



The Animation Workshop/VIA University College
Center for Animation, Visualization and Digital Storytelling

Digital Visual Industry

REPORT 2022
KEY FINDINGS



The Animation Workshop
VIA University College

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Prompts used: *Girl with VR glasses, digital future, cyber style, blurred*

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CURRENT STATE

**DIGITAL VISUAL INDUSTRY
REPORT 2022**

Foreword

Animation, Games, and VFX are one of the fastest-growing industries in the global media and entertainment market and it is characterized by their constant technological development and the ever-growing expectations and demands of the users. Cultural and creative sectors in the EU are increasingly seen as new sources of sustainable and inclusive growth, already employing more than 12 million people in the Union (European Commission, 2021). AR and VR production has seen unprecedented growth in the last 5 years and globally is expected to have a market of \$1,500 billion by 2030, creating opportunities for education, retail, entertainment, and healthcare sectors (Institute of Excellence, 2022). Finally, the prospects of Metaverse development are expected to generate as much as \$5 trillion in revenue by 2030 (McKinsey, 2022).

To keep up with this development, education institutions working in the visual digital industry need a dedicated frame, acknowledging that visual industry professions are both artistic and highly technological and have to be able to adapt to the dynamic change much, much faster than practically any other education. There is a need for stronger education and industry collaborations, including industry in what is being taught in the digital visual educational institutions, having transparency and overview of current teaching and training curriculums, and helping to shape and improve education based on current and future market needs. There is a strong demand for open discussions where educational institutions together with industry assess technological development, skills gaps, and mismatches and together develop visual industry strategies.

The Animation Workshop conducted visual industry research to develop a better understanding of current and future industry needs. The research took place from February 1st to May 30th, 2022. The survey reached out to professionals from the Animation, Games, VFX, and XR industries. In total 220 respondents answered the survey made of 12 open-ended questions.

The survey findings were presented and discussed during Viborg Animation Festival 2022 at Industry Round Table organized by The Animation Workshop. The Industry Round table goal was to better understand how education, training centers, and industry could work closer together to address the skills gap between students, graduates, and the digital visual industry, and to assess what needs to be considered to improve and strengthen educational offerings.

The industry round table included representatives from the following educational institutions and training centers: The Animation Workshop, Escape Studios, Film Akademie Baden Württemberg, TRUEMAX Academy, Alchemist Academy, and Multiplatform Storytelling & Production, VIAUC. The industry round table included representatives from the following industry companies: Epic Games, LEGO Games, Digid Pictures, Nørlum, Ghostship Games, M2, and Studio AKA.

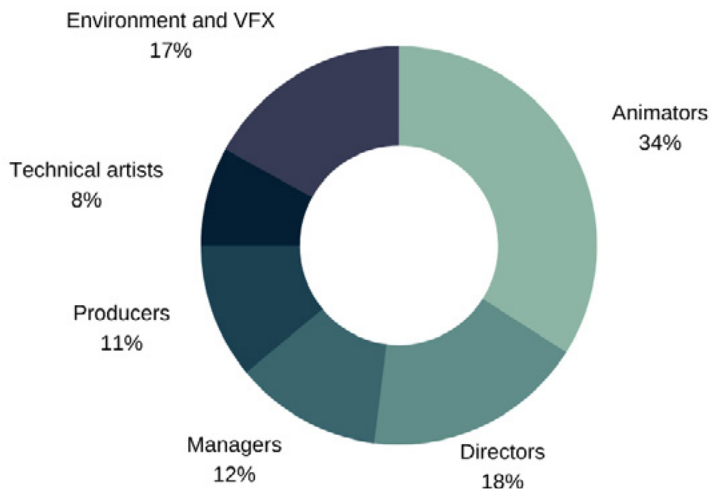
Finally, follow-up interviews were conducted in November 2022, to discuss in detail 4 specific topics, namely, Real Time Engines, Virtual Production, AI and soft skills.

communication flexibility
adaptability **team work**
production
education training
AR learning industry
skills **animation**
VFX software
digital **XR** **games**
freelance experience flexibility
feedback
creativity **network**
VR
work environment
artists virtual production
ai pipeline innovation
masterclass **technology**
collaboration online

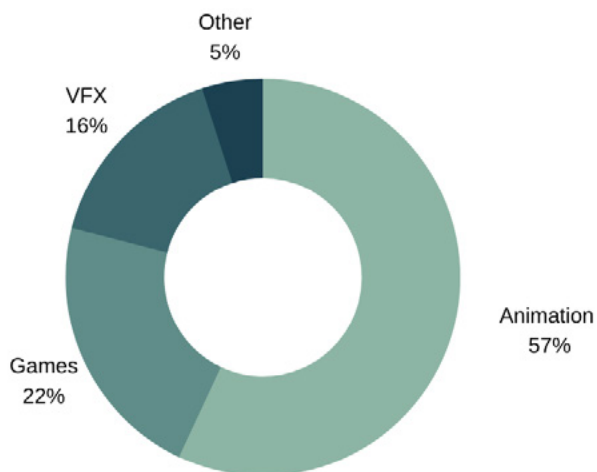
understanding
workshops

**WHO ARE THE
RESPONDENTS?**

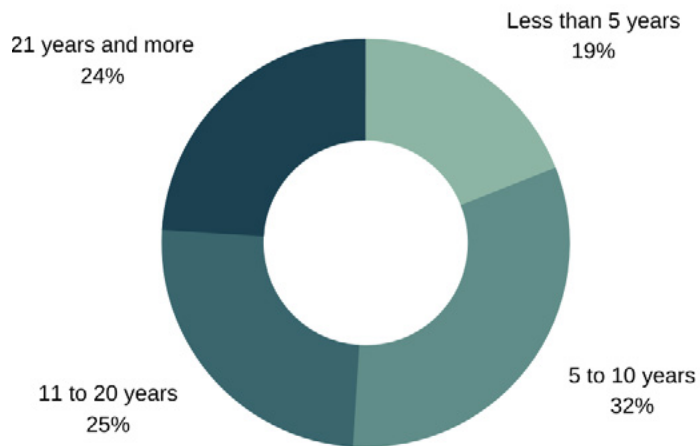
RESPONDENTS OCCUPATION



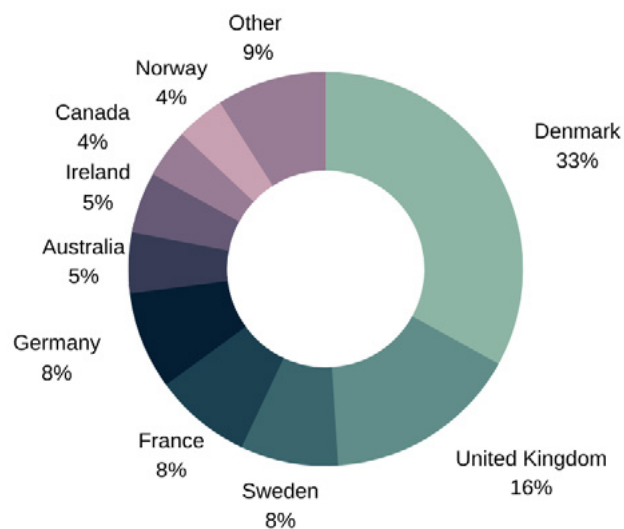
INDUSTRY SECTORS



YEARS OF EXPERIENCE



COUNTRY OF EMPLOYMENT



CHANGES AND INDUSTRY NEEDS

Survey respondents were asked to indicate current changes and industry needs, as well as to address how the industry was affected by the COVID-19 pandemic. Three main categories were identified based on the responses: Technological Development, Industry Changes, and Work Environment.

TECHNOLOGICAL DEVELOPMENT

Animation, Games, and VFX are one of the fastest-growing industries in the global media market due to constant technological development. Currently, there is a particularly strong demand in the European Visual Industry for technical artists, who are software agnostic, have a clear understanding of underlying principles of different operating systems, as well as strong rigging and coding skills.

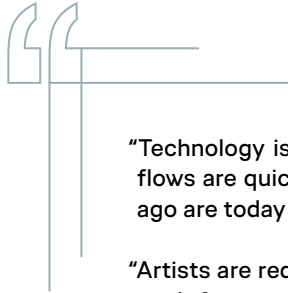
There is a particular demand for professionals working with real-time engines, not only in terms of game production but also in film and animation. It is important to address the advantages of the software in terms of the production pipeline, flexibility, creativity, and sustainability. In addition, it is important to assess how, for example, Real Time Engines, is used and going to be applied not only in the digital visual industry for entertainment, but also in other markets, like architecture, the health sector, training, and automotive technologies, and understand possible synergies regarding training and education.

There is an increasing need in the industry for artists skilled in working with different creative simulation techniques, such as Houdini, and open software applications like Blender, as well as experienced working with Virtual Production.

Furthermore, it is important to understand what implications Artificial Intelligence (AI) and Machine Learning (ML) based techniques will have in the digital visual industry and how could education and industry sectors best prepare for its implementation in the production pipeline. With regard to AI, it is particularly important to understand how to support and implement design thinking, and how to keep the best balance between technological understanding and creative processes.

With emerging new technologies, it is important to make sure that production studios also help to uplift their employees' professional skills, supporting lifelong learning and creating avenues to learn new technologies, developing a better understanding of software underlying processes, and as a result, having a stronger culture which in turn leads to better output. Companies in the industry are experiencing a loss of professionals, who want to learn new and possibly more efficient production methods, however, are not given such opportunities, as the demand of a booming digital sector does not provide time for training and upskilling, as resources are needed for production delivery.

Finally, it is important to address the prospects of Metaverse development, both by educational institutions and industry. It is necessary to understand the technical training which will be needed, what content will be produced, and how to translate artists' skillset into meaningful creations. In addition, it is important to discuss and assess possible challenges in terms of societal implications, to define a road map toward ethical, safe, and inclusive experiences.



"Technology is changing the landscape faster than expected. So many workflows are quickly getting outdated. Things that were hard to produce 3 years ago are today easy and almost real-time"

"Artists are required to produce faster to be able to reach quick turnovers and push for progress, all this at the photorealistic level. To do so an artist must have a large set of technical tools and a well-developed artistic eye"

"Open-source applications like Blender are getting increased use and recognition. Subscription-based models like those offered by Adobe and Toon Boom are becoming less favored to all but the most mainstream productions"

"The industry is switching to simulation in Houdini. AI is starting to come in as a way to fasten animation work"

"I see a need for people who are more technical and have a basic skillset for the entire pipeline - on top of what they already specialize in"

"Everything is moving towards physically based real-time rendering and has been going that way for a while. At the same time, AI-based rendering techniques are rising and could soon supplant current techniques in effectiveness and realism"

"Technology changes all the time, you have to adapt. You haven't always used the studio's program of preference, and most studios have a program their pipeline is built around. A good understanding of one means your skillset can be adapted to another program"

"It is incredibly important to know the differences between film/movie assets and game ones. You need to fully understand how your models are meant to be used in-game, and what that means for them in technical terms"

INTERVIEW

Joan DaSilva

Unreal Engine Education Advisor, Epic Games

What are the main improvements for Unreal Engine 5?

Unreal Engine 5 is a turning point in the adoption of the game engine in other industries than games. Putting aside the technical breakthrough that UE5 introduced, in my personal experience the first and major improvement UE 5 introduces is a brand-new UI offering a user experience closer to what digital artists and designers are expecting from creation software today. Then, of course, comes the unparalleled visual fidelity introduced by Lumen with real-time global illumination and reflections. Nanite opens the opportunity of using the same set of assets across multiple platforms where previously it was required to create a different set of assets for a game or an animation film for instance. Finally, UE5 puts the first step into character animation with a new control rig and character deformer tools.

What are the main advantages of using a real-time engine for the animation pipeline?

The very first advantage which is a game changer for the animation industry is the ability for all the departments to collaborate together on the same project. Adding a lot of flexibility in the pipeline traditionally linear is now allowing teams to iterate faster with a deeper involvement of every party. With a massive amount of high-quality assets available such as Quixel Megascan or the introduction of Metahuman, helps to try to test new ideas and then pitch them with a very high level of visual quality. For animators, the ability to finally animate in context with a fully shaded and lighting environment is not only precious help but also a source of motivation and a major added value to their job. Last, probably the most important and impactful, by drastically reducing the rendering time, UE helps to reduce significantly the power consumption and the carbon footprint of our industry.

What are the most in-demand job skills regarding real-time engines?

Real-time engines for animation or virtual production industries require both great attention to detail and understanding of how to reach the visual quality standard of the industry and at the same time understanding of how to optimize and set up a scene with the technical constraints of real time. Technical Artists are the profiles with the highest demand, but because real-time makes work more collaborative, soft skills such as teamwork are highly appreciated.

What are the most efficient ways to learn Unreal Engine for graduates and junior professionals?

Epic Games offers a complete set of courses and training material online on the learning platform accessible on the dev community website.

Additionally, a network of Authorized Training Centers are providing training for professionals. Epic is also providing regular free training in collaboration with its partner, such as the Summer of Unreal or Learning for Tomorrow. Finally, many high-quality online courses or tutorials are available on third-party academies.

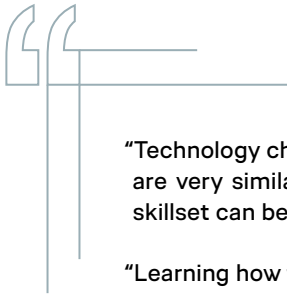
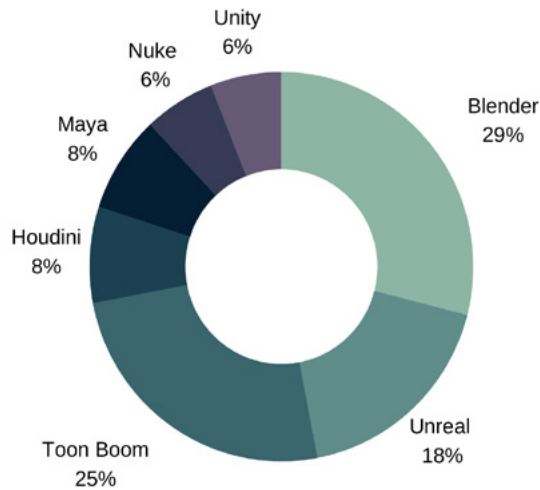


Postmouse (2023)
by Critters Collective

MOST RELEVANT NEW TECHNOLOGIES/ SOFTWARE

Survey respondents were asked to indicate the most relevant new technologies currently used in the market. The following tables present data separately for the Animation, Games, and VFX industries.

ANIMATION



“Technology changes all the time, you have to adapt. Most of the programs are very similar to each other. A good understanding of one means your skillset can be adapted to another program”

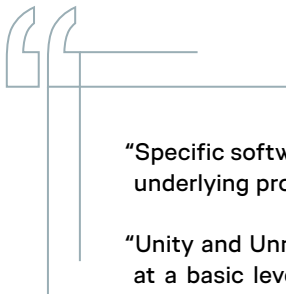
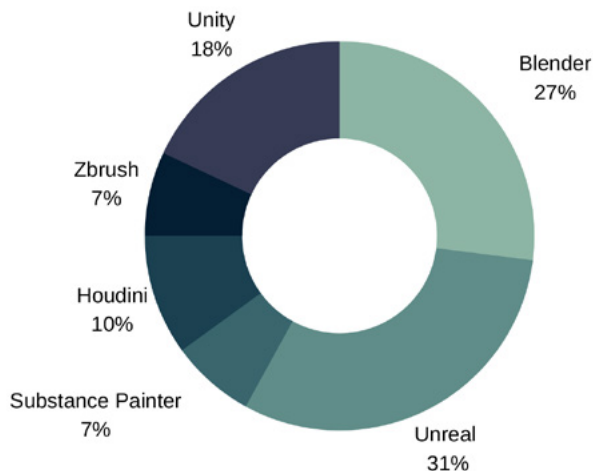
“Learning how to use a Game Engine such as Unity or Unreal Engine is going to be vital in the future”

“Knowledge of the principles of animation is always top of the list. Also having more than a basic knowledge of the software is better”

“A good theoretical and practical understanding of 2D, 3D, compositing, and editing processes. This is software independent”

“The beauty of Blender and Unreal is that they are free... free to create. If we upskill our students in this, it will have a ripple effect in innovation”

GAMES



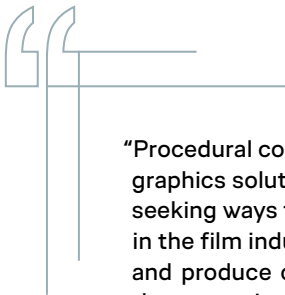
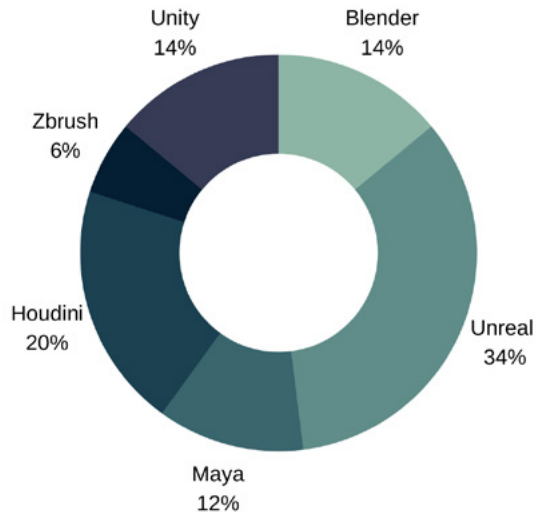
“Specific software knowledge is not in high demand. Knowledge of the underlying processes is”

“Unity and Unreal are software, that any game developer should know about at a basic level. Also, know how to program, just a little, so you can understand how to think systematically”

“The increasing demand for content in the Metaverse will press the development of tech to be much more able to carry actual acting, realism, etc. It will also increase the demand for better simulations, more AI-controlled/machine learning animation”

“From my point of view, content-specific software with pipeline integration. Content creation pipelines becoming a more unique per project. Photogrammetry, premade solutions, and hyper-focused tools”

VFX



"Procedural content creation technologies. e.g. Houdini as well as Real-time graphics solutions e.g. Unreal Engine or Unity. Industry [VFX/TV] is always seeking ways to generate more content in a shorter period. There is a shift in the film industry happening where studios are seeking ways to generate and produce content at a much faster and more economical rate, yet at the same time demand for the environmentally conscious use of energy and resources is now standard"

"Real-time software is giving new benefits in shorter turnarounds. Free software, like Blender and Krita, allows for savings during development letting us to put more money on the creative talents"

"We are integrating more of the Substance package in our pipeline, but nothing from Quixel, no Bridge, no Mixer, no Megascans. In big companies, changes take many years"

"Unreal/Unity. For riggers, it is good to know Motion Builder also. Depending on the size of the company, Blender might be required to know. Substance and Zbrush are necessities for modelers to learn and Mudbox is good too as well"



Ninemia (2023)
by Sylvia Rybak

Johannes Saam

Academy Award-winning Creative Technologist

How do you see AI Image generators like Dall-E and Midjourney changing the digital visual industry?

The main change will be speed and spread. Creating a wide variety of images is now possible with relative ease. The pace of innovation is exponential, projecting the last two years forward; we will have entirely realistic video generation in 2-5 years. This allows all creators to create and share regardless of background and experience.

The negative that comes with that will be the loss of many current jobs, or at least their complete transformation. The positive is that entirely new sets of creators get unlocked with every new groundbreaking tool. New jobs rise, and new avenues of self-expression come online. The current innovations in AI technologies are as substantial of a change as the transition from film to digital video cameras for content creators. It's the first step on a long journey, but the path is clear.

What is the best way to learn to work with these AI applications?

All the AI networks are accessible, free tiers are available for schools, etc. So getting one hand dirty with the latest models should be easy.

As with all tools, the depth of immersion is crucial. After an initial "play" phase, I must mix and match different ideas and technologies. Combining old and trusted with fringe technologies leads to magnificent creations.

Also, trying to understand the systems and even trying to train custom models is a skill that will be more and more thought after skill to get into and be an early adopter.

What is the most considerable skepticism regarding AI image generation in the industry, and how can it be addressed?

Models are biased; biases sadly exist in every aspect of our lives. And we should fight them on every level. Those biases of society are reflected in the models. Dealing with that is essential, and we should be aware of it. But the models themselves are not biased. We need to learn how to fight the root of the problem and not blame the new technology on the block.

Furthermore, people are scared and should be scared of their current occupations transforming and even going away. This is a real threat to many industries, from lawyers to doctors to creatives. The "AI Genie" is out of the bottle. And the only way forward is to learn to embrace an entirely new set of thinking. New types of jobs will also appear, and another explosion in need for individualized content. It's a transition, not an ending.

How do you think educational institutions could best implement AI teaching in their curriculums?

The most critical part is explaining the basics of AI technologies in a digestible fashion. Comparison to other fields alongside reasonable calculus is necessary for everyone to get the basics. It's learning how a combustion engine works for the next generation.

Once the ideas of data-driven model creation and the constant use and help of AI systems are natural to students, an entirely new set of solutions and new creative avenues will be accessible.

Answers generated by Artificial Intelligence

How do you see AI Image generators like Dall-E and Midjourney changing the digital visual industry?

AI image generators like Dall-E and Midjourney will likely significantly impact the digital visual industry. These tools enable users to generate highly realistic and original images by combining elements from different sources. This could allow artists and designers to create unique and compelling visuals that would be difficult or impossible to create using traditional techniques. Additionally, these tools can help automate the creation of repetitive or time-consuming visual elements, freeing artists and designers to focus on more creative aspects of their work. Overall, these tools have the potential to significantly expand the capabilities of the digital visual industry and open up new possibilities for artistic expression.

What is the best way to learn to work with these AI applications?

The best way to learn to work with AI applications like Dall-E and Midjourney would be to start by familiarizing yourself with the basics of how the technology works. This could involve reading tutorials and guides, watching instructional videos, and experimenting with the tools. Once you understand how the tools work, you can explore more advanced features and techniques and try using the tools to create your original content. As with any new technology, diving in and experimenting is the best way to learn.

What is the most considerable skepticism regarding AI image generation in the industry, and how can it be addressed?

One of the most significant criticisms of AI image generation in the digital visual industry is that it could create fake or misleading content. For example, AI tools could generate highly realistic images to deceive viewers into thinking they are real. This is a serious concern; addressing it will require combining technological solutions and education.

How could educational institutions best implement AI teaching in their curriculums?

Educational institutions could best implement AI teaching in their curriculums by introducing the basics of AI and machine learning. This could involve providing students with a conceptual understanding of how AI works and hands-on experience using AI tools and platforms. As students become more familiar with the technology, they can progress to more advanced topics, such as deep learning and natural language processing. Additionally, it would be beneficial to incorporate real-world examples and case studies into the curriculum to help students understand the practical applications of AI and how it is being used in various industries. Finally, it would be necessary to regularly update the curriculum to reflect the latest developments and advancements in AI.

MOST IN-DEMAND HARD SKILLS

Respondents were asked to indicate the most in-demand hard skills in the industry. The following images present data separately for the Animation, Games, and VFX industries.

ANIMATION

real time **compositing**
layout directors
coding **storyboard artists**
drawing skills **riggers**
animators
production managers

pipeline manager 3d modelling



"We need advanced/senior level across all disciplines"

"Highly developed eyes and visual taste"

"I see a need for people who are more technical and have a basic skillset for the entire pipeline - on top of what they already specialize in"

"What's important to us is a good theoretical and practical understanding of 2D, 3D, compositing, and editing processes"

"It is very difficult to find people with a confident enough grounding in classical drawing skills, especially life drawing"

"Acting/appeal/technical ability to work on complicated rigs"

"Even mid-level posts elaborate they look for seniors and it's extremely hard to find work if you don't have the experience of a senior yet"

GAMES

pipeline developer
compositing rigging
real time
engineers generalists vfx
UI artists programmers coding skills
vr technical artists



"In game development understanding the game engine itself is a really in-demand hard skill. Knowing how to set up materials and working with rigs are also always in demand"

"Programming, learn to understand basic code-concepts to be able to communicate efficiently about technical issues"

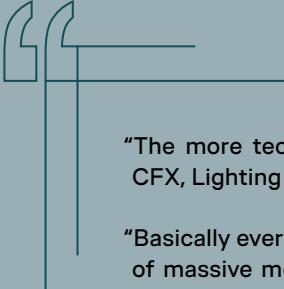
"Conveying ideas fast, artistic focus, understanding the player experience"

"Senior programmers of deep technical skill qualified and experienced 3D modelers and texture artists"

"The smaller the studio, the more skills you need. I started as an animator and rigger, but now I build characters and props and implement them in whatever game engine is needed"

VFX

generalists
producers
generalists proceduralism
real time scripting
fx programming
technical artists
animators
compositors
rigging
pipeline developer



"The more technical roles are in eternal demand. Programming, FX TDs, CFX, Lighting TD"

"Basically everything! With the new age of streaming TV and the expansion of massive media, corporations led to the commencing of countless productions and as many requests for future ones. The internet is hungry for content and it needs artists from all departments to produce it"

"Procedural workflows for any department. Anything to speed up the process, and in turn deliver more output"

"Artistic driven technical people with a good eye and an all-around knowledge of VFX"

"Studios always appreciate artists with a broad understanding of the pipeline, so some generalist skills are nice to have"

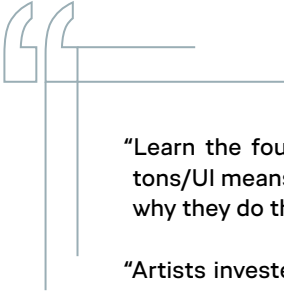


Riot 5 (2021)
by Violeta Fellay

BEST WAYS TO START WORKING WITH NEW TECHNOLOGIES

Respondents were asked to give their advice to students and graduates on what they need to focus on when starting to work with new technologies.

UNDERSTANDING OF FUNDAMENTALS & SKILLS DEVELOPMENT



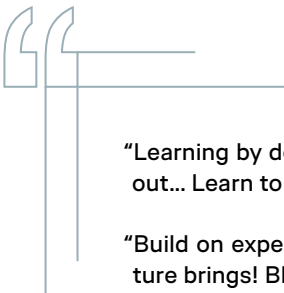
"Learn the foundation of why this new technology is good. Learning buttons/UI means nothing, as they will change. Learn what the buttons do and why they do that"

"Artists invested in skills rather than software will always be able to adapt to new trends"

"VR, Unreal, Blender, there's a lot of stuff happening at the tech side, but at the heart of it, it's all about storytelling. The rest is just tools. Being able to learn trumps knowledge, so just keep a curious and open mind, and the rest will follow"

"Keep the dialogue going. Technologies will not replace accurate and guided human brainstorming"

PROJECT-BASED LEARNING, LEARNING BY DOING



"Learning by doing... Experience is your best teacher... Jump in and figure it out... Learn to be resilient, resourceful, and agile"

"Build on experience from one project to the next. Interesting what the future brings! Blender etc. all software that will lend us a helping hand"

"Doing a commission or something meaningful while learning. Something that deserves a purpose. Learning through interest and necessity"

"Take the time to learn tutorials, and try to incorporate them in your side project"

"Hands-on experience with some general best practices. And generally speaking, experimentation, since no one really knows what the potential uses or even best uses of new technology are"

PROFESSIONAL GUIDANCE & COMMUNITY



"A thorough introduction to the technology followed by hands-on working time, guided by a professional"

"It would be nice if jobs could fund workshops or have a senior mentor to a junior to help increase their skillset with new software"

"Be part of a community that shares knowledge"

"Make it a priority to seek out answers in a diverse way - even as a seasoned industry specialist, I often find myself googling for answers, and posting questions on software forums"

"Partnering / working with colleges to ensure that graduates are learning what's needed in order to be work ready when they graduate"

"Be comfortable with breaking things and asking questions"

"Seeing how others are using the technology, adopting to your own projects to optimize the workflow to create better stories in the end"

"Find somebody with experience, ask questions, discuss and sit down together. A lot of online tutorials are useless, its either absolute basics or super advanced"

INDUSTRY CHANGES

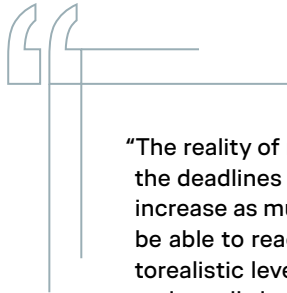
Respondents indicated that there is an increasing boom in production, which was partly influenced by direct investments coming from streaming services. There is a noticeable change in the demand for visual content in Europe; people are becoming more interested in TV series than cinema since it has stronger storylines and better character development.

The production is expected to be finished faster with shorter development timelines, demanding employees to uplift their skills and work with technologies that allow faster production processes. The competition in the industry is very high; due to increasing production, remote working possibilities, and skills gaps, it is hard for the industry to find the right and skilled talents. More and more companies are talent-poaching professionals from other companies, offering higher salaries or additional employment benefits. The recruitment processes are becoming faster albeit with more complicated onboarding.

The industry sees a shortage of skilled and experienced senior artists, and there is a high demand for professionals with technical skills, while it is becoming harder and harder to find entry-level jobs for graduates and junior professionals. Industry cannot wait for education to update their teaching curriculums according to market needs; there is a strong need for skilled graduates now, therefore it is important to address how to best reshape the education and training practices today, and how to develop more tailored made teaching practices for future generations as well to provide additional training services, with easy access to students. There is a need for high-quality, flexible, and on-demand courses to cater any lifelong learning needs, with a focus on inclusivity and accessibility.

Due to increased competition, education is lacking skilled teachers coming directly from the industry. Since production times are becoming more demanding, it is harder for industry professionals to have time to teach at educational institutions. In addition, it is becoming more and more complicated for educators to find resources to pay for the right, qualified teachers due to increased salaries in the industry.

There is a need for more industry and education events, workshops, and conferences so industry representatives can meet soon-to-be graduates and discuss possible internships, mentorship, training, and employment opportunities.



"The reality of making movies is all about deadlines and budgets. Each year the deadlines seem to become shorter and shorter, and the budgets won't increase as much. This means that artists are required to produce faster to be able to reach quick turnovers and push for progress, all this at the photorealistic level. To do so an artist must have a large set of technical tools and a well-developed artistic eye"

"Competition has never been higher in this field"

"So many workflows are quickly getting outdated. Things that were hard to produce 3 years ago are today easy and almost real-time"

"Remote work has allowed artists from anywhere to work for all the large studios. This has caused a shortage of talent for smaller studios"

"Streaming services such as Disney, Apple, or Netflix have nearly completely taken over the market and are now producing vast amounts of content every year. Demand for higher quality work at a quicker rate has increased so much that now the industry is experiencing a lack of available talent in nearly every field. Alleviating the problem by offering people, from all over the world, remote work options has become a trend in recent months, for sure, but what the long-term results of that will still remain to be seen as the large studios push for stricter security requirements and higher productivity number"

"Financing structures changed, how to reach the audiences have changed"

"There is more attention to produce animation for older age groups and more willing to do so"

INTERVIEW

Zoltan Batho

VP & VFX Producer, DIGIC Pictures

What are the most in-demand skills in your company?

As DIGIC Studios is mainly working on real-time (both rendered and real-time) CG cinematics, we have quite a wide range of skill sets we are looking for.

First, and foremost, as our key real-time engine is Unreal, all of our artists, tech artists and developers need to have at least a general knowledge of Unreal Engine. Another important and highly sought after skill is about lighting: behavior of different lights, setting up different lighting scenarios, color science, grading, etc.

We are always on the hunt for Shot TDs, who understand the structure of a real-time scene and can make sure that the different CG assets will work as they should when rendering out the final cinematic.

While we do need specialists to solve specific problems, it is really important for us to have quite a few real-time generalists, who can be used as jolly jokers during crunch times: an overall and general knowledge of lighting, animation, layout and fx can really help an artist to be involved in any project, at different stages.

While technical skills are important, soft skills could be even more sought after: as real-time projects require different types of people to work together, no one likes to work with someone who is not tolerant, cannot listen carefully, or is not solution oriented. While technical skills could be taught relatively easily, soft skills are more difficult (or even impossible) to learn.

What are the main advantages of using Virtual Production studio?

1. Production units need to travel less between locations
2. It is easier, quicker, and less expensive to shoot in a controlled studio environment than at external locations.
3. In a VP studio, different shots at different virtual locations could be shot on the same day.
4. In case the director needs additional shots after putting together the edit, shooting those extra shots in a studio is way easier, quicker and cheaper than at external locations.
5. The virtual environment is more controllable and changeable than a real location, especially if the real location is under any type of protection (natural park, heritage building, etc.)
6. Time of day, weather, mood can all be adjusted and controlled by the Production: the director can have the golden hour for the whole day.
7. The actors can see the whole environment where they are playing, not like in a green screen studio. They don't have to imagine anything, they see exactly what they need to react to at the exact moment.
8. The Directors and the DOP can make on-set decisions about set dressing, light, mood, creative direction and will immediately see the in camera result of their decisions. If they don't like what they see, they can immediately make the required changes.

What are the main challenges when working with the VP?

Virtual Studios have very different technologies in one space therefore it is crucial to have at least one specialist for each tech on-set: LED technician, Unreal specialist, VP specialist, camera tracking specialist, set designer, system integrator, gaffer, etc.

In addition, these people cannot always understand what the others say, so having “translators” (supervisors) on-set is extremely important: VP supervisor, VFX supervisor, CG supervisor, etc. They will make sure to gather the required information from the Production team and explain the best way of action to the right specialist.

LED volumes are great for a certain type of shots, but can be useless for others: a VP supervisor needs to go through the script with the Production team and suggest the right VP shots and also advise if other shots could be done in a VP studio after making certain modifications in the script.

LED panels don't work well with camera lenses, a so-called moiré effect could easily ruin a shot if certain rules are not followed: based on the pixel pitch of the LED a minimum distance between the camera and the panel needs to be kept, the focus cannot be on the LED panel, etc. A VP supervisor needs to know all these rules and needs to make sure to let the production manager know them.

Do you think there is enough VP-related training and education in digital visual industry?

Absolutely not. This is quite a new technology and there are not enough people on the market who have enough experience and knowledge to share it with the wider public. This is changing, but in some of the brand new training courses, the trainer has only 1-2 projects under his/her belt, but acts like a black belt VP professional. Before signing up for such a course, it is very important to check the trainers curriculum and reference list.

Digital visual industry: better than in the VP case. In case of real-time based, both Unreal and Unity (the two major real-time engines) have extensive training solutions, videos on their websites, which are free and extremely helpful. Those should be a starting point for anyone who wants to get into the real-time industry.

If students and graduates would like to work with VP in the future, what are the main skills they need?

1. Photography is a key skill I would urge students to acquire. Someone with a good eye on details is a great starting point.
2. Understanding how light works. Again, as light can influence almost everything in any virtual or live production, this is a must to learn.
3. Unreal Engine. There are hundreds of amazing training videos on the Unreal Engine's official website, there are specific courses about virtual production. Highly recommended.
4. 3D modelling basics. Learn what a shader, polygon, texture, UV are. You don't have to become a 3D artist, but you need to know what the foundations are to be able to see if something will fly or not in a VP scene.

WORK ENVIRONMENT

Due to increased remote working practices, which have allowed for remote hiring, it has become more difficult to continue in-house training practices, where "buddy systems" and "mentorship" programs between senior and junior artists provide more efficient growth. As a result, workplaces experienced a slower learning curve among their junior artists and developers. An increase in remote international production teams working online requires company managers to commit more attention and resources to ensure clear communication and synergy between teams, as well as a better understanding of potential cultural differences.

Post Covid-19 pandemic, employees in the digital visual industry express their wish to continue working remotely. When working remotely, it is even more important to implement different methods to assure a healthy working culture; strong communication skills, team comradery, creativity, and a pleasant work environment, focused on filling the void and human contact that teams lose when working fully and partially remote. It is particularly important to understand that the digital industry is highly creative, where artists are very passionate and aim to work on projects that challenge them and have additional value than salary. There is a strong need to develop good working environments, addressing transparency, diversity, responsibility, accountability, soft skills, good leadership, and trust in the company; as well as to consider different methods that would give employees more flexibility, for example, "unlimited leave" or 4- day work week, as well help to provide different opportunities for upskilling, learning and training.

The digital visual industry is becoming more transparent regarding working hours, overtime, and salaries. More and more professionals started working as freelancers, which requires more knowledge about the national markets, taxes, financial management, and skills in strategic planning.



"More people want to work as freelancers, but with employee benefits, which puts a lot of pressure on independent studios; more time needs to be invested in communicating with staff members with remote work (especially requested by seniors)."

"Talent grooming and training and mentoring much harder remotely...no passive education by sitting amongst your peers... this hinders young talent growth..."

"The industry seems to be changing these days in order to gain more transparency. The change doesn't come from the companies it comes from us - come be a part of that change"

"I've been more disconnected from my fellow coworkers, which has made it difficult to bounce off ideas and feedback between each other"



Meeting the Giantess (2023)
by Yuliia Silkina

INTERVIEW

Alex Weight

Creative Lead, UTS Animalogic Academy

What were the main challenges during Covid -19 regarding the work environment in your company?

The main challenges during Covid were pretty much the same as most industries I imagine - trying to maintain the connection between people. All our software and tools are already configured to work in an online environment, so there was practically no difficulty in transitioning to remote working. Communication was done through Slack, reviews on Shotgrid, and dailies & rounds over Zoom. The difficulty we found was trying to keep students feeling like they were part of a team, that they were still connected to each other. Our main point of difference at the MAV is that we don't have the students work alone, they learn how to collaborate creatively on the same project. During Covid we found that they felt very isolated, and it was harder for them to see the big picture, that the work they were doing was contributing to the main project. In a studio you can walk around and see what everyone is doing, you can see how your work travels down the line to other people. When you are by yourself you can feel like a small cog in a big machine.

We had the students keep Zoom on while they were working, in their teams, to at least maintain a human connection. This helped with mental health a bit, but it was still a challenge.

The other difficulty was Animation. Feedback for most other departments can be conveyed vocally or written down. But Animation is so physical, it was difficult to give feedback while not being in the same room as the animators. It's so much easier to demonstrate a movement or an action by doing it in person. I had to either record myself or find references online. But even then I felt creatively disconnected from the animators. It was never quite the same.

What are the biggest challenges regarding soft skills in the digital visual industry?

I feel like this is something that all industries face. We are training students how to excel in their chosen career, but we're not teaching them how to excel at being human. How to collaborate, how to communicate, how to take feedback, how to behave in a group, in meetings, how to communicate with others when you disagree. So many students enter the workforce without these skills and have to learn as they go in a trial of fire. This can lead to work stress and anxiety to not just the student, but to the other people they work with. You would hear someone say "Don't they know not to do that?". Unfortunately, they don't. There is no handbook on how to behave, and they are expected to know all these secret rules on day one. Most conflict in the workplace comes from miscommunication. This is especially true in the Animation and VFX industry when so much is left up to interpretation. Art is subjective, but the commercial world isn't. Without having these soft skills at their disposal, juniors entering the Animation industry find it very hard to navigate what is needed of them, and how to translate feedback in dailies and rounds.

This problem doesn't just apply to juniors, it also highlights a failing of our promotion process. In the industry, artists are promoted based on skill level. This works until they hit a supervisor level, as just because someone is good at what they do, it doesn't mean they will be good at managing people, or being able to communicate their ability to others and help mentor them. There is simply an expectation an amazing artist in a supervisory role will be able to impart their knowledge and ability to the artists they manage. They are often given no soft skills or managerial training, and unfortunately, this can go wrong very quickly.

What do you think are the best ways to foster creativity when working remotely?

Connection. Anyone can create alone in a vacuum, but the strength of the Animation industry is collaborative creativity. Look at what you can achieve when you have 1600 artists working together on a single project. This is fantastic when everyone is together in the same building, but when remote (as above) people can easily lose sight of the bigger picture, and how their work is contributing to the project.

To counter this, we found it important to make sure we were always sharing work during dailies. Instead of just diving into feedback and reviews, we would take a moment to look at the work being done by the other teams first. To remind everyone of what was happening in other departments, that they weren't working in a vacuum. There have been multiple studies looking at what makes people happy at work. There are many many different answers and ways of looking at this, but for the most part two answers are generally found at the top - 1. To work with good/sociable people. 2. To work on something that has meaning. When artists can see their work traveling down the pipeline to other departments, being worked on by other people. It gives their work meaning. It shows them that they had a part in the project and that they are contributing. This is very important to show people not just when remote.

The other small things we did to help promote creativity when remote were simple - having a zoom "work room" that people could log into while working. It's a strange concept, as we would encourage people to stay quiet. But it gave people the feeling of being together. It's small, but from the feedback we received it helps our students a huge amount. They loved it. We also made sure we ran Monthlies, an opportunity for people to show off their extracurricular work, in a more social and relaxed environment.

How it is best to address and highlight the importance of soft skills in the digital visual industry?

Unfortunately, the Animation and VFX industry is quite slow to change. Some of the bigger companies are starting to adapt - ILM, Disney etc... but the smaller companies still treat their artists like they did in the 90's - long hours, high stress, and no communication. Like factory workers. The only thing that will make these companies change is money. It is important that the creative industry starts setting higher expectations on proper work-life balance, and the in-studio environment. Once these expectations are set by the artists, then the smaller studios will have to change or not be able to hire employees.

From a bigger picture point of view, it is very easy to show that happy employees create better work, and faster. A supervisor with good soft skills will be able to get more out of their team, while keeping them engaged and happy. Hostility and stress is the antithesis to creativity. The better the industry becomes at nurturing soft skills, the more studios will be able to get out of their artists.

What is the best way to motivate employees in the digital visual industry?

As above, it's not very difficult. For the most part, it comes down to treating people with dignity and respect. There's no need to dangle a carrot making people feel heard will work much better. But, if I was forced to put down some top points, here they are:

1. A pat on the back is better than money. Recognizing a job well done goes a long way to making people feel like they are doing something worthwhile.
2. Foster an environment that allows for mistakes. The best creativity comes from happy accidents. There are many examples of this. But it doesn't happen if artists are scared to try things. Fear is the antithesis to creativity. On this, allow time and room for exploration at the beginning of a project. Don't be too fast to jump into production.
3. Have a good company culture and ethos that everyone understands and buys into. This needs to be more than "Create good work and get paid for it." What is the mission statement? Have one that artists can believe in.
4. Lastly - communication is key. Create a company environment that encourages communication. Between different departments, but also up and down the company structure. Everybody should be able to talk to anybody. Every voice should be heard.

Lifelong Learning, how can we best include upskilling of our employees while sticking to tight production deadlines and milestones?

A good question, and a difficult one. I'm a firm believer that learning is a lifelong endeavor as well. But unfortunately work and life often get in the way. The specifics of this would come down to the company. It could be to train employees between projects when there is down time. To assign an artist as a 50% asset during production to allow for training. Though I imagine this would be a harder sell when things get busy. I imagine the best way to upskill employees, and keep them loyal to the company and develop a good company culture would be to have access to training courses that could be completed either between job in downtime, or afterhours if possible/desired. Most companies will let go of their staff when a project runs down. But by keeping them on and training them, companies could keep key staff, and have them better trained for the next project. This is becoming more important in the current state of the industry. We are going through the biggest boom the Animation and VFX industry has ever seen. Companies are scrambling to get artists, this all means good things for the industry, as companies are now changing what they do in order to keep key people and attract staff from around the world. Having policies like above will help do this.

It's an exciting time for the Animation industry, I feel it's so important that we help create artists with these soft skills, but also, we need to encourage the companies they go to, that having good soft skills are just as the technical and creative ones.

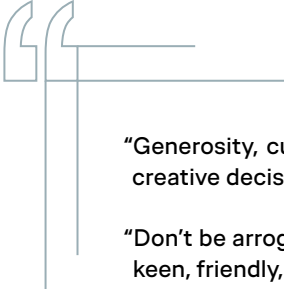


Untamed (2015)
by Juliette Viger

MOST IMPORTANT SOFT SKILLS

Respondents were asked to share their advice regarding soft skills in the industry. 4 main topics were identified as the most important soft skills: Empathy & Compassion, Communication, Adaptability & Flexibility, and Team Player.

EMPATHY & COMPASSION



"Generosity, curiosity, group spirit. The art industry is based on human skills and creative decisions"

"Don't be arrogant or an asshole. We will always hire the next best talent if they are keen, friendly, and show they are willing to put in the time"

"Be a nice guy. It's super important for people to fit in with the company culture. Leave your ego at the door"

"Empathy - if you cannot put yourself in another person's place or situation - you will not succeed"

"The main part, for me, is still the human one. Knowing how to listen to your employees is key to true success"

"A positive spirit with a professional attitude"

COMMUNICATION



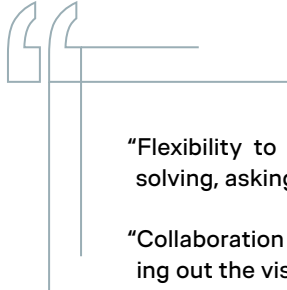
"Communicate clearly with production, if you are falling behind or are nervous about meeting a deadline. Or just generally be a nice guy. The number 1 reason why you are being extended/rehired is not that you are AMAZING, but it's that they enjoyed having you on the team"

"Communication and empathy. Understand where others are coming from. Have the ability to communicate effectively with them"

"Ability to take and give criticism. Willingness and humility to learn from both superiors and peers"

"Listening skills and an open mind to other people's ideas. People come from different backgrounds (both technical/artistic and cultural). Diversity benefits us all"

ADAPTABILITY & FLEXIBILITY



"Flexibility to change, collaboration to teamwork, proactive approach to problem-solving, asking questions and willingness to continuously learn"

"Collaboration and ability to evaluate and iterate. Being able to work artistically carrying out the visions of other people"

"Adaptability: The ability to adapt to new toolsets, technologies and work environments. Apply the core craft skills, irrespective of technology used"

"When working in a professional industry the artist must understand that the critique and feedback they receive based on their works is needed during the creative process of completing a task"

TEAM PLAYER



"Working collaboratively, listening and implementing feedback is really important and remembering that your attitude to work affects how others can do theirs"

"Leaving your ego behind when working as a part of a large-scale team project (i.e. understanding that being a part of a large team effort is very different from working on your own passion project)"

"Make sure to put yourself in the shoes of everyone you work with. The more you learn to understand their perspectives, their challenges and their suggestions, the better the collaboration will be"

"Being a friendly team person who communicates well and does not talk behind people's backs. It is also important to have some leadership skills to see opportunities where you can put yourself higher by supporting a team in order to both raise in status and salary"

"Have good teamwork skills and a professional tone in the workplace. Learn to take feedback. Work on your emotional intelligence"

BEST PRACTICES FOR EDUCATION AND INDUSTRY PARTNERSHIP

Respondents were asked to suggest best practices and methods for future education, training, and industry collaborations. 5 main topics were identified by the survey respondents: External Industry Faculty, Partnership with Industry Professionals; Internships, Networking & Lifelong Learning, and Project Based learning.

EXTERNAL INDUSTRY FACULTY



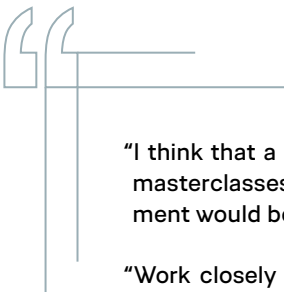
"The best way to learn a skill is to see it performed by someone who's done it 10000 times and then to do it yourself, while they supervise you. So, the combination of inviting active professionals in the classroom with the students is priceless!"

"Educators should always have real-world experience in my opinion. If they haven't had success in their field, their ability to train will be limited"

"Having teachers who are active in the industry visit the school to teach students is a very good way to go about it. It gives the students a better idea of how the industry works, and what to expect once it's their turn to step out into the professional world. And having studios visit the school to hire for internships is a great opportunity for both the studios and the students"

"Using industry professionals to lead students, and simulating a real studio environment. Bring in industry-style projects and expertise, but contextualize in educational settings and with educational support processes"

PARTNERSHIP WITH INDUSTRY PROFESSIONALS



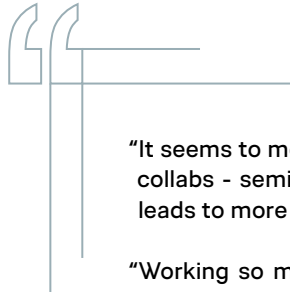
"I think that a combination of professionals from the industry teaching workshops/ masterclasses and short internships to apply those workflows in a work environment would be ideal"

"Work closely together with companies. Collaborate with companies on tech, content, and visual development. Put researchers, teachers, and students on actual development cases, led by project leaders from the industry"

"Have industry experts talk to your students, review their work and discuss what they want to do with their careers"

"Industry is always short on people but believes they can't hire recent graduates as they need people with experience. Invite local industries to come and be involved with the curriculum and get to know the students before they graduate"

PROJECT-BASED LEARNING



“It seems to me the best teacher is always a project - short films, game jams, multimedia collabs - seminars and lectures can be interesting, but I feel like a hands-on approach leads to more real-life skills”

“Working so much in group projects has really benefited me a lot I’d say. You learn so much from your peers from just studying their workflow and their approach to an assignment. It also gives you better communication skills and you get better at handling feedback/critique - which is important”

“Providing students with real on set/ pre and post-production experiences that can help them learn how to actively work on the industry, allow them to create but follow the process so they’re thorough, provide counseling and emotional/ social skills development in their process. This is a relationship build/based industry so having social skills and knowing how to handle difficult situations, ego’s of other people and moments of pressure are key to success”

“Studio environment for students, industry professionals teaching, short, relevant projects where everyone tries something, fail fast, fail often”

INTERNSHIPS



“It is very, very important to continue to bring industry professionals into the school so students have a current (and varied) perspective. Having strong ties to a variety of studios (big & small), from a variety of countries is very important-both to reflect on, guide, and enrich the curriculum content and to provide students with more points of view, experience, and opportunities. Connection is one of the most valuable currencies in our industry, and the school and student benefit tremendously from a rich network of relationships with industry”

“We have found that having a good internship program has been very valuable to us and the schools we collaborate with. So far, we’ve had a great success rate and hired all our interns after their internships. Though, it is important to make sure to actually pay the students, even if it’s below minimum wage”

NETWORKING & LIFELONG LEARNING



"There are a lot of online courses available when it comes to education. Students should always be looking to learn. I've been working in the industry for 22+ years now and I'm still hungry to learn more"

"Networking, learning together, willingness to continuously learn, identify trends and patterns. Industry boards/bodies including conducting surveys in order to evaluate things that are going well/improvements"

"Ability to research and network. 99% of what's needed to know is online in some shape and form. The ability to dig into the information available online is key"

"I would like to encourage any students to reach out to the companies or people who work in the field that they are interested. Don't be hesitate and think that you are not ready, because what they are looking for most is the open mindset and happy to learn"

"Critical thinking, authenticity and honesty, you can learn or collaborate with people without those factors. Learn what it is you want to do, motivation, growth and collaborations come easily afterward. We all have social media, talk to people, and don't take it too seriously meetups and portfolio reviews"

"Constant communication. Things change quickly in the industry so keeping up to date is important for both sides. Masterclasses work well for insight into how different studios may run and exposure means the students can be better prepared for the workplace and have an idea of what they could expect. Variety of who you are in contact with will help give them a broader scope of the possibilities for their skills too"



Reverie (2018)
by Philip Louis Piaget

**RECOMMENDATIONS
FOR STUDENTS AND
GRADUATES**



“Never lose curiosity and enthusiasm. Be more experimental and open. Be the protagonist of your own story. Animation is a magical tool to communicate our collective unknown, humanism and allegorical illustration of life itself as a continuous change”

“Keep raising your skills. Stay connected to why you began in the first place. Remain permanently curious. Care for your audience”

“Whenever possible, really try to join projects that you’re truly invested in and that keep you motivated. Don’t worry about fancy titles or big names”

“Be humble, be nice and do the best you can. Nobody expects you to be perfect, but they expect you to communicate clearly and be friendly (you’d think being friendly is a low bar to meet, but sadly that is not always the case)”

“Dare to ask questions, reach out to people you admire and ask them tips, watch a lot, and research who does what. Create and show! Be kind and interested: it’s a small industry, the teachers you have now might be your colleagues one day, or one day you might work for the students a year below you - connections matter a lot”

“Focus on the communication. Don’t hold back on the questions. Have a nice balance between keeping a positive attitude and listening to your own needs. Animation is a team job, so we all have to lift together and we’re all in the same boat”

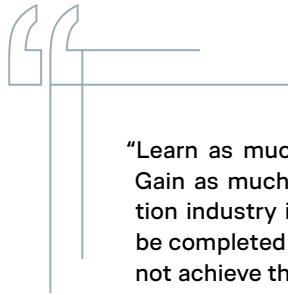
“Don’t be afraid to take a chance with a job opportunity abroad or a position that might require that you to learn a new skill/have other responsibilities than what you’re used to”

“Keep up the enthusiasm! Read a lot, and watch a lot of things that are not just animation and mainstream. Travel!”

“Let your work speak for you. Tell an employer what you want to focus on, and what you want to learn next. Be honest about your skills and your CV. Employers will be okay with someone who still needs to learn something or is shy or is struggling with something. Let them know who you are and who you want to become professionally”

“Never stop life drawing. Even the very best animators constantly refine their life drawing skills. It is 100% the most important skill”

“Come on time, try to do projects within the allotted; don’t get into the habit of staying later and later in order to finish the shot/project, but rather do what you can in the allotted time as that is a better measure of your skills in a professional setting. Be invested in your own progress and prioritize getting the most out of each assignment, even if it means not finishing it. Focus on the parts you struggle with and ask your peers and teachers for help with breaking those walls you’re running into”



“Learn as much as possible about the field you are interested in pursuing. Gain as much experience collaborating with others as possible. The animation industry is a huge collaboration and none of the films or games would be completed without people working together. Also, do not give up if you do not achieve that career goal in your first job”

“Learn soft skills. They are equally as important as being able to do the work. Nobody wants to work with a “dickhead”. Work closer with industry in the different areas of entertainment and innovation. We want to teach and build creators and innovators of the future. We must follow industry trends and adapt to new technologies, so we can best prepare the ideators of the future. Masterclasses, Industry-led projects, cross-collaboration from industry to education to student. With a focus on the future and not the past”

“Don’t be so certain of what you want to do for the rest of your career. Even if a course is not “your thing”, go into it with an open mind and at least find out what it’s about before dismissing it. There are many things you could be doing and it’s quite likely that you’ll change your mind more than once”

“Figure out what lies beneath your passion: it could be you’re attracted to a certain job type, but other positions might be as good or better”

“Come in with an appetite to learn, and seek self-development and self-learning to progress, contextualized through industry mentoring and projects”

- “1. Do what you love and love what you do!
2. Be open to learning and acquire a large amount of skills BUT make sure you choose your niche to specialize in.
3. Work on your ego and make sure you understand we are all human after all”

“Don’t let the industry squeeze you. Artists new to the industry tend to be very excited and enthusiastic, and willing to go the extra mile. That is fine, but it’s important to find a good work/life balance. I’ve seen many people burn out and I’ve been there myself”

CONCLUSION

The rapid growth of technology-driven development for both production and distribution of animation, visual effects, films, games, and digital media is challenging education and training institutions. There is a massive shortage of competency and specialists to fulfill current industry needs today, which will be even bigger tomorrow. There is a strong need to identify where the teaching and training in attendant fields are discordant, with a focus on technological development, teaching, training, work environment, soft skills, and entrepreneurial activities. There is a high demand for stronger education and training with a focus on industry collaboration to better prepare students, graduates, and lifelong learners for the emerging needs of their prospective careers. Education has to adapt faster and help build up resilience in the visual digital industry for games, animation, media arts, and broader sectors such as health, architecture, science, and the automotive industry. The world is becoming more and more digital and we must work in unison to rapidly adapt and fulfill the dire needs of the industry needs today, and tomorrow.

The Animation Workshop along with your help will continue to address the challenges and emergent new opportunities in the digital visual industry by implementing research, training, and project development activities and keeping an open dialogue with our peers in education as well as industry.



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