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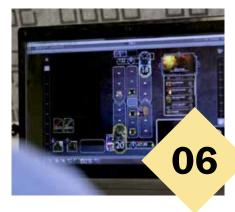
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Interactive Entertainment is unmistakably the king of the entertainment industry and is still on the rise.

According to data from Newzoo, players around the world spent \$145.7 billion on computer, video and mobile games in 2019, **doubling the combined** global box office earnings of \$42.5 billion and worldwide music revenues of \$20.2 billion as reported by Comscore and IFPI, respectively.

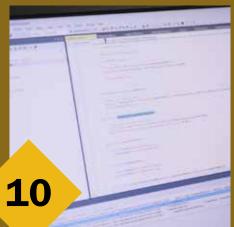
Following on from this, in the second quarter of 2020, consumer spending on video games increased a remarkable 47% compared to the same period in 2019.

3 in 10 global internet users aged 16-64 now say they've watched a live gaming stream recently, rising to 42% of 16-24s. Among our youngest cohort, 32% have also watched a esports tournament and 15% recently broadcast a live stream of their own gameplay.









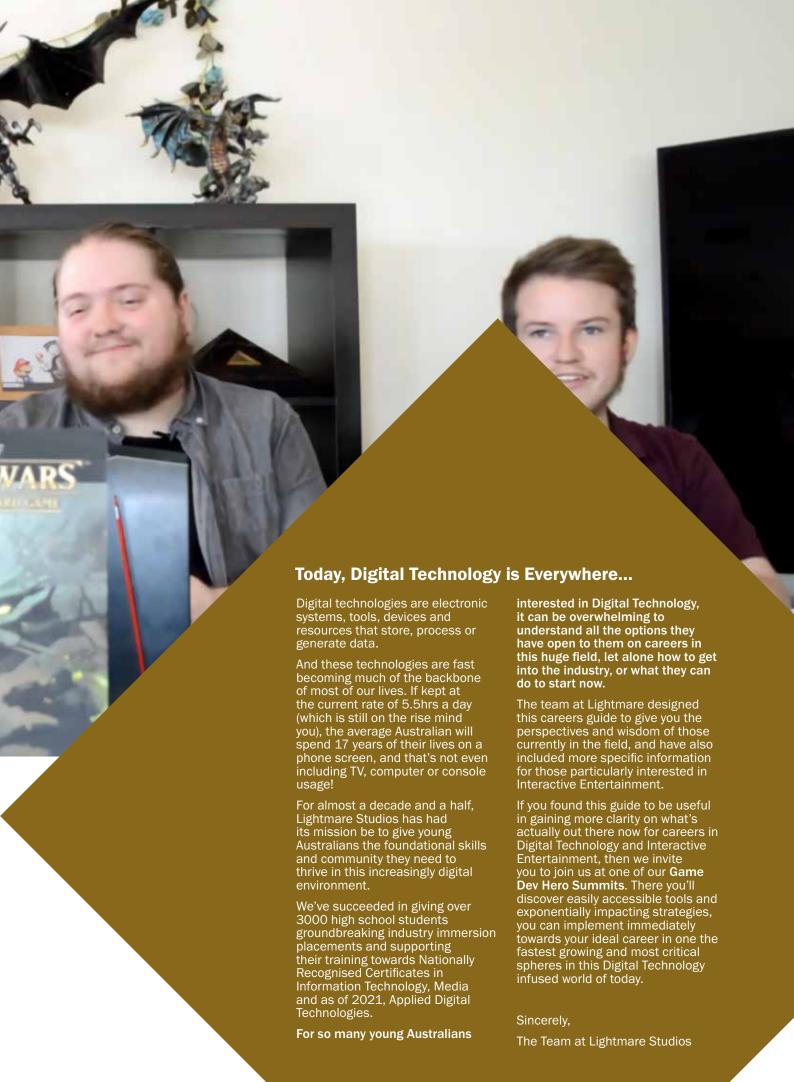








# A Message from Lightmare





There are many many sub-categories of Game Design such as Content Design, Level Designers, Game Writers, Progression Designers, and many more.

# What is Game Design?

Game Design refers to the process of generating ideas, plans, mechanics and outlines that make up a player's experience with a game.

Game Designers are the architects of games, asking and answering all the questions both big and small and laying them out in design documents to guide the team towards a shared idea.

Game Designers can work on problems as big as "What type of game are we making?" and "What feelings are we inciting in the player?". These are big, broad questions that set the foundation of a project,

but they also work on things as small as specific mechanics or balancing of particular pieces.

"Should this unit cost 20% more? Or "Can the player double jump out of the water?"

Being a game designer is about problem solving and communication, breaking down your goals, limitations and other factors to arrive at the best path forward for a game.

Game design is not the implementation, programming isn't game design, game design is the planning that happens beforehand to create a blueprint on how the game will work before you start **GAME** building it. DESIGN

# **How to get Started?**

So you want to be a game THE ARC designer? Where do you start? Unlike programming, **OF GAM** art, or other areas there isn't necessarily a string of tutorials for beginners you can follow and tools to learn, game design is instead a way of thinking, a muscle in your brain that can be trained with practice.

Instead of trying to create a new game or game mechanic from scratch, start by learning how to break apart existing games into their existing parts.

You have to know how to communicate your game design ideas, and practice writing game

# **LINKS**

Further Reading Twenty Years, Twenty Lessons Learnt

Design 101

**Defining Game Mechanics** 

GameDesigning.org

The Door Problem

Tuning the Muzzle Velocity of the Plasma Rifle Bolt on <u>Legendary Difficulty in</u> <u>HALO</u>



design documents. This Lightmare has been delivering to students for many years. (Note: A game design document once completed is exceptional also for use in a professional portfolio and getting you that job!)

Take a simple game you know well, perhaps the first screen of Super Mario Bros; and try writing up a game design document that outlines all the rules and systems

in the game. This needs to be comprehensive and answer even the very basics.

- **CHITECTS** What is the player's goal? What are the controls?

  - How does player movement work?
  - How high is the jump?
  - How does the score work?
  - How do the enemies behave?
  - What do coins do?

ERS ARE

**ES...** 

These are just the tip of the iceberg of what you'd need to think about, games are complex and so you need to practice breaking down their systems into parts to analyse what they are doing, then from there you can begin to ask the much harder question...Why?

Once you are able to break down

the game design elements of other games, you're probably itching to make your own games. But how do you know what mechanics and decisions you should

# **Design Goals**

This is where design goals come in, a design goal is just another question, namely "What experience are you trying to give the player?"

A horror stealth game that wants to make the player feel tense?

An action shooter that makes the player feel unstoppable?

A tricky puzzle game that makes the player feel like a genius?

Each of these are examples of different design goals for different

All mechanics create different experiences for the players. The question is which mechanics create experiences that support your design goal.

Reuben Covington, Lead Designer & Programmer Lightmare Studios.





# CONTENT Classic Backers Can CREATOR

Content Creators have blessed our phones and monitors for years as the industry has blown up in the last decade, and is still on the rise. However, as technology has adapted, the market has been relatively swamped. With over 2.5 million hours of content being streamed daily on Twitch, and over 30,000 hours of video being uploaded to Youtube every hour, it may be hard to stand out.

**Is it too hard?** Well, according to a study published by The Sun, 75% of kids when surveyed said that they would want to become a content creator when they grow up; be it Youtuber, Twitch Streamer, Tiktok star, or anything in between.

And, while some of those people are already looking at making content,

a large percentage of those that do aren't making amazing content, meaning someone with

an advanced skill set, greater understanding and a better headstart would be a lot more likely to find success.

> The best advice we have for people who want to be content creators in any form, is to create and love it. If you have free time, and an average computer or decent phone, you could be making content every day. Start today as a hobby, and if you're still making things in a year, your quality will inevitably improve quite noticeably with all that experience. And, if you're good at what you do, and just a little bit lucky, you could end up leveraging your hobby into a career. a career.

You can also leverage your skill sets by working with existing content creators. Turn your existing content

into a showreel, and apply for work as a video editor for your favorite twitch streamers or Youtube channels. Not everyone you reach out to will be looking for someone to work with, but as your skills improve, your viewer base grows, and you learn more about the industry, you'll start coming across

# THE BEST ADVICE WE HAVE FOR PEOPLE WHO WANT TO BE **CONTENT CREATORS IN ANY** FORM, IS TO CREATE AND LOVE IT.

as a real professional, which could jump start your content creator

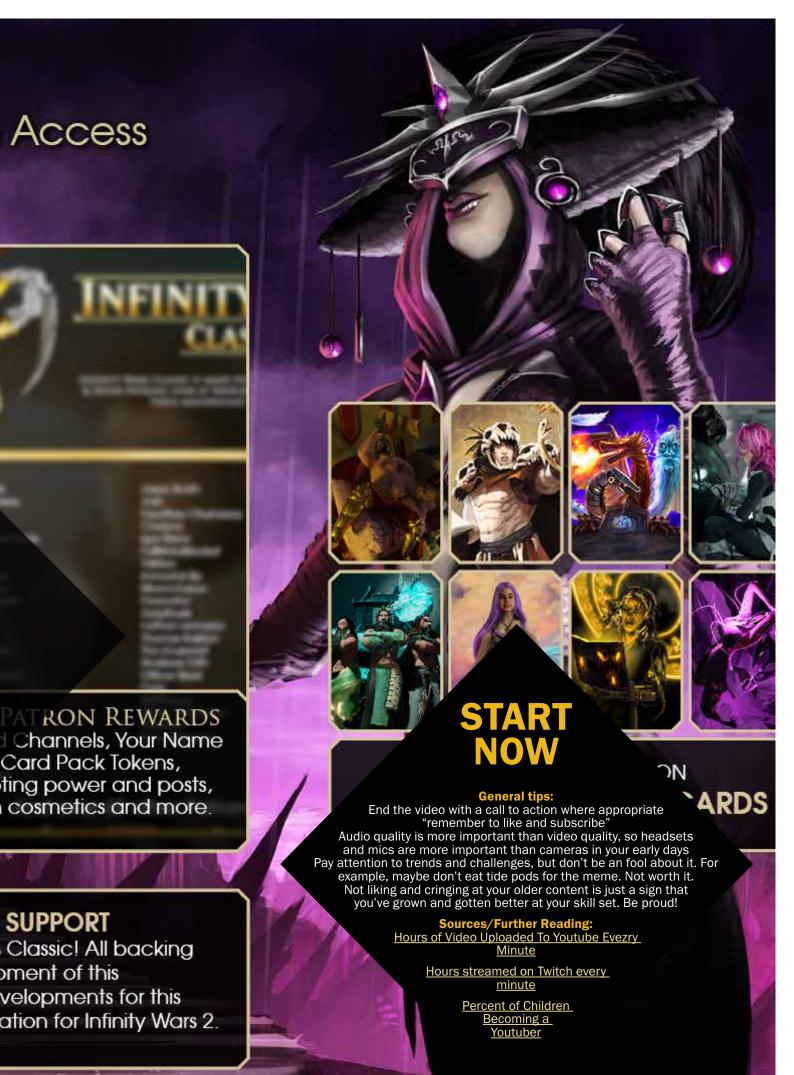
If you want to wake up tomorrow and start, you can! Your first videos should be basic in structure and focused on something that you're knowledgeable and passionate about. Are you super into BMX biking? Make a video on it! Maybe you re more into baking. Whatever your interests are, edit them up and

Private Discord

in the Credits, Patron only vo Limited Edition

share them with the world through Youtube, and ask your friends and family for feedback to improve. Gods of directly to the develor

remastering. Infinity Card Engine de Community & Marketing Manager of the found Lightmare Studios



# Deal Science Studies CondCrestorHandlet.cx pulses, man Confragrapa (Miss Miss Subscribe arrive) served, of recording speck contracts IN PRODUCT OF LAND THE SHARE IN COME SPECIAL PROPERTY AND ADDRESS. THE OWNER DESIGNATION AND POST OFFICE AND PARTY OF THE PA SHAP OF SERVICE STATE at Biles makers on dearwested. The annual office of a contract of a property of a section and the section of the November & Tell report Sour Block \$ \$500. A MINE A CHARLESS FROM COMPANY CONTRACTOR OF STREET AND AND AND COMPANY COMPAN - april processor ages extraples, face metions, 9.25fts. County State (State ) AND THE PROPERTY OF THE PERSON CHAPTER OF THE OWNER THAT (TALLY) White HER THE ANT SPECIFICALITY and the thirt beautiful to the terminal of the NATIONAL COMMISSION SECTIONS SECTION TO SPECIAL CONTRACTOR SECTION SEC Things to try Try recreating a basic version of your favourite game. Break any problems down into smaller parts. Try out a number of different languages and tools. Watch tutorials on how to write code. public class Cressell **Things to Watch** https://www.geeksforgeeks.org/ | Test | Descript | Description | August | Description | Test | Experience | Test | Ex how-to-get-started-with-game-development/ Crestoritavilles. https://www.tutorialspoint.com/ Create mitablity typeof (Createdmitable) THE RESERVED TO SECTION ASSESSMENT computer\_programming/ Land Deliverent of Law De St (18 18 18 Ca (48)) computer programming Committee Carry Constant of Control of Control of Carry Constant o overview.htm 10 | Lightmare Studios

# **PROGRAMMER**

Game Programming tends to be more intricate than Game Design; it relates more specifically to the implementation of the architecture

of your game after it's design has been defined.

Computer programming is the act of writing code/scripts, which are a sequence of instructions written using a Computer Programming Language, to perform a specified task by the computer.

When you launch yourself into a new game world, everything you see and do is all handled by the programming. But don't feel too overwhelmed, because computer programming is fun and easy to learn provided you adopt a proper approach.

## How to get there

You want to learn programming? Where do you start? Well, there are so many resources and tutorials out there freely available for you to get started. There are many educational courses both at universities and especially online but it all starts with you. Most people assume that if you're good at playing games, then you'll automatically be good in Programming. Well not to worry, that's incorrect. Being a gamer might give you advantages in knowing about stories, players, levelling etc. But that's it! They are both very different fields, and in programming, what you need to do is learn a programming language.

> **VISUAL STUDIO AND** VS-CODE ARE THE **MOST USED IDE IN** THE INDUSTRY AND THEY'RE COMPLETELY FREE!

There are hundreds of programming languages out there, though the most common languages used in programming include Python, Java, C++ and

C-Sharp (C#). With any of them, it's easy to start off with something small such as making a basic calculator. Within the games industry, Game Engines are an excellent tool for making games as it provides a virtual 3D environment to begin creating. The most common opensource engines are Unity, Game Maker and Unreal Engine.

When it comes to learning programming, IDE's (Integrated Development Environment) are the best tools for it, as its a type of program that provides every type of assistance for writing code. Visual Studio and VS-Code are the most used IDE in the industry and they're completely free! All you need to do is install it and start programming!

## Day in the life

When starting the day programming, all you need is a focused mindset and your goals set. When I know what I want to make, I start making my blueprints for the feature, define all the attributes that I'll need for it, and then connect everything together.

I make it sound simple, but there are many complexities and

roadblocks that I encounter along the way. Errors will come up, and I'll have to navigate the code base and analyse what the computer is doing, seeing what data is going where and try fix it. I am always critically

thinking as I'm programming, figuring out new solutions and different ways to implement it. When I'm stuck, I'll walk around the office and shift my mind elsewhere, usually I'll end up thinking of a solution that completely solves my problem. When the code works, there's no better feeling than seeing it run in the game and create that engaging experience for a user.

and

Throughout the day I'll communicate with my colleagues to get their opinions on how something should be done. I'll also work with different project pipelines from uploading code to the project cloud, building the game to attending design discussions and hearing feedback from the community.

Corey Henderson Senior Programmer Lightmare Studios



# INFORMATION TECHNOLOGY TECHNICIAN

One of the very first careers to come along when computers first started going mainstream, the IT Technician is the traditional role people think of when they hear Information Technology, and is just as important today as it was when computers were the size of a room.

# "Have you turned it off and on again?

The classical line from an IT technician, heard more and more as our dependence on computers increases each year. All categories of IT - hardware, accessories and software, have experienced gains this year. US consumers spent \$319 million in terms of hardware alone, a rise of 144% year-on-year. With this rise in tech, what also arises is the need for companies to have IT support from qualified individuals to keep them running.

Almost every company needs IT support. A worker within a company being inactive due to technology related issues has a monetary / dollar cost attached to it for every minute that worker is out of action. Companies are acutely aware of this. As an IT technician you are the answer to some of their most critical problems, thus keeping their enterprise moving forward.

Things are always developing however, with Cloud Computing seeing tech support based more and more off-site via remote hosting. As an IT Support / Technician in today's evolving world, you would be responsible for dealing with a problem shortly after it has arisen. This is done by visiting the terminal on-site, or digitally via remote access of the network.

Sometimes a number of computers or an entire network can break all at once, and individuals / companies will look straight to you to get things running and stable again. If you know and love your

craft, and are backed with the upper level knowledge required via qualifications, you are most often well equipped to meet the challenge.

# What are the core day-to-day responsibilities of contemporary IT Support Technicians?

Application Management Cloud computing is a fact of the business-tech world now. The new IT department will need to make it easy to have new apps and tools approved and added. This ensures smooth system integration.

# **Data Management**

Given the amounts of data utilised and stored these days, another core role of the new IT department is in maintaining strong cybersecurity and compliance.

# **Tech Support**

Supporting your clients / company employees with any and all tech issues (on-site or remote) for fast fixes and reduced downtimes for them

# Maintain a Professional Edge

The traditional IT department is declining because smoother software means almost anyone can do the job. So, the new IT department needs to redraw the line and maintain their professional edge. One must deport themselves in a way that encourages confidence and that one can trust them to solve any of their various and often unique tech issues as they emerge.

# How to get there

Having a genuine love for computer hardware and software is naturally a good start. From there, relevant qualifications are next. Such can be acquired via boot camps, structured courses, apprenticeships, or university and academic study.

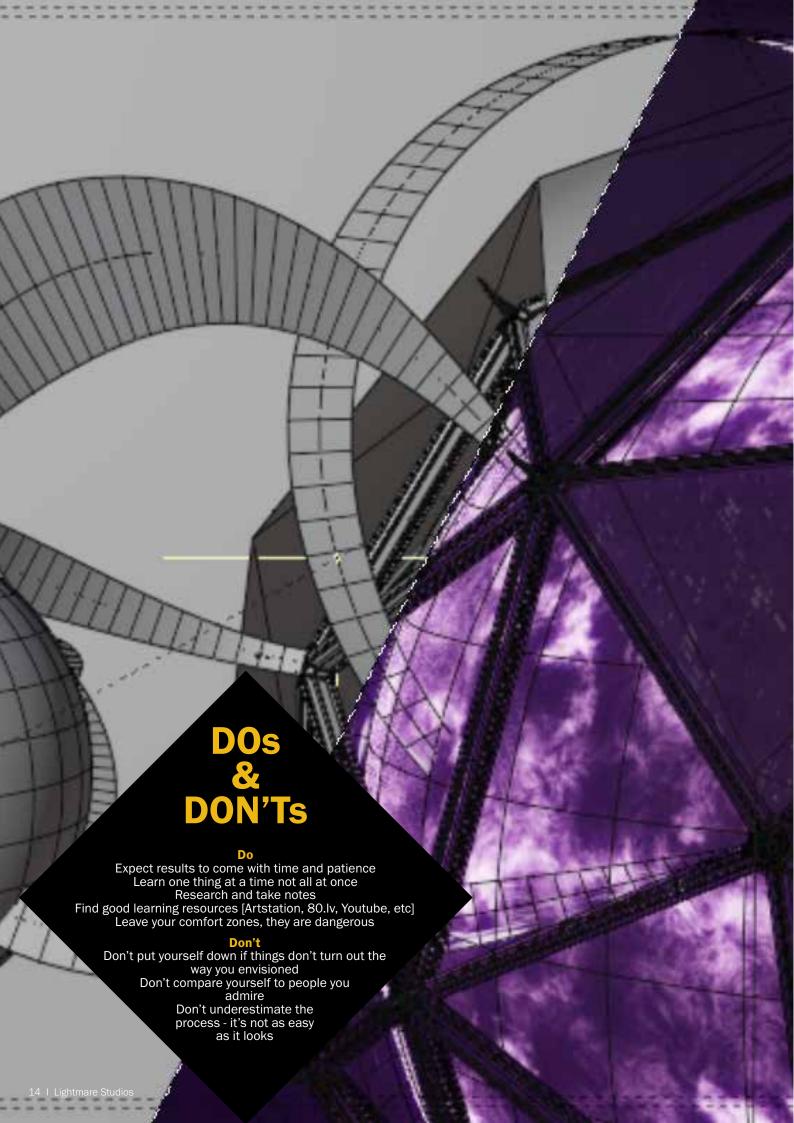
# This role in Interactive Entertainment contexts

US consumers spent \$4.71 billion on games related hardware products in January 2021. As detailed by NDP Group executive director and video game industry advisor Mat Piscatella, the impressive figure represents a growth rate of 35 per cent year-on-year.

Interactive Entertainment companies rely on tech working even more than other companies. Why not become an IT Support Technician and pitch to IE companies for a role within their business? While you can pitch your services and expertise to almost any company, IE / Games companies are often a more engaging and enjoyable place to work than your usual office environment!

Simon Banks National Schools Coordinator Lightmare Studios





# 3D ART, DESIGN AND ANIMATION

Being a 3D Artist might sound like a very simple job: "You make 3D models using software." Actually becoming one however is a bit more complicated.

**Your World in 3D** A 3D model is the visualization of objects, worlds and people using polygons (3 or more sided faces) that make up the shell of everything you see in film, tv and games. These polygons are how everything gets their shapes - thousands to millions of tiny squares and triangles are all that stands between a 3D artist and a pay day.

More than that, there are all the sub-jobs that models go through to give them the life you see. A finished 3D object goes through all the steps and modelling is only step 1. There is also unwrapping, texturing, rigging and animation to name the most well known ones, each of which could be your sole purpose working at a studio.

Getting started in 3D modelling is as simple as picking your tool of choice, but can quickly spiral into an whirlwind of all the uniquely interwoven tools and programs.

The end result is a breathtaking, lifelike model ready for screen or now even 3D printing, but the process can be overwhelming.

**Day In The Life** A day in life starts with getting in the right mindset. Many days you won't just wake up and decide "I want to make this." You will find your projects are shaped and influenced by what you are exposed to and are passionate about. Be connected to various

social media platforms and let yourself be influenced by the work everyone else puts out there. I surround myself with the artwork I aim to achieve one day, and I don't compare myself harshly to the greats, instead I learn from them.

I spend a good portion of time learning and staying on top of trends and industry software as well. I enjoy experimenting with everything I can get my hands on. Your workflow is constantly evolving and the tools you learn can help you get the result you want faster and better.

## **How To Get There**

Hurdles new artists deal with include a lack of exposure from obscurity of just starting out and needing to network to get their work out there. One way to get around this is to treat it like a numbers game - showing off your best work in as many places as possible, particularly on social media.

Another way is to build a reputation and fanbase on one or two platforms. This is time-consuming and requires consistent effort, but it's worth it if you can find your

A third way is to make friends in the industry. Hang out where they hang out and ask them where they look for potential new hires. If you can, find a government program that pays both you and your potential employer and advertise in the places your new friends suggested, saying "You can get paid if you hire

I did something similar to this when I came back to Lightmare in 2017. In fact I first did an industry immersion opportunity with Lightmare back in high school in 2017. Now here I am today, living proof of it having worked for me; it just might for you too.

THAT'S THE WAY TO GET BETTER, THE LITTLE ARTIST THAT KEEPS TRYING WILL ONE DAY TURN **COAL INTO A DIAMOND UNLIKE** THE PROFESSIONAL WHO STOPS TRYING.

Jacob Marriott

3D & VFX Artist

Lightmare Studios

**OUOTE FROM BEN MAURO** 

Senior Concept Artist @ 343i

# CONCEPT ART AND ANIMATION

Art has existed for centuries and now, the artists of today stand upon the shoulders of giants, creating their modern works with better tools, in digital suites, for digital consumption by digital audiences.

What do I do
My main job is working through the pipeline of making a trading card game's card before handing it off to the team's Lead Programmer to implement it in the game itself. I start with a starting concept from Reuben and/or Jason on a card that fits the lore and/or gameplay, then fleshing it out with sketches and research into similar concepts.

Once I have a solid idea of what it will look like, I utilise programs like Design Doll and pose the figures to my liking. I then import it into Blender, add materials, add props to set the scene, set up the lighting and render it out in separate parts so I can animate it later.

A lot of assets, like materials and body types, get reused to speed up the process. I put all the rendered images into Photoshop, paint over any part that looks too stiff, then put them into After Effects for animating.

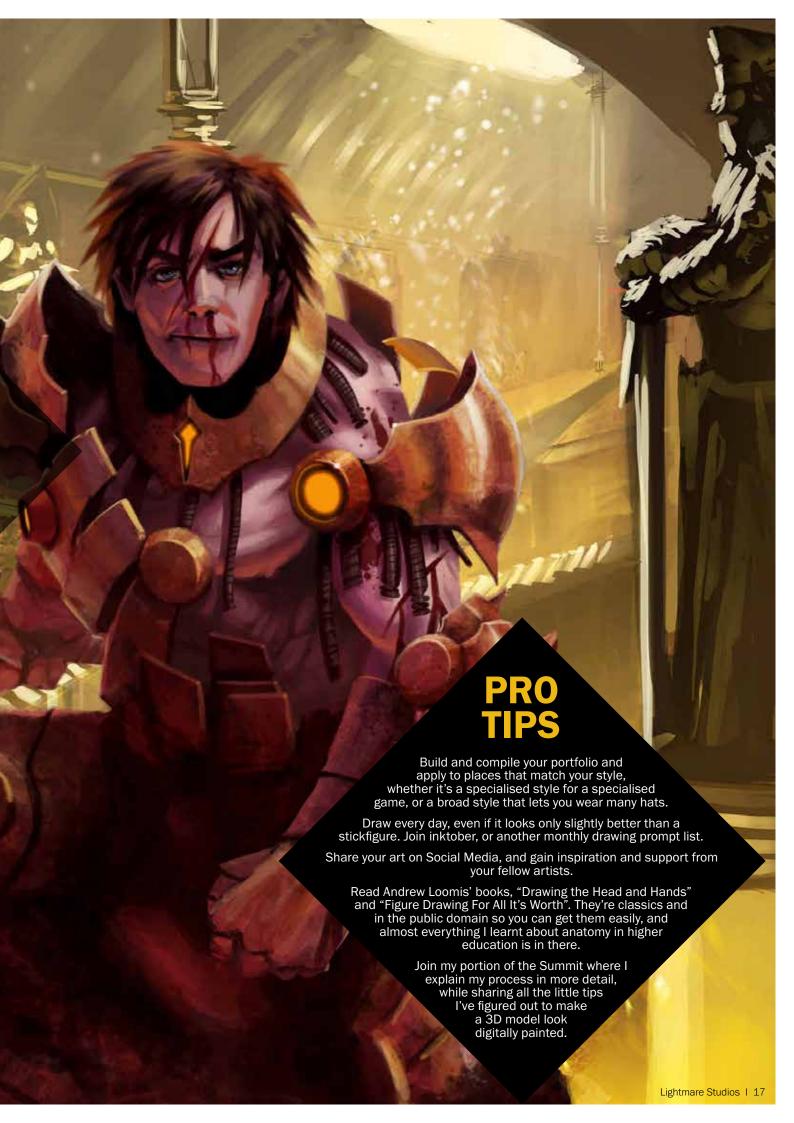
# How did I get into it

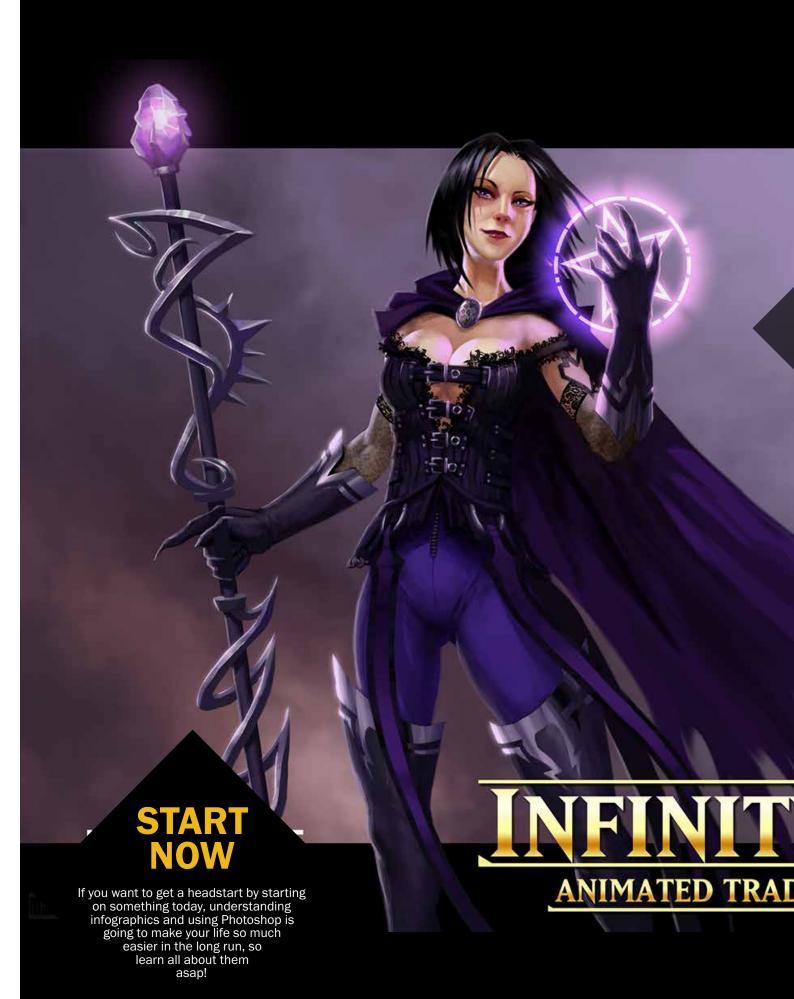
After finishing my degree, I found it hard to find a studio in Australia willing to hire someone they didn't

So I joined an art-focused group, found someone in the industry to tell me where they looked for new hires, then took full advantage of a government incentive for Australian companies to hire interns.

I then advertised my main skills of digitally painting and animating and that any studio that hired me would get a nice little bonus. Unfortunately, due to certain current global issues, that government incentive isn't available anymore, so instead I'd say the next best thing is to check out the Summit mentioned towards the end of this guide book.

Caitlin Smartt 2D Artist & Animator Lightmare Studios





# DIGITAL MARKETING

Digital Marketing is where interactive entertainment and business meet and is perfect for people who are logically minded with a flare for creative messaging.

**Highly Employable**While not as potentially glorious as game design, Digital Marketing is a lot more of a traditional and safe career choice. This is because most industries require the selling to and acquiring new customers. As such, if you can't get your dream job in Digital Marketing with let's say, Bethesda, you could always settle for a nice, lucrative position with a mega-corporation such as Woolworths.

Digital Marketing is responsible for inspiring people with videos, artworks, advertisements, and everything else you see for the interactive products you enjoy. Poorly designed ads annoy you and get scrolled past without a second thought, but cool ones leave an impression, encouraging you to talk about them with your friends, and if it works, you're playing a new game soon after.

The easy thing is that there's an straightforward educational pathway, with a Diploma of Marketing often only taking a year and covering important things such as managing costs versus earnings, and distribution channels. Terms like Engagement, CPC (cost per click) and ROI (return on investment) will become a part of your vocabulary as you learn to leave an impression on the impressionable, which is all of us

A day in the life Your average day will involve looking at a lot of numbers and metrics, and the decisions you make will directly affect the business you work for. You'll also be responsible for the creative output that'll be the first impression of your product to a lot of new potential customers, so creativity will do you some good.







# SO YOU WANT TO BE A

# COMMUNITY/ SOCIAL MEDIA MANAGER

We are in a digital age and interactive entertainment is thriving. Be it Steam's unprecedented shakeup of gaming retail, or mega corporations like Netflix and Google looking at delivering games as a subscription based service.

At the heart of these big, sweeping movements is the voice. The clear concise and passionate communication and content that makes players sign up and buy your product. Then of course, the ongoing soothing voice that keeps them playing and passionate, whether or not you're making money from them after an original purchase, because brand and image is one of the most important things to the business level. As a result, a passionate player base, community managers with impeccable communication skills and a creative streak are super important to any large scale games industry business.

Getting into Community and Social Media management requires a keen interest in interactive media (specifically the service or game you'd be representing) as well as excellent written and spoken communication skills, and constant awareness of trends, memes and most importantly, your target audience.

## A Day in the Life

You'll be working closely with other teams, including the game design, marketing and leadership teams to deliver on their goals and have content planned accordingly. This means constant meetings, communication and collaboration. You are one of the largest determining facotrs in a game's overall image.

Jason Thomas Community & Marketing Manager Lightmare Studios

# PRO TIPS

# Volunteer

You can volunteer with existing groups as a community / social media manager, or even an event/tournament admin to get some industry experience while also making some neat contacts.

Look out at places such as ESL, LPL, and find whatever groups and sites you can through linkedin, facebook, twitter ect.

# **Build a Fanbase**

You can get self-started in this industry quite easily by making social media accounts and creating content to build up a basic following and fanbase.

Try hosting events and tournaments with your audience and friends, or building a guild or clan in a game.

Organization and clear communication are the most important things you can work towards.

# **OTHER EMERGING TECHNOLOGIES**



# Virtual Reality & Augmented Reality (VR / AR)

This is prime ground for students to be looking because as this grows by upwards of \$162.71 Billion USD by 2025^, digital art assets are going to be required here en masse. AR is going to mean new immersive experiences of engaging with work too as we work more and more remotely. Avatars of coworkers and work spaces will be used, replicating the physical office as it used to be both understood and attended.

Those with artistic talents such as 2D and 3D modellers could be developing these skills and find themselves hired by companies who develop visual assets for these new immersive worlds for users.

- Source: PRNewsWire.com

# **Artificial Intelligent (AI)**

Al Development will continue, risks and rewards to humanity intact. These entities will learn exponentially and optimize the systems we use for a range of society's functions.

Those with Programming aspirations should pursue this skillset and aim to contextualise their knowledge toward Al development. Al will run our agriculture, transport and vast swathes of other industries including white collar jobs currently considered "safe" within a matter of years. Why not get in on the creation and maintenence of these systems?

# **Robotics**

Manufacturing requires ever more efficient robots so as to increase production and thus financial turnover. However it is not just manufacturing but so many other parts of our lives that are seeing the emergence of robots. Robotic vacuum cleaners were sci fi but are well on their way to becoming mainstream. This will lead to a range more such gadgets and larger machinery.

Those with a hardware tech focus should be building their knowledge and aligning themselves for the maintenance of such robots once they are commonplace. Repairs will be required, maintenance will be required, as we all know that technology likes to break down on us. Companies will want things running smoothly, so why not offer them this in return for stable employment?



# 5G

This may sound like a small advancement from a 4 to a 5, right? But the change will not be small. 5G networks may ultimately be 100 times faster than 4G, allowing many more devices to connect, reducing any latency to near zero and providing more reliable signals. This will be used for self driving highway systems and a range of other purposes.

Those with a software development or software maintenance or tech support aspirations should be building such skills and learning how technologies like 5G work. This will allow them to work for tech-support companies and software development companies.

# **Biometrics**

Biometrics allows a system to recognize users by biological markers such as their face, voice, or fingerprint. Many of us already have one or several of these on their laptops and smartphones.

Most of us use the same password, or similar, for everything, so boimetrics would support our preference for that, however while removing many of the negative effects we suffer as a result of hackers.

Those with an interest in programming should develop skills there and then look to advance and contextualise these in the direction of biometric functionality.

# Blockchain

Many people are still unclear of what Blockchain is. Unlike traditional, centralized records, a blockchain is decentralized. The permanent record is not stored in one location but exists on nodes spread across the system. This design makes it difficult to lose records or tamper with them. This is why blockchain is sought so heavily by organizations that need to store records safely and reliably, without fear of these being erased (so practically all organisations). It has extensive applications within cybersecurity.

Students interested in how information is transferred, stored, secured and maintained should pursue general IT opportunities with a focus on cybersecurity. This will help them ensure they are equipped to manage future information based systems and assure the security of information for the company for which they work.

# LIGHTMARE GAME DEV SUMMIT

Thanks for checking out the Lightmare 2021 Digital Technology Careers Guide. The Lightmare "Game Dev Hero Summit" is the next step on your pathway to a career in Digital Technology and especially the powerhouse industry of Interactive Entertainment. Workshops within the Summit cover everything from generating world class Concept Art using AI, to Programming, to how to get into Nationally Recognised Certificates in Digital Technology specialising in Game Development.

The summit is run fully online with limited tickets to ensure attendees can have their questions answered live.

Go to:

www.lightmare.com.au/summit

to find out when the next Summit is happening.







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