Images from Games: Umurangi Generation

Wellington's Digital Games Sector

July 2022 Review

Wellington digital games sector overview

1. Executive summary

Intention of Report
This report documents activity in the digital games sector and to provide a 'Beginners Guide' to the uninitiated on how the product is produced and consumed, and how Wellington can contribute more to that. It is part of a series targeting high-growth and strategic sectors in Wellington City's economic base.

Meeting human needs
The Global Media and Entertainment (M&E) industry is significant in terms of revenue and market size and is made up primarily of five distinct sub-segments– including TV, film, **digital games,** publishing and music. Entertainment as a percentage of the global consumer wallet is growing and Digital Games are the strongest growing sector within that industry.

Digital Games entertain, tell stories, develop skills and contribute to a sense of belonging through immersive experiences. They have adapted old traditions in sport, story-telling, and strategy games like chess to capture our attention.

It can be argued that Digital Games contribute to the top three levels in Maslow's hierarchy of needs; helping to build a sense of belonging, esteem and self-actualisation. As technical advances strengthen the sector's ability to reach an audience, and more of our gifted gamers and designers choose this medium, its relevance is likely to strengthen. Significant investment has followed.

Economic relevance
As a target for economic development, Digital Games has lots going for it, in terms of its absolute potential and its contribution to a diversified portfolio. It requires skill, is export focused, well paid, low-carbon and synergistic with Wellington's tech and to some extent with the film digital effects (VFX) sector. Table 1.1. indicates that Wellington already competes reasonably well in the global market:

Table 1.1: Gaming studio revenue (est.) by selected countries

Country	Rev per pop (US$ 2020)
Japan	$290
Scandinavia	$287
USA	$147
Wellington (est.)	$117
Israel	$115
Canada	$97
China	$63
Auckland (est.)	$62
New Zealand	$48
UK	$47
Australia	$5

Source: multiple (see attachment one)

But the question is whether Wellington can do better.

Where is Mecca and who can we learn from?
Readers may be familiar with the following: China (*TikTok*), Japan (*Pokemon),* Scandinavia (*MineCraft*), US(*Warcraft, Grand Theft Auto*), Europe (*Fifa*), New Zealand (*DayZ*), and Australia (*Untitled Goose Game)*. Japan and Finland dominate the per capita marketing of digital games. Japan arguably because of its unique social and story-telling traditions, and Finland because of

public assistance programmes and the availability of skilled engineers when Nokia imploded. New Zealand has a larger sector than Australia[1] but is well short of Finland.

What is New Zealand doing?

Digital games offer the potential for a local studios and investors to achieve immense scale in the international marketplace, although it requires skill, resources, international linkages and the instinct to deliver the sort of addictive and immersive experience that an international audience is looking for. New Zealand studios have already attracted significant interest from international funders. Private investment of around NZ $400m has been reported since 2014 including Tencent (China), SuperCell (Finland), Magic Leap (US), Niantic Labs (US) and MTG (Sweden). Despite that success, many in the industry are concerned for the future of digital gaming in New Zealand, as the Australians ramp up public assistance programmes and New Zealand local living costs increase.

Across the ditch

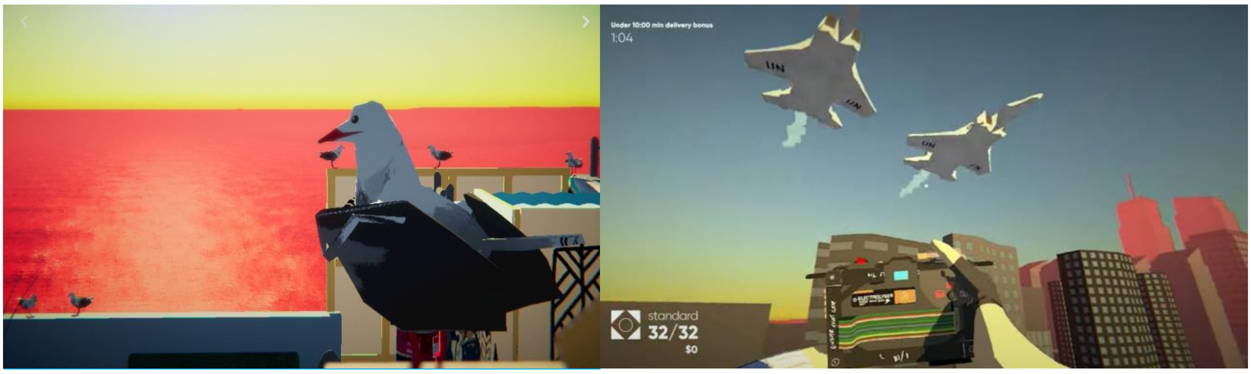
In July 2022, a 30% federal tax subsidy for ‘qualifying Australian spend’, with an additional 10%+ for spend incurred in South Australia and Queensland came into effect. A number of large intenational studios are looking to take advantage of this to setup subsidiaries, which is expected to put pressure on skilled resources and to act as an attractor for kiwi based studios.

By contrast, the New Zealand Government funds $100m+/annum to the local Film/VFX sector for a 20%+ subsidy on qualifying cost for international productions, and they offer targeted assistance to the wider ‘tech’ sector but no specific incentives to the gaming sector. But subsidies can be contentious, once they are in place, there is little opportunity to walk them back.

What about Wellington?

Wellington already has a mature sector with approximately 390 people working mainly in independently funded studios. PikPok dominates the ecosystem (25 years old this year, with a team of 210) and has provided a career path for many of the sector’s most senior developers. Dinosaur Polo Club have big plans based on an elegant City infrastructure simulator to help solve a city’s transportation problems. A44 contribute to the region’s ecosystem from their Hutt based office. Weta Workshop games unit builds on its film lineage to work with clients to build games that are immersive and impactful. Niantic Labs (of Pokemon GO fame) has a small team developing tools to deliver advanced user experiences to support its international operations.

The sector tells us that retaining staff due to the rising cost of living, especially the cost of housing, is a major challenge. In addition, they face significant competition for talent mainly from local tech providers (Xero, TradeMe, Government, Sharesies, among others), and the Australian games studios. The sector is asking for assistance to enable them to match the economic achievements made by the sector in comparable countries such as Finland. This includes incubators to manage a pipeline of studios/developers, migration assistance to grow expertise and investment to grow capacity.



Source: Umurangi Generation

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[1] For per capita earnings (See Table 2.2)

2. Global needs

2.1. Introduction to global needs

Digital games are growing strongly and in the international context they have gone mainstream with revenue that exceeds film. Technical advances are also expected to give them access to a larger audience. Hence there is growing upside, but also growing competition in the sector.

2.2. Global revenues

It is noted that digital games are growing stronger as new users in Asia emerge and technological advances make the end-product more engaging. It is observed that Digital Game eclipse film by a significant margin and will soon challenge TV in terms of annual global revenue. There is huge competition in that sector, but also significant opportunities. Table 2.1 presents revenue within the global entertainment industry:

Table 2.1: Revenue by sectors within "Global Entertainment Industry"

Sector	Global revenue (US$ p.a.) 2019	Growth per annum
Sport	$471bn	4.3%
TV	$243bn	Declining slowly
Digital games	**$174bn**	**10.5%**
Book publishing	$110bn	1.5%
Film	$100bn	
Newspaper publishing	$81bn	-7%
Video streaming	$71bn	
Online gambling	$53bn	
Music streaming	$11bn	

Source: as indicated

Table 2.2: Gaming studio revenue (est.) by selected countries

Country	Rev per pop (US$)	2020 revenue (est.) (US$m)
Japan	$290	$29,000
Scandinavia	$287	$4,480
USA	$147	$44,000
Wellington (est.)	$117	$61
Israel	$115	$1,000
Canada	$97	$3,700
China	$63	$57,000
Auckland (est.)	$62	$93
New Zealand	$48	$230
UK	$47	$3,218
Australia	$5	$140

Source: multiple (see attachment one)

As observed, China dominates by sheer size with the USA in second place, while Japan dominates the sector on a per capita basis with Nintendo and Pokémon being visible representatives of the country's love of this offering.

New Zealand performs well compared to Australia and the UK with its strong incentives, but we are below the super-stars such as Japan and Scandinavia, and we are below Canada which also has strong incentives to grow this sector among others.

Australia does not rank highly in this list, despite their strong historical performance when the sector was dominated by Krome Studios, 2K, Pandemic Studios, THQ Australia and Sega Studios Australia (to name a few), who were 100+ employee studios in their day. The Global Financial Crisis and the move to mobile have largely resulted in those studios closing. This reflects the volatile nature of the sector and the problems for a remote subsidiary when the principle becomes stressed. In 2016 a similar thing happened in New Zealand when French developer Gameloft closed their Auckland office with the loss of 160 jobs in an effort to stave off a hostile takeover bid from Vivendi, although the Brisbane subsidiary remains open, possibly due to State assistance offered in Queensland.

Analysis of the Australian experience by Screen Australia reflects the pressures that internationally mobile studio subsidiaries face, whose future is dominated by cost rather than a value proposition. Hence their reason for staying in the economic cycle may not be strong. Following the GFC, Screen Australia reported a significant downturn in Australian domiciled gaming studios that were tied to the older console and distribution markets, and subsidies, which did not adapt to the mobile market that propelled other studios toward commercial success.

By contrast, New Zealand digital games sector achievements have been:

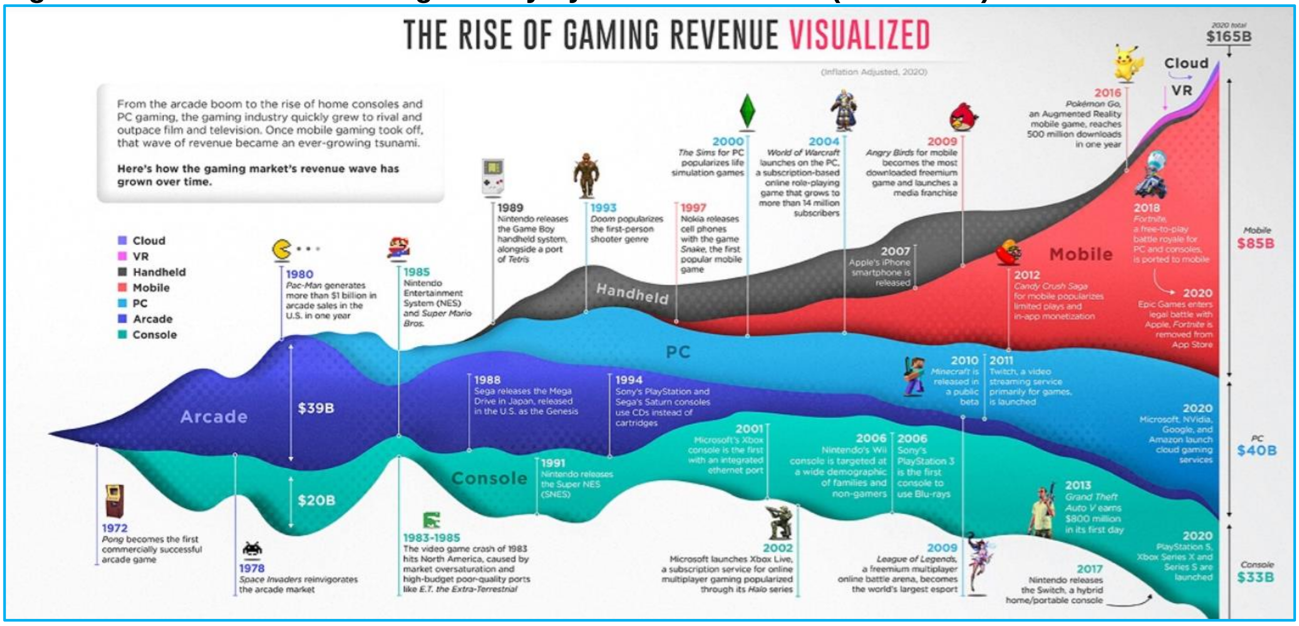
- $276m revenue in 2020
- 50% revenue growth from 2019
- $400m investment from 2016 to 2021 by international agencies, mostly in well-established studios that own games with large and stable audiences
- Out-performs Australia by almost a factor of 10 according to published numbers (*although there is a question whether the Australian numbers include subsidiaries of some large international studios, i.e. Sledgehammer, EA Firemonkeys etc)*

This success is due to the dedication of a relatively small number of lead practitioners, most of which has been privately funded.

2.3. What's the big deal?

The below image presents a brief history of the growth of revenue in the digital games and the role played by the platforms:

Figure 2.1: 50 Years of Gaming History by Revenue Stream (1970-2020)



Source: *https://www.visualcapitalist.com/50-years-gaming-history-revenue-stream/*

The market has grown as games have become more accessible. Contributing factors:

1. *Arcades to mobile phones*
   Digital games used to be the preserve of the hard-core gamer playing on expensive and high-performance computational and visual displays on units such as Xbox, Nintendo, PlayStation, and purpose-built PCs. But now everyone with a smartphone has access to a multitude of purpose-built games where the experience can be social and increasing the visual and processing capacity of the smartphone helps drive this transition.

2. *China*
   China is developing a liking to smartphones, particularly for the social networking, all forms of commerce and games. As a result, the Chinese internet giant Tencent is one of the largest global game developers and is actively increasing its capability by purchasing games developers around the world, including New Zealand, i.e. Grinding Gears in Auckland.

3. *Social opportunities and accessibility*
   Digital Games have moved from a solitary existence into a range of genres that foster multi-player interactions in a range of settings such as social, cooperative and competitive. Some games are now tied in with social media platforms such as Twitch, YouTube or Discord which all foster communities. Games such as Pokémon GO provide a reason to get out and visit public spaces and interact with fellow gamers. Games also provide a channel to foster social interaction that transcends the boundaries of suburb, city, nation, continent and culture, and for some provide social connections they might not achieve otherwise. The sector also provides opportunities for socially different and socially isolated people to find their peers and has the potential to improve social inclusion for many.

4. *Funding*
   A growing global market means a successful game is now 'prime real-estate' which provides:

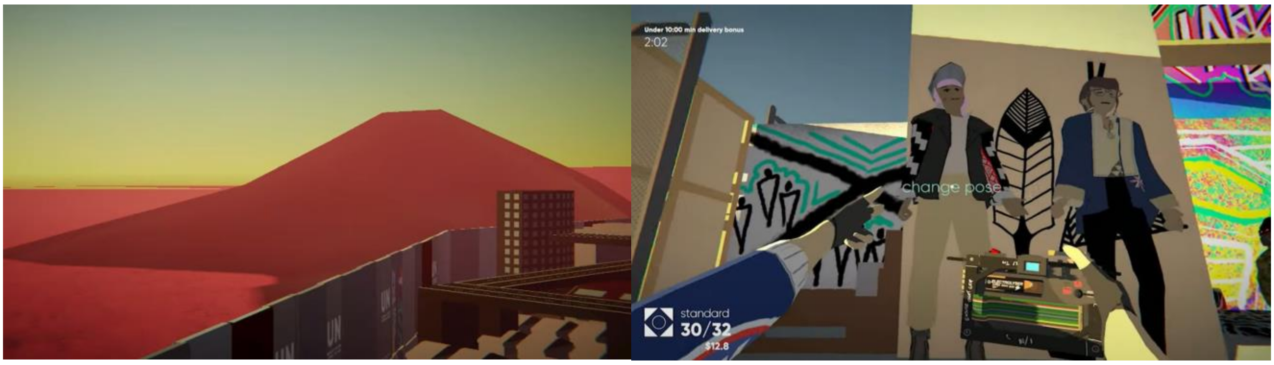
   a. Loyal users who provide a base for further expansion
   b. Development teams who understands the needs of a mass-audience

5. COVID-19
   Persistent lockdowns during COVID-19 has this has grown both the size of the market and market access for new studios, although it is unclear whether all these new players will be retained.

Established gaming companies with legacy products find themselves cash-rich and are looking to buy proven development talent, and other funders are looking to become involved including economic development agencies. As a result, the gaming enthusiast has a growing array of high-quality products to choose from across a diverse set of niches, which is further growing the market for digital games.

2.4. Summary of global needs

Digital Games has emerged as an economic mega-movement whose valuations may soon outperform many traditional entertainment offerings. The digital games sector provides well-paid work for internationally transferable skills, and the production uses low-carbon methods. However, others around the world have recognised this and competition is also intense. New Zealand performs better the sector in Australia, but many in the sector think we could do better to meet the needs of our global audience.



Source: Umurangi Generation

3. Local needs

3.1. Introduction to local needs

This summarises the Digital Gaming sector in New Zealand and makes comparisons as useful.

3.2. Wellington digital games sector

The Wellington Digital Games sector is dominated by the self-funded studio PikPok, despite the presence of the Hollywood heavy-weights in the form of the Weta Group and its partial transformation into a local outpost of Unity, the games engine provider. Table 3.1 presents an estimate of the games studios, their objectives and employees in the Wellington region as at 2021.

Table 3.1: Wellington Game Studios in 2021

Studio	Backers	Focus	Emp (est.)
PikPok	Indie	We focus on engaging and delighting players with high-quality art, intuitive gameplay and rewarding in-game experiences. Primarily a mobile game developer and publisher with some console/PC releases.	210
Dinosaur Polo Club	Indie	Traffic simulation puzzle games.	44
A44	Kepler Interactive	Released critically acclaimed debut title Ashen for PC & Console in 2018. Acquired by Kepler Interactive in 2021. Working on new original IP Flintlock for release in 2023.	30
Weta Workshop interactive dvision	Clients	Unleashing our imaginations to tell immersive stories is what truly drives and inspires us.	25
Nyuk nyuk		Animation	18
NianticLabs (ex NZXR)	NianticLabs (i.e. Pokémon Go)	When AR glasses company Magic Leap laid off their Wellington staff in 2020 ten of the team founded AR/VR consultancy NZXR. In April 2020 the NZXR team had grown to 12 and was acquired by Niantic Labs, creators of Pokemon GO. The team is now Niantic Aotearoa NZ and works as an advanced R&D group across Niantic's business.	12
Riffraff Games		We are here to redefine genres, subvert expectations and create empathetic stories. We are calling out to fellow time-travellers and inventors, astronauts and adventurers - those who dare to craft tales yet untold.	12
Beyond Studio	Indie	Friendly, hilarious, active multiplayer VR games, where friends and family can compete using the latest VR hardware, affordably.	11
2up	Supercell	Co-op mobile games to connect friends, family, and strangers	7
Camshaft software	Indie	Automotive simulation	10
…			…
TOTAL			391

Source: NZGDA and studio websites

Lessons learned from the sector's experience are complex, and reflect the dynamics of the sector:

1. PikPok
   PikPok started as expertise for hire, but now they compete in the highly competitive global marketplace by developing and publishing their games, and have achieved durable success. They remain independent but like many others, struggle with Government rules around migration and competition from larger Tech providers.

2. Volatility
The success of a game in the international marketplace can propel a studio to great heights. But equally shifts in popularity and adverse fiscal conditions can force sudden change such as observed in Gameloft in Auckland and the collapse of the Australian game sector following the Global Financial Crisis.

3. Synergistic with film
The skills and tools used to develop games are often different to visual effects for film, hence we are told the cross-over opportunities with Wellington's world-leading VFX sector is not strong. However this is evolving with use of Unity as a tech/programming tool and other art/visual tools by both. Hence some 'cross-poaching' of resources does occur. In addition, the local film sector brings connections which can enable the contracting of a game as part of other investments and it provides opportunities to develop Intellectual Property (IP) with a game for future income streams.

4. Earnings
The NZGDA estimate that games revenue in Wellington is the order of $281k (NZ) per employee. Much of this revenue is produced and exported using low-carbon methods. These jobs are highly skilled, and reasonably well paid, and there is some synergy with the film sector that is world leading.

3.3. Investment in New Zealand Digital Games

The New Zealand digital games sector is reported to have earned $274m[2] in the year to April 2020, and it is receiving interest from international agencies to invest and help grow that revenue.

Table 3.2 summarises recent acquisition investments in New Zealand gaming studios.

Table 3.2: New Zealand Digital Games Studio Investments

Studio	Backer	Location	Invest (NZ$)	Year	Employees (est.)
Ninja Kiwi	MTG (Sweden)	Auckland and Dundee	$266m	2021	70 (40 in Auckland)
Grinding Gears	Tencent (China)	Auckland	$100m+	2018	150
Multiple	NZ government	Dunedin	$10m	2020	
A44	Netease (China)	Upper Hutt	28%	2018	124
RocketWerkz	Tencent (China)	Auckland/Dunedin	40%	2016	60
2UP	SuperCell (Finland)	Wellington	$3.7m	2020	7

Source: various

Stakeholders tell us that interest is intense and kiwi gaming studios are in frequent discussions with investors, beyond which is recorded here.

3.4. Government funding

3.4.1. Training

Massey and Victoria universities provide training programmes and maintain linkages with the studios. However the gap between a recent graduate and a senior games designer who can meet the demands of an international audience can be large. The industry has traditionally met that gap via immigration and 'apprenticeship' programmes. It is also looking at the CODE programme in Dunedin as a exemplar to accelerate the maturing of local talent, while in other sectors internships are increasingly being explored.

[2] See https://nzgda.com/news/survey2020/

3.4.2. Economic development

The digital games sector does not fit easily into the traditional silos used to allocate government assistance in New Zealand. It generally does not meet Creative NZ funding requirements, it doesn't qualify as a film, the sector mainly exports so it doesn't qualify as local content, and it isn't part of the Olympics to qualify as a sport. Some assistance is available via the Film Commission and other sources, but our understanding is that it brings high compliance costs and we are not aware of it being taken up on any scale by the studios. CODE in Dunedin is a highly regarded exception.

Assistance for the Wellington-based digital games sector is delivered by WellingtonNZ and comprises:

1. Gaming sector conference
   New Zealand Games Developers Association (NZGDA) and Tākina (Wellington Convention Centre) have developed a conference designed to bring visibility to the Wellington and New Zealand Digital Gaming sectors as well as bring local and global visitors to the capital.

2. Advocacy/liaison and workforce development
   Screen Wellington works with MBIE and the NZGDA to advance policy for digital games.

In addition the NZGDA with its sponsors and sector support delivers the New Zealand Gaming Festival in Wellington:

> *NZ Games Festival is New Zealand's own international celebration of gaming, for all ages. We're here to see Wellington's game dev scene thrive, and you're invited too!*

3.5. Recruiting and retaining talent

The issues of interest to the sector are:

1. Housing and the cost of living
   Inflation is putting game studio employees under significant financial pressure. This makes them susceptible to offers from competitors, who generally have deeper pockets:

   a. Expanding companies in the Tech and FinTech sectors
   b. Government
   c. Australian studios (generally for an employee to work at home in Wellington)

2. Public subsidies
   The sector is asking for assistance that is consistent with the New Zealand offsets paid to foreign films (20% of qualifying local spend) and to enable the sector to compete with the Australian studios with their 30%-40% tax subsidies via "*a hand up, not a hand out"*. However there are concerns that once those subsidies are switched on, they are hard to turn off, since the sector will not willingly give them up.

3. Targeted public assistance
   Various forms of public targeted assistance were raised:

   a. Extension of Dunedin's CODE project (an incubator programme) to all major cities, where CODE was well regarded, especially the governance arrangements.
   b. Better use of international liaison and mentoring resources that can provide linkages into the wider international sector at funding, marketing and technical levels.

4. Soft-landing for migrants
   If the sector is to grow, then more seniors are required to lead juniors and focus teams on efficient production and on games that will sell. These seniors need to be imported, but

studios face regulatory hurdles with Immigration and the families need to be integrated into Wellington if the migration is to be durable. There is a possible role for the City to provide:

a. Transitional accommodation of acceptable quality
b. Transitional support office to assist with schooling, support and cultural integration

Source: Pik Pok

3.6. Summary of local needs

New Zealand and Wellington have participated in the global growth and have attracted the interest of some significant international players, such as Tencent, Supercell and MTG. So at a first glance, the sector is managing to compete with its local and global peers, and is doing '*OK*'.

But the sector say they could do better, and in the next section we explore the opportunities for growing its participation in the local economy to offer the City a more diversified portfolio of knowledge based, low-carbon economic offerings, that take advantage of what the City offers.

Source: Reality Crisis, see https://realitycrisis.io/

4. Doing better

4.1. Introduction to doing better

This section presents some options on how an investor (public or private) could add value.

4.2. What investors look for

Veteran investors in games tell us they are looking for:

1. Outstanding team competence
2. Exceptional content
3. Solid market approach
4. A twist: something that delights and turns the mind in a new and meaningful way
5. Something that scales

The veteran games investor will have the experience, benchmarks and contacts to perform the ‘due diligence’ needed for the answers, optimise their investment, and fill any gaps identified. But like any market, be it wool, property or sheep meat, there are many quirks that the investor needs to know about. Getting good advice is a sound starting point.

4.3. Assistance programmes

4.3.1. Overview

This section documents various public assistance programmes relevant to digital games.

4.3.2. New Zealand film incentive

New Zealand has looked to grow the film sector in quantity and quality by attracting ‘runaway’ foreign projects to local shores, as part of a capacity development programme. New Zealand’s film and visual effects (VFX) incentive offers international projects a 20% offset (sometimes more) on local spend that qualifies. The scheme costs approximately $100m+ per annum since 2014. Many nations offer film subsidies, and the sector tells us the New Zealand scheme is necessary for it to compete globally in attracting productions to New Zealand.

4.3.3. Australian digital games subsidies

Australia offers federal tax subsidy of 30% for Digital Games in addition to a 10%+ subsidy by South Australia and Queensland. The policy intent is to grow the sector and grow exports. It is therefore curious that Australian studios are targeting kiwi developers with offers to work from home, and presumably to remain tax residents in New Zealand.

4.3.4. International digital games subsidies

The UK, Canada, some EU countries and some states in the US support digital games with 20%-40% tax rebates as part of a policy package to encourage the ‘knowledge economy’ to generate low-carbon, skilled and well-paid jobs. In addition, some countries support cultural and language objectives to reduce the dominance of the US and Asia in the gaming ecosystem.

4.3.5. Finland digital games support programme

Finland is often presented as a benchmark for what New Zealand can and should do. It has a similar-sized population, good education, strong social cohesion and a strong primary sector just like us. But there the similarity arguably ends. Finland belongs to the EU, it gave birth to Nokia, it is close to Russia, and has a vibrant public/private funding system that took full advantage of the extraordinary skills available when Nokia imploded, to 'pivot' to digital games. Table 4.1 presents revenue for the games sector:

Table 3.3: Finland digital games revenue

Year	Finland (US$) (est.)
2015	$2.8bn
2020	$2.1bn

Source: Statista and https://www.gamesindustry.biz/articles/2021-02-17-supercell-posts-solid-profits-despite-fifth-straight-year-of-revenue-decline

In 2020 the Digital Games sector in Finland was nine times larger than in New Zealand. In 2020 Finland's gaming revenues are declining (off a high base influenced by the waning fortunes of a single super-star firm), whereas New Zealand's revenues are growing (off a low base).

Finland has a very mature digital games market despite the differences to New Zealand's circumstances, and it may offer the potential for partnerships and for learnings. As an example, the firm Reality Crisis is a potential case-study. It has developed a skate-board game that targets the skating sub-culture, and it's advisory group includes people who look for a financial and as well as a 'cultural' return on investment, such as venture capitalists, musician (Ben Harper), influential skateboarder Rodney Mullen, and a social historian among others. Presumably this mix of advisors keeps the product relevant and durable in its appeal to its core user group.

4.4. Market gaps

The following issues have been raised by the stakeholders indicating areas for improvement:

1. Subsidy
   The NZGDA have requested a subsidy to allow the sector to grow, compete with the Australians and to achieve consistency with film/VFX.

2. Governance
   Digital Games are lucrative for some, but they are a risky proposition even for the best. Observations from Nordic investors (see attachment) indicate that good governance of a games investment is an elusive commodity even for the highly experienced. However, some (Supercell, Minecraft etc) have a proven track record of getting the best out of their investment in the creative, development and audience capture process. Making the best use of locally-based veterans, and building a network of international connections through a planned programme that targeted governance arrangements, conferences, internships, advisory roles, or as available, would appear to make sense, and provide good value.

3. Investment
   International investors (some substantial such as Tencent and Finland's Supercell) are making significant investments in local studios. Hence although there is little local equity involved in the kiwi Digital Games industry (other than family and friends) there appears to be no evidence of a significant market failure. I.e. investment is happening, skill development is occurring and product that competes in the global marketplace is being produced, locally, by kiwi tax-residents in permanent jobs. Those investors

   There is a risk that profits will flow overseas, but arguably the bigger risk is being taken by the overseas funders who are investing in a sector that has historically been too opaque and too risky for local investors, including Government.

In that context, the Government has invested in a closely related sector, film/VFX, based on policy goals when the world was less connected, and we could compete as a low-cost base for 'runaway' projects. However we now have a high-quality/high-cost/highly-connected production base for VFX, and the question is increasingly being asked whether the Public receives value for having part-ownership in that sector, and the calls for continual investment.

4. Pipeline of migrants
   If the sector is to grow more quickly and provide a durable pipeline for juniors to grow local capacity, then more senior migrants are required. However, this same issue impacts even the best, as it is a topic frequently raised in Finland, among others. We are told that an organised programme that makes it easier to settle migrants would help, such as an office providing soft-landing services for accommodation and settling families.

5. CODE project
   The CODE project in Dunedin has been identified as an exemplar that should be replicated in all major cities. It has excellent governance, provides valuable connections and helps manage the move from classroom to independence for committed practitioners. The challenge is expected to be replicating what is currently working in Dunedin to other environments so that spending is productive and provides the funding.

5. *Taking our stories to the world*
   Games potentially provide a vehicle to tell the world who we are, via storytelling, images, and sound. They are lower cost than Film, but probably higher cost than a simple ad campaign. Consideration could be given to commissioning a series of games as part of a festival such as Matariki, or a tourism promotion. However, the fiscal and logistical arrangements would need some thought.

4.5. How Wellington City Council could help

The following actions for Wellington City Council are proposed following consultation with the sector:

1. Advocate for a subsidy
   This is best done at a national level. However, it is our understanding that Government is not considering subsidies as a policy instrument in the digital games and wider Tech sectors.

2. Incubator assistance (i.e. Wellington version of the CODE project)
   Council to work with the digital games sector to advocate to Government for a Wellington version of the CODE programme to grow the pipeline of studios and experienced games developers. Experience indicates this requires dedicated and senior governance to be successful, hence a prerequisite is arguably the sourcing of this talent.

3. Soft-landing for migrants
   Council to work with the wider Tech sector to test the value of encouraging migration via a Wellington specific 'soft landing service', and to put together a policy proposal, as indicated. Stakeholder input on the following is needed:

   a. Value of service
   b. Why it is not currently provided
   c. #s per annum
   d. Integration support needed
      i. Accommodation
      ii. Emergency social contacts

iii. School integration
iv. Others

4.6. Summary of doing better

The market for Digital Games lies offshore. Hence it makes sense that people who understand and are close to that market should have strong connections to local studios. However, there is also a feeling that kiwis should make better use of those offshore resources to assert more control over their professional and economic futures.

Stakeholders have raised a range of ideas to strengthen governance, migration, connections and investment available to local studios to grow the pipeline of locally based productive capacity so that we can more effectively tell the stories the world wants to hear, but also to tell the stories that we are passionate about.

Source: MiniMotorways, Dinosaur Polo Club

Umurangi Generation

5. Attachment One: case studies

5.1. Introduction: case studies

This attachment is intended for advanced readers only. It contains case studies relevant to the value proposition for the New Zealand and Wellington gaming ecosystem:

1. New Zealand gaming experience
   Documents the investment process for a selection of local studios plus reviewer comments on selected local games.
2. Large gaming companies
   Documents insights into the changing world of games from two sector leaders; China's Tencent and the US's Activision Blizzard.
3. Supercell – a Finnish success story
   Documents some of the philosophy behind the incredible commercial success of Finland's Supercell.
4. Gaming industry investment advisors
   Presents advice from industry veterans who advise on the attributes of a good game and the processes needed to pitch to an investor.
5. Israeli digital games sector
   The economic development environment of the Israeli games environment is reviewed to inform possible public policy developments in New Zealand.
6. PAX West
   Presents the experiences of Starcolt who are a Wellington based studio as they work on their new game at the PAX series of conferences.
7. Minecraft
   About the remarkably successful Swedish game and the path of one of its developers on the stress of mediating the gaming environment and finally selling a blockbuster game.
8. Australian games sector policy proposal
   Presents the experience and policy thinking from Australia.
9. Nordic ecosystem
   Presents experience and policy thinking from the arguably one of the most successful gaming ecosystems that also spawned Nokia among other successful knowledge industry successes.
10. Reality and gaming technology
    Presents examples of game visualisations being used in real applications.
11. Gaming genre
    Presents an analysis of the genre and sub-genre within the games offerings.

5.2. New Zealand gaming studios

5.2.1. Ninja Kiwi and Sweden's MTG

Ninja Kiwi started out as a privately owned Auckland based studio known for creating the Bloons Tower Defence 3D strategy game designed *to give hours and hours of the best strategy gaming available world-wide* (Apple Apps Store).

In Jan 2021 Ninja Kiwi was sold to Swedish e-sports and gaming group Modern Times Group (MTG) for NZ$266m. The media release cited:

> *Ninja Kiwi today has over 70 employees working for the company from the headquarters in Auckland, New Zealand and their offices in Dundee, Scotland. The acquisition of Ninja Kiwi marks an important next step in the build-up of a diversified gaming segment with high-quality gaming companies and is in line with MTG's strategy to drive value creation through organic growth and*

strategic M&A. Ninja Kiwi broadens MTG's gaming vertical to cover a new gaming genre, tower defence strategy games, with a total of approximately 140 million downloads to date and 6.2 million monthly active users. After completing the acquisition, MTG holds strong positions in the city building and strategy genres through InnoGames, mobile racing through Hutch, idle games through Kongregate and tower defense through Ninja Kiwi…

- *Ninja Kiwi has a diversified games portfolio consisting of over 25 premium and free-to-play games which the company has managed to innovate by building and improving games around the all-star IP Bloons*
- *The company is a highly profitable market leader in the tower defence genre, with gross revenues in 2020 amounting to NZD 56 million and an adjusted EBITDA of NZD 28 million. Revenues come from both purchase of the games, and in-game purchases….*

…
Tower defense is a genre within strategy and puzzle games, in which players eliminate waves of enemies by building defense towers. The number of enemies increases with each wave of attacks on the tower defense; defeated enemies yield cash or other resources necessary for the player to build new towers in strategic locations, with different towers often having unique and specific abilities. Towers can be upgraded by players for collected resources, through spending of in-game resources or through in-game purchases.

"Ninja Kiwi has popularized the entire genre of tower defense games, and continues to pioneer it. Its evergreen Bloons IP and gaming platform has introduced millions to the tower defense genre, combining puzzle and strategy elements in games developed mainly for mobile platforms."
"The strong organic traffic to Ninja Kiwi's portfolio of games is hugely impressive, as is the company's successful combination of paid and in-app purchase models in its pricing structure – both are testament to the quality of the titles that Ninja Kiwi has created. We're very pleased that Ninja Kiwi is joining MTG and our growing gaming vertical, further broadening our offering through the introduction of a new genre,"

Ninja Kiwi's Co-founders comment:

By joining MTG we will gain access not just to resources to further develop our existing games and launch new ones, but also to the wealth of skills and know-how across the companies within MTG's GamingCo that will allow us to deliver even better games to our longstanding community.

MTG comment on the wider gaming market and esport:
To build and develop a new sport is a journey, especially when it comes to creating a highly engaged fandom around it. Many sports will never move beyond being entertainment for the few rather than for the masses, and hence not become a commercially viable product capable of attracting a meaningful number of eyeballs.

However, esport is different. The number of gamers worldwide is expected to grow to 2.9 billion in 2022, up from 2.4 billion in 2018 – and the global esport audience is expected to grow to 645 million by 2022, up from 395 million in 2018. Games – whether played at home on a computer, on the go, or in an esport arena by an esport professional – represent a major commercial opportunity. Esport fans have unique characteristics com- pared with other sports. They are young, well-educated with higher than average income than other sport fans and are infa- mous for being difficult to reach through marketing (70% use ad-blockers). This makes them a relevant target group for any company wanting to rejuvenate its brand and expand its business beyond its traditional base by getting exposure to these interesting target groups.

This is one reason why we continue to be thrilled about the future prospects of esport as an entertainment product. And throughout 2019, we have introduced structural measures to realize the full commercial value of esport, including a new league structure named ESL Pro Tour providing certainty and longevity, a strategic partnership with Nielsen to gather trustworthy statistics from events, and expanded our publisher relationships to include even more exciting triple A games. We are also pleased with the agreement with Blizzard around their acclaimed titles StarCraft® II and Warcraft® III: ReforgedTM. With these measures in place, I feel we are in a good spot in the industry to become a strong alternative and competitor to traditional sports for media and brands.

As many times before in the history of MTG, we are venturing into new commercial territories. Our belief in tomorrow's entertainment – esport and gaming – is strong. Success in creating value will *only come through relevant products, creativity and innovation. We are in pole position with an opportunity to establish MTG as a global leader in the esport industry and we will accelerate value creation by further drawing on synergies from our ownership of the two strongest esport brands globally, aided by our solid financial position and commercial operational expertise.*

Breaking new ground, we will rely on our heritage and approach to always focus on commercial innovation and products which resonates with our customers. This will enable us to continue to be strongly committed to bringing the best possible entertainment to all esport and gaming fans around the globe.
Source: MTG[3]

It is said that "Vision without execution is hallucination"[4]. And to be sustainability successful, games (and entrainment of most forms) requires continual re-investment to ensure a pipeline of content and delivery capability is filled and relevant to the audience.

5.2.2. GrindingGears and China's Tencent

In 2018 Tencent purchased GrindingGears (owner of Path of Exile game) for a price exceeding $100m. GrindingGears had 114 employees in 2018 with plans to grow to 130.

GrindingGears principle reported:
Grinding's genesis came when Wilson was playing an online role-playing game, and got chatting to another player who was logged on from Sweden: Erik Olofsson.

The pair talked about creating their own RPG. But unlike most such chats, it didn't stop at mere fancy. Olofsson — a designer — actually jumped on a plane and flew down to New Zealand to collaborate with Wilson, who was wiling away his post-university years on a series of contract-programming jobs (the third founder was Jonathan Rogers, who featured in an NBR Ask Me Anything session back in 2013. Post-deal, Olofsson and Rogers have 3.41% stakes).
Grinding Gear Games first became widely known in 2012 when the crowdfunded $US200,000 to develop Exile *via Kickstarter*.

Another crowdfunding round, in 2013, saw $US2.5m come in through the door as the number of Exile gamers climbed to 140,000 and Grinding Gear staff to 20. Wilson says Exile now has two million active users worldwide but he won't reveal a mix between those who play for free and those who pay. He does say rabid fans can spend thousands a year on the game through in-game purchases.

"We have been profitable since we commercially released the first version of the game in 2012," he says. The company quickly got to the top tier, along with Wellington's PikPok and Dunedin's RocketWerkz in the top-tier of New Zealand gaming. RocketWerkz also has Tencent backing; the Chinese company took a 25% stake in 2016.

The deal
The Hong Kong-listed Tencent bills itself as the world's largest online gaming company (in fact, it's giddy market cap of $US503b makes it the world's fifth most valuable company full-stop) but Mr Wilson says Grinding Gear will be keeping it Kiwi. All staff will stay and it will stay local. In fact, there are plans to boost numbers to 130 over the coming year. Wilson, Olofsson and Rogers will stay on. It was Tencent — already the Chinese publisher for Exile *— who made the first approach, and negotiations took a full year.*
Source: NBR

5.2.3. 2UP and Finland's Supercell

2UP is a recent start-up that has attracted the interest of the Finnish studio Supercell who is one of the gaming industries heavy weights:

[3] https://www.mtg.com/press-releases/mtg-acquires-leading-tower-defense-gaming-studio-and-publisher-ninja-kiwi-the-maker-of-bloons/
[4] Activision Blizzard's 2019 annual report.

> *Supercell is investing $2.8 million in New Zealand game studio 2Up Games, which is working on a co-op mobile game. This is further proof of the funding frenzy games have enjoyed during the pandemic, driven in large part by heightened use. In the past nine months, game studios have seen more than 100 investments. Supercell has been among the most aggressive mobile game investors, as the Helsinki, Finland-based company is still printing money with its Clash Royale and Clash of Clans games.*
>
> *2Up cofounder Joe Raeburn said in an interview with GamesBeat that the company strongly believes co-op games can make the world a better place, particularly as people struggle with isolation during lockdown. He also believes humans aren't always great at cooperation and need more practice.*
>
> *Raeburn started the company six months ago with former Magic Leap developer Tim Knauf, and the two didn't meet in person for the first five months they worked together. Raeburn said his first co-op memory was playing Silkworm with his best friend on the Amiga computer, while Knast has enjoyed multiplayer point-and-click adventure games. Knast previously founded Launching Pad Games, and he worked with Magic Leap and Weta Workshop on Dr. Grordbort's Invaders, which was one of my favorite games of 2018. "Tim and I came together talking about our shared love of co-op games," Raeburn said. "But too often the games are too short."*
>
> *This started them thinking about games designed for co-op from the ground up. "So we came up with this focus on real-time co-op games, ones that you can play for years," Raeburn said. "We want to bring back that sense of connecting with someone through an experience you share. You feel like two humans that have done something together, as opposed to humans that have battled."*
>
> *Supercell developer relations lead Jaakko Harlas noted that this is the first time Supercell has invested in a New Zealand startup. Raeburn said the company is hiring now and that thanks to the pandemic it can hire people anywhere in the world. He noted that another bright spot is that game companies no longer need to have a head office that can lord it over their satellite offices.*
>
> *Raeburn said 2Up has developed a prototype idea but isn't ready to talk about it yet. The company has two full-time people and two contractors and is outsourcing art for the game to external companies. Raeburn worked as an early employee and game creator at Space Ape Games, maker of Samurai Siege, before the company was acquired by Supercell. About a year ago, Raeburn made the move back to his native New Zealand. During lockdown, he decided to start a game studio, which was how he met Knast.*
>
> *"It's early days, and the one thing I can say is that real-time games are quite difficult," Raeburn said. "One of the most important things we've learned is allowing players to have a pause in the action so that they can look and see what their partner is doing and what they need. Because when you do that, you see the situation they are in. If it's nonstop action all of the time, you don't even know what your partner is doing." Raeburn said the company talked to a few game funds but decided Supercell offered the biggest opportunity.*
> *Source: https://venturebeat.com/2020/11/25/supercell-invests-2-8-million-in-2up-a-co-op-mobile-game-studio/*

5.2.4. PikPok

PikPok is resident in Wellington and was started in the late 1990s. It is New Zealand's oldest games company and one of the top 10 that earn 95% of the sector's revenue:

> *"[of] the studios that have been successful in New Zealand, almost all of them have come out of PikPok or have got their start there or were tangentially related to them," says NZ Game Developers Association (NZGDA) chairperson Chelsea Rapp. PikPok began as a work-for-hire outfit, doing*

> *contract animation and design work for the likes of DreamWorks and Activision, and creating games for PlayStation, Xbox and Nintendo. It flicked the switch for itself and the industry in New Zealand about a decade ago when it joined the movement towards games on mobile devices and started creating its own content and taking control of its own intellectual property, Sutton says. "In 2009, we jumped on the mobile games train very early. There was a huge opportunity in self-publishing games as an independent publisher." Those games can take up to $2m and two years to develop but, if they are successful, more of the money stays with the studio that created them …. free-to-play games have been downloaded more than 350m times, with most of the company's $10m-$25m in annual revenue coming from in-game purchases and advertising.*
> *Source: https://www.stuff.co.nz/business/300205272/game-on-new-zealands-next-billiondollar-industry*

5.2.5. RocketWerkz

RocketWerkz is based in Auckland and Dunedin and describe themselves as:

> *After the global success of influential survival game DayZ, Dean Hall returned to his native New Zealand. RocketWerkz opened its first studio in Dunedin, a university city in the south of New Zealand, in early 2015. In September 2019 RocketWerkz opened a studio on the waterfront in Auckland, New Zealand's largest city, to focus on next-gen AAA survival game. The Dunedin studio focuses on more indie and experimental projects including Stationeers, Out of Ammo VR, Death Drive VR and an unannounced project. The studio believes in rapid prototyping and experimentation and has also successfully cancelled four projects. RocketWerkz has received investment* [45% ownership] *from one of the world's leading games companies Tencent, but remains independent and majority-owned by Dean Hall.*
>
> *We have two studios in beautiful New Zealand. Our growing Auckland studio is in downtown Auckland, close to nightlife, fresh air, ferries and public transport. This team is working on a genre-defining AAA survival game, and is expected to grow to 60 or more people during 2020. Dunedin is a historic university city in the South Island of New Zealand, close to mountains, surf and wildlife and home to our original studio. The Dunedin team work on smaller experimental and indie games with more opportunities for graduate students and indie game developers.*
> *Source: https://careers.rocketwerkz.com/*

The Spinoff visited their site and had the following to say:

> *The ex-military, gay, Lamborghini-driving CEO of Rocketwerkz is one of the highest profile figures in New Zealand gaming. Michael Andrew went to the new Auckland office to meet the man known as "rocket".*
>
> *"It's the fastest lift in the country," said Rocketwerkz's chief operating officer Stephen Knightly before we shot to the top of the new PWC building at eight metres a second. I'd heard about the elevator, but I couldn't quite prepare for the way my ears popped, nor the sickly way central Auckland's streets immediately vanished from sight through the floor to ceiling windows. In an instant, however, we came to a stop at the 39th floor – the highest office space in New Zealand.*
>
> *The doors opened onto the "lobby" – a luminous black and green neon lit room filled with techno music that reminded me of an arcade or laser strike arena. Around the corner, a pair of glass doors silkily parted into an ivory-coloured "airlock". Beyond that was the main office area, and that spectacular view of Auckland – humbled and hunkered far below.*
>
> *Knightly, obviously used to bringing incredulous visitors through this bizarre portal, seemed amused at the strange smile that I couldn't seem to subdue. He began taking me through the rest of the place, but I'd already seen enough to draw my own conclusions – this was not a normal business.*
>
> *This was no major finance or law firm, or even a modern IT company. This was a six-year-old Dunedin gaming studio that, with the financial backing of a Chinese gaming behemoth, had annexed the highest and most prestigious piece of office real estate in New Zealand from the corporate heavyweights that would typically lay claim to it. The coup had been impudently commemorated by*

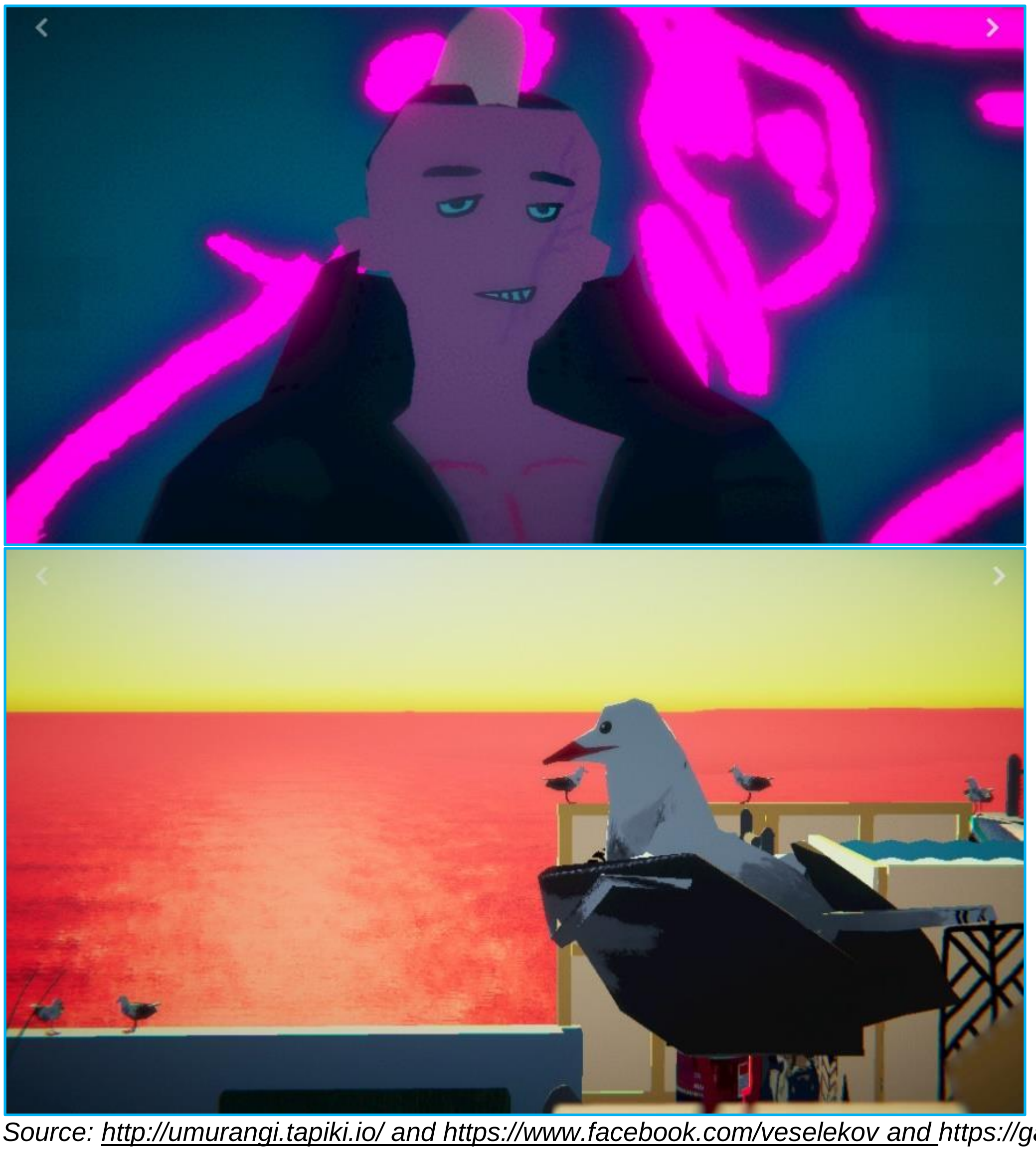
> *the sci-fi fit out in the lobby – a $5m signal to the business world that the prosaic conventions of old did not apply here……*
> *Source: https://thespinoff.co.nz/business/20-12-2020/dean-hall-flies-very-close-to-the-sun/*

5.2.6. Umurangi Generation (game)

The Umurangi Generation has been voted one of the top 40 games in 2020 by Shindig (https://www.shindig.nz/videogames/shindigs-top-40-games-of-2020/). It is a 'cyberpunk' game built by the Māori developer, Naphtali "Veselekov" Faulkner (working in Australia) and is set in a futuristic Tauranga, in Aotearoa, that is a walled off city protected by the UN from alien invaders.

The user photographs the goings on; a rooftop party, a military checkpoint, an evacuation train, resistance to the UN occupation, a Prime-minister away on holiday, and a dangerous contagious parasitic epidemic. In the final scene a shadowy creature is perched over a mountain, where the player must walk to a beach with several spirits of Māori people, mud crabs, and the Huia, who overlook the catastrophe. The game dedicates itself to the "Umurangi [red-sky] Generation: The last generation who has to watch the world die".
Source: https://store.steampowered.com/app/1223500/Umurangi_Generation/

The game might have a defiant and futuristic outlook, but it has many visually evocative scenes which repay a detailed examination:



Source: http://umurangi.tapiki.io/ and https://www.facebook.com/veselekov and https://games-stats.com/steam/game/umurangi-generation/

The Washington Post comments:

Even in gaming's most ambitious storytelling efforts, plot and gameplay often coexist without mixing. Play is interrupted with moments of story, often told via cutscene or in lines of dialogue when breathing room appears. Then, once the story beat is exhausted, play resumes. We can learn things about characters from play, but in a lot of cases, the repetitive nature of tasks in a game map poorly to human character. Plot often takes a back seat to the foremost aim of many games, which is not to be a vehicle for story but largely just to be fun to sit with. A bad plot can be endured, and even sometimes enjoyed. Bad gameplay is a stone in your shoe — deeply and immediately felt.

What really helps bridge this game-story gap is when a game's environments do their share of lifting on the storytelling front. Here, "Umurangi Generation" exceeds all expectations.
One of the classic tools in the video game narrative tool kit is environmental storytelling. This often takes the form of little scenes, dioramas that hint at a deeper world outside of the protagonist's view. A reliable standard of the genre is the chair with some drinks and light reading scattered around. "Wow," the player might think. "Before this place was overrun by mutants/irradiated by nuclear fallout/shattered by war, someone sat here and relaxed." In a zombie or pandemic game, it might be a bit of graffiti, scrawled onto a wall beside a corpse: "Starting to not feel so good. It's probably nothing. Just going to rest here a while." ….

One of the big joys of "Umurangi Generation" is the sensation of seeing a scene in the game, and having the mirage of a perfect picture appear in your mind, if only for a second. It's impossible (at least for a photographer of my caliber) to visualize and capture it as-imagined, which opens up a second game within the game: one of curation. A no-less-enjoyable part of my "Umurangi" experience was scouring my file folder (the game saves all of your shots) after completing a level and being both repulsed and pleasantly surprised by what I'd created. The game reveals certain things about your aesthetic priorities. I preferred vertical images to horizontal ones, and I leaned toward overexposure and a blue tint in many of my photos, mirroring a sort of mid-2010s Bloomberg Businessweek aesthetic. Some of these pictures were, predictably, duds. Others sang in ways that I hadn't noticed while setting up the shot.

There's a lot of snap-worthy material in "Umurangi Generation." The game is overflowing with stuff that is ostensibly of the "cool future" set: Neon lights, city blocks, sharp angles, punks, dancers, workers in jumpsuits, military personnel, guns, cars, trains, fighter jets, VR, wood pallets and shipping crates, graffiti, kaiju and mechs, bright colors and vortex-like tunnels, skyscrapers, fog, nighttimes and sunsets. But beyond even what happens in the game's "plot," closer examination reveals that this future isn't cool. It sucks!

Throughout the first few chapters, players will notice signs of an implied crisis. The UN has stationed armed personnel throughout Tauranga, New Zealand, where the game is set. A massive concrete wall, erected around the city, looms over the peacekeepers and punks alike. Newspapers litter the environment; The stodgy, institutional ones make reference to warlike pronouncements from political leaders, detached in spirit from the goings-on about town. Meanwhile, street art, local papers and makeshift memorials name the dead. And because you've got photo bounties to collect, these details cannot be ignored.

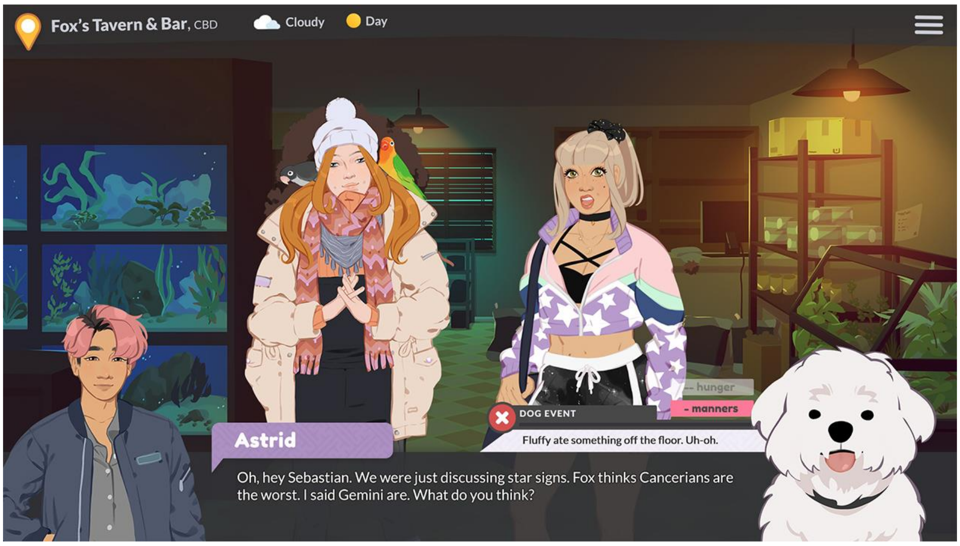
One of "Umurangi Generation's" great qualities is that it is unambiguous in its storytelling, and forces you to confront that story through its key mechanics: exploration and photo-taking. The UN, the big institutional newspapers, the film and advertising industry, they're all inattentive (at best) or hostile (at worst) to the needs of the people threatened by the game's big crisis. The point of view is not subtle, but it's not unsubtle or graceless. It's realistic, because the world has a point of view. Too many other games ignore this.
Source: https://www.washingtonpost.com/video-games/reviews/umurangi-generation-photography-game-that-urges-you-look-closer/

5.2.7. Best friend forever (game)

Starcolt ("we deal in feels") is a small start-up based in Wellington (supported by Alliance Media out of New York), who has developed the dating simulation game Best Friend Forever:

Step off the bus at Rainbow Bay and start a new life with your furever friend! Adopt a dog, find true love and experience all the wacky hijinks this colourful city has to offer.

Best Friend Forever is the world's first simulation game to combine pet care and dating (just not necessarily at the same time). Train, pat and play with your very own dog to form a bond that will last the ages. With your four-legged companion by your side, meet, woo and cherish the many cuties of Rainbow Bay's thriving singles scene.
Source: https://store.steampowered.com/app/1034850/Best_Friend_Forever/



Source: Starcolt

And it appears that delivering these projects is no cake walk. Starcolt describe their launch at the PAX West conference in Seattle:

We announced a game! Our first game! And we were going to take that game to a convention! Our VERY first convention! So, naively, we set out as a tiny NZ studio to have our first boothing experience at PAX West. It went far better than we could have expected, despite multiple mishaps, sore feet, lost passports, and merch that arrived a day after the entire thing finished. With the first trial by fire over, we've come out braver, wiser, and with the strongest potions to share with our fellow travellers. PS: Please don't lose your passport. It's a nightmare…..
Source: https://starcolt.com/pax-west-for-the-uninitiated/

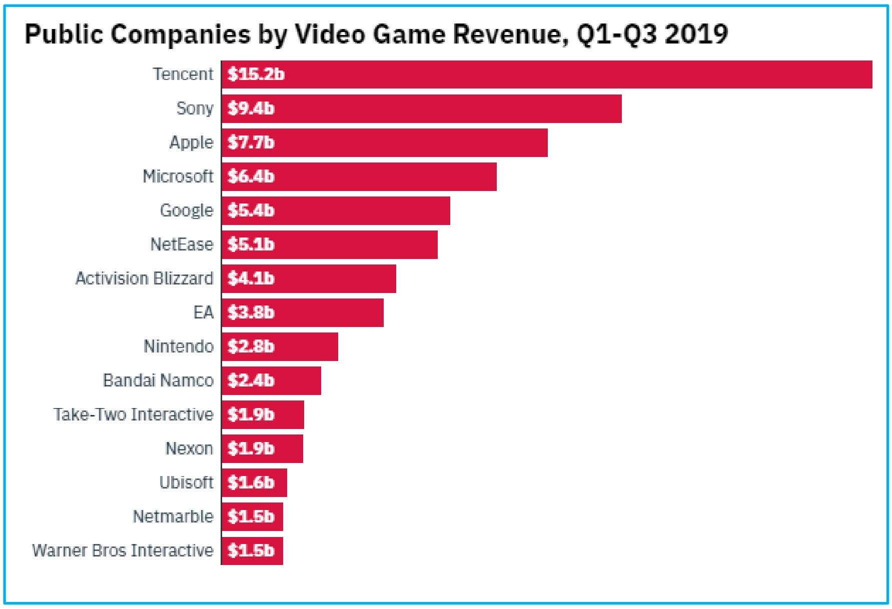
And reviewers can sometimes be both imaginative and constructive:

… You only go on a handful of dates with your chosen partner before the game ends and most of this action takes place through dialogue, so you can speed through the game fairly quickly. You'll also bounce hard off some characters (I didn't particularly care for Fox, Felix or Astrid) so you may run out of romantic prospects fast. But there is a heap of potential for replayability so if you're concerned about the game's short length you can simply jump in with a new character, pet and partner.

For as long as it lasts, Best Friend Forever is an absolute joy. You can speed through the adventure, but you'll make plenty of happy memories along the way. For those looking for the latest dating sim to steal their heart it's the perfect, bite-sized adventure and a very nice way to spend an afternoon.
Source: https://www.kotaku.com.au/2020/08/best-friend-forever-review/

5.3. Selected large gaming companies

The following figure presents a selection of the largest gaming companies by revenue in 2019:



Source: Variety, https://variety.com/2020/biz/asia/tencent-games-company-acquisitions-1234624022/

5.3.1. Tencent

Tencent is the world's largest games publisher. It's both an internet and entertainment giant in China—the equivalent of Facebook or Google—but gamers worldwide are probably more familiar with Tencent's investments into a growing number of game developers and publishers.

In 2016 Tencent (and other investors) paid $8.6bn for ownership of Finnish based Supercell which is a developer of mobile games for both tablets and smartphones on Apple's iOS and Google's Android operating systems. Since its founding in 2010, Supercell has brought five major games to market – Brawl Stars, Clash of Clans, Clash Royale, Boom Beach and Hay Day.
Source: PCGamer, https://www.pcgamer.com/every-game-company-that-tencent-has-invested-in/

5.3.2. Activision Blizzard

Activision Blizzard is based in Santa Monica California and creates epic interactive gaming experiences, building communities that bring people together:

Now more than ever, video games are redefining what it means to interact socially. Games empower players to take ownership of their interactive experiences and share those experiences across a global community. They offer an unparalleled storytelling capability, a multitude of options to personalize the player experience and a massive number of ways to compete or collaborate. The gaming ecosystem is ripe for social interactions that connect people more deeply than any other form of media.
…
…our titles can impact, inspire and unite people around the world, empowering them to achieve amazing things through their shared love of gaming. Although we have only just started to scratch the surface of what's possible for social networking around our games, we are already connecting people around the world in extraordinary ways. We are committed to exploring innovative ways to bring our players closer together, further deepening the experience for communities and in turn widening the moats around our largest franchises.
Source: Activision Blizzard

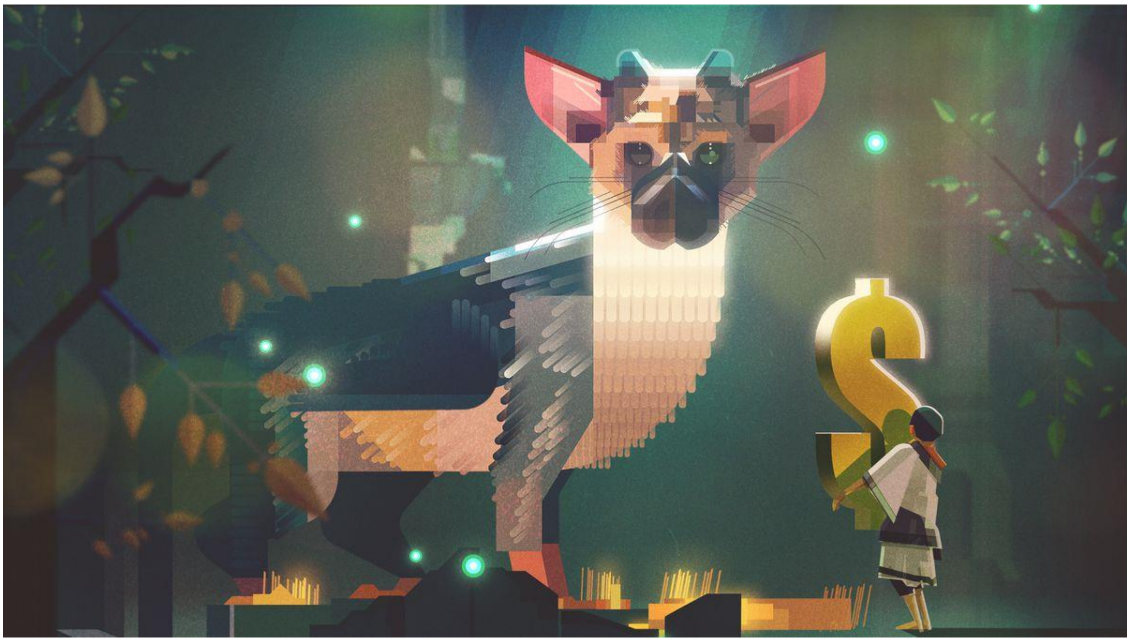
5.3.3. A44 and Kepler Interactive

Source: Ashen

A44 (pronounced A four four) has achieved success with the game Ashen in partnership with Microsoft. In October 2021 it announced a sale or new relationship with an international partner:

> *Acclaimed Lower Hutt-based video game developer A44, best known for its role-playing game Ashen, has been sold to an international digital studio collective as part of a $175 million deal.*
>
> *Under the deal, founder and CEO Derek Bradley becomes one of seven co-owners of Kepler Interactive. The arrangement sees founding companies retain creative independence.*
> *Upper Hutt studio*
> *Source: Stuff: (https://www.stuff.co.nz/business/126541094/wellington-video-game-developer-joins-collective-as-part-of-175m-deal)*

Details on Kepler Interactive are:



Artist: James Gilleard (Source: Polygon)

Kowloon Nights was a precursor to Kepler interactive and was born out of a changing landscape where small gaming companies were increasingly able to self-publish their works. Hence publishers needed to find new ways to add value to the sector. Subsequently Kowloon Nights have morphed into Kepler Interactive who have set up a co-operative among game developers as a new model to fund studio founders:

> *A new publishing group, Kepler Interactive, has raised $120 million in a financing round as part of its launch* [from China's Gaming giant Netease]
>
> *Kepler Interactive is a publisher co-owned and run by developers. It offers a new model to game makers, giving studio founders the opportunity to become co-owners of the group.*
>
> *Currently, Kepler has seven founding studios as members: A44, Alpha Channel, Awaceb, Ebb Software, Shapefarm, Sloclap and Timberline. The company's executive team is led by the founders of independent video game fund Kowloon Nights.*
>
> *Kepler has operational hubs in London and Singapore, and represents over 250 people across 10 countries.*
>
> *"When we founded Kowloon Nights, our goal was to support the next generation of independent developers," said Kepler Interactive CEO Alexis Garavaryan. "The evolution of that work is now Kepler, which takes the developer-first approach a major leap forward in terms of scale and empowerment."*
>
> *Pierre de Margerie, CEO of Sloclap, added: "Kepler provides an environment where the teams feel safe, supported, and free to create amazing gaming experiences - and that's the best way to make a hit game.*
> *Source: GamesIndustry (https://www.gamesindustry.biz/articles/2021-09-29-publisher-kepler-interactive-launches-raises-usd120m)*

5.4. Supercell

Supercell is a Finnish games company. They have refined a disciplined games creation process that engages strongly with the passions and commitment of a development team with the purpose of creating a game that a mass audience will find engaging and enduring. Elements of this process are defined below:

5.4.1. Supercell's way of working

Supercell's CEO (Ilkka Paananen) comments on Supercell's game development process and especially the decision to 'kill' a game::

"The team behind the game killed it because based on the beta, they felt like this was not going to be a game that lots of people would play for years nor would it be remembered forever," Paananen wrote. "The early gameplay was lots of fun, but it just did not carry over to the endgame."

The only other company in the game business that operates this way and publicly talks about its failures (once in a while) is Blizzard Entertainment, which operates in the PC and console space mostly and acknowledges when it has to kill off games that don't live up to their potential.

"I feel proud of the decision the team made. I cannot even imagine how painful it is to kill your own darling, something that you've poured your heart and soul into," he wrote. "That said, this is how we all want Supercell to operate: We should only release games that are of exceptional quality, games that the players love and games that have a shot at being remembered forever. Very importantly, at Supercell these types of decisions are always owned by the team who is behind the game. We feel that it is critical that the people who are responsible for the game also get to decide about its future."

Paananen said he has developed more and more respect for how incredibly difficult it is to create a new game. In 10 years, Supercell has only launched five games — Hay Day, Clash of Clans, Boom Beach, Clash Royale, and Brawl Stars. He views the ones that didn't make it as opportunities to learn.
See https://venturebeat.com/2020/02/11/supercells-off-year-revenues-of-1-56-billion-and-profits-of-577-million/

Our goal at Supercell is to make great games that are played for years and years by millions of people, games that become part of the rich history of games. We try to get there by forming small teams we call "cells," and providing these cells the complete independence and responsibility to work on their game — one way to describe these cells would be to think them as small companies inside the greater company. This pretty unique organizational model has worked well for us over the years, but at the same time we know that not everyone is in a position to work for us. So, we've been thinking whether there would be ways for us to enable also other game developers to make a bigger impact by using this philosophy, but outside the existing Supercell teams. Frogmind is a very well respected developer with a fantastic team and a terrific track record of producing great games for mobile. As part of the Helsinki developer scene, we've known them for years and are big fans of their team and their passion for quality. We also love the games they've developed so far, and are very excited about the games on their roadmap. So we're excited to be their new partner!

GamesBeat: This is the first outside investment that I know of by Supercell. Why are you doing it?
Paananen: As I said, we've been thinking for a while about ways in which we can enable the best talent to make the best games when they aren't in a position to come and work for us. Over the years, we have talked with a number of teams but Frogmind was the first one that just felt perfect for us. They share the same passion for quality that we do, and are fans of small teams as well. In fact, their teams are even smaller than ours!

GamesBeat: Is there some structure to it?
Paananen: We treat every opportunity case by case. The biggest consideration would have to be the team, and their philosophy towards making games, even if the actual games would be very different from ours. We look for teams who share our passion for quality, people who want to build great games that people would play for years. Games that have a shot at making history.
Source: https://venturebeat.com/2016/09/21/how-supercell-plans-to-invest-in-mobile-game-developers/

5.4.2. Development dynamics

Supercell is an acknowledged leader in its field. Key to its success is arguably the dynamic in which the game development process works:

"Supercell's strategy is designed to achieve three objectives:

- *Create an environment that fosters innovation*
- *Create a culture of constructive confrontation where internal development has to go through a gauntlet of peer reviews*
- *Give the team the autonomy to make key decisions about their game – including the decision to kill their own games."*

…
"Today, mobile gaming is a really large mature ecosystem. "I think when you have situations where it's [a] rising tide, everyone wins. Now, you have to be much more thoughtful about the bets you're placing, and I think that's why you've seen a lot of the generalist funds back away from gaming because they realize they actually don't know very much about gaming. They just got lucky."…
Why is Clash of Clans dominating? It's because the competitive nature drives build and battle, people stick around to beat harder real-player opponents….With Role Playing Games (RPGs), the primary motivation is geared more towards collecting all the characters. Sure, they can have secondary motivations for players to enjoy the games, like competition. But the primary motivation is the complete the character roster. Marvel is continuously pumping out new characters. As long as they have skill-based gameplay, they will stay in the mid-core top grossing lists, along with side Clash of Clans…..

Source: EGD News #28 - Elitegamedevelopers.com

5.4.3. Magical pairs

Magical pairs is a tool used by Supercell to structure the game development process and give it solidity. The approach has potential to structure other team environments, and has been used in software as 'pair programming' to improve quality and collective ownership of code.:

One very concrete thing that we have learned about forming new teams is to first put a very tight and well functioning core team of, say, 2-4 people together. This makes the problem somewhat easier; it is easier to think about just a handful of people compared to ten. In fact, we often talk about how it all starts from finding just TWO people who work extremely well together. There is complete trust, they can complete each other's sentences, and at the same time they bring different perspectives and make each other better. Sometimes we call them "magical pairs"! Once you have a solid core team, it is way easier to add people and grow the team. But if you don't have a solid core, do not add new people to the team!
Ilkka Paananen, 10 Learnings From 10 Years

5.4.4. Scenius

The closest example of something resembling magical pairs outside of gaming and tech, and which is more informal, is the concept of Scenius

"Scenius is like a genius, only embedded in a scene rather than in genes. Brian Eno suggested the word to convey the extreme creativity that groups, places, or "scenes" can occasionally generate. His actual definition is: "Scenius stands for the intelligence and the intuition of a whole cultural scene. It is the communal form of the concept of the genius." What Eno had meant was that genius is embedded in a scene, rather than in one individual. When JRR Tolkien was writing the Lord Of The Rings trilogy, he didn't produce his great work in solitude. Instead, he read drafts of LOTR to the group of fellow authors, including C.S. Lewis. This group was called the Inklings, who congregated in an Oxford pub, and they'd provided both criticism and encouragement on each other's work. The Inklings were so impactful on Tolkien's writing that he dedicated the first edition of The Lord of the Rings to them. Tolkien wrote, "What I owe to them all is incalculable," and singled out Lewis in particular by saying, "only by his support and friendship did I ever struggle to the end." Tolkien couldn't have made LOTR without the support of Lewis.

Here are a couple of rituals which can enable a Scenius to be formed in a games company:

- ***Foster mutual appreciation** — Applaud risky moves, allow for friendly competition between the game teams.*

- ***Share as much as possible*** *— Create the stage for sharing ideas. Not only internally, but also externally. Listen to the feedback on those ideas.*
- ***Everyone succeeds —*** *When there is a success, that success becomes the whole community's success. The achievement becomes a sturdy feedback loop, where the shared experience uplifts everyone.*
- ***Playful work*** *— Angel investor Chris Sacca has a favorite: "It may be lucky, but it's not an accident." Don't do work inside a process; instead, let it stay wasteful, tolerate unusual and revolutionary ideas. It's all about nonconformity.*

Source: Magical Pairs In Game Development - Elitegamedevelopers.com

The approach needs to consider the context for Supercell:

1. *'A' team*
   Supercell hire and pay for the best[5] who are usually seasoned professionals in the products that have and are likely to appeal to a mass market.
2. *Competition and Peer Review*
   Open competition and taking the knocks from peer reviews requires competence and a willingness to take criticism. Egos need to be big and robust.
3. *Work ethos*
   Practitioners generally only get to be that good when they are committed to their trade and happy to work all hours to achieve a deliverable, because it is fun, not work. Even if a deliverable is discarded in the development process.
4. *Leverage*
   Mass market success means that a development team can achieve high leverage and can support an expensive development process that focuses on a few high achievers at the expense of dropping the 'also rans': This game would never become a mass-market phenomenon; a game that would have an impact on the lives of millions of people …..
   Source: https://supercell.com/en/our-story/

5.5. Gaming industry investment advisors

This section documents comments from the Canadian industry veteran Jason Della Rocca, and the Finnish industry consultants Elite Games Developers.

5.5.1. Jason Della Rocca

Jason Della Rocca is a Canadian industry veteran who advises on investing and sector performance issues. He is a member of NZTE's bridgehead programme. Comments extracted from his presentations are:

> *Generally speaking, equity level investors want to back companies that have the potential to scale massively, and deliver exponential growth. It is just the way their math works, when you consider that most investors build a portfolio of companies, and that most of those companies are likely to fail. Then the one or two that do succeed need to succeed so greatly that they overcome the rest of the losses. …. What is the value proposition of a game? For years, I have been touting the value prop as something that twists your mind in a new way. I still think this is true, but it is nigh impossible to tell whether that new twist will actually be meaningful to many people (without tremendous investment).To some extent, games are like playing Apples to Apples with your drunk friends; they do not choose the most logical answers, they choose what feels funny at that moment. Utilitarian startups by contrast, are like playing with someone who answers logically. I am not saying not to build games, but I am more an advocate for leading people (especially young people) to game dev so they know how to build a startup. Once someone can build a decent game, they can also build a decent startup. And, while 90% of startups fail, I am pretty sure games fail at a rate closer to 99.999%.*
> *Source:*
> *https://www.gamasutra.com/blogs/JasonDellaRocca/20190312/338412/Game_Studio_Funding_The_Right_Investor_at_the_Right_Stage.php + https://gdcvault.com/play/1024953/Funding-What*

[5] See Wall Street Jourrnal article at: https://www.wsj.com/articles/SB10001424052702303376904579136873973130670

5.5.2. Elite Game Developers

Elite Game Developers are a Finish company providing consultancy to the digital games sector, on investor relationships and what makes a game engage with its audience and enable the owner to monetise its use:

Starting:

*1. **Start with Why:** Game devs often seek 80% proven ideas and 20% innovation. Rather, devs should ask WHY, to find “reason for being”. Find your Ikigai: what you’re good at, what can make you money, and what the world needs.*
*2. **Reason to start:** Don’t start a company just because you got laid off. BUT if getting laid off made you realize you should have quit months ago to work on a problem that you’ve got a burning desire to solve, then now’s the time.*
*3. **Co-founders:** Make sure your co-founders can work and hang out together. One way to figure this out before starting is by jamming and shipping a small game together. This will reveal the people around you.*
*4. **Diversity**: Build diversity when you hire for your startup. Better games can be made when the team is wildly diverse.*
*5. **Aim for revenue**: Build a revenue-first gaming startup, from day one.*
*6. **Change the world through games**: If you are doing a games startup, it’s never been a better time to think about ways to change the world with your creations.*
*7. **Profit:** The best game startup experience is when you finally are able to pay salaries from your game revenues.*

People:

*8. **Several co-founders**: I started my first game company as a solo founder. I often felt that I didn’t have anybody to talk to, or to share the burden of keeping things together. The bigger the founder team, the more you can spread the burden and the effort.*
*9. **Startup hiring 101**: You need to get people who can do 10x jobs. Not to spend the time of ten people, but to handle lots of mixed roles at once. I.e. programmer-artist-marketing gal.*
*10. **Stay small:** Bring on people who can get things done and who can work in several areas. Artist and programmer combos. Realize that startups aren’t smaller versions of big companies.*
*11. **Allow side projects**: How about games companies allow game side projects for their developers? And if the developer leaves to pursue the project full-time, the company would loan or invest $10k into the project.*
*12. **Show gratitude**: At Next Games, we had a weekly event called Kudos, where everyone gave a wrapped candy to someone. When giving the candy, they’d need to say what company value this person had represented in the actions during the week.*

Failure:

*13. **How to treat failure**: The only certainty in game dev: game projects will often fail. It’s almost a guarantee that our games one, two and three will not work. The only way we can prepare is to anticipate failures and learn from what happened.*
*14. **Pre-mortem**: The game dev who has rehearsed in their mind what could go wrong will not be caught by surprise.*
*15. **Celebrate failure**: All your game dev failures are valuable.*
*16. **Reflect on failure**: It’s a shame when a game project fails and people just move on, without reflection on what happened. When you fail, learn from it.*
*17. **Postmortems**: When I hear of a gaming company not doing postmortems, I’m not betting on them being around for long.*

Leadership:

*18. **Art of storytelling**: Startup founders should Learn storytelling. What is the “bigger than life” idea that you have? Investors bet on big dreams, people join startups to go on an adventure. You want to dream of something that seems hard and challenging. Don’t conform.*
*19. **Good enough**: Perfection is the enemy of game development. Your content will never be perfect. Don’t be afraid to ship asap and iterate from there with updates. But be aware you need to se**cure your tech** because nothing has killed mobile games quicker than tech issues at launch.*
*20. **Take your time:** Long soft launches are game development in public.*
*21. **Build an audience before you build a game**: Start by owning an audience who will buy your game. Not by building the game and then developing an audience.*
Source: https://elitegamedevelopers.com/50-principles-for-gaming-startups/

Understand your customer:

1. What is your customer like?

You need to understand a wide range of topics from player psychology, user experience, and how to create challenging moments for players. Investors will want to hear that you can go deeper into understanding your end-user. Who is the competition and what prevents them from taking over your business. Know your numbers. What are you going after in revenues? How much will the customer acquisition cost look like in your industry? Investors like to hear a big vision. The reason you are raising money is to build a big company, not to fund a game. Try to find ways to talk about the game you are making as being the first step in creating a big business.

2. Your game already has players, have you talked with them?

Outside of the numbers, you should be meeting with actual players. The numbers are the quantitative aspect of measuring the performance of your game, but there is much to be discovered from talking to the players and asking them questions, getting the qualitative measuring. The things you can reveal from talking to the players is: Net promoter score. You want to have some measure to know if player will want to talk about your game to other players, so that there would be some sort of viral component to the game. Meaningful player progression. Do the players feel that they are having meaningful progression in the game, after playing the game for a day, a week or a month? What are the main reasons to play the game. In a great game, the player will have goals that they want to achieve. As the progress further in the game, the goals will change and more long term goals will become more prevalent. You need to ask the players if they agree with the goals that you've set for them in the game and ask the questions as they progress further in the game.

3. Who are your competitors?

This question is more about knowing the market and not naming particular games companies as competitors. Sure, you could say that other games companies, who have games in the same game genre as you are your competitors, but because of the zero barrier of entry in modern gaming platforms like App Store and Steam, any developer could appear into the same genre with a similar game. One great answer to the question is to talk about the player acquisition costs and what they look in your game genre. The costs depend a lot on how much competition there is. Competitors will saturate the market and make it harder to convince the players to join your game, and costs go up. Another answer is how you'll build a moat around your game, so that your players will not leave. Strong brand. If you have a strong gaming brand, with relatable and memorable characters and aspirational gaming content, you will survive better than the others in the genre. Strong retention. Players have many goals to achieve, both short term and long term goals. Look up bad examples of this and find the good examples on how player goals are achieved in familiar games, and what your approach will look like.

4. Why should we invest in you?

To prepare for this question, it's important to look at the companies that the investor has invested in and the ones that they've exited. Look into the founders of the successful companies in the investors portfolio and try to understand why they succeeded as individuals to grow from startup founders to running companies that sold for millions. A common trait with successful founders is that they are avid learners, like learning machines, who are constantly asking questions and pointing out issues. They basically are using their investors as advisors in different kinds of problems they are trying to solve. The great founder will be open about their flaws, have the willingness to learn and not hesitate dismiss their old beliefs when new information proves them wrong.

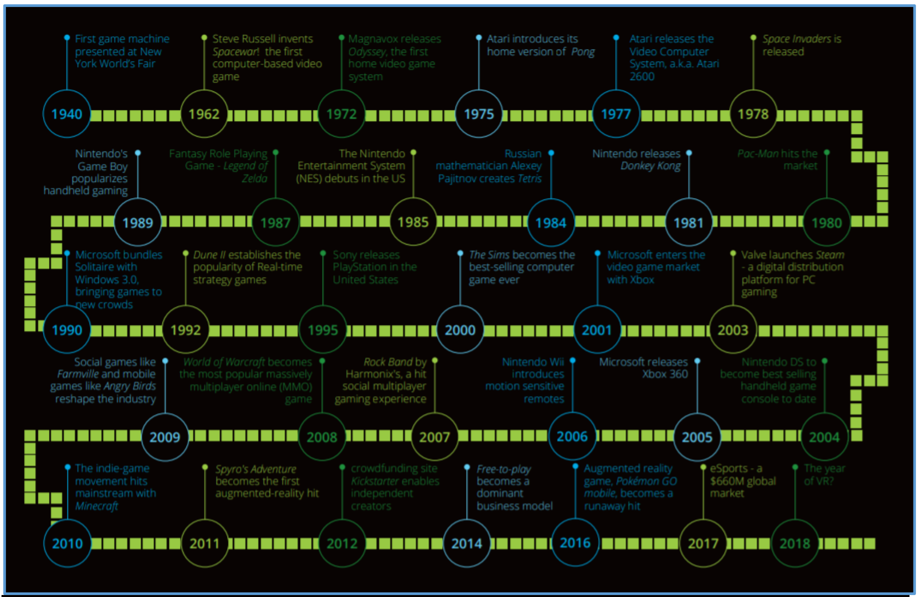
Source: https://elitegamedevelopers.com/templates/, https://elitegamedevelopers.com/10-reasons-why-investors-say-no/, https://twitter.com/elitegamedev and http://elitegamedevelopers.com

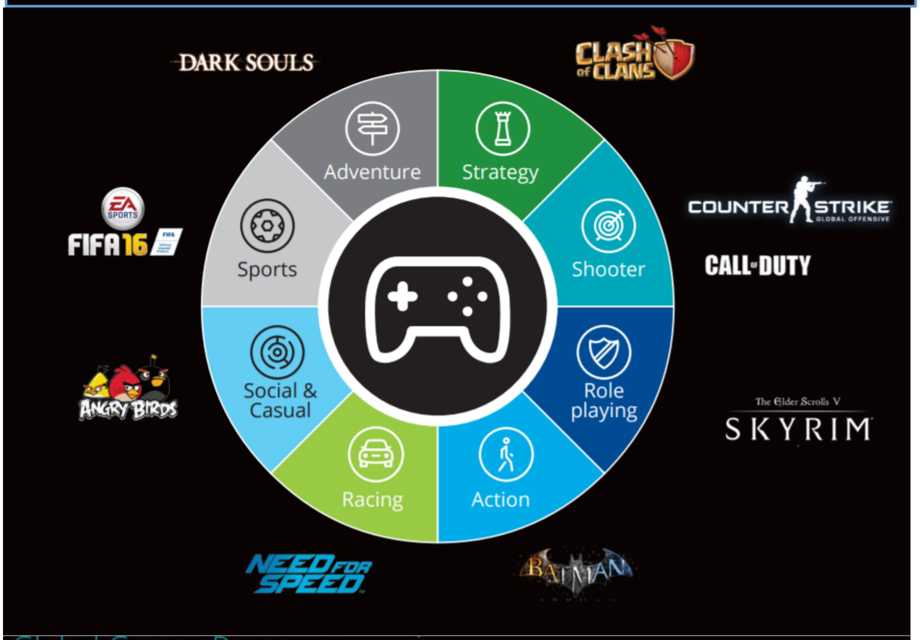
5.6. Israeli Digital games sector

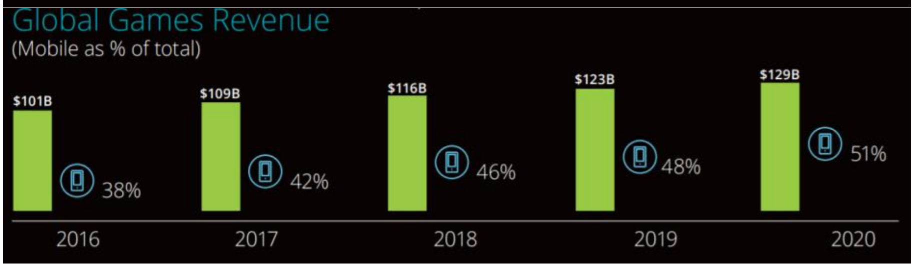
Analysis of policy and progress in the Israeli games sector indicates:

> *The video games industry is much more than just fun and games. It has grown to be a cultural and economic phenomenon, and has outpaced the growth of other established modes of entertainment, such as film and music, across many regions. The industry has long evolved beyond the stereotypical image of a pastime reserved for teenage boys, having advanced technologically in leaps and bounds, and ushered in new value chains and business models. Its expansion to multiple forms of digital devices and platforms, ranging from Mobile to PC, diverse genres and cross-industry applications has reshaped both the industry and the demographics of its consumers, as it grew to become an integral part of modern-day society. In the following report we wish to shed some light on*

the promising role Israel, the 'Start-up Nation', has been playing in this field and the significant potential it holds to become a major contributor to the future world of video games.







"…for many years, Israel was sort of a mystery for a lot of the market because people heard about all the great technologies and hi-tech and there was nothing that was coming from the content side … ... I remember people asking what are you guys cooking there that nobody knows about ..."

Throughout the 90's and early 2000's the entry barriers to the video games industry were getting increasingly higher, as the graphical and technological advancements in game platforms required ever larger budgets, at times reaching tens of millions of dollars for a single game title. Furthermore, although the industry in the 90's was displaying handsome growth rates, the market was still catering primarily to a core demographic of console and PC gamers. This situation, however, was soon to

> *change dramatically, as the emergence of mobile phones and the advent of social media, reshaped the entire industry landscape within just a few short years. These new technologies shifted growth from the core market to the mass market, which quickly exploded from 100 million people to a market of over a billion. Beyond just expanding the addressable market, these developments also served to level the playing field. In this new era, incumbent market players no longer possessed a significant advantage over new market entrants, leaving many opportunities up for grabs. New companies, seeking to enter this space, no longer required budgets in the tens of millions, and securing seed financing would now suffice to allow them to get off the ground.*
> *Source: https://www2.deloitte.com/content/dam/Deloitte/us/Documents/process-and-operations/us-the-israeli-video-games-ecosystem.pdf*

5.7. PAX West

PAX provides forum for gamers to gather to celebrate games and the gaming culture.

> *In 2004, the folks at Penny Arcade decided they wanted a show exclusively to celebrate gaming and game culture. Comics, anime, and other nerd hobbies were all cool, but those activities already had their own shows…where could gamers call home? With that in mind, PAX was born, and when exactly 1337 people pre-registered for the very first event, we knew we were on to something magical.*
>
> *From our humble beginnings in the Meydenbauer, PAX has doubled in size each year until it hit venue capacities. At that point, we partnered with Reed Exhibitions and started bringing PAX to other cities around the world including Boston, San Antonio, and Melbourne, Australia.*
>
> *Over the years, PAX has evolved with the times: embracing the cutting edge of technology with VR Freeplay, reaching out across the full spectrum of gamers via our Diversity Lounge, and building up immense game libraries for every genre and platform. Despite this, we've stayed true to our roots and a pretty surprising amount of what makes PAX what it is today existed way back in 2004. Freeplay, Tournaments, Enforcers, Expo Hall, Concerts, Panels, and the Omegathon…it was all there. Just, y'know, on a much different scale.*
>
> *Going forward, we hope to continue providing a space for gamers of every discipline to celebrate all games and the surrounding culture. No matter what your preferred genre or platform, if you love games, we hope you'll find home at PAX*
> *Source: https://www.paxsite.com/history*

Issues of interest:

- 10 best games in 2019. west.paxsite.com/indie/archive?year=2019
- Presenters experience: starcolt.com/pax-west-for-the-uninitiated/

5.8. Minecraft

Minecraft is a sandbox construction video game developed by Mojang Studios in Sweden. *Minecraft* started off life as a bedroom project, reputedly the original was developed in 6 days. The game quickly captured the imagination of thousands of gamers who loved the indie game's concept of allowing players to shape an environment by crafting and building constructions out of Lego like blocks. It has spawned a large community that creates replica objects and YouTube tips on how to play *Minecraft* that are regularly shared with millions of viewers. It has strong educational potential where teachers generally say that problem-solving is the top skill students learn from *Minecraft*.

Minecraft was sold in 2014 for $2.5 billion to Microsoft after 50m sales. The original founders then left but since then it has sold another 150m copies and now has 125m active users (see https://www.idtech.com/blog/minecraft-stats-and-facts).

Minecraft was created by the computer programmer Markus Persson (aka Notch) who is a member of the Swedish chapter of Mensa, a recluse (forced into the public spot-light) and a lover of tweeting (some awkward and inappropriate):
Source: www.sportskeeda.com/minecraft/why-notch-sold-minecraft-microsoft

A collection of Notch's tweets:

> *I'm not an entrepreneur. I'm not a CEO. I'm a nerdy computer programmer who likes to have opinions on Twitter…*
> *Anyone want to buy my share of Mojang so I can move on with my life? Getting hate for trying to do the right thing is not my gig …*
> *The problem with getting everything is you run out of reasons to keep trying, and human interaction becomes impossible due to imbalance…*
> *Found a great girl, but she's afraid of me and my life style and went with a normal person instead….*
> *Source: Twitter*

5.9. Australian games sector policy proposal

The following proposal was put forward by Screen Australia in 2011 as part of a policy initiative on behalf of the sector. This has been considered by legislators, but at the time of writing, no public assistance programme has been put in place.

Screen Australia believes that targeted support will stimulate [games] production activity to achieve future growth, both economic and cultural, maximising the industry's strong export potential as well as the distinctive creative expression that can only be achieved through interactivity….
Ninety per cent of people who play games believe that games contribute to culture. Importantly, this sentiment is echoed by people who don't play games, with 80 per cent agreeing….
The influx of foreign investment into the local industry in the 2000s resulted in the industry acquiring a talent pool of highly skilled and experienced workers. However, the local talent pool has been severely diminished as a consequence of recent studio closures, which resulted in the loss of hundreds of jobs….

So the contraction of the retail market for physical console games, combined with rising development costs, has forced console development to low-cost territories in order to improve profit margins. In order to reduce development costs, publishers are relocating studios to territories that offer tax incentives or territories with low labour costs such as China, India and Russia. As a fee-for-service location, Australia is no longer considered cost competitive due to the strong Australian dollar, which has risen steadily against the US dollar from the late 1990s to 2011, with severe impacts on the local industry. Between 1999 and 2002 the average value of the AUD was 57 US cents, this has risen to an average value of 97 US cents between 2010 and October 2011.12 Nor are there tax incentives in place to offset this rise. Quebec, British Columbia and Ontario are notable examples of territories that offer competitive tax incentives – refundable tax credits ranging from 17.5 to 37.5 per cent on labour expenditure. As a result of the tax incentives and the subsequent presence of publisher owned subsidiaries, Canada is now home to the third-largest game industry in terms of employment overtaking the UK in 2010.13 Louisiana, which has recently enhanced its tax incentive structure to a 35 per cent tax credit on labour expenditure and a 25 per cent tax credit on other development expenditure, is also experiencing an increase in publisher investment in the state.

Tax incentives for games in selected territories

Territory	*Credit*
Quebec	*30% refundable tax credit of qualifying labour expenditure Additional 7.5% for inclusion of French language versioning A maximum 26.25% refundable tax credit of labour expenditure for projects developed under a fee-for-service arrangement.*
British Columbia	*17.5% refundable tax credit of qualifying labour expenditure*
Ontario	*40% refundable tax credit of qualifying labour expenditure and eligible marketing and distribution expenses. 35% refundable tax credit of labour expenditure for projects developed under a fee-for-service arrangement*
France	*20% refundable tax credit on production expenditure subject to passing a cultural significance test*

Louisiana.	*35% refundable tax credit on labour expenditure 25% tax credit on all direct support costs*
Texas	*15% refundable tax incentive on production expenditure Additional 2.5% offered for projects that complete 25% of their production in an underutilised area of Texas*
Florida	*20% refundable tax credit on production expenditure Additional 5% for 'family friendly' titles Additional 5% for production expenditure in an underutilised region*
Finland	*The Finish Government has invested €100m+ over 12 years in the sector which earned €8.5bn over the same timeframe, and this investment has returned a 17x multiplier on tax income from companies and individuals. In addition there is the Nordic Games Ventures and Sisu Games*

…

Game genres

The iGEA breaks the genre of games into 16 categories, although many interactive titles combine several of these elements. For example, L.A. Noire has elements of simulation and role-playing, first-person shooter, racing, action and adventure, as well as a strong narrative component. The following table includes definitions prepared by Screen Australia for these categories, along with selected examples

Genre	*Description*	*Examples*
Action	*Games that require quick thinking and reflexes to overcome obstacles or opponents.*	*God of War series, Assassin's Creed, Batman, Arkham Asylum*
Adventure	*Story-driven games involving exploration and puzzle solving. Myst, Heavy RainBoard/Card Often adaptations of physical board or card games such as chess, scrabble or bridge. Can also include original games or card trading games.*	*Myst, Heavy Rain*
Board/Card	*Often adaptations of physical board or card games such as chess, scrabble or bridge. Can also include original games or card trading games.*	*Solitaire, Pokemon Trading Card Game, Monopoly, Scrabble*
Classic (Retro)	*Games original released in the 1980s and 1990s.*	*Pac Man, Space Invaders, Frogger*
Educational	*Games designed to teach players about a particular subject or assist in learning skills.*	*Where in the World is Carmen San Diego?, Brain Fitness, My Word Coach*
Family/Party	*Collections of simple mini games designed for multiple players.*	*Mario Party, Wii Party*
Fighting/Combat	*Players engage in close combat with an opponent.*	*Street Fighter, Mortal Kombat*
First Person Shooter	*Involves shooting at a series of opponents. Player sees the action through the eyes of the protagonist. Usually requires quick reflexes.*	*Call of Duty, Resident Evil, Dead Space*
Massively Multiplayer Online Role-playing Game (MMoRPG)	*A role-playing game in which a large number of players interact within a virtual world.*	*World of Warcraft, Star Trek Online*
Platformer	*Games in which the primary objective requires movement through a series of levels, by way of running, climbing, jumping.*	*Donkey Kong, Mario Bros., Sonic the Hedgehog*
Puzzle	*Games which require problem solving skills such as logic or spatial reasoning to solve a problem or puzzle.*	*Tetris, Lemmings, Puzzle Quest, Angry Birds*
Racing	*Games based primarily on driving skills. Games can be based on real racing events or imaginary settings.*	
Role-playing Game	*Games in which a player creates or takes on a character. Typically rely on a detailed and expansive setting and story with an emphasis on character interactions.*	*The Elder Scrolls series, Fallout series, Final Fantasy series*
Simulation	*Games which simulate real world situations. The Sims Sports Adaptations of existing sports.*	*AFL Live, FIFA World Cup*
Strategy/Real Time Strategy	*Games which require strategic thinking and planning skills rather than quick reflexes to defeat opponents. Can involve strategic deployment of armies or resource management.*	*Starcraft, Total War series, Civilisation series*

Source: https://www.screenaustralia.gov.au/getmedia/24e18b4b-52ab-4c9f-8e4f-54a5fe89f53a/Report-playing-for-keeps.pdf?ext=.pdf (2011)

More recent advocacy for the Australian games sector is:

> *Few Australian industries have the potential to create IP with long term value, bring up a generation of futureproofed technology workers, access billions of global consumers, and attract high foreign investment – while also adding to the wealth of Australian culture. In fact, we believe video game development is the only one. Despite this, our game development sector and the opportunities that can be reaped if it is supported still lacks the governmental and wider industry recognition it deserves. We are fighting to change the perception of game development and raise awareness of its potential…..*
>
> *The key reason for our industry's small scale at home is that unlike our international peers, Australia's funding programs and tax incentives for the screen industry have not extended to video*

games. Fixing these policy gaps will have some immediate impacts: Our existing studios will have the support they need to get started, to get projects running, to hire and to grow. Australia will finally be able to compete globally for the billions of dollars invested each year in making video games. There is currently at least half a billion dollars of new investment, ready and waiting to be spent on making games in Australia. There will be an explosion of unique Australian-made video games. With these support mechanisms in place, we believe that our budding video games industry can within ten years grow into one that generates $1 billion annually, with most of that being export revenue, and create 10,000 new highly skilled, innovation-focused, full-time jobs.

We are calling for a new 30% tax offset for game development work, just like the PDV offset available to our fellow animation and special effects industry. We are also calling for the restoration of the Australian Interactive Games Fund, which was cancelled just one year into its four-year term, so that game developers have the support they need to create games here in Australia.
Source: https://igea.net/igea-publications/ Policy and Advocacy, Game Engine and https://www.gamesindustry.biz/articles/2021-08-10-how-australia-is-creating-a-sustainable-video-game-development-ecosystem

5.10. Nordic and EU ecosystem

The Nordic games sector has a very mature ecosystem between investors and games studios, especially in the early stage of development. We start-off with comments from an investor:

Nordic Game Ventures (NGV) are highly experienced investors in building funds from institutional pension investors who can invest in start-ups, early stage projects and other elements in the games industry by a fund that operates under regulatory supervision (i.e. AIFM EuVECA supervision).

NGV: It is very good to have a two or three-page pitch, clearly explaining the unique strengths of your first product or service, and the well thought-out way you're bringing it to market, as well as why the team is ideally suited to do this. Tell us what you are offering, how much you want for it, and how you would use that money. Extra points may be given for reasoning about future products and how the competitors might react to your market entry….. We are constructing a balanced fund, with both "hit potential" creatives and lower-risk infrastructure development, where portfolio companies could support each other. It is to some extent by chance that many of our investments so far have been in the ecosystem. ….

Nordic Game Ventures invests exclusively in unlisted early stage game development and games ecosystem SME companies in the Nordic region that show outstanding team competence, exceptional content and a solid market approach. Learn more about Nordic Game Ventures at nordicgameventures.com.
Source: https://nordicgame.com/exclusive-nordic-game-ventures-co-founders-interviewed/

Government policy is next outlined:

1. World's top talent to Finland
State: Moving to Finland must not take more than seven days. A hundred million euros must be invested in both attracting top talent to Finland and streamlining the immigration process during the next parliamentary term.

Regions/State: Young people must be presented with a well-resourced and effective path from game development clubs to educational institutions and further, to the top of the industry.

2. World's best aid instruments
Regions/State: Finland's presence at key game industry events must reflect the fact that Finland is one of the leading game development countries in the world. Sufficient funding must be secured for trade missions and seminar trips for amateur game developers.

Regions/State: Regional seed funds must be set up to support the establishment of first-round start-ups.

State/EU: To complement the EU's Creative Europe funding, The Finnish Ministry of Education and Culture must create a separate national production aid instrument dedicated to games.

3. Making Finland the best stepping stone to the world
State: The Finnish tax authorities, data protection authorities and consumer protection authorities must provide the world's best and most comprehensive support services for operating on the global digital market.

EU: The European Union must become a unified Single Market based on uniform, innovation-friendly and technology-, content- and business-model-neutral regulation.

In more detail public policy in Finland is further outlined:

The Finnish public sector has supported the game industry for around twenty years through Business Finland (formerly known as Tekes – the Finnish Funding Agency for Technology and Innovation). Between 2004 and 2016, Tekes invested around 100 million euros in game companies, while the industry's cumulative turnover was around 8.5 billion euros. The largest Finnish game company in terms of turnover, Supercell, alone paid 622 million euros in corporate income tax between 2012 and 2016. Furthermore, Supercell employees and owners have paid around 400 million in individual taxes, and Supercell's corporate restructuring has generated another 670 million euros in tax revenue. This tax revenue from corporate income taxation and taxation of persons is 17 times the direct public investment in the industry from 2004–2016. The game industry has thus been a highly lucrative investment for the Finnish State. Generating potential tax revenue was not, however, the only reason the public investments were made. In today's increasingly digitalised world, a global knowledge- and skill-intensive sector such as the game industry is a driver of the digitalisation of society, bringing technological innovations, new business models and unprecedented artistic content to people's everyday lives.

Despite a few successes, the early 2000s were a difficult period for the Finnish game industry. Risky investments in game development were halted, and despite a promising start, mobile game development also ground to a halt. Publisher-driven PC and console game development was too challenging for most small game studios. Then Nokia came to the rescue. Nokia was confident that its N-Gage PDA, launched in 2003, would revolutionize mobile games and therefore invested in the development of game content for the handset, including investments in Finnish companies. The N-Gage failed. The device was expensive to manufacture, clumsy to play on and games were distributed only in traditional brick-and-mortar stores. Still, the foundation for the mobile game ecosystem had been laid..

Among the biggest obstacles to growth in Finnish and European game companies is talent shortage. To meet the shortage, highly skilled international professionals must be attracted here and domestic professionals must be trained. If Europe wishes to retain its key role in building the digital world heritage it assumed in the past decade, Europe and Finland must open their borders to top talent and become the world's most enticing work destination by 2024. At the same time, the European – and Finnish – educational system must be prepared to educate world-class talent. However, education providers are increasingly struggling to provide their students with a sufficient level of competence. The key skills required in the game industry cannot be achieved merely by means of education; expertise in the field also relies strongly on genuine interest and participation in playing and developing games as a hobby. Without these, it is almost impossible to become a top professional. The focus of the education system must therefore be shifted from educational degrees towards lifelong learning, thereby providing everyone the chance for constant skill-set improvement as well as recognise talents' self-acquired competence. Game development-related education should also increasingly make use of the same materials companies provide for internal training. Source: http://www.neogames.fi/wp-content/uploads/2019/01/Finnish-Game-industry-policy-recommendations-for-2019%E2%80%932024.pdf

The justification for public support programmes in EU countries is often presented as a cultural support system needed to retain language and cultural interests in the face of more dominant cultural inputs from the US and Asia. Arguments are presented as follows:

Considering cultural heritage, it is important to support audio-visual productions such as films, television, and computer games as both the smaller European countries and the larger ones, such

as Germany, Poland or France, cannot sustainably assert themselves on the world market due to economic principles governing the media economy, such as economies of scale and network effects. Domestic markets are available, but not large enough. Therefore, for both cultural and economic reasons, it is necessary to support media production in these countries on a long-term basis …. countries such as China or the USA have large domestic markets in which network and economies of scale can spread unhindered, this is not the case in Europe, as the domestic markets are comparatively small.
Source: http://baltic-games.eu/files/bgi_game_development_financing_strategies.pdf

To improve policy making the EU commissioned an analysis of gaming in the Baltic states. Some comments were:

. For the average game start-up, you will need Programming (technical talent), Graphics (creative talent), Game design (creative talent), production management (entrepreneurial talent), business development (entrepreneurial talent). One person can hold several of these talents, or they can be split between individuals on a larger team." ….

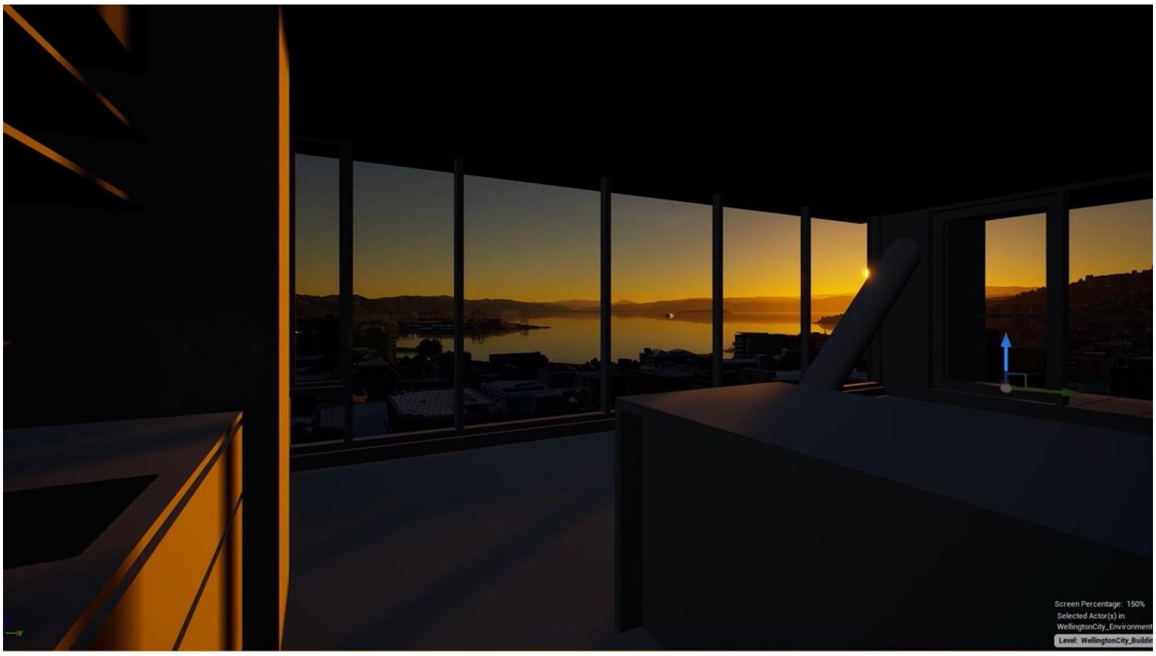
"Overall, I think that incubation and teaching young people an entrepreneurial mindset is important - but also very difficult. With the conception, design and production of games being one of the most complicated processes for product development, this makes the task even more difficult for game start-ups. With production times of 2-3 years on average for the first game from a startup company, it means that many traditional models to support entrepreneurship are not a good fit. The idea that you can run a 3-6 month 'incubation' process, and then expect to see results after this is unrealistic in the game industry.
Source: http://baltic-games.eu/files/bgi_game_development_financing_strategies.pdf

5.11. Reality and gaming technology

Gaming technology is being used in simulations and representations in the real world. We present two examples from architecture/planning and a temporary outdoor visual screen.

5.11.1. 3D visualisation of the City

Digitalisation of Wellington City combined with 3D representation renderers from Digital FX and gaming technology enables architects and planners to 'see' better the impact of buildings on the environment. The following figure is a synthetic image of the view at daybreak from a new apartment (yet to be built):



Source: WCC

The above capability is arguably not a game, since it does not have a script. However it is an example of gaming technology that enables real world activity, in this case an easier sale of an apartment. There are other examples in engineering, motor sport, aeronautics and health when training simulators based on gaming technology make it easier to train users in expensive or dangerous procedures.

5.11.2. Temporary outdoor visual screen over Shanghai

In Shanghai an event used 1,000 drones to make a 3D QR code over the City.

Source: https://www.facebook.com/photo?fbid=10160771742828362&set=gm.1135266000250794

5.12. Games genre

The following table presents an analysis of genre and sub-genre within the digital games sector as interpreted by one observer as at 2020:

Genre	*Description*
Sandbox	*the core element of a sandbox game is that you can be left to explore and interact with the game as you please. It's like giving the user a set of tools and an environment and letting them do what they want with it. This draws players into more immersive experiences, encouraging experimentation with what may be unfamiliar mechanics. Examples: Minecraft, Grand Theft Auto, The Sims*
Real Time Strategy	*Originally coined as a marketing term for Westwood Studios' Dune II, real-time strategy games were around for years before most players knew what the genre was. Thanks to their enduring popularity and the growth of new sub-genres, RTS games remain a conspicuous part of the video game landscape.In the archetypal RTS title, Dune II human and AI players control different factions and compete against each other simultaneously in "real time" hence the term "real-time strategy," as opposed to turn-based strategy. These games typically include resource and map management, and they often feature a top-down view. Warcraft,Age of Empires, Command & Conquer*
Shooter	*The shooter is another long-standing genre that developed several early offshoots and branched out into two primary sub-genres: the first-person shooter (FPS) and third-person shooter (TPS). There's plenty of potential for overlap here, too, since many contemporary titles allow you to toggle between first and third-person viewpoints. Not only that, but most battle royale games – a sub-genre unto itself – operate as either first or third-person shooters, including Fortnite and PlayerUnknown's Battlegrounds. The key difference is perspective. An FPS simulates a typical human viewpoint, showing essentially what your in-game character sees in franchises like Half-Life, Call of Duty, and DOOM. A TPS pulls the perspective back and showcases your entire character and surrounding environment, such as in the Gears of War and Tom Clancy's The Division series. Examples: Halo, Doom, Gears of War*
Multiplayer online battle arena (MOBA)	*An increasingly popular subgenre with connections to a variety of other styles, multiplayer online battle arena games share many features with real-time strategy games. There's a top-down perspective that emphasizes map and resource management, plus real-time competition between players. The major difference between MOBAs and RTS games is the player's character and role. In a MOBA, you may have a faction alignment and many of the RTS basics in play, but you typically only control a single character. That's a significant contrast with most RTS games, where you build communities and command multiple units.* *MOBA games also prioritize multiplayer and team play. While some well-known titles feature AI-controlled elements, you usually play with and compete against other human players to meet a set of victory conditions.* *The niche is dominated by Dota 2 and League of Legends, both of which have developed substantial audiences in eSports. Also see Smite.*
Role-playing games (RPG, ARPG, and more)	*The basic premise of the role-playing game is simple and ubiquitous in numerous games: you create or take control of a character that you can then level up through experience points. RPGs are a cornerstone of gaming, but no single game can represent the genre because it's grown and blossomed into numerous sub-genres. With that in mind, here are the most popular sub-genres with a short explanation for each.* *RPG: Encompasses a variety of different niches and sub-genres, ranging from tabletop gaming with cards and dice (Dungeons & Dragons) to video game RPGs (Fallout).* *ARPG: Action RPGs have a strong emphasis on combat but include many of the characteristics of a standard RPG, like The Witcher 3.* *CRPG: "Computer RPG" is typically used to describe Western-developed RPGs created for PC gamers, like the first two Fallout games.* *MMORPG: Combines the massively multiplayer online genre format with RPG gameplay, with notable titles like World of Warcraft, EVE Online, and Elder Scrolls Online.* *TRPG: Short for tactical role-playing game, TRPGs resemble strategy games but place a deeper emphasis on creative thinking and short-term decision making, like the XCOM series.* *Roguelike: Strict definitions feature turn-based gameplay, some form of permadeath, tile graphics, and procedural generation. However, many newer and popular examples, like The Binding of Isaac and Spelunky, focus more on action and platforming, respectively.* *Roguelite: Does not include one or more key elements of a typical roguelike. Definitions for this sub-genre will vary, but Rogue Legacy is a widely accepted example.*
Simulation and sports	*These genres have evolved a lot over the years and you may actually see them in the same light. But it's only with advances in graphics technology that they've begun to offer unique immersive experiences. The latest iterations provide impressive levels of detail and showcase just how much is possible with games.* *Sports games have expanded in variety, offering full-fledged partnerships with major sporting organizations, from race tracks to the field or court. NBA 2K and Madden NFL are two well-known examples that feature detailed recreations of professional basketball and football, while Forza is a simulation-style car racing game. The simulation genre encompasses many sandbox titles, world-building games, and virtual reality games. The typical focus is on creating an immersive and realistic game world with epic scenarios,*

	while smaller experiences may center on a particular area or experience.Minecraft and The Sims are good examples of simulation games that also fit into the sandbox niche. Examples Forza Motorsport, Madden NFL, NBA2K
Puzzlers and party games	*Puzzlers and party games also have a significant overlap, with both emphasizing game mechanics. You can expect to play a game based on a theme or a traditional tabletop game with particular rule sets. Party games take that premise a little further and often include multiplayer elements. They also double-down on gameplay. The Mario Party series is particularly popular, and it spawned more than 10 installments and spin-offs. Puzzlers, also known as puzzle games, can be as simple as Minesweeper or more deeply immersive, with fully developed environments and hybrid gameplay. The Tomb Raider series is a good example, where puzzles are built into a conventional adventure narrative and setting, making them a key game mechanic. Also, mini-maps are often presented as puzzles you solve (or uncover) throughout the course of the game.*
Action-adventure	*Among the earliest recognizable hybrid genres, action-adventure games have a deep focus on plot and combat through story involvement and tight gameplay mechanics. As a result, many games can fit into this category, including the classic Legend of Zelda franchise that paved the way for numerous franchises. Most users draw the line between action and adventure in how a game balances story and features like simulated combat. Ubisoft's Assassin's Creed series has been a mainstay since 2007 thanks to near-annual new releases featuring a high degree of immersion. They have also taken gamers to myriad locales and historical landscapes ranging from London during the Industrial Revolution (Syndicate) to ancient Greece (Odyssey). Released in late 2019, Star Wars Jedi: Fallen Order is another well-received action-adventure title from the folks at Respawn, who previously worked on the Titanfall series. Other more modern examples include the Watch Dogs series, Sekiro, and the Arkham games. It's worth noting that adventure games encompass their own genre as well. Many of them fall into the point-and-click sub-genre, which typically involves players solving mysteries or puzzles in a first-person perspective. Think of classic titles like Escape From Monkey Island, King's Quest, and Day Of The Tentacle as mainstays of this sub-genre.*
Survival and horror	*Survival and horror games have a lot of overlap, to the point that they even created their own sub-genre (survival horror). In particular, horror games often share some basic features with their survival counterparts, though the reverse is less often true. As developers add more FPS and conventional shooter features to certain horror and survival titles, there's even ongoing debate about how to define these games. The core mechanics of a survival game centers on resource management, often incorporating crafting or salvage systems that you can use to help keep your character alive. Minecraft is a popular standout, as is Don't Starve. And then there are games like The Long Dark, which focuses entirely on survival elements with a dedicated mode that increases difficulty. Horror is an even broader category, arguably encompassing dozens of survival titles. Almost anything with zombies, a post-apocalyptic storyline, or loads of jump scares is considered horror. These titles are often psychological, too, and use tension to immerse the player in the game. On the pure horror side, you have games like Amnesia: The Dark Descent, Alien: Isolation, and Blair Witch. However, the most popular horror titles tend to fall into the survival-horror side of things, such as the Resident Evil and Evil Within franchises.*
Platformers	*Looking for a genre that hasn't changed much in concept over the years? When it comes to nostalgia and devotion to craft, the platformer genre covers a huge variety of games that still proudly showcase their roots in the earliest 2D side-scrollers. Platformers involve running, climbing, and jumping as the player explores and works their way through challenging levels.* *Platform games feature a side view and simple controls, with Donkey Kong often considered the first true example. That game passed the torch to Super Mario Bros. and later Sonic the Hedgehog. Moving another several years forward, Naughty Dog's first Crash Bandicoot title found its audience with a different camera angle (head-on) and loads of charm.* *Platformers are extremely popular with indie studios and gamers, as well as legacy releases. There are also plenty of RPG crossovers and excursions into even more obscure niches as well. Ori and the Blind Forest is a popular example that incorporates puzzles and adventure elements, as is Cuphead, which is both beautifully animated and deeply challenging.*

Source: https://www.hp.com/us-en/shop/tech-takes/video-game-genres (Dwight Pavlovic is a music and technology writer based out of West Virginia.)

5.13. Revenue by selected countries

The following table records studio revenue by selected countries:

Country	Revenue (US$m)	Rev per pop	Rev per emp ($USk)	Source
Finland	$2,160	$393	$675	https://www.gamesindustry.biz/articles/2021-02-17-supercell-posts-solid-profits-despite-fifth-straight-year-of-revenue-decline

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Sweden	$2,320	$230	$392	*https://www.thelocal.se/20210312/analysis-how-sweden-conquered-the-gaming-world/*
Wellington	$61	$117	$312	*https://www.stuff.co.nz/business/300205272/game-on-new-zealands-next-billiondollar-industry*
Israel	$1,000	$115	$250	*https://www2.deloitte.com/content/dam/Deloitte/us/Documents/process-and-operations/us-the-israeli-video-games-ecosystem.pdf*
Auckland	$93	$55	$312	*https://www.stuff.co.nz/business/300205272/game-on-new-zealands-next-billiondollar-industry*
NZ	$230	$48	$297	*https://www.stuff.co.nz/business/300205272/game-on-new-zealands-next-billiondollar-industry*
UK	$3,218	$47	$201	*https://ukie.org.uk/resources/ukie-annual-review-2020*
Australia	$140	$5	$110	*https://www.pcgamesinsider.biz/news/71896/australian-games-studios-generated-1404m-in-revenue-in-2020/*

Source: as noted

6. Attachment Two: Wellington stakeholders

Table 6.1 presents stakeholders in the Wellington digital games sector:

Table 6.1 Wellington gaming stakeholder list

Studio	Backers	Focus	Principal	Emp (est.)	Location	Website
PikPok	Indie	We focus on engaging and delighting players with high quality art, intuitive gameplay and rewarding in-game experiences.	Tyrone McAuley, Mario Wynand	210	Wellington	Pikpok.com
Dinosaur Polo Club	Indie	Traffic simulation	Robert and Peter Curry	44	Wellington	dinopoloclub.com
A44	Xbox/Microsoft	Sophisticated group of game developers and world-leading visual effects artists who excel at meticulous gameplay and cinematic experiences to deliver a multi-player role playing game	Derek Bradely	30	Wellington	a44games.com
Weta Gameshop	Clients	Unleashing our imaginations to tell immersive stories is what truly drives and inspires us.		25	Wellington	www.wetaworkshop.com/games
Nyuk nyuk		Animation	Theo Daynton	18	Wellington	nyuknyuk.com
NianticLabs (ex NZXR)	NianticLabs (i.e. Pokemon Go)	Alongside our colleagues at Weta Workshop, we developed the world's first long-form Mixed Reality action game, Dr. Grordbort's Invaders, followed by a variety of multi-user experiences and applications. Our team has previously worked on titles ranging from AAA blockbusters to top grossing mobile games, accumulating over 160 years of combined experience.	James Everett	12	Wellington	www.nzxr.dev and www.linkedin.com/company/nzxr

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Studio Mayday		We are here to redefine genres, subvert expectations and create empathetic stories. We are calling out to fellow time-travelers and inventors, astronauts and adventurers — those who dare to craft tales yet untold.	Joshua Boggs	12	Wellington	mayday.nz
Beyond Studio	Indie	Friendly, hilarious, active multiplayer VR games, where friends and family can compete using the latest VR hardware, affordably.	Jessica Mannins	11	Wellington	
2up	Supercell	Co-op mobile games to connect friends, family, and strangers	Tim Knauf	7	Wellington	2up.games
Camshaft software	Indie	Automotive simulation	Andrew Lamb	10	Wellington (relocated from Melbourne)	camshaftsoftware.com
Dogma Games				0		
Dried Frog		Futures thinking		>0		
Dry Cactus		Bridge simulation		1	Kapiti	polybridge.drycactus.com
Gamelab	Angel investor	Education via Gamefroot development tool	Dan Milward	4?	Wellington	make.gamefroot.com
Indefatigable		Amid Evil: a badass monster mash	Leon Zawada	4	Wellington	elzee.co.nz
Mixt studio		AR/VR development services		?	Wellington	mixtstudio.co.nz
Spruce Goose Games				2	Kapiti	sprucemoosegames.com/
Wildboy studios		Captivating stories, striking art, poignant sound, technological ingenuity, and above all else, individual contribution	Sid Bardiya, Ben Costeloe, and Patric Corletto	3	Wellington	https://www.wildboystudios.com/
TOTAL				391		

Source: https://nzgda.com/studios/location/wellington/

7. Attachment Three: Consultation

7.1. Consultation questions

Consultation was based on the following:

1. What you're doing?
    a. Products
    b. Trends in the sector
    c. FTE's employed
    d. Future plans (employment, product direction)
    e. Images/graphs we can publish
2. How can the City do better?
    a. How does Wellington compare with other cities (national and international) for attracting/retaining workers in your sector
    b. Employment issues (border, housing, transport etc)
    c. How can we improve the environment to recruit and retain?
3. Government
    a. How we might advocate more effectively to government on behalf of the sector
4. Constraints
    a. What are the top 3 issues holding you back?

7.2. Stakeholders

Table 7.1 presents stakeholders consulted in developing this report.

Table 7.1 Stakeholders consulted

Agency	Person
Niantic Labs	James Everett
Dinosaur Polo Club	Chantelle Cole
PikPok	Mario Wynand
NZGDA	Chelsea Rapp; Chair
NZ Growth Capital Partners (formerly NZVIF)	
Red Sky Generation Game	Naphtali "Veselekov" Faulkner
MBIE: Digital Policy Manager	Chrisana Archer
MBIE Analyst	Lukas kristen

7.3. Consultation

7.3.1. NianticLabs

A discussion with James Everett:

How did you land in Wellington?
Timeline:

1. Initial gaming experience in Vancouver and Montreal
2. Stint with PikPok (then Sidhe)
3. Returned to Canada to Toronto
4. Weta Workshop to work on Augmented Reality tools to work with the MagicLeap glasses
5. Pandemic hits and Magic Leap retrenches
6. NZXR founded with 9 colleagues out of Weta Workshop as contract developers for AR tools
7. NianticLabs (responsible for PokemonGo) contract to develop tools in their Lightship product
8. NianticLabs brings the NZXR team of 12 on board

Building the Wellington team:
At the moment the Wellington team is looking to get integrated with the international Niantic team and there is little thought on expansion. But maybe they are looking at 3 juniors over the next year or so. We're all working from home at the moment so we'll need to think about a co-working space to bring juniors into.

What do you and Niantic Labs do?
Niantic is a tech company that is also a games company.

Lightship:Augmented Reality Development Kit (ARDK):
Lightship is Niantic Labs core delivery platform that allows users to interface between the real and augmented reality (AR) world. It is a tool that allows developers to generate content so that users can interact via smartphones with their friends and other users of the game. PokemonGo is delivered by Lightship. To facilitate this Niantic maintains and builds a view of the 3D world as provided by product users of the places they are interested in, such as Parks and other places where people gather. The tech is great and it doesn't cost anything to support a game until the user base exceeds 10k users.

AR development:
We effectively work as Niantic Lab's advanced Research & Development team to explore and build capability into the Lightship product. We take briefings from Niantic Labs about new features they'd like in th game which we take forward to the point where they decide whether to put it into production. We also provide support to the core Lightship product.

CIVIC engagement:
We are looking to engage with artists and Councils to generate content that can be delivered via AR and make use of the capability in Lightship. Hence the Digital Twin to visualise development in the civic environment (i.e. Let's Get Wellington Moving projects) and stories that engage widely with the community via local and indigenous artists such as at public events.

Engagement: with Māori and Pacifica artists:
Some discussion has occurred with MCH on deploying AR capability that can be used at festivals and other public events to display indigenous stories and design.

Why Wellington:

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Ease of connectivity and the Airport is great. Niantic is an international company and I'm about to fly to Tokyo to see what they're doing there.

Wellington packs a lot into a small space, and it has advanced technical infrastructure (i.e. high-speed fibre), even compared to large US cities such as San Francisco. And all the things they say about Wellington is true ….so I don't need to talk about that.

Downside of Wellington:
Travel by public transport (pre-Pandemic) was difficult, housing is expensive and so is the cost of living. I had to lift the salary of a junior from $60k/year by 20% to make it work when we looked at rents.

It is now expensive for the 'weirdos' to live here. But we like 'weirdos' and we need them for some of our artistic production work. So if they are struggling, it stops us being as efficient as we could be. It also lowers the fun by slowing the number of cheap 'weird' art shows.

How can public assistance for Digital Gaming do better?:
Many jurisdictions offer direct subsidies or tax offsets to Digital Gaming (i.e. 30%+ in Australia and 37.5% in Quebec, with large assistance packages in other Canadian provinces, plus other jurisdictions). It allows firms to increase the # of people employed and in theory it increases the quality of the output. However once they are ON, it is very difficult to take the subsidies OFF or reduce them. And the economic outcomes can be variable.

Finland (similar to New Zealand in many ways) is an interesting example of how their gaming sector developed into an international power-house which is approximately 10 times New Zealand's:

1. Public assistance
   There was targeted public assistance via their equivalent of Callaghan Innovation and taking equity positions in selected projects.

2. Technical talent
   The 'disintegration' of Nokia made a large number of very talented people (especially in the mobile space) available to the digital gaming sector. This component of Finland's success has not been widely recorded.

Sector development:
CODE:
The CODE project in Dunedin (establishment director Tim Ponting) is an example of a functional public intervention that is developing skills, employing people and creating content. It benefits from strong local stakeholders, good governance input, and a living environment where practitioners can thrive. I know of at least 5 people who have re-located to Dunedin (some to start studios) for that reason. A similar CODE project in Wellington would be great.

Cross-over potential:
There is an expectation that film and VFX has cross-over potential with Digital Games. However the reality can be very different due to the disparate nature of the tools that parties use. I.e. I have experience of it talking 1 year for very experienced film artists to become fully productive in the tools used in the Gaming industry.

Sector stability:
Wellington has a group of relatively stable studios who provide work for close on 300 people and support skill development:

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1. PikPok (Wellington)
2. A44 (Wellington)
3. Dinosaur Polo Club (Wellington)
4. Weta Gameshop (as a part of Weta Workshop)

The big Gaming Centres in the world tend to be in large cities with large production centres. Where Wellington is by comparison small, but on a per capita basis, Wellington punches above its weight.

The question for the future is about meeting the trends in technical as well as consumer demand, and how public interventions can support this sector. CODE is doing good things in Dunedin. and it feels like it would be great idea in Wellington.

7.3.2. Dinosaur Polo Club

A discussion with Chantelle Cole:

How did your studio get started?:
Dinosaur Polo Club (DPC) studio was started by two brothers in 2013. They gained some experience with the now called PikPok and then branched out on their own to eventually start this studio. In 2013 they launched Mini Metro (a game to move people about in a sub-way) by playing with the iconography of a city metro much like the map of the London Underground. It started out of a Games Jam. It's got a clean and beautiful palette, accessible, is not violent and quite mesmerising, for mobile and console users. it is about 'infrastructure'. It was marketed by word of mouth, underground. The game took off with a BAFTA nomination and won the audio prize (nominal for 4 categories) of Independent Games Festival (Oscars of games) in 2016. Mini Metro was asked to join Apple's App store and became a big hit.

Then Apple launched a subscription service and approached 100 studios internationally to source content. In 2019 Mini Motorways was launched and got into the top 10 in that year with a launch on Steam helped by investment in marketing to lift the hype. It was also released on the Nintendo platform in Japan, which is regarded as a hard platform to crack.

We have received a number of awards where we enter awards to provide a spot-light on what we do:

1. Nominated for awards in the gaming sector
2. Member of Fast-50 Deloittes
3. Fastest growth in the Lower North Island
4. Best exporter
5. Inspiring women leaders

Among others

Future plans:
We have 22 FTE and are looking to grow to 30-40 over the next two years. We will be looking for a publisher to help launch new games. It is possible to self-publish; it's cheaper but also more risky. We will be looking for a partner to help launch and fund a new game. We are currently working on new work space by the sea-front in the CBD. It will be magnificent with room for sector gatherings, a well-being room, room for students, and space to run NZGDA sector presentations.

Hiring is a challenge. We have been looking to hire seniors from off-shore to mentor the juniors and increase their skills. However that option has been closed to us. Hence we have been hiring juniors and looking to train them up. But the critical skills we need are Games Designers who are people who bring the content creators (artists) and the programmers together to create a game that users want to play. Those skills are critical and rare; they are not taught in the schools, learnt by doing and require a certain aptitude. Traditionally programmers have been valued over artists (possibly because they have alternative employment options in the wider tech sector). But it is the artists that give a feel and sense of place to the game, and they tend to get left behind in terms of valuation.

We pay according to seniority and the extent to which people have proceeded along their progression on work skill. Future growth will be limited by:

1. ‘Tight’ border
   Border controls and the time lag to make offers will limit the number of mentors we have to bring juniors on.

2. Australian subsidies
   The 30% federal tax breaks for Australian studios (plus State subsidies, i.e. 10%+ in Queensland) are likely to impact the sector significantly. Australian studios will be tempted to poach New Zealand based resources and New Zealand studios will be tempted to setup a subsidiary in Australia to benefit from the subsidies.

   DPC have already 2 of our staff approached by Australian based entities. One was made an offer to stay in Wellington, where the offer targeted skills rather than their income. The person was retained although it required a significant investment and re-scheduling of the work pipeline, so it was at a reasonable cost. People like DPC’s social and work environment. But we are also mindful that employees need to look after their financial situation and career paths. We work hard to walk the talk. We don’t offer large $s. Working ibn the US may mean large $s, but in many cases it also can mean indentured servitude. In Australasia, we try to walk the talk about well-being and getting the best out of staff and being mindful of family circumstances.

Advocacy to Government:
Games are often lumped in with Film/VFX. They are both collaborations between designers, artists, writers and technicians (programmers+), among others. Film/VFX currently receives 20%+ direct subsidy, developed in an age when ‘footloose projects could be retained or attracted with subsidies (the Lord of the Rings is a good example. However times have changed. Workflow for VFX in particular uses primarily digital tools and soundstages, and can be largely location independent. By comparison to Film/VFX, Digital Games receive very little public assistance, even though the international Digital Games market is approximately 3 times larger than film and has stronger growth. The New Zealand sector has shown it is internationally competitive, punches well above its weight, and has the potential to grow, provided it is given the right targeted assistance. Examples abound in Sweden/Finland/Canada, although specific circumstances differ.

Assistance needs to consider the differences between Film/VFX and Digital Games, and the environmental differences:

1. Distribution/Creation
   It takes 2+ years to build a game and COVID-19 has high-lighted the challenges of collaboration with distance, and differences in distribution need to inform any assistance offered.

2. Consumer engagement
   Games give users the ability to change the direction of a game, create output in many cases, and to collaborate/compete with others. The script of a Film by contrast is pre-programmed, and the engagement tends to be quote passive.

An intervention similar to the CODE ‘incubator’ could be a useful intervention in Wellington using the Massey school of design to provide a pipeline of employment ready skills for local studios, perhaps similar to the GamePlace space in Montreal.

Wellington digital games sector overview

Policy in this area is being actively considered (see https://digitaltechitp.nz/growing-export-success/) with advisors Nordicity and Jason Della Rocca among others who contributed to a report in 2019.

POST interview notes:

Imagine This:
An interview by Jehan Casinader with founders Robert and Peter Curry:
https://podcasts.apple.com/nz/podcast/imagine-this-with-jehan-casinader/id1593766042
Robert and Peter talk about their path in taking their ideas for a game to the world, including the pitfalls, the support and the plans and ways forward, and the process whereby a game developer can observe the games people are paying for and why, … since it helps developers to meet the market, and to meet gaps in the market … '

Victoria alumni interview:
Highlights:
Showing off our first game Mini Metro at the PAX game conventions in Boston and Seattle. Attending the BAFTA Game Awards in London with my brother Peter. Celebrating with the team when releasing our second game Mini Motorways on Apple Arcade, and then later on Steam. So many highlights, it's been a hell of a ride so far.

Challenges:
Getting the right people. Even before COVID-19 hit, it was getting tougher to bring in the people with the right skills from overseas, and now it's next to impossible. This has been a long time coming and Dinosaur Polo Club has been working on increasing our ability to train local people rather than relying on importing seniors from overseas.

Also, even though our games industry is bigger than Australia's we're at risk of losing out soon, as our government hasn't yet responded to increased industry support across the Tasman. It'll likely become a common story for New Zealand developers to lose talented team members to well-funded studios in Australia taking advantage of the government rebates.

Sound system in Mini Metro and Mini Motorways (procedurally driven):
Mini-metro has been described as a charmingly minimalist city management sim (Game Developer). Rich Vreeland of DisasterPeace designed the sounds/music in Mini-Metro and won the audio award at the IGF. He describes how the sounds in the game are triggered by actions of the players using a procedural soundtrack, and how the sounds offset and contribute to the overall gaming experience (https://designingsound.org/2016/02/18/the-programmed-music-of-mini-metro-interview-with-rich-vreeland-disasterpeace/). A similar approach was adopted for Mini Motorways (see https://www.gamedeveloper.com/audio/-i-mini-motorways-i-and-the-delicate-art-of-marrying-complexity-and-minimalism).

7.4. PikPok

A record of a conversation with Tyrone McAuley (COO) and Lance Burgess (CFO):

PikPok's legacy:
PikPok has been in business for 25 years and is acknowledged as one of the founders of the New Zealand digital gaming industry who have provided career pathways for many throughout the industry, as well as numerous awards and a BAFTA nomination. They have 210 FTE with 195 in Wellington and 25 in Medellin Colombia, where they have a recently acquired satellite studio. PikPok develop games (generally take 2 years) and then market and distribute those games, in 33 languages across 100 territories. It is a challenging business, and COVID-19 broke the mould whereby PikPok would travel to visit key overseas gaming conferences to meet with key influencers and others to test the market. To be successful we need to be nimble to respond to market developments.

Competition for skills from Australian and other providers:
Australia is now offering 30% federal tax subsidies coupled with State subsidies that can be another 10%+ in Queensland and South Australia. Partly as a result, Australians are offering large salary gains to selected individuals, to work from home (in New Zealand). In one case that almost involved a doubling of salary, although the individual had experience directly relevant to the game being developed, and they had ‘hunted’ him for a few years.

But it is not just the Australians. PikPok face strong competition from Xero, Trademe and other local providers for highly skilled Digital Tech skills. Gaming Studios are not the only source of competition. We have traditionally competed with Xero, TradeMe, banks and government for skills. But now we face unprecedented competition for labour. We recently lost 6-7 employees recently to international developments in NFTs/Crypto plays who are offering stock, digital currency + salaries. Our people like working for us and take great lengths not to burn their bridges. But the offers for our ‘seniors’ (i.e. highly experienced and productive workers) are too good to ignore.

Cost of living and the Wellington environment:
Cost of living (especially the cost of housing) is becoming a serious issue for lower to mid-level employees, despite our offer of a $7k assistance package. We need to bring down the cost of housing. Sewage on the street is also not a good look. Transport also has its challenges with bus shortages. Medellin is not first world, but it does not seem to have similar infrastructure problems. ‘We’ are proud Wellingtonians, but we need to sort out these issues.

We have considered our cash-flow over the next year and put all our spare cash into raising salaries by say 16% for the lower to middle level skills. It compensates peoples for some of these rising costs of living.

Traditionally we have held onto people because they can work where all the amenity is, close to the CBD, and walk 10mins to home. But things are changing …. South Australia is tempting, which offers a combined 45% subsidy and housing is reasonable.

When attracting talent to NZ as a whole, its an easy sell; environment, integrity, BUT now migrants can’t afford to live here.

So while the costs of our inputs are rising, the income from games is set by the international market and what we earn from in-game ads.

Christchurch:
We’ve recently been down to Christchurch where we received an offer that was extremely attractive. They went out of their way to remove financial risk, to welcome us, and to co-locate our operation into the University (which will be interesting).

Hosting the NZDGC:
Wellington will be hosting the NZ Digital Games Conference at Takina over the next 3 years. There is potential for cross-over with film VFX these days as the same tools are often used in both genre. PikPoke were involved in building a game for a film where the gam ended up being more successful than the film. So there is opportunities for cross-collaboration.

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Environment for skills:
We talk regularly to Massey and Vic media and design, and one year even hired the whole of the graduating class. So we're close to the source of entry level skills. But to build a game, we need senior game design skills that harness and direct that talent. That means seeking migrant labour.

Encouraging off-shore entities to setup here can have negative consequences. They invariably end up poaching staff (we have a gentleman's agreement not to do that with other studios), reducing trust and co-operation, and moving profits off-shore. Australia is subject to much poaching and in-fighting.

Soft-landing for migrants:
We need migrants to provide 'seniors' if we are to grow and provide work for juniors. But recruiting can be tough. It would be useful if the City could provide a 'soft landing' for families so their accommodation was sorted for the first 60 days (say) and they were helped to assimilate into schools, sport and social activities. PikPok has 6 position open now and expects a need for 4/month to service Digital Gaming.