POSTMORTEM

TORU IWATANI’S RHAPSODY IN YELLOW

THE ORIGINAL CONCEPT FOR PAC-MAN WAS THE RESULT OF my desire to create a game that everyone could enjoy. With a female target audience in mind, I wanted to create a game based on eating, which is why the name comes from the Japanese onomatopoeic sound "pekgagak,” the sound one makes when opening and closing one’s mouth while eating. When I was thinking about this, I was at a restaurant and noticed a pizza with a slice missing. I thought, “This is it!”

This was the inspiration, and it became the shape and general concept for PAC-MAN. Around this time, game amusement centers were saturated with games where killing aliens was the main objective. Lots of these games had great concepts that were fun to play, but felt that none of these were equally accessible to women. Games at the time lacked variety—these types of games had a rather brutal image and a largely male audience. I wanted to liven up the game amusement centers by bringing female gamers, as well as couples, to the scene.

I was inspired by several of Atari’s games in this regard, they had some innovative concepts which taught me a lot about design. I had no doubt that the concept for PAC-MAN would appeal to women, even though I didn’t spend a lot of time seeking their opinion on the idea. After all, even in the fashion and jewelry design industry, you have male designers creating items for women. I was confident that my creation something that women would find appealing, and just used my intuition.

When drafting the original proposal for the game, I kept PAC-MAN in mind. When I finally showed the proposal to my boss and colleagues, the response I got was: "All that

TORU IWATANI joined Namco in 1977 and took charge of the game and visual design of 1980’s iconic game PAC-MAN. Since then, he produced more than 50 arcade and video games, such as POINT BLANK, ALPINE RACER, and TAI CHI STARS. Send feedback about this article to editors@gdmag.com.
GAME DATA

DEVELOPER
Namco

PUBLISHER
Namco (Japan) Hudson (US)

PLATFORM
Arcade

RELEASE DATE
April 3, 2005 (Japan)

NUMBER OF DEVELOPERS
5

DEVELOPMENT TIME
15 months

ARCADE HARDWARE
25V main CPU C Exxon 3-channel 4-bit
1665 sound chip

ILLUSTRATION BY DEREK YU

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overwhelming. I had already created three other games prior to Pac-Man, so I was already invested to be a game designer among my colleagues. As a result, most people were able to look beyond this different kind of concept and let me explore the game’s possibilities.

WHAT WENT RIGHT

1. LOW-PRESSURE ENVIRONMENT. When we were making Pac-Man 25 years ago, we didn’t have the same budget constraints or deadlines that most developers encounter today. Without this kind of external pressure, we were able to create something we were all very satisfied with in an environment that supported creativity. Even so, we weren’t able to include absolutely everything we wanted, even in 1980!

2. SMALL TEAM VALUES. Unlike the large-scale projects most developers work on today, our team consisted of a mere five members, so it was easy to coordinate everyone.

Communication problems and team chemistry were not an issue, since there were all so close. In order to effectively manage such a large project, everyone on the team needed to think somewhat along the same lines—toward a common goal. If you leave out the communication aspect of your team, it will fall apart. The process of making games today is much more complicated than it was in the Pac-Man days, so we were able to thrive with such a tiny development team.

3. SIMPLE DESIGN. We succeeded in making the game simple. When we were trying to bring out the exciting and fun elements in the game, we mostly used a trial-and-error approach. When working on the design, though, we had to spend a lot of work to ensure that the game’s simplicity, since it was the one basic idea we had agreed upon when we began work. We wanted to create a game that would appeal to all levels of players and all genders, and included settings that would adjust the overall difficulty over time, such as attack waves and nunbelievable zones for the ghosts. We put a great deal of effort into including these settings so it would be challenging for a wide range of players. It took a significant amount of time for us to playtest and to fine-tune the various factors to reach the right level of balance.

WHAT WENT WRONG

1. HARD SELL. Since so many of the popular games at the time were similar, we had some trouble explaining the basic game concept to both our colleagues at Namco and the general public. It was especially difficult for us to explain the concept of how Pac-Man, who spends most of his time avoiding ghosts, is able to turn the tables and chase the ghosts after eating a power cookie. Internally, we received a lot of suggestions on how we could improve the game and make it easier for players to understand. For example, the producer of the company requested that we change the color of all the ghosts to red, even though they all had independent AI routines and personalities.

Fortunately, the game explained itself when people saw or played it, so our concerns about confusing players were largely unfounded.

2. ARTIFICIAL INTELLIGENCE. The one area of the game I would have liked to refine more is the presence of artificial intelligence. I am pleased with the AI that exists in the game, but I would have liked to implement a system where the difficulty of the AI is automatically controlled. I anticipated that having a set difficulty curve would not be enough because the entire range of people that would play it. We wanted to have a system in which the computer could adjust to whether a beginner or an expert player is at the controls. Based on the time it took the player to make a mistake, a record of these mistakes could be kept on the system so the game could automatically adjust the level of the AI in real-time. We just didn’t have enough time in our 15-month production schedule to implement that system.

3. TECHNICAL DIFFICULTIES. For the most part, we didn’t run into too many technical problems during development. The developers on our team were all quite good, and as mentioned, we chose to keep the game simple in order to avoid potential technical issues. I think ultimately we were able to create a simple game solely because there were techniques we didn’t know about. Later on, though, we actually could have realized a more complex design. In that sense, it was better that we didn’t know about them.

The one technical problem we did encounter was with the animations. We ran into several issues animating the main game scenes, but managed to still create something compelling with a lot of personality. We had always wanted to create an animation style that people could check out, but since we wanted it to appeal to multiple audiences. We knew that in order for the game to become a successful franchise, we needed a main character that was positive and upbeat, and would make players smile while they played. The

Pac-Man’s original Japanese name was PAC-MAN.
PAC TO THE FUTURE

I'm delighted that PAC-MAN has gained such popularity worldwide. We knew we had a high-quality product. After we finished the game, we realized there was nothing that could possibly be added or removed to make it better. So from the minor issues I mentioned. Even still, we were uncertain as to how successful the game would be overall. We had no idea that it would become such a big hit around the world. Even after its success in Japan, we didn't anticipate the overwhelming reaction from overseas. Even young players today know PAC-MAN due to its consistent presence on consoles, generation after generation. But, of course, it was the simple game design and adorable characteristics of PAC-MAN that had a lot to do with its success. As the developer of PAC-MAN, I was able to get to know a lot of people that I otherwise would not have had the opportunity to meet. These people are all very important to me. I feel fortunate to have worked on such a special game. All of us working on PAC-MAN learned some important lessons that can apply to any game developer. First, it's important to make a game that you yourself would enjoy, and then you are free to play with your target player. In that respect, if it's important to have a service-oriented mindset. Moreover, developers should believe in themselves and strive for their goals, knowing that they can succeed in anything with bravery, energy, and a sense of mission.

EDITOR POSTMORTEM:
PAC-MAN FRANCHISE

THOUGH TORU HATANO'S IMPRESSION OF HIS WORK CREATING THE ORIGINAL PAC-MAN game is mild and humorous, they obviously don't tell the whole story. Twenty-five years and countless titles later, Namco continues to grow and expand the PAC-MAN franchise. But clearly, just as there were ups and downs in creating the original arcade game, there have been similar shifts and transitions in the creation and nurturing of PAC-MAN's legacy. Game Developer decided to take a closer look at the quarter century of PAC-MAN games and come up with its own objective list of what went right and what went wrong in terms of the little yellow ghost's growth. These, then, are our independent impressions of how the franchise has fared, and what Namco still has to work on before PAC-MAN inevitably takes over the world at some time later this century.

WHAT WENT RIGHT

1. PAC-MAN: THE FIRST GAMES憲? PAC-MAN, many would argue, was the first-ever gaming icon—a recognizable video game character that was embraced by millions, even transcending video game media in his appeal. Why such a broad appeal? Well, unlike Pac's siblings, daily video games, often didn't even have characters at all—rather, the protagonist were spaceships or robots. Even those that did include characters were largely depersonalized and design dates upon which they were based. But PAC-MAN's simple, cute, yet compelling character design allowed him to be easily identified, both in published digital and printed form. As a result of the smash success of the first PAC-MAN game, PAC-MAN's success made its way to everything from lunch boxes to Saturday morning animated series, and pervaded early '80s culture for more than a decade could reasonably have expected. The growing example of this is probably the term "Pac Man" or "Pac Man" in the U.S. charts.

2. PAC-Man Fever—novelty songs and one of the best signs that you have a genuine phenomenon on your hands. But since then, cultural awareness of PAC-MAN has really let

3. PAC-MAN in Virtual City—PAC-MAN is essentially a virtual city, and it's PAC-MAN's origin story. The development team behind PAC-MAN in Virtual City has a background in creating games that are popular around the world. The game itself is a virtual city, where players can interact with other players from around the world. The success of PAC-MAN in Virtual City is a testament to the success of the PAC-MAN franchise as a whole.

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up, showing that recognition and love for the little yellow pack
isn't just a bubble, oh, no! The game has, and a genuine
concept rock group, Phantasmagoria. The game's designers have
also used Pac-Man-based musical numbers. As a result, as this
year, Namco reached a landmark with high stakes tilt flip
over his sampling of PAC-MAN sound effects for the hit "Game
Over." Also in the recent past, PAC-MAN music and gameplay
tunes were used by a notable North American Volkswagen
commercial in which the car-packing pollywog and four, existing
on PAC-MAN's classic game over sound. The fact that the game itself
was not specifically mentioned, but Volkswagen still left no
crumb in setting off the sounds and themes surrounding PAC-MAN shows
the true profile of the franchise within contemporary culture.

2. SEQUEL BUILDING BY ITERATION. For a time, the PAC-MAN
shows evolved into more ambitious leaps, but by baby steps,
refining the already proven model of the original, whose charm
and kid-friendly 2D gameplay was a major innovation that spawned
many more of these titles by virtual arcade game creators. Namco's
cautiously managing of the series in evidence in the five many players
still have for some of the earliest PAC-MAN sequels. This is
particularly true for the PAC-MAN, the first, and most successful
to be among the more beloved titles. In fact, the game was not made by Namco at all, but by the
digital distributary firm General Computer Cooperation as an add-on
to the original PAC-MAN arcade board. But it's to Namco's (and U.S. producer Midway's) credit that they appreciated the
improved gameplay and more family-friendly nature of the pseudo-sequel and brought it within the fold as an official
part of the PAC-MAN franchise. This iteration like sequel model
worked well for a time, and there were some fun titles which
still preserved the addictive original gameplay, including the
1992 graphic PAC-MAN, and the capable extended life PAC-MAN
NIGHTMARES [2000], each with its own charm achieved through
rejecting off the original's innovations.

1. INTELLIGENT EXPANSION OF GAMEPLAY. While PAC-MAN has
sometimes had trouble expanding past its 2D maze-based
roots, some franchise extensions have worked particularly well,
especially when they consider carefully what the essential nature
of PAC-MAN appeals and base the gameplay on those points. In
particular, Namco's recent collaboration with Nintendo's Satoru
Iwata and excursions onto the Nintendo DS system have been
integral to the series' growth of fresh ideas for our little yellow friend.

Specifically, Namco's experiments for PAC-MAN on DS, which
gets a PAC-MAN controlling player on the GameCube
against players controlling ghosts on a simple gameboy advance, doesn't change the nature of the game's design
much on paper, but what it does change is the way people play
and interact with the game, which makes it feel fresh and new.
On a similar note, PAC-Man for the Nintendo Ds starts with a
challenging set-up—the ability to draw your own PAC-Man
and its ghosts and then control which way it moves, in an attempt
to gobble up the ghosts, a perfect idea for a franchise evolution.
In simple form, PAC-MAN for DS is another smart extension
of the franchise created by editing PAC-Man with a drawing tool, the
most compelling part of the experience and helps remind us
of the visually direct control of the arcade original.

WHAT WENT WRONG

1. A DIFFICULT TRANSITION TO 3D. PAC-MAN's transition into
the 3D world, and in particular the world of 3D gameplay,
has not been an easy one. While it has been established that
departing from the original PAC-MAN design can yield good
results, the PAC-MAN WORLD games, while enjoyable on a basic
level and relatively commercially successful, ultimately place
PAC-MAN in a 3D platforming space alongside the likes of HALO
4, FALLOUT 3, and COUCH POTATO [2009].

2. LACK OF DIRECT CREATOR INVOLVEMENT. PAC-Man's
anchored creator Toru Iwatani was tragically killed behind the first PAC-Man title, and continues to work at Namco 25
years later. Here are at the helm of Namco's division of the
originals, designing the company's first-ever arcade title PAC-E
and four sequels, before making PAN-AM, after the completion of
one particular, LITTLE TALLIS. He stepped out of the development
game and the Namco administration.

Though the details continue to be left up to the company's overall
direction and creative thinking, he has not directly designed a
PAC-Man game since the original. When asked at Game Developers Conference 2014 in San Francisco he would add to the original
game, he said, essentially, that he would add nothing. This game
was so simple that adding anything extra to it would be too much,
and making anything away would be too much for the gameplay.
This may help explain why it has not received directly on the series, since its inception, and why it has
sometimes been difficult to transition the game into the next
generation, although Namco has done a fine job of continuing

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the high profile of the franchise, and although there have been some critical highlights for the PAC-MAN series, some argue that the lack of a consistent creative overview has caused the series to lack direction. In fact, with its focus on simple design tactics, one wonders what a second-generation Polya-PAC-MAN game might look like.

3. FRANCHISES CAN BE BURYING. Every franchise has them—from THE LEGEND OF ZELDA: wind Waker to SEGA's Porter & Friends: 3D. Unfortunately, the same is true for the PAC-MAN franchise. Along the 25 years of its life, there have been a few missteps. This is particularly true of PAC-MAN Party, a game that was released from NINTENDO's original maze chase genre. Many humanized mascot characters have multiple natural extensions, as ambitious humans, they can be in a platformer, a racing game, a strategy game, a baseball game, all while changing their intrinsic nature or design. PAC-MAN, on the other hand, needs to spread arms and legs, neither of which are part of its original design, in order to leap out of his 2D maze.

Although these changes can work in video game form (as in PAC-LAND), other extensions can just end up feeling like a bridge too far for our players. A prime example is probably party game PAC-MAN Party, which traded off the PAC-MAN name to relatively little interest and unfavorable critical reception, though easily, quality titles such as Print 1585: PAC-Man also seemed to take the franchise name down an inappropriate cut-down. The bottom line, as with all franchises, things work well when the branding or characters are added to game-based titles that aren't actually enhanced by their presence in terms of gameplay.

PAC IT UP

There's no disputing the popularity of the PAC-MAN iconography, and in that sense, the little yellow fellow’s square common has been overwhelmingly successful. As producers and former game developers ourselves, we've been interested in the ways that the PAC-MAN franchise's game designs have grown and matured over the years, despite the apparent perfection of the original game concept.

Though it's clear that PAC-MAN's genetics have made him a household name for decades, even in his 25th and setting down is an area of connected ghost-chomping. And who knows—another golden age of power and perusal consumption may be just around the corner. Here's to another 25 years of "Who's on First?".

Brandon Sheffield contributed to this article.