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FEATURES

Behind the Scenes of the NES Music Video   12.01.05

Have you seen this year's NASA Explorer Schools music video? It captures the fun, the people, the learning and the adventure of the NES program. You can view it by clicking this link: + View video Depending on the speed and capacity of your computer system, this file may load slowly.

Image to right: Scientists working on the Mars Rover put exploration into practice. Credit: NASA

This is a professional video made with state-of-the-art technology. There's no way a student could ever make anything like that, is there? Well, think again! One thing the NES program emphasizes is that with support and education, just about anything is possible!

Production of the NASA Explorer Schools music video is an annual event that helps students understand how what they are studying in their classes relates to NASA science and careers. This year, schools in the NASA Explorer Schools program are going to be asked to produce their own music video and send it to NASA. Learning how to make a music video will give students experience in making complex videos. Perhaps one day one of the students who will make a music video will work at NASA on the scientific visualization team.

Image to left: Professionals create music videos with high-tech equipment, but a computer and a musical keyboard are all you need. Credit: NASA

If you were to visit the office where NASA's music video was made, you'd see an intimidating array of expensive and sophisticated equipment. David Beverley, the musical composer, is quick to interject that while the high-tech gear is great, it's not essential.

"You need a keyboard and a computer," Beverley said. "The keyboard has to be MIDI-compliant. MIDI stands for Musical Instrument Digital Interface, which means the keyboard can plug into the computer and work with its systems. Your computer needs to be able to run the MIDI software so that you can turn your small keyboard into a sound system. The rest is a matter of practice, planning and more software."

David Stroud, the video's producer/director, was assigned this project as part of his work with NASA's Goddard Space Flight Center in Maryland, where he works with the television production team.

"As a producer, I bring the team together, make sure we meet the deadlines and make sure everyone gets what they need," Stroud said. "Somebody has to be in charge -- to make it happen, regain focus, keep momentum going and to put their foot down when things get out of hand. But being producer is not being a tyrant. It's keeping things going, yet including everyone's voice in the process."

Stroud notes an important difference between music videos and movies.

Image to right: The NES music video encourages students to enjoy science. Credit: NASA

"In a music video, everything hinges on the music," he said. "In a movie, the music is in the background. That's why we started with the music, rather than starting with the story."

David Beverley had the task of creating the entire score.

"Usually you try to match music to the imagery you have," Beverley said, "But this time, the imagery wasn't laid out. It was an idea in our heads, and getting that transferred to music was a real challenge. We decided to do an introduction with strings, progress through classical-style music, and then blend into powerful rock-type music."

Beverley said that the introduction -- just four notes -- took about a day to flesh out. The rest sprang from that, but it took many attempts before the final choices were clear.

"Being wrong is part of the process," Beverley said. "Being wrong lets me see what I don't want, and then try something else. Much of this involves using your instincts, saving every version so we can compare, and continuing on. Many times I came up with a version that I knew was not good, but it was a starting point. We could all listen to it, share ideas and use it to figure out what we needed to change."

Image to left: David Stroud (front), David Beverley (rear left) and Victoria Weeks created the NES Music Video. Credit: NASA

From start to finish, the original score took Beverley about a month to complete. That wasn't the end, though. It was really just the beginning.

Vicky Weeks edited the music video. Her job was to sift through the shots, listen to all the music and then figure the best way to arrange it all. Taking hours of footage and turning it into a handful of frames is an art form in itself.

"Editors have to be sure they communicate effectively with the rest of the team," Weeks said. "You have to be sure you keep the vision accurate and that you understand the goals completely. It takes a lot of time to determine how many seconds of each segment will be included in the final cut. In fact, it always takes far more time than you thought it would. Take your best time estimates and double them. That will be closer to how much time you should allow."

When Stroud, Beverley and Weeks were satisfied that they had the basic idea turned into something others could work with, they showed the project to the NASA Explorer Schools Program management team. That brought new rounds of revisions, based on the NES administrators' ideas on what needed to be included.

"You need to allow many other people to see what you're working on," Stroud said. "Fresh eyes see new things. Critique is give and take. You need to be flexible enough to see the value in what others are saying, yet confident enough in your choices to stand firm where it matters. It's a very delicate balance. It helps to remember that it's not you as a person, but the piece of work that is being evaluated. Separate yourself from the project and let it grow. Constructive criticism is meant to improve the project, but it can be difficult to accept when you've put so much time into something. When it's all done, though, it's worth all that time spent."

There are many exciting opportunities for careers at NASA, including careers that involve the visualization of scientific and satellite data. NASA has experts in video production and editing who convert satellite data into images and then place a series of images in sequence in order to help scientists interpret the data. These same videos also are frequently seen on television programs where they help the public understand what's going on. One example would be making a video that shows the movement of the recent hurricanes across the Atlantic Ocean. From music videos to hurricane tracking, technology helps us all gain a better understanding of the world around us.

Related Resource
NASA Explorer Schools Web Site
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Maggie Griffin/NASA Educational Technology Services

Ten Tips From the Pros

1. Set limits to the project. Don't take on too much or try to use too many ideas.
2. Brainstorm and plan, but then put something down on paper. Get started so you have something to work with. Make a schematic drawing or a story board that lays out the video into segments.
3. Set milestones: goals and deadlines. Make the goals small enough so that you're able to check things off the list often.
4. This is not *your* personal project. It's a team effort and everyone's opinion matters. Communication is essential. Make sure everyone knows what's expected of them.
5. Failure is not failure unless you fail to use the experience as a learning opportunity.
6. Do your best to estimate time needs accurately -- and then double that estimate.
7. The great thing about working with a computer is that you don't have to work in sequence. Maybe working on the final scene will show you how to open the video. Always save your work and save it often!
8. Swallow your pride. Your job is not to be the superstar, but to produce a great video. Listen to the comments others offer. Do your best to develop a tough skin for edits and criticism. Defend your choices but be open to change.
9. Remember that the final cut of the video won't really be the final cut. There will always be more revisions to make. Success comes through persistence.
10. Don't forget: it's all about having fun!