A SPACE FOR BEAUTIFUL MISTAKES

Experiences, advice and strategies for developing an entrepreneurial spirit in education

Illustrative business models from key players in the Dutch games industry

A handbook for working with the knowledge output of the GameBiz project

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Cover art: Art from *Swords & Soldiers II*

FOREWORD

The book you are looking at is a snapshot, containing descriptions of four contemporary game companies from the sprawling Dutch digital games scene, and a description of one of the foremost game- related educational programs in Europe, located at HKU University of the Arts Utrecht, in the Netherlands.

It will hopefully interest you and make you think about what challenges you face when you start a game company today, as well as the challenges faced by the people who try to educate the digital game developers of tomorrow. The book also includes a concluding chapter detailing some of the responses to this challenge that the GameBiz partners have developed during the project. This should make it clear that even a challenge such as this can be solved when met diligently and thoughtfully.

The book you are looking at is also a handbook. It was produced as part of the Erasmus+ EU project called GameBiz to aid educational institutions all over Europe in establishing their own incubational environments and integrating them further into their educational programs. The project brings together Bournemouth University (UK), The University of Malta (MT), ENTI (E), Viden Djurs (DK) and Dania Academy of Higher Education (DK) to learn from both the aforementioned HKU (NL) as well as the eminently successful game business incubation environment Dutch Game Garden (NL), who have enjoyed an informal partnership for years.

Together, these institutions have devised and synthetised new ways of combining education and entrepreneurship at an institutional level to benefit students and start-up companies alike. This book and a host of other materials are available at the GameBiz website – http://gamebiz.hku.nl/ - will make what is learned and charted in the project available to everyone interested in doing the same at their institutions.

The book you are looking at is also a companion piece. While it can be enjoyed and used on its own, it works best when read in conjunction with the book The Business of Making Games, which was produced under the Interreg II Kattegat-Skagerrak EU-project and is available for free here: http://idsu.dk/publication/the-business-of-making-games-3/. Throughout this book, there will be boxouts pointing out connections to the former book, tying together the business models detailed there with the cases explored here.

It is the hope of the GameBiz consortium that you will find this book an inspirational piece in your own endeavours to further the cause of game development, or at the very least enjoy the glimpse into a fascinating part of the creative businesses of the future.

On behalf of the GameBiz consortium,

Mikkel Lodahl, Director of the Institute for Danish Game Development
Grenaa, Denmark, June 2016

GAMEBIZ

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"I'm going to use this," Keimpe de Heer – head of studies at HKU's department of games and interaction - says, putting an obviously homemade electronic thingamajig in front of me on the table, "if you ask me any difficult questions."

He explains that it is an executive decision making machine. You press a button, and it answers yes or no through diodes lighting up. It is indecipherable how it reaches its decision, but even in obscurity, it seems to be an engine of freedom. You can become caught up in thoughts and knowledge, stopping you from making decisions, but as soon as you do something, as soon as you press the button, you can move on. You can plan and plan and plan, but until you do, you cannot really know what works in the real world. That is the essential challenge of an educational institution: finding a balance between teaching hard planning skills, and providing space for students to do.

HKU is one of the powerhouses in the Dutch games industry. The University of the Arts Utrecht has educated many of the developers that make up the companies who have been at or still are at Dutch Game Garden, one of the world's foremost incubation environments for nurturing start-ups in the video game field. The Dutch game developer superstar Rami Ismail of Vlambeer - whose name comes up within five minutes of mentioning video games to any Dutch person - attended HKU. He has pursued a career of making indie games distinguished by feeling just right. His story and personality looms large over much of the way HKU and the Dutch games industry thinks of the business of making games. No matter what your business model is, it relates to Ismail's story, using that story either as an ideal or as an object of criticism.

Making games as an artistic or lifestyle choice is at the centre of the way Keimpe and HKU conceive their education for people seeking to enter the games industry. "An education should be a framework for the students to make beautiful mistakes," Keimpe opines emphatically. The project- based structure used at his institution does just this. Instead of structuring the education around lectures stretching for semesters on end and leading up to an exam, each semester includes several small projects where the skills the students learn are tested immediately. Keimpe feels strongly that it is an integral part of the learning process to fail, and the projects help the students fail in a relatively safe environment.

Keimpe de Heer - Head of Studies, HKU

1. Building entrepreneurial spirit

The skills HKU teach are thought of as building blocks, not ready-made solutions or answers, as many trade focused curricula are. "We can prepare the students, but the only way you can actually learn this is by doing it," Keimpe says, making a point out of mentioning that you need to cultivate an entrepreneurial spirit. "For example, the business model canvas[1] doesn't capture the entrepreneurial spirit - the attitude which is so crucial for setting up a business.

1   Editor's note: a commonly adopted method for structuring thoughts about business models, initially developed by Alexander Osterwalder

Do you think Rami Ismail is working with the business model canvas? No, he thrives on risk and experiments and making beautiful mistakes, and if you can harness that in you, you will succeed even in a business that changes continuously."

This spirit is not something you are either born with or not. The right framework can cultivate it.

HKU has recently changed their business-focused educational tracks to better accommodate this cultivation. Students who have set up their own company or want to develop a business idea further can apply for two different tracks in their third year. An A-track for students who choose to work on a prototype and design a viable business proposition for their concept, and a B-track for students who choose to work on product development and product release. Students are selected based on pitches of their ideas. Depending on the pitch, there is a chance that they are assigned to another track which better suits their idea.

The A-track helps them to go from a vague concept into an actual idea for a business supported by a working prototype. This involves teaching them basic business skills such as constructing budgets and setting up an administration, as well as mentoring them during the transition. Eventually the teachers at the programme also help by providing access to their own professional networks.

The B-track takes an already prototyped idea by an existing student company and attempts to carry it through to release, or at the very least to the level where it can attract investors. The professional networks of the teachers are activated early on in the process and a lot of time is spent networking.

The B-track is a recent innovation at HKU to accommodate the fact that there are students whose ideas have matured while they have studied other things in the first two years of HKU. Each new company is different and has different

needs – again a thing that educations are not always well suited to provide space for, especially in an era that increasingly focuses on standardisation in the educational and public management world.

It also highlights another difficulty for the teachers at HKU. It is often said that you need to go bankrupt a couple of times to learn how to run a business. However, a key part of education is that the failures of students are used actively by teachers to further learning. The popular idiom of failing forward indicates this primary task of educations: creating frameworks where mistakes become learning opportunities. The potential for failure is high in the famously risky games business, and with the focus of indie Dutch game developers on the personal connection to their games, a lot of blood, sweat and tears may be for naught.

Screenshot from the game *Rogues With Benefits* by *Rogues With Benefits*

Screenshot from the game *Tribal and Error* by *Grotman Games*

Keimpe mentions a student game that actively focused on generating hype and expectation, which worked well, but in the media this also resulted in some very damning reviews that came down hard on the team. "How do you deal with that from an educational point of view? Do we need to protect them from the real world? What we tried to do was to raise some realistic expectations in the team about the industry they were trying to enter. This is an interesting example, because now these students are actually teaching first and second year students, where they lecture about their experiences. How do you deal with bad reviews? How do you confront media with that as your story? Should you be open and transparent?" The answer to those questions guided – with the help of Keimpe and his colleagues – a turnaround in thinking about how to position and market student games.

Keimpe insists that this is one of the benefits of being in the safe zone of beautiful mistakes during your studies. "Vulnerability is strength," he emphatically points out, echoing the academic ethos of honesty rather than bluster that has characterised European academia since the days of Socrates.

2. How to make a living from art?

Chatting to current student companies at HKU, you get the feeling that this safe space is good for them, although it can sometimes be frustrating as well.

The student company Grotman Games – whose lovely game on visual communication and linguistic concepts Tribal and Error won the Indiecade interaction award in 2015 – felt that sometimes the space for mistakes might be too big. Especially when it comes to marketing, they feel left in the dark. "We learn how to make art, but not how to make a living from art," artist Daphne Fontijn quips.

Another student company – taking their name from their Indigo audience award winning game Rogues With Benefits – is in a similar situation. They've estimated that completing the game will take longer than the rest of their education, which pushes the question of making a living from it to the forefront of their minds. The transition from being able to do something for your own benefit to having to ask yourself "Is there really a large audience out there who are as excited as we are about the words 'procedurally generated content'?" is quite a challenge. It is just as challenging for educational institutions to figure out how to help students to ask these questions, let alone answer them.

"I want to ask the students the kind of questions I ask myself as an entrepreneur," Keimpe says. Mentoring from teachers with entrepreneurial backgrounds is key to his philosophy. There are many different ways to be an entrepreneur, of course, and how you do it will always be a personal question. This is why the students should be exposed to many different entrepreneurial role models or mentors in their student days. "They need to become aware of what kind of artist/entrepreneur they want to be," Keimpe says.

3. Three basic company types

Discussing these challenges with Keimpe, we begin to sketch out the different types of game companies that are working in the games industry today. We roughly arrive at three basic categories. **Classic business skill based, Art/lifestyle** and **Analytics based**.

Classic business skill based companies see the games industry as part of the entertainment industry. They structure their companies the same way you would structure a publisher, an ad agency or a film studio, basing their business plans on the kind of hard skills that business schools can provide. These companies are usually based on building relationships with other companies to provide funding and networking, and then operating in a traditional sense of bringing their product to market. That means constructing a hypothesis – X wants to buy Y – testing it in a controlled environment – survey a sample group of X – and modelling your business and product after the results of that testing.

Art/lifestyle is what Keimpe describes as "purest indie". They are the developers who actually want to pour their personal lives into the project of making games. Being a game developer is not a career choice as much as a sense of not being able to not be a game developer. "Classic business skills are needed in these companies too, of course," Keimpe points out, "but they are used as instruments to solve functional problems, not as a starting point." These companies are built upon a personal relationship with their community, who often feel a kinship with the company that is rarely seen with classic business skill based companies. It is the difference between brand loyalty and fandom, or the difference between liking Star Wars and liking William Shakespeare. Star Wars may bring you joy, but Shakespeare also brings you meaning.

Analytics based companies are a function of the technological nature of the field. The last ten years has seen a rise in the amount of data that can be collected from players, while they are interacting with games. You can chart the choices players make, designing in-game currencies and economies to respond to what players actually find interesting in the game, rather than what you

Art from *Rogues With Benefits*

Meeting between companies in *Game Hub Denmark: Game Incubator*

imagine they might find interesting or what they mention in focus groups. Analytics based companies use the classic business skills as a framework for running the business, but not really as part of the decision-making process. In many ways, this way of running a company is related to the almost positivistic turn that much of Western society has taken since the 1990s. Rather than constructing hypothesis, testing these in controlled situations and modelling your business after this, you should gather data from what actually happens and make decisions based on that. For example, if you monitor your players consistently choosing one particular way of solving a problem, you can then alter the gameplay to provide more problems that can be solved that way, or provide the opportunity to purchase in-game enhancements opening up this strategy in more places.

All three of these have one thing in common, though. They all need a close connection to the industry. Ultimately, this is what Keimpe sees as the make-or-break point of any entrepreneurial effort from students. Educational institutions should build relationships with the industry. These relationships should then be made available to help the students.

4. Students are part of the industry

"You need to provide space in the curriculum to work with the industry in the industry," Keimpe points out, "Which means setting up an ecosystem that is not based on the day-to-day requirements of attending lectures and classes, but feels more like an actual business." If you can set up a situation where the industry and educational institutions work closely together, you have come further towards engendering entrepreneurship than any hard skills can do.

In essence, all the hard skills and all the education should give the students the tool to build a business that can give them the confidence and grounding to follow the one piece of Keimpe's advice that saves most entrepreneurs when they go into the wild beyond: "Don't say yes immediately."

When it comes down to it, what students get from educational institutions is closely related to what Keimpe put forward at the beginning of our interview: the means to construct their own executive decision machine. Because the only way to know how a decision is made is if you are aware of how that machine is built.
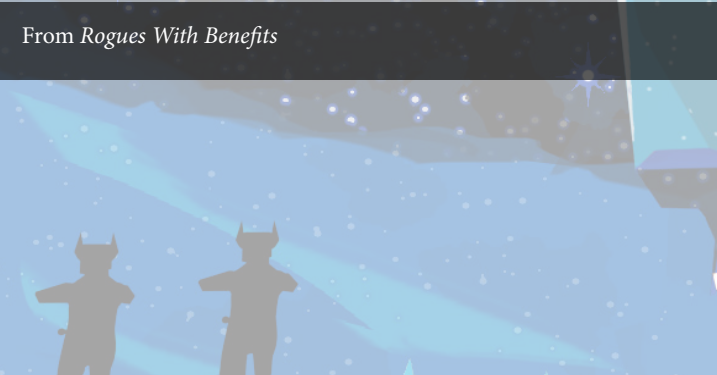
Creature Design for Rogues with Benefits by Jacqueline van Rhijn

In-game screenshot of the game *Tribal and Error,* by *Grotman Games*

From *Rogues With Benefits*

RONIMO GAMES: FROM PUBLISHED TO PUBLISHER

The office of Ronimo Games – the studio behind the successful franchises Awesomenauts and Sword & Soldiers – has a distinct loft-like quality, even though it is placed on a middle floor behind a discreet entrance to an anonymous stairway in Utrecht. The development team sits in a large, open office environment that signals the kind of creativity found in architectural companies or comic book bullpens, while Fabian Akker, Ronimo's lead designer and PR Representative, proudly shows me the giant dining room table that they use for board gaming and Pathfinder as well as lunch.

Sitting down with Akker, you get the sense that Ronimo Games very much is a classic creative company. The people are there to produce a collaborative, creative product, and as I am told more about how they manage that product, the comparison with comic book companies becomes more and more apt.

Just like many illustration bureaus that morphed into companies like Marvel or DC, Ronimo started out combining work on their own ideas with work for hire. "We did all kinds of outsourcing," Akker tells me, "Art, websites, design – but very rarely games." The games they worked on were their own. This way of running things – as well as a government art fund – kept the company alive and built experience, but after a year and a half of the split, Ronimo still hadn't any original games of their own to show for it. Thus, they dedicated themselves to working full-time on their own IP – that is, a game they owned as their own intellectual property.

"We did a vertical slice that let us sell our first game to Nintendo for the Wii," explains Akker, "This gave us funding to realise the game fully, and then also take it to PlayStation 3 afterwards." This is the main business model of Ronimo. To develop a vertical slice – a short demo of the product that is up to release-standards – to sell the game to a publisher, who then funds the full development of the game.

The key part is contract negotiation, where you have to secure IP ownership as this allows Ronimo to launch the game on other platforms than the initial one at a lower cost. Costs are usually funded by a portion of the money made from the game after release.

"There are two variables in contract negotiations," Akker explains: "Money up front and revenue share. Publishers see money up front as a huge risk, so you can decrease that risk by moving some of your compensation to revenue share. Basically, publishers are like banks – they only see risk." Akker details a string of things publishers look at to minimise their risk (see boxout), displaying an impressive amount of negotiating experience.

Akker also points out some of the pitfalls of working for a publisher. Although appropriately discreet when he details his stories, he recounts examples of publishers who have been reluctant to pay out revenue share money or even parts of the development costs. In fact, he suspects that some publishers count on not having to pay the money, hoping to have a secure stream of income for themselves to ensure liquidity. Thus, he cautions that if you can, you should build leverage into the contract, such as not having to deliver source code until the money is delivered.

WHAT DO PUBLISHERS LOOK FOR?

- Will it sell?
- Does the projected release date fit in our fiscal year?
- Is your company successful?
- How many finished games?
- How much money have you made?
- Is the IP profitable?
- Is the game an argument for a sale?

1. Turning the tables

What is fascinating about Ronimo, though, is not just that they have negotiated with many publishers, but that they have leveraged their success into becoming publishers themselves. As the company's games are ported to more and more platforms, the porting is increasingly outsourced to other companies. The funds for this come from revenue share from the initial versions of the games. Outsourcing the porting lowers the financial risk for Ronimo and drastically lowers the amount of time the company needs to spend on each port – since only management and a certain amount of quality assurance is needed from Ronimo themselves.

I ask Akker about how you get started with this model. How do you obtain that first publisher?

He singles out networking as key to the first step: obtaining a developer kit. A developer kit – also known as SDK or dev kit – is a collection of hardware and software necessary to develop a game for a certain platform. The kit Ronimo used to develop for the Wii was obtained because they knew people who knew people. Having developed their vertical slice, the company then went to the big conventions – GDC, PAX, Gamescom – where they with surprising ease had set up appointments beforehand to pitch their IP. After having answered the questions publishers usually look at, Ronimo followed-up via e-mail, and the people they pitched to at the convention liked the idea enough that they pitched it further up. As a general rule, the people listening to pitches at conventions are gatekeepers of sorts, pitching only the most interesting projects on to the people who actually make the decision about which projects go forward. After the initial pitch period – which with follow-up and internal pitching can take several months – it is still a long process.

"Even when you get to a point where the deal terms are set – how much money will you get, how much time, what revenue shares, how recoupment works – it can still take months and months to get a final contract set. They will send a contract where there are always missing parts that you want in, or vaguely described stuff that you need clarified. In my experience getting the final contract can take between two and six months – quite a long time," Akker says, a certain weariness entering his voice for the first time during our interview. He cracks a grin, though, adding: "I just received a final contract for a game that's already been out for a year!

We started development three years ago!" He is quick to add that this is unusually long, but that he trusts this particular company enough to allow it. In addition, they have been paid already.

2. Entrepreneurship is risk-taking

Like many of the companies in the Dutch games industry, Ronimo Games got their start studying at HKU, and then working with the Utrecht based incubation centre, Dutch Game Garden. The company's experience at HKU was that previously there was not a lot of support for businesses. "We were taught about arts and making the actual game, but nothing business related in the courses. We got some help from parents and Dutch Game Garden about setting up and running a business."

I ask Akker what Dutch Game Garden helped them with, and it is clear that the jump from being students to running a company was helped enormously by that institution. They have provided Ronimo with help obtaining legal advice, office

ADVICE FOR STARTING A PUBLISHER-ORIENTED COMPANY

- Don't make games because you want to make money – make games because you want to make games. It's a tough business.
- Use small teams – salaries are 90% of the cost of making a game.
- Getting money up front is a priority to fund initial development
- Publishers are useful for funding, not marketing – unless your platform is curated, i.e. on iOS, where placement matters hugely
- Pitch with a vertical slice and 1 page of information
- Talking to publishers is talking to gatekeepers – give them arguments they can pass on to others

space, contacting investors, getting the SDK – and in general giving the company a feeling that it is okay to seek advice. At the beginning, Ronimo tried to micro-manage everything, but that became problematic: "We had one guy who used five days a week doing finance, and he was an artist! So we figured out we could have other people take care of parts of that instead."

Getting back to the educational level, I ask Akker what might be taught at educations to help students start businesses. "One of the things we missed is marketing. How do you sell your game? And also, how to run a business – how to set up a budget or run an administration; functional skills." I ask him if that sort of knowledge is not quickly out of date in the fast-paced environment of game development. "Well, how you run a business hasn't changed. But marketing changes a lot. We started out making games for retail, and then everything went digital, so we started focusing on that. Now the digital market is so crowded that funding from publishers is becoming necessary for all kinds of companies again."

This mirrors my own sense that educations have a hard time keeping up with the changing markets, making the more fleet-footed, tutoring style of incubation environments essential for teaching students how to start businesses. Akker concurs: "Educations as institutions don't have a clue. They are very reliant on teachers with experience from the industry, and there aren't very many good teachers who also have experience."

In general, Akker feels that a lot of learning has to be achieved through doing stuff, and doing it for real. The advice at Dutch Game Garden helped a bit, but: "Starting a new company is always nerve-wracking. You're gonna make mistakes, and you're gonna fail, but that's okay. Starting your own company is taking a risk. If you don't want that risk, you should get a job someplace. But you cannot learn as much, if you do not take risks."

Akker is sceptical that educations can create an environment that is safe, but still able to teach what having a business means. He relates the most stressful event he has experienced, where a publisher became insolvent a week before Ronimo Games' game was to be published. Dutch Game Garden – displaying the kind of agility that is an institutional challenge for many educations – jumped in with legal advice and connected Ronimo to the right people at the right time, which helped save the company.

Maybe this story holds the key to successfully setting up a relationship between educational institutions and incubation environments: educational institutions provide a framework, while the incubation environments can help to create opportunities and enhance applied learning from those opportunities in practice. At the heart of this, Akker points out, is building networks. And if educations and incubation environments alike take one piece of advice from the story of Ronimo Games it is this: build strong networks and make them accessible to your students and companies.

THE BUSINESS OF MAKING GAMES

While the core business plan of Ronimo Games is a straight forward pay for the game model coupled with finding the funding to finance the game development up front, it is noteworthy that the long-term goal of the company is different. The company is setting itself up as a platform that manages and funds porting of their own games to various platforms. This is a focus on the company as a platform rather than the game as a platform, which is interesting to note and plan for, when you develop your own business plan.

In-game screenshot of the game *Awesomenauts,* by *Ronimo*
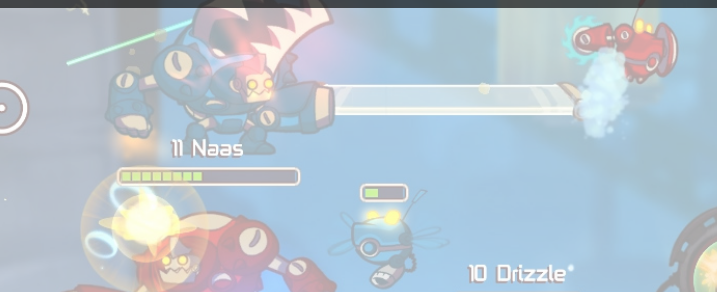
In-game screenshot of the game *Swords & Soldiers II,* by *Ronimo*

In-game screenshot of the game *Swords & Soldiers II,* by *Ronimo*

STOLEN COUCH GAMES: A TOOLBOX OF EXPERIENCE

There is something curious about the computer games industry. They have grown from an industry and a field that focuses on productivity – the general software development industry – with games being sort of an afterthought. A playful organic growth that sprung up as the new, digital world unfolded. This dichotomy of productivity and playfulness is perhaps best reflected in those game companies who start out designing a game, but end up making money not only from the game, but also from the tools they made to make the game – in game developer parlance, these tools are named engines.

Big name companies such as Epic with their Unreal Engine, Crytek with their CryEngine or the various engines built by ID Software for games such as DOOM, Quake and Rage, are high profile examples of this strategy. To a certain degree, even the favourite engine among small developers – Unity 3D – grew from the people behind it trying, and failing, to make money off a game, the ill-fated GooBall.

The experience in making a game engenders a strong need to make it easier to make another game, and the tools developed to do this then form the basis of an entirely different kind of business that supplements the development of other original games.

Sitting across the table from Eric Diepeveen – the game designer of the company Stolen Couch Games – you get a palpable sense of a man who wishes to learn from all his experiences. As he describes how Stolen Couch made their debut game, Kids vs Goblins, which was created with a six person group that met at HKU, it is clear that ambition was at the forefront of their minds: "We wanted to create commercial products, instead of the usual artsy-fartsy stuff we made at school – we just wanted to make money."

They started out making the game as a premium PC RPG, but the market shifted to mobile, and they tried to follow it. This meant they changed genres as well. Diepeveen elaborates: "Instead of a hard-core PC game, we made it a super casual mobile RPG. That conflicted a lot with the graphics we had and the target audience. It looked very serious, but was casual.

So people were expecting Diablo, but it wasn't anything like that. So the game flopped. And we decided we needed to change our business model to create something more sustainable."

The new business model came with a new game, as well, the one-button puzzle game Ichi[2]. "What we did with that game is that we had a fluid monetisation option. What I mean by that is that on different platforms, the game has different monetisation strategies." The monetisation –the strategy for how players pay the game developers for the game – changed a lot over the years, making Ichi an experimentarium for different strategies that Stolen Couch could learn from.

Stolen Couch created the core Ichi game a lot faster than Kids vs Goblins – in just two and a half months – but even though they learned a lot, and even made a small profit, there was still room for improvement. "We weren't happy with the way we were doing business, because we were creating new types of games every time. We weren't re-using assets and we weren't creating enough value for the company, when we were creating a new game from scratch every time."

2   Editor's note: Ichi has a somewhat complicated development history, beginning as a design challenge project for developer Jay van Hutten, who released it as freeware. Stolen Couch picked it up and developed it into the commercial product that it is now.

1. Re-usable game components

The answer was to create an IP that was stable, but flexible enough to create different games re-using the same assets and the same framework. "We wanted to invest a lot in both IP and technology that we could then re-use," Diepeveen sums up, presenting one part of the result, the game Castaway Paradise. It took ten people three and a half years at a cost of nearly 750.000 euros in total to develop the game and the tools used to make it.

"It's really not sustainable to make such huge games without a sufficient marketing budget," Diepeveen explains, "but as I

explained, we created it on top of our own framework. Re-usable assets, re-usable code, re-usable IP. So right now, we are developing new games based on what we already have. That means our development time decreases from three and a half years for the first game to six months for the next game."

Stolen Couch has created a schedule for games that will take them towards their end-goal game. "Castaway Paradise is an Animal Crossing-type game[3], and now we want to build towards a Sims-type game. In-between that we are placing a number of games that will take us towards the Sims game. We're not going for the complete Sims-game first, since that would take a year and a half, but we are starting out with making a decorating game, and that will only take us four months. Then we'll use that mechanic in the Sims-game. When we get to making the Sims game, we not only have each of the mechanics figured out, we have entire games for each mechanic generating revenue to fund the combined game."

On the question of whether it is risky to launch games that are not the complete package, Diepeveen counters: "Everybody is out there making these huge, beautiful games. We do something different. We launch the game as a minimal viable product, then we do a lot of analytics and incorporate ways of listening to the players. This increases virality, it makes the product better suited to the players and in the end it is also more profitable – since the virality and inclusion of players decreases the user acquisition cost tremendously, especially for the next game."

3   Editor's note: a hugely popular community simulation game by Nintendo.

2. Tools of strength

The strength of the model is in the strength of the tool. Taking the experience gathered from developing their previous products, Stolen Couch Games created a tool set that manages both content and monetisation. In the same editor, you can change artwork, sound, writing and so on easily, as well as constructing different revenue models with everything from free to play style micro-transaction, over ad placement and interaction design to just the plain old pay for the game model. All the while, the tool allows deployment on a wide range of different platforms, and it incorporates analytics.

Analytics and learning is at the core of the game development philosophy at Stolen Couch Games, as Diepeveen makes clear: "We don't focus at all on the launch of the game – we're all about long tail. When we first launched Castaway Paradise, we generated very low revenues, but we kept on changing things. Trying out subscriptions and rewarded video ads. Now we're pretty satisfied with what we generate per player. Then each game becomes a pillar in our revenue generation."

When you are this focused on learning, you can start building up future-oriented plans. Diepeveen describes to me, how they plan notifications of sales and special seasonal content such as Halloween content, or for football World Cups – the most recent notification at the time of our interview being the women's World Cup in 2015. I ask him if they plan this a year in advance. Diepeveen laughs. "Years in advance! We don't have to do anything anymore!" he quips, before launching into an explanation of how to use local notifications stored on the devices of users rather than pushing them ad hoc, another cost-saving tip.

Other than making the tools versatile, one of the main benefits of basing them so directly on hard learned lessons from actual game development, is that they can reduce the amount of iterations needed to develop specific parts of a game dramatically. "We iterated on our tutorial for the first game for a year," explains Diepeveen, "but with the tools, we can do one in a month."

This is key to an aspect of the business model that Stolen Couch is trying out now – using the tools as basis for work for hire jobs. "Many game genres are very expensive to make, because they're complex. We discovered that when we tried to make an Animal Crossing -like game. Now with the tools we can say to publishers: no one is making these kinds of games – do you want one? We've proven that we can make it and can generate money, so if you have an IP, we can make a huge success out of this. It only involves generating new art assets, we have all the tools," says Diepeveen, estimating that a game of Animal Crossing-like complexity will take them 8 months to realise with an established IP.

3. The problems with formal education

With all the focus on learning in the company, I am eager to hear Diepeveen's take on what educations and incubators should do. Not surprisingly, the experience of attending HKU and being part of Dutch Game Garden has made Diepeveen think deeply about this subject. "The best thing about HKU

is that they gave us room to do stuff we liked and could learn from. They didn't always give it, but we took it anyway."

He is also critical of a huge focus on projects, if it is not tempered with teacher contact. "It is fine to learn from your peers, but if you use three quarters of the time at your education learning from peers rather than teachers, then you miss out on some basic skills. Then you can get a better education by not going to a university, but just doing it yourself – starting a company." He specifically singles out that not only the hard skills about budgets and taxes are necessary to learn, but also the soft skills like team building, networking and managing the psychological make-up of a company.

Another problem for educational institutions is the way they are financed, which encourages them to produce more candidates than the industry needs, since they are paid for each graduate. This leads to the unhealthy focus on indies that Diepeveen sums up succinctly: "They say you should become indie, but they don't say that because it's smart. They say it because it's popular." He shrugs: "But of course you have to start your own company, when there are too many candidates for too few jobs in the industry. Only a small portion of my former classmates are actually working in game development."[4]

4. Incubator: space or infrastructure?

At the core of Diepeveen's criticism of educational institutions seems to be the separateness from the world of business and practical experience. But is an incubation environment more suited for nurturing that kind of learning? "At first Dutch Game Garden focused on giving office space and legal advice, but it has changed a bit now," Diepeveen says. "They used to focus on promoting the Dutch games industry as a whole, while they still helped single companies with contacts and such. They helped us a lot with contacts, but the promotion of the industry – well, who are you actually helping with that?" Diepeveen thinks that incubation environments should instead be publishers. "They should provide development kits, manage projects, connect companies with monetisation experts – that way they could help directly generating more

revenue, which would create more jobs and actually grow the Dutch games industry. You don't do that by renting out cheaper offices." Diepeveen proposes a flat rate instead of discounts: "Oh, you want to be at Dutch Game Garden? Then here's the deal. We get 25% of your revenue, and because you give us that money, we will assist you in certain ways. And these are the rules. You can make your games only when you follow these rules. Then Dutch Game Garden becomes a seal of quality for the companies, which acts as proof, when talking to other investors later."

It seems that you can sum up Diepeveen's advice to institutions, whether they are educational or incubational, thus: Institutions should focus on doing smart things, not saying smart things. The students and companies need to learn how to look at data and do projections, and the people at the institutions need to play devil's advocate. "Not so much hero worship," Diepeveen quips. They should build up their practices on a foundation of data and experience and keep a close eye on how cases develop, deconstructing and criticising games and companies in real time.

In essence, educational and incubational institutions can work in the same way as those tools and game engines we talked about. They can take all the experience of how they made their own companies and their own careers work and convert that into tools that make it easier to construct the careers and companies of the next generation. However, it requires that the institutions are willing to keep doing new stuff and, most importantly, that they are willing to analyse what they do right and what they do wrong.

THE BUSINESS OF MAKING GAMES

Stolen Couch Games has a business plan that incorporates all the business models, adding the crucial element that it has to be easy to shift between them. If you want to build a company that can easily switch between business models, you will need to develop tools and a platform that allows you to reduce the cost and development time needed to make products that tie into different market trends, and you need to have a product that lets you analyse the behaviour of players in a way that lets you respond and cater to specific audience tastes.

4   Editor's note: In 2016, 546 students applied to HKU, with the school accepting 97. Official government numbers state that 58% of HKU students from this programme have a relevant job at their level within 1.5 years of graduating. Internal numbers show that 50% of these work directly in the games industry, while the other 50% work in the general creative industry or in IT businesses.
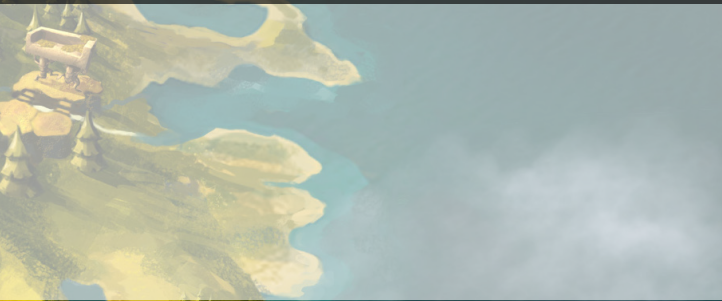
From the game *Ichi*, by *Stolen Couch*

Art from the game *Kids vs Goblins*, by *Stolen Couch*

In-game screenshot of the game *Castaway Paradise*, by *Stolen Couch*

ACTIVE CUES: APPLYING GAMES TO DEMENTIA

The main strategic choice that faces a new game company these days seems to be between focusing on either entertainment games or serious games. In the Dutch tradition, the term is applied games rather than serious games, and one sees the appeal of the term. You take knowledge and skills from game development and apply them to solve a problem in the real world.

In that way, there is a distinct overlap with the way education works. Through education, you acquire knowledge of certain models that help explain the world, and certain tools that can help you shape it. Then – posing research questions and hypothesis – you look at the problems of the world and try to solve them with the knowledge you have. If you are in the business of making applied or serious games, then you are designing this framework, which is then used to make the world a better place.
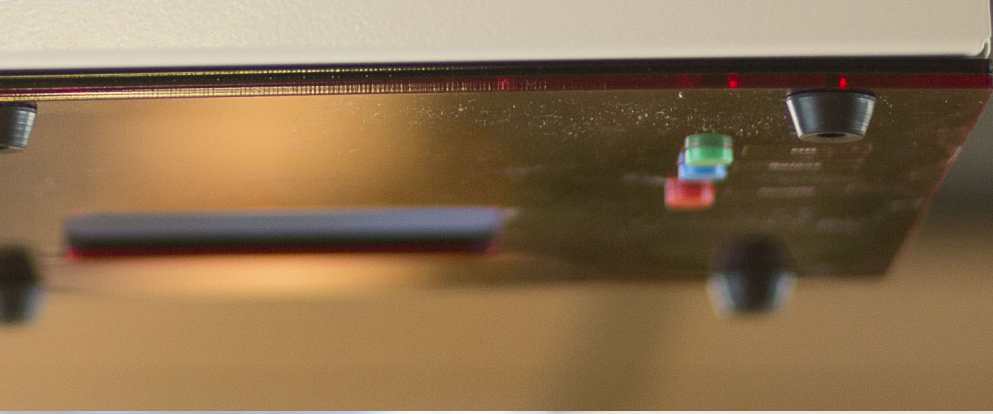
Listening to Sjoerd Wennekes from Monobanda Digital describe his recent spin-off company, Active Cues, you get a sense that this way of working with games imparts a special kind of meaning unto a business. The project grew from a research project the company participated in with Hester Le Riche from the Delft University of Technology and VU Amsterdam. It started with a little known phenomenon concerning elderly people with dementia.

Wennekes explains: "If I put you in a chair, and tell you to stay put, after four or five minutes, you get bored and you stand up, you leave and find something else to do. The dementia patients, they will stay there even if they get bored, even if they get depressed – they just sit there and do nothing. This is worrisome, because not only does it alter their mental wellness, where they develop depression or apathy, but also their physical well-being. Their muscles will stiffen and waste

BREAKING INTO SERIOUS GAMES

If you want to break into the field of serious or applied games, the key is to understand the market. For many markets in the Western world this can be accomplished most effectively through partnering in research. The story of Active Cues shows that there are two main benefits of partnering with researchers, both of which are crucial to both short and long term success in a field where your game solutions can be applied.

- Research opens up markets and forges connections sales can't get access to. In the case with Active Cues, this meant access to closed-off social networks for the market, where potential customers shared and discussed the product.

- Research validates that the product actually works. The formalised validation of a product is crucial when you need to convince management and board members that a technology is worth investing in. Partnering with a researcher can give your product a vital seal of approval that even demonstrations and personal recommendations cannot.

away. This is one of the leading causes of death among patients with dementia."

In most nursing homes, the staff tries to counter this effect by playing games or doing sports or some other activity with the patients. The problem is that there are typically too few people on staff to keep all the patients active during a day. This means that there is a need for what is known in the field as self-activation – that is, activities that encourage the patients to start up and continue activities themselves.

"So what we have developed, we call the Tovertafel," Wennekes explains, using the Dutch word for 'magic table'. "It's a little box that is mounted in the ceiling above a dining room table and in the box there is a computer, there is a projector and there are sensors. It projects very small, very simple games on the table. The sensors can detect your hands and your arms, so you play the games by moving your arms. For example, we can cover the entire table with leaves. Then you can swipe the leaves away with your hands, or we can project a ball that you bounce around, or little fish you have to catch – all sorts of little games. This keeps them active and motivated without the staff necessarily having to be there."

1. Research opens doors

The company started out as a consultant on the research project, which then grew into a co-ownership, and eventually to founding a separate company that incorporated Monobanda, the researcher and various people from other companies involved in the research project. It has been met with a lot of enthusiasm among nursing professionals in the Netherlands and has sold beyond expectations, moving 200 units in its first year and with projections showing up to 450 units in the second year.

This success has come largely from nursing homes that have contacted Active Cues themselves, which Wennekes insists is the best way to secure integration with the existing practices of the nursing homes. When asked how they can generate sales without canvassing, he points to the cooperation with a researcher: "We'd been working with a large nursing home here in Utrecht and they were really, really enthusiastic, because they saw all the results and the testing. So they became our ambassador. There are over 2000 nursing homes for people with dementia in the Netherlands but they're all connected via Facebook and Twitter. It's really a small world. So when we installed our first unit, we made a grand opening and hired a professional video company to film it. This video was shared a lot in the community and they started calling us. So we operated with a push market for just two months, and then it became a pull market. They call us, and we can screen whether they want a demonstration – which we handle at the office in Utrecht – or if they are already interested in buying."

2. Know your market

Wennekes emphasises that you have to know your market. "The thing with nursing homes and caretakers is that these are soft people. They are not tough business people, so you have to make a soft sale. You have to be careful and a bit soft. This was a challenge for our sales people, who came from the big corporate tech world and were used to making the hard sale. But the balance between hard sales and empathy is key in this sector."

Another way the market is grown is by assisting customers in doing press. Local newspapers and other local media are very eager to cover new technologies used in the health care and nursing sectors. Adding to this, Active Cues makes an effort to appear at conventions and symposia that target nursing home staff and health care professionals. Again, the key lies in understanding what interests the specific market, where they gather, and where they get their information.

This local knowledge is the key factor when designing serious or applied games, it seems. When I ask Wennekes if it is

Team foto of *Active Cues*

possible to expand the market of a serious game at a pace like that of entertainment games, he blurts out: "Well, if you do that, in the long term it will come back and bite you in the ass." He elaborates: "If you do not spend sufficient time integrating the product with the practices of each customer, then they will stop using it. That's when they complain about the cost of the product, because they can see they have paid a lot for something they're not using. If these kinds of customers complain about the money, then it's not really about that, it's about integration."

3. The future of the creative industries

Turning to the world of education and incubation, Wennekes points to a general shortness of business savvy people in the Dutch games industry. Unlike many of his fellow alumni from HKU and incubates at Dutch Game Garden, he has taken the time to attend business school as well, and the solid foundation he got in running a business there helps him every day.

"When you study something creative, you have to realise that you can't do it without the business part. Otherwise, you're having a nice hobby," Wennekes explains. "That is what goes wrong for a lot of companies here at Dutch Game Garden. Everybody here thinks they're making the best game ever. That's a good thing, because you need that drive. But you also need someone with a suit and a tie, so to speak. You need someone to sell your product. Most people here in the Dutch games industry sort of shy away from that side of things because they feel it will corrupt their creative output. That's something you have to smack out of them. You can still work without business people, of course, but you should be prepared to not have a commercial hit, then. You'll have to have heaps and heaps of luck for that to work. And even then, there is usually someone on the team who understands how to sell the game – even if they don't talk about it in that way."

The educational institutions should teach the value of business both in theory and in practice. Not all students need to be business people, but they should acknowledge the importance that someone on their team is. There should be teams that incorporate business students with design students and technical students,

especially as they move towards their final project. It would help quite a lot if the educational institutions can incorporate actually launching a game as well.

"I truly believe that creative people and creative industries will play a huge part in the future in all fields, whether it is health care or transportation or whatever," Wennekes points out. "This means we should work together with people from a variety of backgrounds, because that is where innovation happens. I got my business degree in 2010 and I was convinced that five years later, I would see a flood of business people enter into the games industry – but I hardly see them at all. I'm really shocked by that."

With the innately interdisciplinary nature of game development as a whole, maybe the way forward in establishing more sustainable game companies is welcoming business people into the mix as Wennekes points out. When you work as closely with other sectors as you need to when you construct serious or applied games, it is a necessity.

THE BUSINESS OF MAKING GAMES

Active Cues runs a classic serious game strategy, combined with a pay for the game business model. It is worth noting that a lot of emphasis is put on integrating the product and cultivating a solid market of few customers that expands at a leisurely pace rather than going for the mass-market.
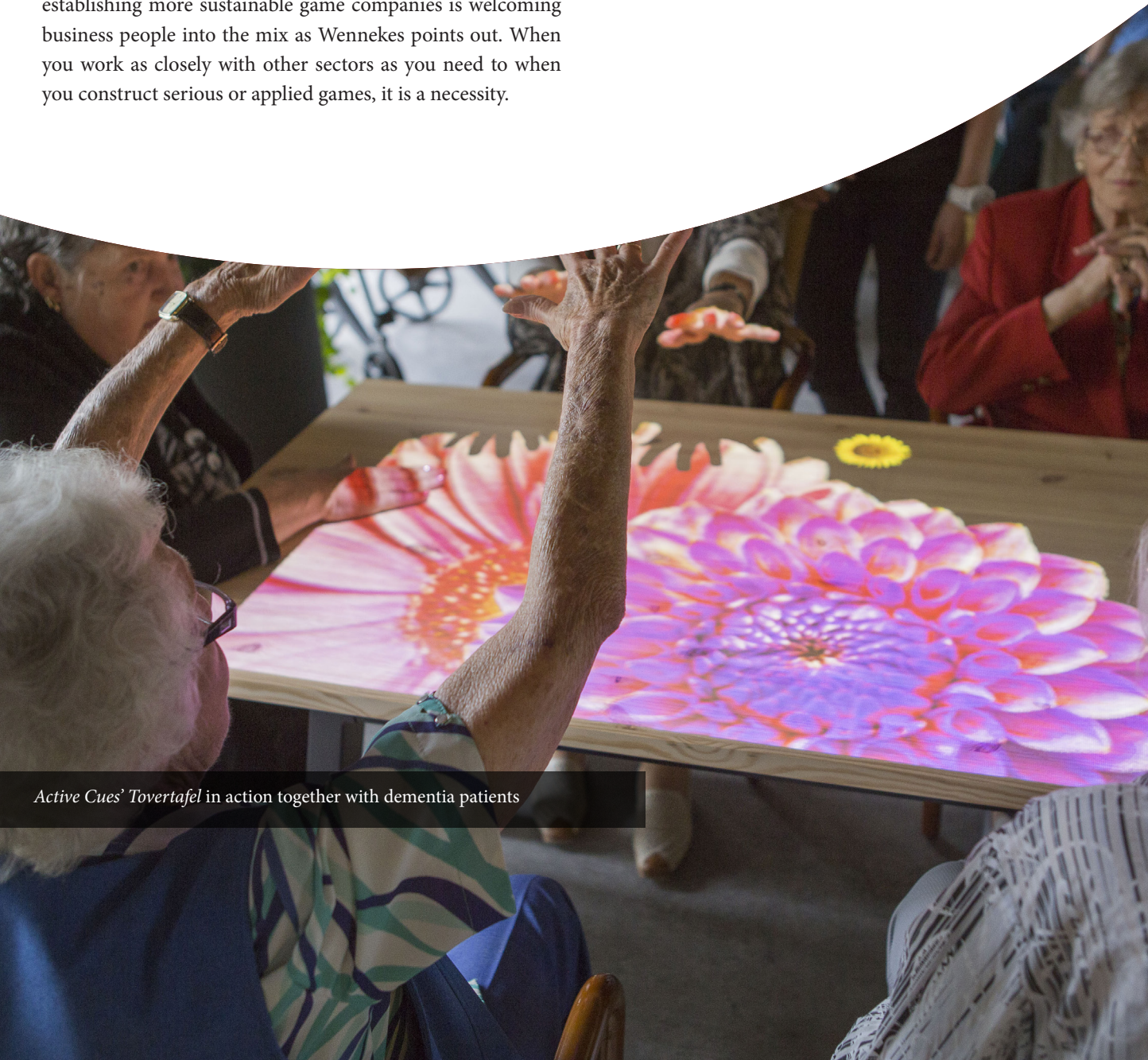
Active Cues' Tovertafel in action together with dementia patients

GAMISTRY: A FRAMEWORK FOR DOING WHAT YOU LOVE

When many game companies start out, they have an idea for an amazing game, and they try to build their company around realising exactly that game. That means that they build up an organisation that is geared to operating in and has knowledge related to only a single scenario. It also means that if that scenario is not working out, a lot of work and heartache must go into rearranging not only a product, but also an entire company to make it work.

This is not the case with Gamistry, a mobile game company I wanted to talk to because of their experience with the advertising business model. However, Gamistry actually has a model for its products that is separate from the model it has for its business.

Let's look at the business first. Gamistry divides their company into two teams, each working on a different project simultaneously. This splits the risk to the company at large in two, and it cuts down on the feeling of single-mindedness that threatens game companies founded on a single idea. Furthermore, all the team members work only part-time, dedicating three days a week to working at Gamistry. This frees up the remaining two days for side-projects and other jobs.

Says Djego Ibanez, one of the game designers at Gamistry: "A lot of our people teach various skills, and teaching teaches you. You learn a lot about your craft by passing it on." Alex Kentie, the game designer and business developer adds: "It takes away a lot of the risk, when everyone has a part-time income. It's a lot easier than doing work-for-hire as a company, since it is also more manageable. Working freelance makes it easier to tune the level of activity up and down."

The downside, they both agree, is that it increases the work time needed for each company project, since there are only three days of work available each week. "But we counter that with experience," argues Ibanez, "Since the side-projects and other jobs give us more knowledge that lets us work smarter."

1. Experiments in advertising

Having a lot of free space and comparatively low risk has allowed Gamistry to experiment quite a bit with how advertising is placed and integrated. They have tried out using the popular interstitial ads that are videos or animations that pop-up during gameplay or when you change a screen, but they never really liked it too much.

Kentie explains: "It's important to create ads that are not intrusive to the core loop. As a player, the ad shouldn't feel as something from a different program coming in to ruin your experience. It should make sense in the game, and ideally present you with a choice."

That is why the company has had more satisfaction and success with using video reward ads recently. This is a kind of advertisement where the player is offered an in-game reward for watching a video advertisement at some point in the game, usually between levels.

Ibanez and Kentie relate an example from their game Scrap Tank. In the game, you have a constant loop of upgrading your tank, destroying enemy tanks, collecting scrap from them and then returning to the garage to purchase new upgrades for the scrap. "When you enter the garage, it is a perfect time to place a reward ad," Kentie points out. "You have just played through the action sequence, your mind is calming down, you're thinking about what to buy with your scrap, and here's an opportunity to earn a little more scrap, while you relax."

The games Gamistry makes are not only advertisement driven but also freemium, and although the idea of being able to buy an upgrade that removes the ads appeals to the designers, they have found it is not needed. Says Ibanez: "When the ads are integrated well into the core game loop, people don't really see any need to remove them."

Even though that particular option is not available, there are other micro transactions in the Gamistry games, allowing players to buy various upgrades to the game. Even though this is frowned upon in textbooks – such as in the textbook this volume is a companion volume to – Gamistry have had no complaints about it. "As long as you're up-front about it, players and the platform owner alike are fine with it," Kentie says. It is clear that again, the key detail is how you design for the adverts. If they feel kind of like a part of the game, they do not clash with in-app-purchases.

Another key aspect in making adverts work is partnering with the right ad networks. Like many other mobile developers, Gamistry is using the Chartboost service, which works very well for them. They can monitor data and react to it very well, allowing them to release three of their four games independently of a publisher. The only exception to being able to run the ads themselves through Chartboost is in the Asian countries, where they collaborate with local bureaus. "There is simply too much knowledge needed to get in on the Asian market. It is very different from the Western market, and you need to tailor your game differently," explains Kentie. "Time is definitely a factor."

In-game screenshots from *Gamistry's Gold Digger*

2. Design and advertising

Of course, the advertising business models require one thing to actually work: someone to advertise to. If you have eyeballs, someone will want to buy ads in front of them, but you need to make games that can attract a large audience. This is a deeply rooted part of the philosophy at Gamistry as well. "We want to create games that most people like," Ibanez explains plainly. "The business model is the frame inside which we can do what we find fun. Could we come up with ideas that fewer people find fun? Sure, but then we couldn't keep doing what we love to do. Commerciality is an important factor in our company." Kentie adds: "Our ambition is to make a normal living doing the things that we love."

This practicality means that Gamistry sees the act of coming up with a game design as a game in itself, where the business plan is the framework. Inside that framework, you should make as fun a game as you possibly can. This approach lends itself well to creating games with small game loops, but those are every bit as hard to create as the big games. "Smaller games require honesty," Ibanez says. "In longer games, features can afford to be vague and fuzzy, since there's so much else to do. In shorter games, all the features have to be fun." Kentie adds: "And whether you make a long or a short game, monetisation is going to be a feature. So you should make it as easy to change that in your design as any other part of the rules."

3. Institutional ties

Unlike many Dutch game companies, Gamistry has not been incubated at Dutch Game Garden. That doesn't mean that it hasn't been part of the company's life, though. "We feel that it's important that companies are honest and share information to help each other out," Ibanez says, adding that they have participated in a range of events at Dutch Game Garden.

As such, there is a good case to be made that incubation environments that reach out beyond their own incubated companies can benefit the industry as a whole, while drawing on different perspectives from outside the environment itself. This is clearly echoed in the experience that Gamistry has had with Dutch Game Garden, which has driven the company to keep asking itself and other companies questions– and given

them an accessible platform to do so.

Since many of the team members at Gamistry teach, they naturally have some clear ideas of what educations can bring to people starting up a business. "As a student, you have a lot of freedom. You are concerned with how things work," Kentie explains. "But when you go into business, life actually starts and you have to be commercial. You start wondering how you can use that knowledge of how things work, and you figure out that there are things you never learnt how work."

While the two Gamistry designers see it as a very good thing that educations provide some freedom for students to figure out what they want to do and where they want to go, they feel strongly that certain basic skills are needed. "You need to know enough to be able to learn," Ibanez says. "It is important that you are aware that there is a lot of change and variety inside the field of games and that you know the basic tools for running a business." The most important thing is that the educations become better at securing individual growth for each student, ensuring that they are actually qualified to make the life choice of starting up a business, and help them to build the networks and alliances needed to successfully forge a strong, agile company.

"We had a big talk just last week about keeping aware of what everyone wants," Kentie relates. "This is the one really important thing for an education to do. Make people aware of and able to achieve what they want."

If educations can tackle that responsibility, entrepreneurship will follow.

THE BUSINESS OF MAKING GAMES

The case of Gamistry proves clearly that the most important thing about the advertising business model is how the ads are placed in the game. While the graphical placement is important, it is becoming increasingly apparent that integration into the game loop can make or break a game's revenue. If the integration is done right, the advertisement will feel so much a part of the game that the model can even be integrated with the free-mium business model. The ads will no longer be seen as part of what you "pay" for to play the game, but as a part of the game itself, just like an in-game economic system.
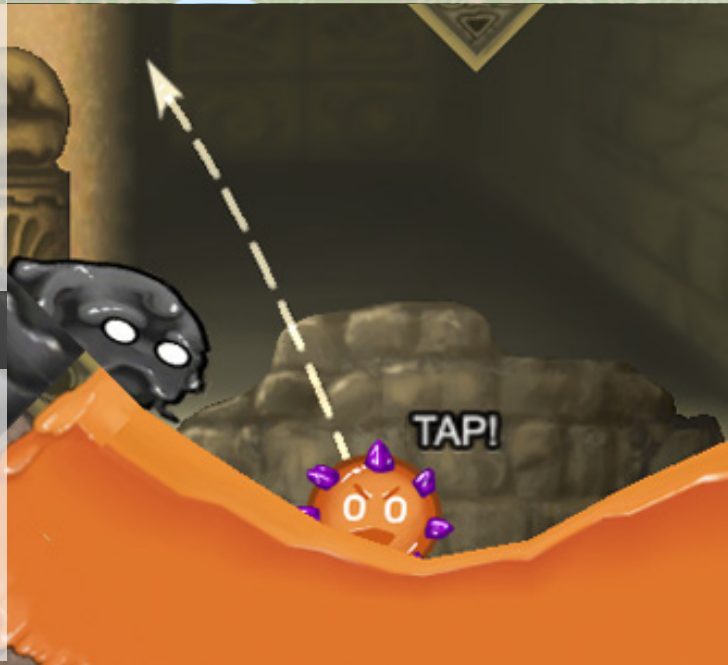

In-game screenshot of the game *Munch Time,* by *Gamistry*

In-game screenshot of the game *Munch Time*, by *Gamistry*
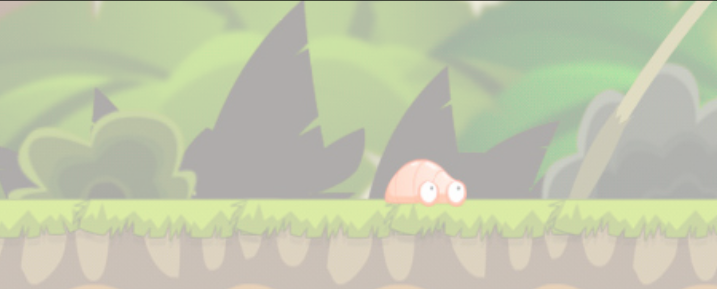
In-game screenshot of the game *Scrap Tank*, by *Gamistry*

In-game screenshot of the game *Sticky*, by *Gamistry*

CONCLUSION: CONSOLES AND CARTRIDGES

The challenge represented by the interviews in this book is real and potentially daunting. The great strength of institutional education lies in the stability and quality control that academic work provides, but this presents a problem with carving out space for the more agile movements that characterise non-academic work in the field of game development.

"You can think of the university as one of the retro game consoles," Dr. Oscar Garcia Pañella of ENTI in Barcelona says, referring to consoles from the Atari 2600 to the Nintendo 64. These consoles operated with cartridges, physical plastic units that contained game software that was unique, but still used the same hardware connections to deliver this software to the console in a way that it could interpret.

"On the cartridge, you can have traditional games, traditional university courses, or you can put new, innovative experiences or courses – but both have to deliver what the console, what the university wants." Throwing his hands up in the air, Dr. Garcia Pañella quips: "There's no need to do things the way they used to be, as long as you still deliver what the university interface needs to run your new experience."

This means that as an educational institution, your best bet for rising to the entrepreneurial challenge is to find places in the way the system already works, where you can plug in your new experiences that further entrepreneurship.
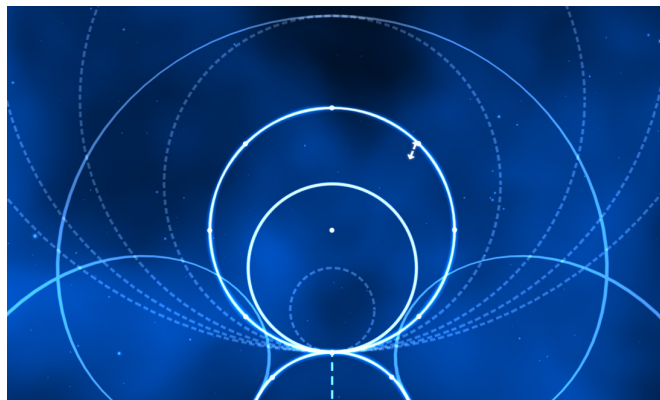
In-game screenshot from the game *Lotus Star* by *Sirenix*

At Bournemouth University, Dr. Christos Gatzidis explains, this is done through business simulation and actual company start-up. "We have three years of the education, where there is a business related unit in each year. In these units you learn the hard skills such as how to deal with taxation and tax codes, how to set up a company and do accounting, and so on. Then in the final one of these three units you actually have to run the finances of a fictitious games company for some time, simulating the accounts as they develop." Passing these units is necessary to pass the entire education and finish the degree, so they are integrated firmly with the university educational structure. All of this leads up to a placement year, where students can either work for an existing company or, potentially, start their own business.

"The students can apply in groups, for example this academic year we have had a range of companies from 1 person to 7, and candidates allowed to run a start-up are then selected on the basis of a pitch," Dr. Gatzidis outlines. These pitches are focused on constructing a solid business plan, plus demonstrating use of the knowledge learned in the previous years. "Basically, the students need to have a detailed plan for how they sustain themselves financially, plus how they construct a financially viable business. And they need to find a sponsor, a mentor from the industry as well." Passing the placement year is not focused on achieving hard targets but on demonstrating learning. "The students keep an individual logbook and they need to demonstrate that they learn from the experience. This creates a space where failure is an option, but in the context of the education it is a safe failure – because we are focused on what you learn, not what financial returns you achieve."

This approach mirrors that taken at Dania Academy of Higher Education in Grenaa, colloquially known as Dania Games, where the placement period is shorter – 3-6 months – but where as a direct result of the involvement in the GameBiz project, this is being extended into the more traditional parts of the education. "The students who have companies in our

local incubator can apply to realise learning goals through the projects of their companies," explains Palle Ehmsen, co-ordinator of the applied science degree in Computer Science at Dania Games. "Basically, if we have a course in an upcoming semester in network programming, and the student can show that the tasks undertaken in their company will fulfil the learning goals of the project connected to that course, then they can use that time in the company instead of having to work on a project we dictate." The work in the company is then validated by the educational staff, providing a two-way interface that assures quality in education and helps build quality in the company work as well.
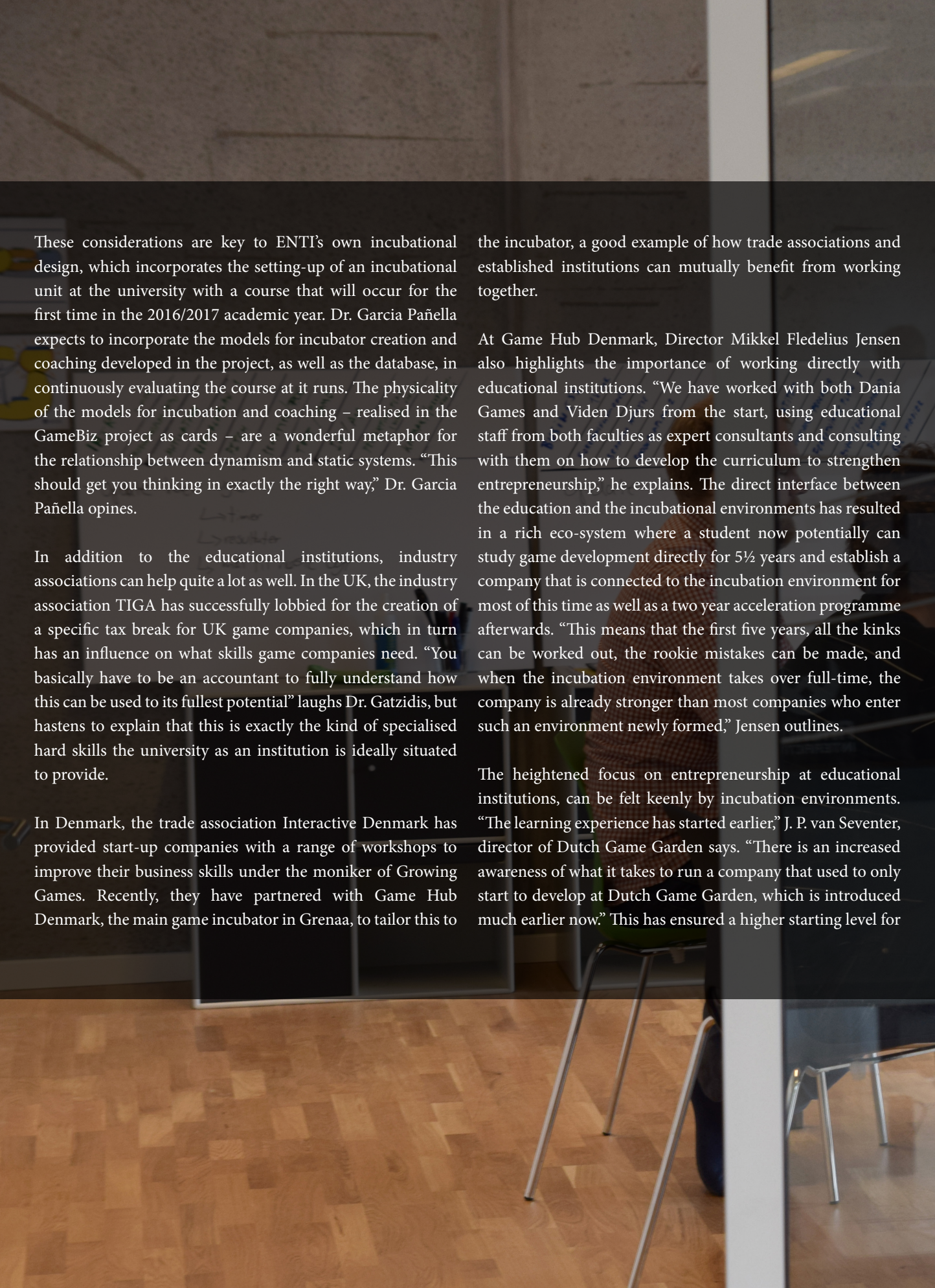
Elsewhere in Grenaa, the students at the upper secondary institution Viden Djurs have been welcomed into a brand new incubator as part of the GameBiz project. The integration with the educational framework is a bit more cumbersome at the upper secondary level, as central educational plans are more detailed at this level in Denmark. "But we can see students who chafe under the normal educational programme flourish in these conditions, so we are definitely looking into it," said Nikolaj Løth, one of the coaches at the incubator during a workshop for the GameBiz project members. Setting up an incubator space on campus and limiting availability to those student companies who make it through a rigorous pitching competition – only 3 of the 12 interested companies were selected at Viden Djurs – provides a taste of the freedom and consequences of the world of business that is traditionally very difficult to impart to students at this level.

At the University of Malta, the focus for the traditional educational institution is in providing courses that supplement the students who start companies at the existing incubator, the TAKEOFF Business Incubator. Directly applicable courses using the analytical skills of the university staff, such as a comprehensive look on the world of crowd funding is a primary service. In the GameBiz project, the university has spearheaded the creation of a database that collects vital statistics from the incubators and companies in the project. This knowledge, Dr. Vince Briffa of the University of Malta points out, will be of value both in analysing situations on the go for the companies and incubators and in long-term research projects for the educational institutions. This is another way that working with entrepreneurship and incubation can be beneficial for both education and incubation.

At ENTI, Dr. Garcia Pañella carefully constructs the courses to balance the self-expression and freedom of the world of business with the rigorous validation of the educational world. "Students these days live in a world of dynamism, so the educations must construct a framework that auto-delivers validation and assessment," he says, comparing educational design directly to game design. "In a game, the story and the pointification – the rewards in the game mechanic system – must both be attractive to players for the game to be well designed. It is the same in education. The dynamic narrative of the student's own journey as well as the static system of educational assessment must make sense and have space for the student to succeed."

In-game screenshot from the game *War Of Rights* by *Campfire Games*

These considerations are key to ENTI's own incubational design, which incorporates the setting-up of an incubational unit at the university with a course that will occur for the first time in the 2016/2017 academic year. Dr. Garcia Pañella expects to incorporate the models for incubator creation and coaching developed in the project, as well as the database, in continuously evaluating the course at it runs. The physicality of the models for incubation and coaching – realised in the GameBiz project as cards – are a wonderful metaphor for the relationship between dynamism and static systems. "This should get you thinking in exactly the right way," Dr. Garcia Pañella opines.

In addition to the educational institutions, industry associations can help quite a lot as well. In the UK, the industry association TIGA has successfully lobbied for the creation of a specific tax break for UK game companies, which in turn has an influence on what skills game companies need. "You basically have to be an accountant to fully understand how this can be used to its fullest potential" laughs Dr. Gatzidis, but hastens to explain that this is exactly the kind of specialised hard skills the university as an institution is ideally situated to provide.

In Denmark, the trade association Interactive Denmark has provided start-up companies with a range of workshops to improve their business skills under the moniker of Growing Games. Recently, they have partnered with Game Hub Denmark, the main game incubator in Grenaa, to tailor this to the incubator, a good example of how trade associations and established institutions can mutually benefit from working together.

At Game Hub Denmark, Director Mikkel Fledelius Jensen also highlights the importance of working directly with educational institutions. "We have worked with both Dania Games and Viden Djurs from the start, using educational staff from both faculties as expert consultants and consulting with them on how to develop the curriculum to strengthen entrepreneurship," he explains. The direct interface between the education and the incubational environments has resulted in a rich eco-system where a student now potentially can study game development directly for 5½ years and establish a company that is connected to the incubation environment for most of this time as well as a two year acceleration programme afterwards. "This means that the first five years, all the kinks can be worked out, the rookie mistakes can be made, and when the incubation environment takes over full-time, the company is already stronger than most companies who enter such an environment newly formed," Jensen outlines.

The heightened focus on entrepreneurship at educational institutions, can be felt keenly by incubation environments. "The learning experience has started earlier," J. P. van Seventer, director of Dutch Game Garden says. "There is an increased awareness of what it takes to run a company that used to only start to develop at Dutch Game Garden, which is introduced much earlier now." This has ensured a higher starting level for

the companies that apply to Dutch Game Garden, which the incubation environment predicts will result in a higher degree of survivability of the companies.

Van Seventer has no doubt that the most integral part of this is the focus on learning by doing that is prevalent among entrepreneurship-savvy educational institutions such as those in the GameBiz consortium. "The students need to produce something and actually release and sell it. This is a crucial part of learning," he says. Asked whether it matters that the environments for students to fail are usually financially risk-free, he shakes his head. "No, because the financial risk is actually secondary to the creative risk. The risk you take is what happens to your product, your ideas in the marketplace. That is what you need to learn how to cope with and plan for." The companies that register at Dutch Game Garden presently have a much keener grasp of this, as a result of the educational initiatives taken at places like HKU.

While Van Seventer is happy with these results, he believes that the GameBiz project points to other initiatives that educations could take as well. One crucial step – which is being experimented with at most of the GameBiz project partners, with results too early to tell – is pairing up students with a business focus with students who have traditional, creative foci. "There are basically two archetypes of CEOs you can get," Van Seventer explains. "Either they come from game development and usually try to still do some of that, while they handle the business side of things, or they are dedicated business people who are not tempted by jumping into the creative side. The advantage of the second type – who are much rarer – is the focus needed to build larger businesses. And you need that entire eco-system of indies and large companies to have a healthy scene."

One of the tools used by Dutch Game Garden and adopted by several partners in the GameBiz consortium is the Skill DNA model for Game companies developed by Van Seventer. Using it, start-up teams can illustrate which skills the company has and which are lacking. Drawing a figure on the model, each member indicates whether her or his skills lie in tech (Game programming), B.A. (Business / Administration and management), Arts (graphics, music, sound, storytelling) or G.D. (Game design and interaction design). The free-hand form of the model invites discussion and opens up a conversation about the possible need for development of the company.

In an educational context, the Skill DNA model can be used to chart the current self-estimation of a student and where that student would like to end up. This is how Dania Games uses the model; as a departure point for individual student development counselling sessions held each semester. A result of the GameBiz project, this new approach has helped students grasp keenly what they need to find their place in a company, and it has made the conversations they have before founding companies with each other much more qualified. Educations should focus in on trying to create shared

experiences for these types of students. However, not all business minded people are a match for creative industries in general and game development in particular. Says Van Seventer: "Educations should focus on the 5% of business students who can have that interaction. They need to understand the entire process of making games. At the same time, game developers need to know something about business. The decisions made by the other specialists should make sense, whether you are business focused or creative."

We are back at the cartridges and consoles, then. Any institution – be they educational, incubational or even game companies themselves – can be thought of as a console. They are the foundation for understanding specific knowledge and they need to be designed to incorporate the knowledge and activities that are needed at any given moment. They must be able to accept the cartridges of courses, experience and specialised skills that are needed for the institution to flourish.

In many ways, then, it can be said that the challenge that may seem daunting for the future of European educational institutions, incubation environments and creative companies, is actually a matter of perspective. There are so many structural similarities that the integration of education and the world of business is mostly of matter of design.

The models, thoughts, experience and tools of the GameBiz project can help you with your design process and overcome the challenge of uniting the dynamic and insecure market with the static and well-founded systems of education.
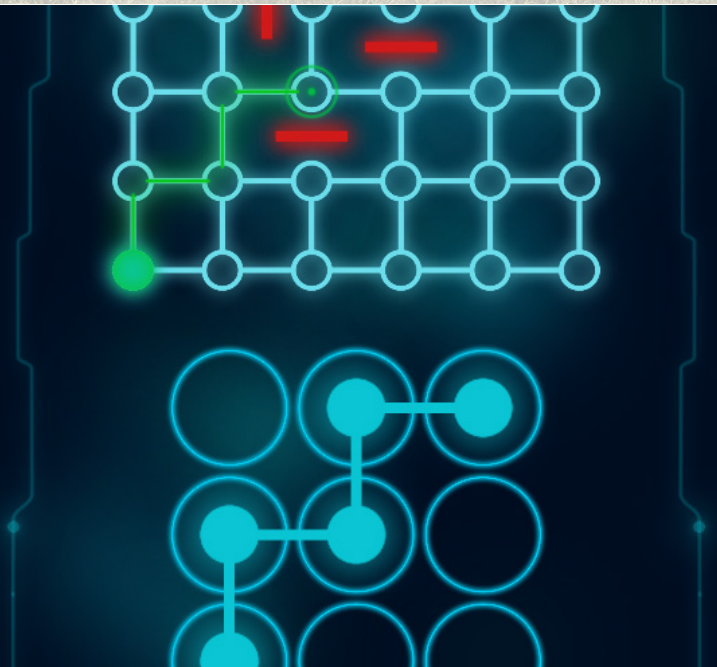
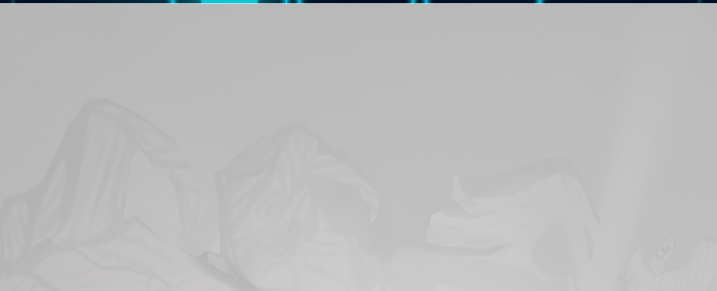It can help you, your students and your companies make their own beautiful mistakes.
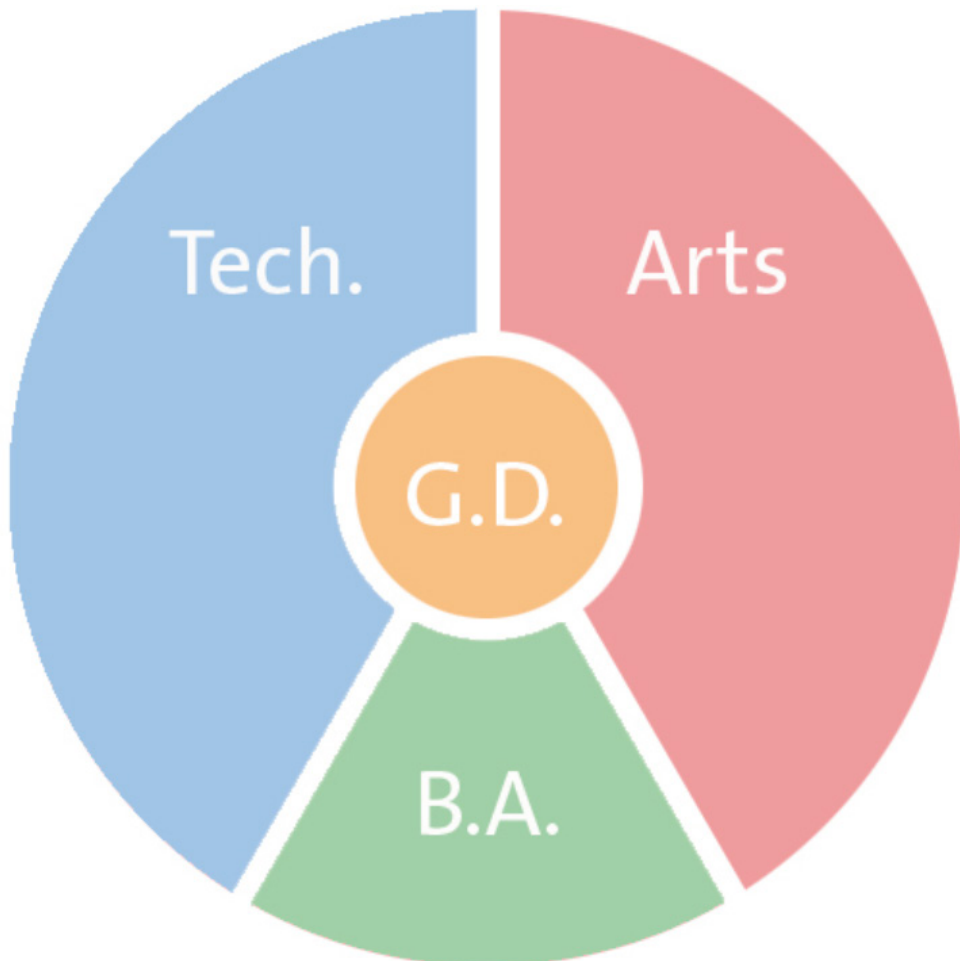
The Skill DNA Model
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In-game screenshot from the game *War Of Rights* by *Campfire Games*

Early beta art from the game *Sequence 9*, by *Ahoot media*

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