



// ORDER UP!_

How Team17 hand-picked from the Unity menu to keep finding the fun.

UNITY MULTIPLAYER CASE STUDY



The challenge

How do you launch hit multiplayer titles across all of today's most popular platforms while also supporting smaller teams with their launches?

Platform

Xbox Series X/S, PlayStation 5, PlayStation 4, Nintendo Switch, Microsoft Windows, and Xbox One

Project staff

80+

Location

Wakefield, UK
Manchester, UK

UNITY + TEAM17 = A GOURMET ENTERTAINMENT KITCHEN

Team17 is a studio renowned for creating hit multiplayer titles, stretching back to the original *Worms* in 1995 – an innovator of the couch multiplayer genre that launched on the Amiga and nine other devices. Since then, the studio has continued to create great games spanning all genres that deliver maximum fun to players.

When a new generation of consoles launch, their manufacturers are looking for games that are going to deliver instant fun factor to their new players. A port of a much-loved multiplayer title that broke the mold on the previous generation is always a good bet – but for Team17, simply porting *Overcooked! 2* to PlayStation5 and Xbox Series X/S wasn't going to be enough.

They decided to compile their hilarious, unique multiplayer titles *Overcooked!* and *Overcooked! 2* into a fully remastered bundle packed with extra features, levels, characters and accessibility options. *Overcooked! All You Can Eat* was going to be a feast fit for the kings and queens of the new console generation and the remastered bundle launched not only on Xbox Series X/S and PlayStation 5, but also PlayStation 4, Nintendo Switch, Microsoft Windows, and Xbox One.

“When we’re thinking about how to scale, the fact that the infrastructure is there worldwide, and we’re distributing worldwide makes it so much easier for us to reach our audience in the end.”

— David Smethurst, Head of Programming, Team17

// THE RESULTS_

- Years of resources saved on developing a custom, in-house engine for each project
- A next-gen console launch title – one of the first Made with Unity games on new consoles
- Simplified cross-platform launches across two titles
- Incredibly reliable and efficient technical support for even the most obscure game development problems
- Informative Project Reviews which provided the team guidance on optimizing performance of several titles, allowing them to push the creativity of their games further
- Scalable multiplayer infrastructure with Multiplay, delivering worldwide scaling with ease
- Flexible, robust hosting and matchmaker solutions without having to divert time and resources



Overcooked! All You Can Eat is a smorgasbord of the first and second entries in the series, with an extra layer of fine-dining-level presentation added for the new generation of consoles.

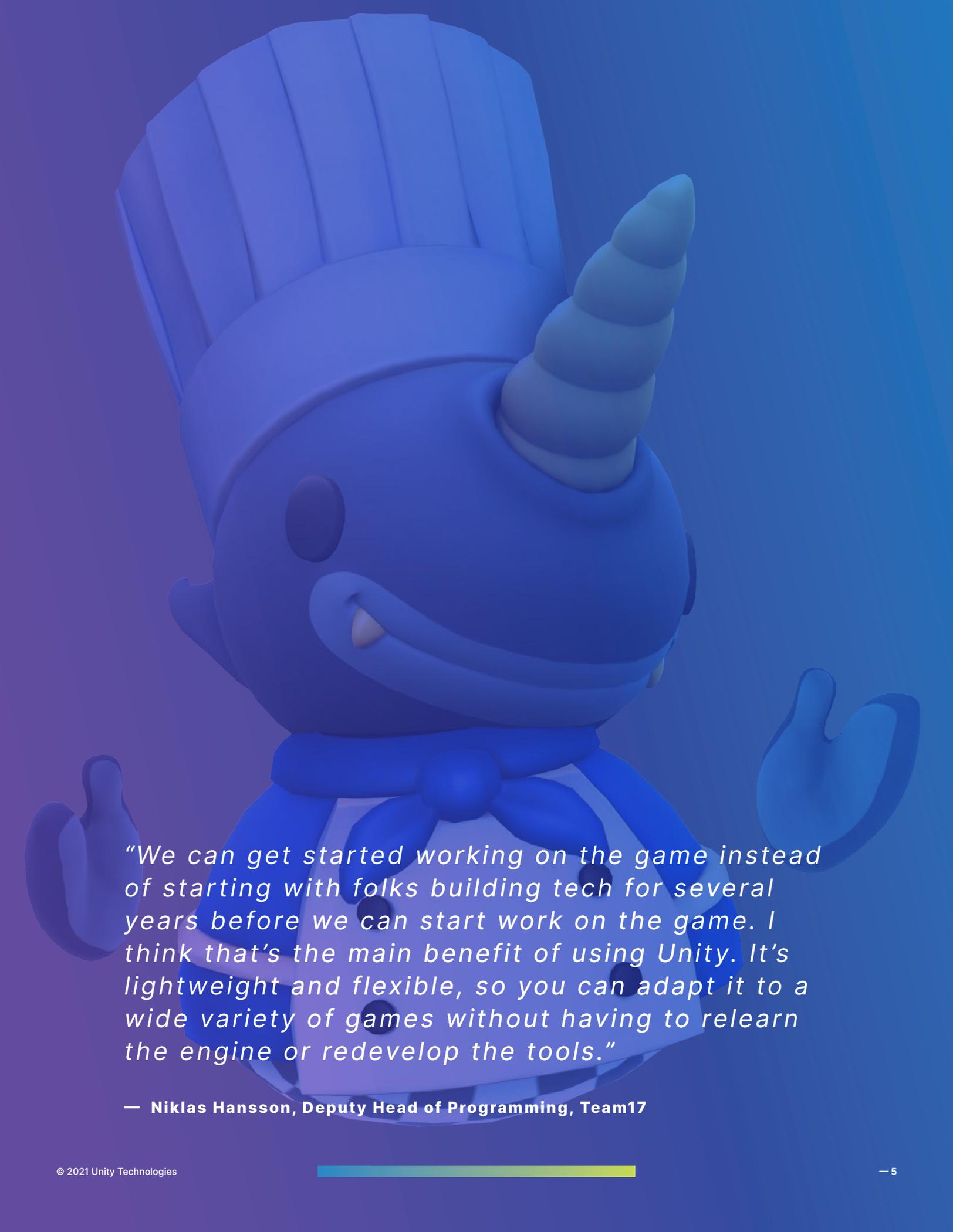
KEEPING THE KNIVES SHARP

With the latest iteration of the *Worms* franchise and *Overcooked! All You Can Eat*, the studio has evolved a lot from the Amiga days – but their goal of delivering great experiences is the same. “In terms of the games that we’re producing, playability, great gameplay, and great experiences for our players is what we’re aiming for,” says Dave Smethurst, Lead Programmer at Team17.

To achieve their goals, Team17 employs a varied, flexible, and powerful arsenal of Unity tools, the likes of which would make even their famed well-armed invertebrates blush. The studio is always looking to find the best tools to give their games the edge, to cut out the background noise and help them focus on delivering great gameplay without sacrificing the quality of their overall offering.

Here, we’ll dive into the details of how this renowned studio leveraged the Unity real-time 3D development platform, Customer Success Services (CSS), and Unity Multiplayer Services to deliver multi-platform titles that are all about crazy addictive fun with friends.





“We can get started working on the game instead of starting with folks building tech for several years before we can start work on the game. I think that’s the main benefit of using Unity. It’s lightweight and flexible, so you can adapt it to a wide variety of games without having to relearn the engine or redevelop the tools.”

— Niklas Hansson, Deputy Head of Programming, Team17



“To be frank, I don’t think we could have [launched these games] without ISS. Having someone help us prioritize and identify what was and wasn’t working... If we were left to do this all by ourselves, I can’t imagine us hitting our [release] dates.”

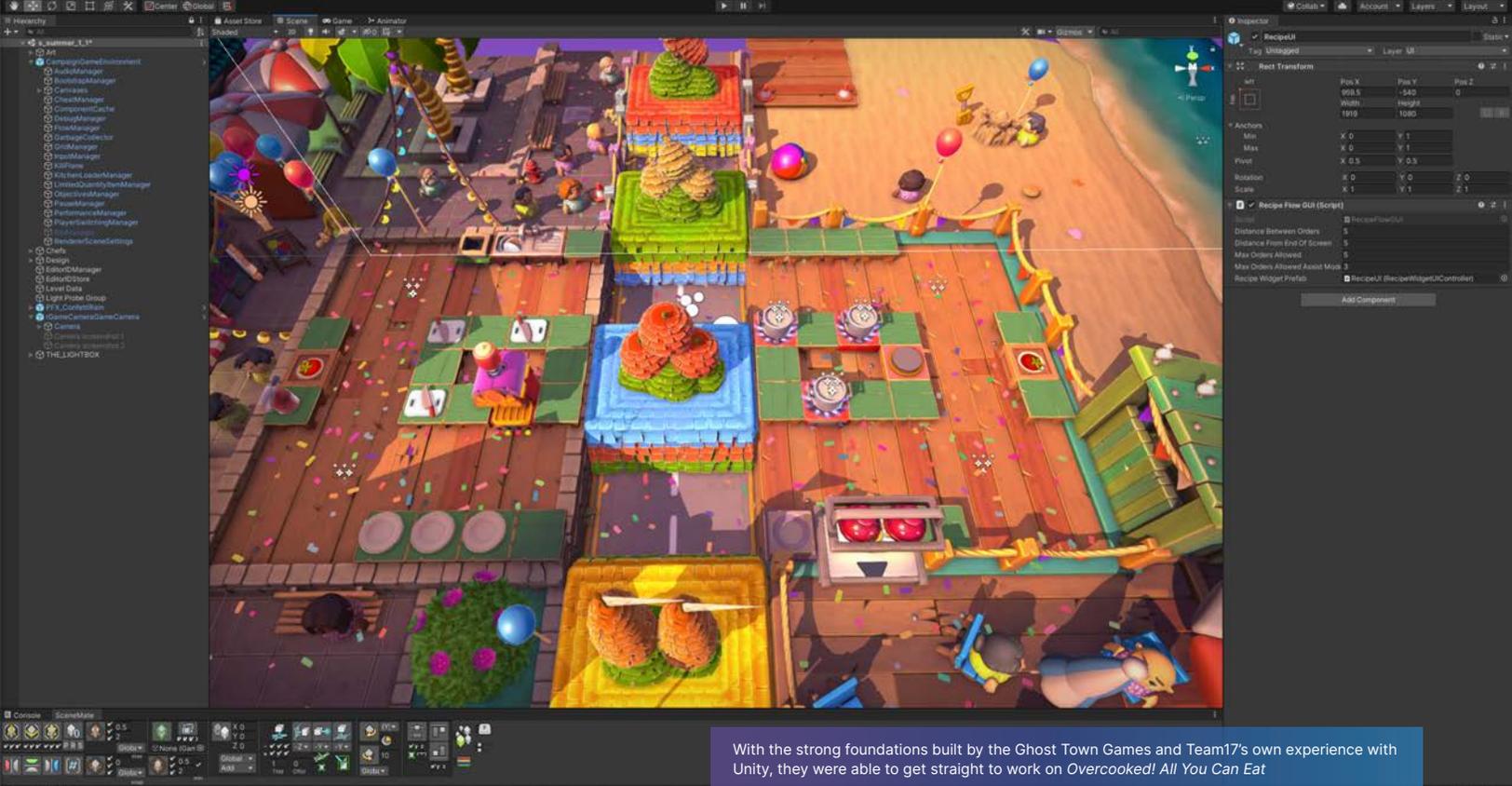
— **Niklas Hansson, Deputy Head of Programming, Team17**

COOKING UP CHAOS

Worms Rumble is a whole new way to play with the wacky, warmongering cartoon worms that have been a popular part of the gaming landscape since their first appearance in 1995. Rather than the turn-based battles of old, *Rumble* features intense, real-time, arena-based combat with 32 players. There’s still the same crazy arsenal with all the classics like banana bombs, sheep launchers, and holy hand grenades, but with 32 participants wielding them all at once, the result is pure chaos – amongst which players fight to emerge as the last worm (or team) standing.

While *Overcooked! All You Can Eat* may sound like a more peaceful prospect – run a kitchen with your anthropomorphic chefs to chop, stir, and cook your way to success – the result is equally as hectic. As any top chef will tell you, it’s the ticking clock that adds the pressure, with players competing to deliver their tasty meals before customers become restless or the timer runs out altogether.

Both games have multiplayer at heart and represent the cutting edge of technical achievement at the studio – so how did they make these games and what technology did the experienced experts at Team17 utilize to bring their games to life?



With the strong foundations built by the Ghost Town Games and Team17's own experience with Unity, they were able to get straight to work on *Overcooked! All You Can Eat*

FINDING THE RIGHT RECIPE WITH UNITY

Acting as a publisher helping dozens of small studios as well as creating their own games, Team17 had helped Ghost Town Games take the original *Overcooked!* to market after being impressed with the prototype.

“When we came to do the sequel game, *Overcooked! 2*, the foundations for the game were already all there. So, it was easy enough for us, with our previous experience with Unity on other projects like *The Escapists* and *Beyond Eyes*,” explains Smethurst.

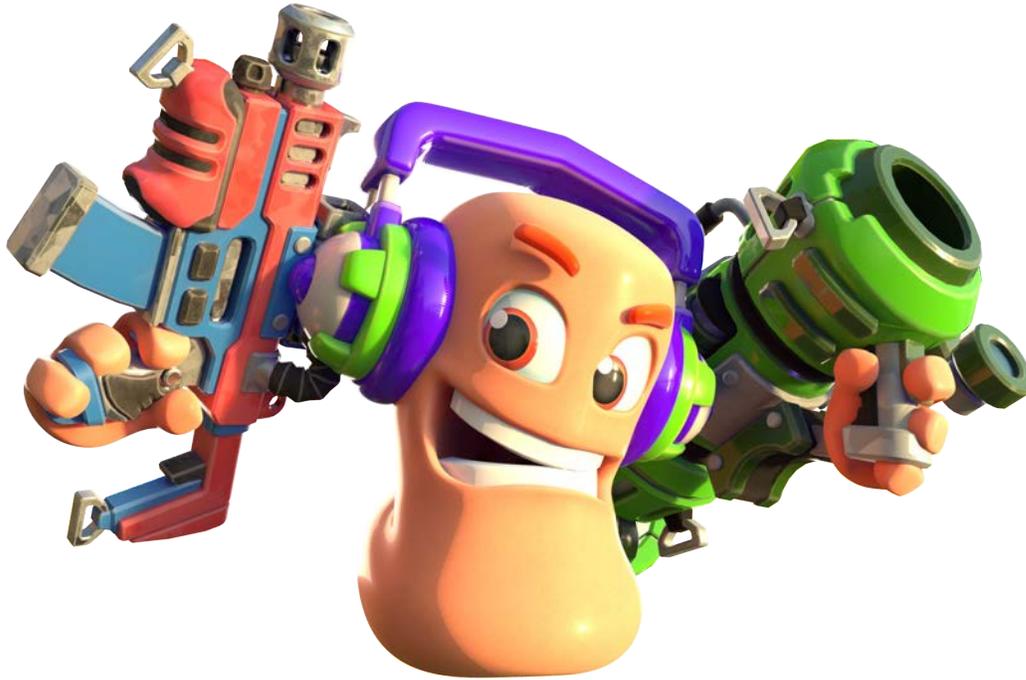
The team worked across two sites – their HQ in Wakefield and their second office in Manchester, which Team17 felt was able to play a significant role thanks to Unity allowing easy development across multiple locations.

They were able to unlock a series of benefits from their familiarity with the Unity platform that sped up their workflows while creating the latest iteration of the franchise. From the Scriptable Render Pipeline that allowed them to express their unique visual styles, to the built-in physics system that cut out the need to build their own solution from scratch, Team17 were able to pick and choose the tools that benefited their vision for each project.



“Having Unity by our side ahead of the launch of Overcooked! All You Can Eat on next-gen platforms was a great benefit to us. It meant that if we had problems with any functionality, we could have a quick conversation with them through ISS or Slack, and within a few days we would have a new package that addressed the issue. This allowed us throughout the development of the game to focus on compliance and not building the basic engine support.”

— **Niklas Hansson, Deputy Head of Programming, Team17**



Traditionally, in-house engines aren't flexible enough to facilitate multiple game projects, and engineering teams often need to go back to the drawing board for each title. For Team17, who work on a varied selection of their own titles while also supporting smaller studios with all kinds of projects, the flexibility of Unity was a clear benefit. It gave them a customizable out-of-the-box solution that shaved years off their development time for each title.

"To build a decently competent game engine, even for small games, you'd probably have at least five to 10 people spending one to two years getting the basic project up ... the problem with internal engines is that they aren't flexible enough to do any kind of game, which means if we start doing something new, you end up restarting that process.

[With Unity], we can focus on developing tools specific to the needs we have for a project, because we already have a general setup that works straight out of the box. For example, we can craft the kind of styles and visuals that we need to have without being bogged down with a custom rendering solution," says Niklas Hansson, Deputy Head of Programming.

"The team at Unity dealing with those next-gen platforms is very talented, and they've done a lot of work very quickly to get the engine up to a standard that you can ship a new game at launch of the consoles so well."

— **David Smethurst, Head of Programming, Team17**



Just like jumping into your first game of *Worms Rumble*, it's good to have an experienced team that has got your back when building games.

DISHING UP SUCCESS WITH UNITY INTEGRATED SUCCESS

Both as a studio working on their own titles and a publisher supporting many smaller teams, Team17 found they were using Unity a lot. Smethurst recalls “We were starting to use it a lot more, and, at that point, we were looking at how we make the best use of Unity. How do we make sure that we can successfully provide support, not only internally to our teams, but externally to our partners as well?”

The solution they opted for was Unity's premium support package, [Integrated Success](#), to make sure they and their partners were getting the best out of all aspects of the Unity platform. In addition to quicker response times, priority bug handling and Project Reviews, Integrated Success users are also given a dedicated Unity advisor called a Developer Relations Manager (DRM).

Developing technically sound games can be an unpredictable endeavor, even when you're using tools designed specifically to empower creators. Team17 found that their DRM, Ciaran, was able to mitigate much of the unforeseen challenges of releasing their hit titles on time. From connecting them directly to developers who analyzed their code, to fixing unexpected bugs, and assisting in managing complex projects that needed input from multiple Unity departments, our DRM was on hand to help overcome any blocker on the road to success.



When Team17 had a game-breaking bug two weeks before a release, the first person they contacted was Ciaran, who reacted quickly, creating a project team to analyze the issue while simultaneously troubleshooting a solution.

“To be frank, I don’t think we could have [launched these games] without Integrated Success. Having someone help us prioritize and identify what was and wasn’t working... If we were left to do this all by ourselves, I can’t imagine us hitting our release dates,” says Hansson.

// Project Reviews: The not-so secret ingredient

Available to every Integrated Success customer is an annual Project Review, where a Unity engineer conducts a two-week project deep dive, auditing it for potential issues, and locating points where performance could be optimized for greater speed, stability, and efficiency.

“Developing an engine takes years and years with a relatively large team. Using Unity, we’ve got an out-of-the-box, well-working Editor. We have platform support, we have rendering tools – you just get so much.”

— Niklas Hansson, Deputy Head of Programming, Team17



As longtime Integrated Success users, Team17 has had Project Reviews over the years on many of their games, including *Overcooked! 2* and recently *The Survivalists*. With *The Survivalists*, Team17 brought in the Project Review team during the design phase of their game, without much code completed. Allowing Unity to look into their project, getting feedback from a Unity engineer with actionable improvements in a comprehensive report helped accelerate their development, mitigate game-shipping issues and “pushes their game a little bit further,” says Smethurst.

THE UNITY + TEAM17 TEST KITCHEN

Building cross-platform, multiplayer games is no small feat, and at times, as Smethurst explains, “it felt like we found some very exotic ways to break Unity. And because of that, we were grateful that we had Integrated Success because it allowed us to connect with the right people. It’s allowed us to understand the why and the how and be able to either work around the problem or seek help from the engineers at Unity to be able to get a suitable fix in place that not only benefits ourselves as a team, but benefits the wider Unity community as well.”

With Integrated Success, Team17 was not only able to efficiently fix their problems, but enhance the platform for the hundreds of thousands of developers who build in Unity around the world. As Hansson explains: “We did some work with Unity on the incremental garbage collection, which has been taken back by Unity and is now available to everybody who uses it. So, it’s not just the fact that we break things – it’s the fact that we’re also managing to help improve the product through this relationship.”



We believe the world is a better place with more creators in it, and enabling those creators is what matters most to us. We're proud to have an inspirational studio like Team17 helping us find the recipe for successful democratized game development. Collaboration with those who use our platform to build their visions is at the core of what we believe in and this is why Integrated Success has been the not-so secret ingredient for so many studios.

INVITING MORE COOKS TO THE KITCHEN WITH MULTIPLAY

Team17's two top titles are heavily reliant on multiplayer, with *Worms Rumble* being an online-only game and *Overcooked! All You Can Eat* best enjoyed with friends near or far. Managing your own hosting service or setting up a fleet through a third party can take a lot of time, but having a rock-solid server offering is essential to maintaining a playerbase.

[Multiplay](#), part of [Unity Multiplayer Services](#), is Unity's engine-agnostic game server hosting and matchmaking platform. It's a resilient, scalable platform that means you can deliver the best experience to your players, wherever they are and however they play your game, without having to build your own gaming infrastructure.

Team17 decided to entrust their server hosting to Multiplay, knowing that Unity Multiplayer Services come with the same knowledge of and dedication to gaming that the Unity platform and support offering had shown.

"Multiplay allows us to avoid a lot of pitfalls that might be hard to avoid on our own. We can rely and lean on their experience when it comes to everything from user behavior to expected updates. We can scale between hardware and cloud easily, allowing us to fine tune the cost of servers," says Hansson.



“It’s not just saving time in terms of development, it’s also time in terms of the IT department and dev ops. They’re not having to get involved. We’re not having to take them off other internal projects, so they can focus on what’s important to the games.”

Hansson explains how the offering made sense to Team17, giving them the flexibility they needed to be able to scale cost-effectively. “We originally sketched out a scenario using Amazon’s matchmaker and server hosting, ignoring development costs. Just looking at server hosting costs, Multiplay was 30% to 50% of the price. Obviously, AWS doesn’t have bare metal. They could only offer cloud machines, which means you are paying for the cloud costs all the time. If you massively overestimate the amount of servers you need, it would be a gigantic waste of money.”

// A balanced meal – matchmaking that you don’t have to battle for

Players don’t want to be sat waiting to get into the action. They’re expecting to be able to jump into the fray, cooking up a storm or frantically looting their favorite weapons without staring at a lobby screen for too long. But players also want a balanced match that feels fair.

A great matchmaking service would be essential to make sure players were quickly sorted into quality matches, but building a solution in house would take a lot of resources, distracting from Team17’s main focus of making their games fun. Flexibility is always high on the priority list for a studio who works on such a variety of projects. After doing their research, they opted into the Unity Matchmaker Beta.

“I think it’s hard to put into words how much time the flexibility and support from Multiplay saved us.”

— Niklas Hansson, Deputy Head of Programming, Team17



“When we looked around for a matchmaking solution the Unity Matchmaker stood out to us. It gave us flexibility as we were developing our first crossplay game, where rules and requirements were unclear. Knowing we had full programmatic control over the matchmaker function reassured us that whatever we needed, it would be up to the challenge.”

“I think it’s hard to put into words how much time the flexibility and support from Multiplay saved us,” Hansson concludes.

For an established studio who is always looking to create experiences that their worldwide audience will love, being able to keep their options open in terms of backend and infrastructure is of huge importance to Team17.

Using an off-the-shelf backend solution, they were able to account for any situation without having to put hundreds of hours of developer time into building for every outcome. “When we’re thinking about how to scale, the fact that the infrastructure is there worldwide, and we’re distributing worldwide makes it so much easier for us to reach our audience in the end,” says Smethurst.

// Catering for all: More platforms, more problems?

The demand for cross-platform games has grown exponentially in the last few years. Player expectations are now set firmly on being able to play with their friends, whatever platform they choose. Add in factors like the audience split between console generations and the increasing power of mobile devices, and the picture painted becomes a busy scene for studios trying to cover all bases.

“A key thing for us as a studio is to be able to iterate quickly and discover what makes our games fun for the players. Unity has allowed us to focus on this by removing most of the technical barriers and providing tools that allow our teams to be effective from almost day one.”

— Niklas Hansson, Deputy Head of Programming, Team17

The extra resources needed to cater for this new demand were not to be underestimated, but the potential playerbase unlocked by cross-platform was too good to turn down for Team17. They were looking for every advantage they could get in helping ensure they could serve up their games to be enjoyed by as many people as possible, without sacrificing the quality of the final dish.

“The two games that we’ve launched on the new generation of platforms are both cross-platform multiplayer, which has introduced a large level of complexity in terms of managing the releases of those platforms, the compatibility between each version, and making sure that everybody can play online together,” says Smethurst.

“We can’t see that slowing down at the moment in terms of expectation from consumers when you’re doing multiplayer games now. You really have to take a long, hard look at it to understand, are these games suitable for cross-platform play? If they are, then we have to account for an extra level of technical difficulty within our time frames.”

It was clear that every edge would be critical in successfully delivering their titles in all the places they wanted them to be available, with the ability for players to interact between each. Cross-platform-as-default has been the focus of Unity Multiplayer Services for years now, with services from voice-chat to server hosting set up to give developers what they need to build once and deliver everywhere.

“I don’t think we could have done crossplay games efficiently without Multiplay and Matchmaker,” says Hansson, “It was the only solution that allowed the flexibility we needed to handle the platform-makers’ requirements.”





ROCKET LAUNCHER: HOW UNITY PROPELLED NEXT- GEN RELEASES

Launching on a new generation of consoles can be a daunting task, even for a studio with experience of launching titles on dozens of different platforms over its 31-year history. Smethurst explains how their close relationship with Unity helped them prepare *Overcooked! All You Can Eat* for the launch window of PlayStation5, as well as availability on Xbox Series X/S.

“Because Unity has close ties with the platform holders, they’re getting in there very early. Getting code up and running, being able to get that into the hands of key partners, and being able to show that the engine runs very easily on new platforms helped immensely.”

“The team at Unity dealing with those next-gen platforms is very talented, and they’ve done a lot of work very quickly to get the engine up to a standard that you can ship a new game at launch of the consoles so well.”



Pulling out the big guns: Team17 made sure they had access to all the hardware they needed by partnering with Unity in several key areas.



JUMPING INTO BATTLE WITH UNITY'S WELL-STOCKED ARSENAL

Team17 is that rare blend of seasoned industry veterans who have seen console generations come and go – an energetic studio that's full of ideas and excitement for the industry. They've been around long enough to know what's important to them and how they make games. They know what good looks like when they're choosing the tools they want to work with to realize their latest fun-fueled vision.

“Unity’s unobtrusive black-box approach, together with recent additions like the Scriptable Render Pipeline and the ability to do native plugins, gives us the flexibility to do what we need.”

— **Niklas Hansson, Deputy Head of Programming, Team17**

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By relying on Unity for solutions to create and operate their titles, Team17 has found a solution that helps focus on what’s important to them – creating fun games. From the platform that powers their biggest hit, to the server hosting that keeps their games online, to the matchmaker that connects their players, to the Integrated Success offering that supports them in using it all to maximum efficiency, each service has been hand-picked to bring their ideas to life, to create something that might not have been achievable without the right tools.

“Working with Unity has allowed us to focus on our primary activity, developing fun experiences for our players, without being bogged down by spending years developing the base technology and backend infrastructure first. Being able to maintain a dialogue with Unity’s internal development team has allowed us to feel certain that we’re always up to date.”



// GET MORE THAN AN ENGINE

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