband) might be required if the DTTV multiplexes lie outside the bandwidth of the initially introduced aerial.

2. HDTV

The HDTV is transmitted digitally and thusly its execution for the most part matches with the presentation of digital television (DTV), the innovation that was propelled amid the 1990s.

Albeit a few examples of top-notch television have been proposed or actualized, the present HDTV guidelines are characterized by ITU-R BT.709 as 1080i (interweaved), 1080p (progressive) or 720p utilizing the 16:9 screen design.

What will be of enthusiasm for the not so distant future is top-notch video, through the successors of the DVD, HD DVD and Blu-Ray (is normal that the last one will be embraced as a standard) and, subsequently, the projectors and LCD and plasma televisions sets and additionally retro projectors and video recorders with 1080p determination/definition.

Top-notch television (HDTV) yields a superior quality picture than standard television does, in light of the fact that it has a more noteworthy number of line determination.

The visual data is somewhere in the range of 2 to 5 times more honed in light of the fact that the holes between the output lines are smaller or undetectable to the bare eye.

The bigger the extent of the television the HD picture is seen on, the more noteworthy the change in picture quality. On littler televisions there might be no perceptible change in picture quality.

The lower-case "i" attached to the numbers indicates interweaved; the lower-case "p" means progressive: With the
entwined scanning method, the 1,080 lines of determination are isolated into sets, the initial 540 interchange lines are painted on a casing and after that the second 540 lines are painted on a moment outline as far as odd and considerably number. If there should be an occurrence of the progressive scanning method at the same time shows each of the 1,080 lines on each edge, requiring a more prominent bandwidth.

3. PAY-PER-VIEW

Pay-per-view (frequently condensed PPV) offers a framework by which a television group of onlookers can buy events to view on TV-monitors by means of private broadcast of that occasion to their homes.

The telecaster demonstrates the occasion in the meantime to everyone requesting it (rather than video-on-demand frameworks, which enable viewers to see the occasion whenever) and can be acquired utilizing an on-screen direct, a mechanized telephone framework, or through a live client benefit delegate.

Events frequently incorporate feature films, sporting events, adult content movies and "uncommon" events.

4. VIDEO-ON-DEMAND

Download and streaming video-on-demand frameworks give the client a substantial subset of VCR functionality including pause, fast forward, fast rewind, slow forward, slow rewind, and jump to previous/future frame and so on. These functions are called trap modes.

For plate based streaming frameworks which store and stream programs from hard circle drive, trap modes require additional handling and storage on the piece of the server, since particular documents for fast forward and rewind must be stored.

Memory-based VoD streaming frameworks have the upside of having the capacity to perform trap modes straightforwardly from RAM, which requires no additional storage or CPU cycles on the piece of the processor.

It is conceivable to put video servers on LANs, in which case they can give extremely fast response to clients. Streaming video servers can likewise serve a more extensive group through a WAN, in which case the responsiveness might be diminished. Download VoD administrations are functional to homes furnished with cable modems or DSL connections.

5. WEB TV
Web TV or TV on the Internet is the transmission of a program through the Internet. It can be known "typical" TV channels or channels particularly intended for the Internet. Presently a day greatest individuals have web in their smart phone. They are extremely user friendly to observe any video content on you tube or some other stage.

Web TV, in an improved frame, is simply the provision of video and sound over the Internet and the best approach to help the transmission changes from the monitor of a PC using an iPod or a cell phone to the TV set on the off chance that one have the decoder.

6. IP TV
The current introduction of Television over Internet Protocol innovation, commonly known as IPTV, made a revolution on the distribution networks for TV signals, permitting dispose of a significant number of the issues related with a distribution network in view of coaxial cables, specifically those related with the degradation of signal, impedance, signal levels, and limit of the transmission of the channel’s band.

Additionally, because of IP (Internet Protocol), will be conceivable the combination of a few interfaces in a multi-benefit unit and the communicate and distribution of assorted and changed administrations on a similar network, which previously required separated foundation, including: TV signals, telephone benefit and broadband Internet get to, setting a stage we know today as Triple Play.

Basically, the triple play concept isn't altogether new on the grounds that, as far as administrations, there are a few years prior that are accessible a few solutions joining a blend of TV administrations, telephony and Internet get to.

Studies demonstrate that the stir rate (intentional abandonment of administration) of the offer triple play endorsers is significantly lower than that watched when the voice, information and TV are sold on a non-convergent way.

Another factor is the advance in get to innovations and stages for bundle telephony and video. A variation of ADSL (unbalanced digital endorser line), known as ADSL2+, speaks to an adjustment in the viable performance of Internet connection on the first
organization, not to mention the later advancements, for example, VDSL (high-piece rate DSL).

The entrance over optical fibre in its more famous shape, known as PON (passive optical network), mirrors a considerably all the more brave path, brought about noteworthy interests in that innovation, looking for fast Internet access, voice and multi-channel of top notch TV union.

Advance in video distribution frameworks is on the much too. As of late, various innovations and advancements in the business of equipment and software frameworks for the TV business have begun to TV once again IP (otherwise called IPTV).

The main driver is incorporated stages consisting of set-top-boxes, servers and video content protection framework (DRM - digital rights management), together with suitable tools, middleware and charging, permit the provision of an assortment of TV benefits in a few arrangements, for example, streaming, video on demand and time-shifted TV, in view of a combination of fundamental IP networks and DSL or optical access frameworks.

In this context, the sophistication of calculations for compression of video signals has an applicable part. Systems, for example, MPEG-4 AVC (propelled video coding), for instance, empowers the transmission of signals in top quality TV over IP networks.

The look for a system to offer different play-based (double, triple, fourfold and so forth.) is an irreversible phenomenon in the communications business yet in the meantime it forces gigantic difficulties - especially as far as selection of innovation stages, control and regulation - opens an enormous horizon of conceivable outcomes, both free market activity.

**RATING**

Television content rating systems will be systems for assessing the content and announcing the reasonableness of television programs for youngsters, adolescents, or grown-ups. Numerous nations have their own particular television rating system and nations' rating forms shift by local priorities. Projects are rated by the association that deals with the system, the broadcaster, or the content producers.

A rating is typically set for every individual scene of a television arrangement. The rating can change per scene, system, rerun, and
nation. In that capacity, program ratings are normally not significant unless when and where the rating is utilized is said.

Television rating point for estimation objects is a gadget connected to the TV set in a couple of thousand watchers' homes for judging reason. These numbers are dealt with as an example from the general TV proprietors in various geographical and demographic sectors. It records the time and the program that a watcher watches on a specific day. At that point, the normal is taken for a 30-day time span, which gives the viewership status for a specific channel.

Television Rating Point (TRP) is an instrument gave to judge which programs are seen the most. This gives us a record of the decision of the people and furthermore the prevalence of a specific channel.

For count purpose, a gadget is connected to the TV set in a couple of thousand viewers' houses for judging purpose. These numbers are dealt with as sample from the general TV owners in various geographical and demographic sectors.

The gadget is called as People's Meter. It records the time and the program that a watcher watches on a specific day. At that point, the normal is taken for a 30-day time span which gives the viewership status for a specific channel.
Unit summary

In this unit you learned the whole process about Distribution of TV program. You will understand the various transmission systems in our country. You can understand the process of calculating TRP. You have a basic idea about traditional and modern method of calculating TRP.

Assessment

1. Explain difference between Terrestrial TV and Digital satellite TV
2. How to connect your TV set with digital setup box?
3. In which format digital setup box encode signal receive from satellite?
4. Through which cable you will connect your TV with HD Digital setup box?
5. What is VOD? How it works?
6. What is the function of People’s Meter?
7. What is TRP and how it has been calculated?

Resources

2. Video Production by Vasuki Belavadi (Oxford University Press)
3. Television Field Production And Reporting by Fred Shook (PEARSON Education)
4. www.wikipedia.org
5. www.documentmx.com