



Player ID:
Khaled
AlMoukhtar



Classification:
Chief Technology Officer
and Co-founder

Player history

Life took a dramatic turn for Khaled AlMoukhtar when, in 2012, he was forced to flee his home and career as a mobile game programmer in Damascus, to escape the Syrian civil war. He settled in Turkey and co-founded Wolves Interactive, where he is Chief Technology Officer. After going viral within six months of its 2017 launch, with more than 10 million downloads, the studio's mega hit Traffic Tour has been downloaded more than 50 million times and counting.

Studio

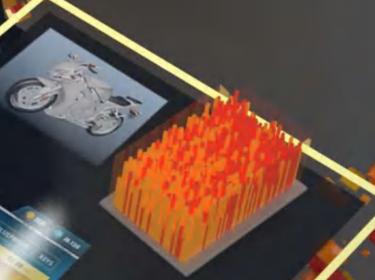
Istanbul
41°03'N 28°9'E



Founded
2016



Employees
15





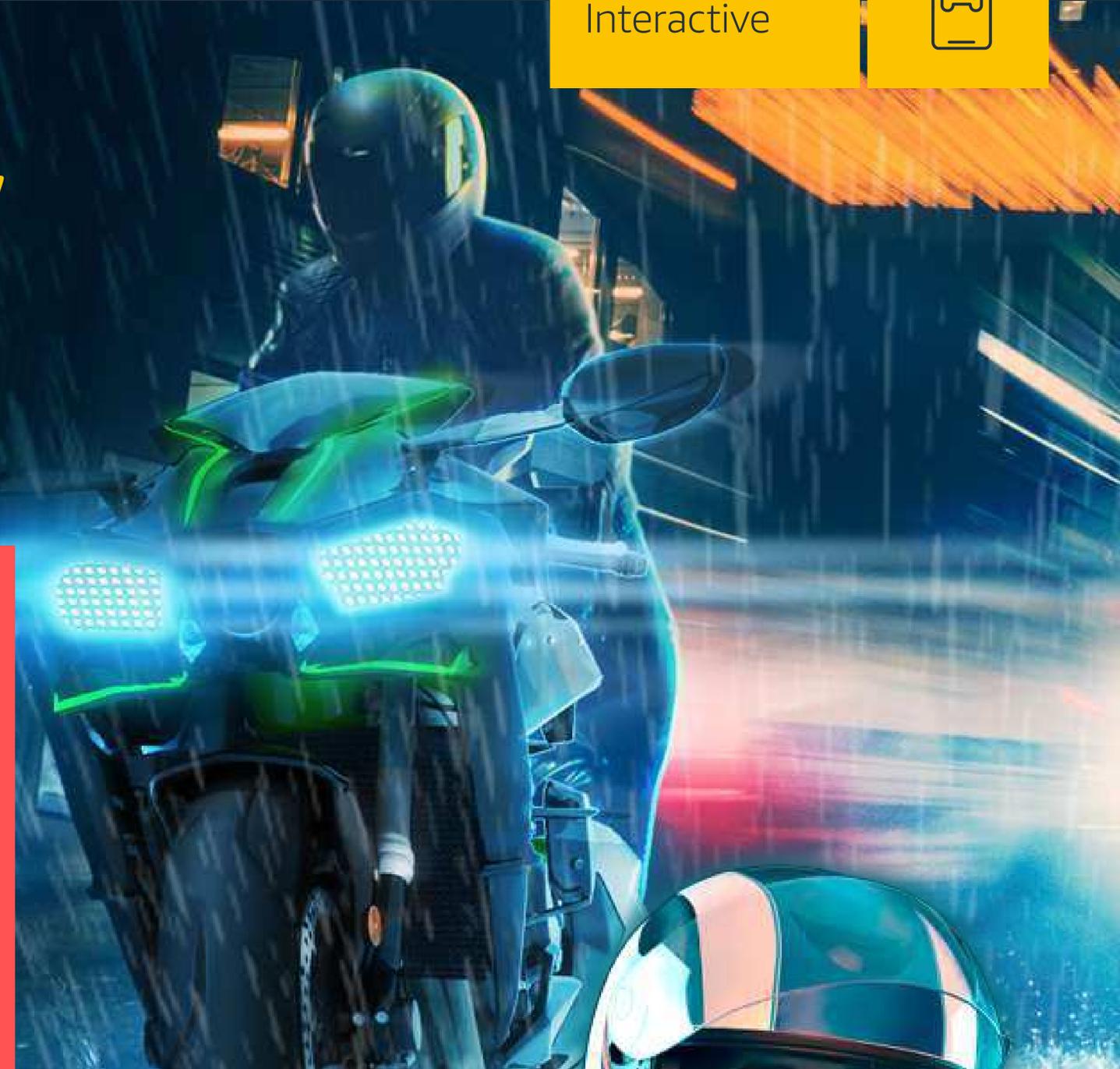
Rising to the challenge, revving up and ready to race ahead

Rising to the challenge is something the co-founders of indie game studio Wolves Interactive know all about. Khaled Almoukhtar, Mohammed Dayoub, Ahmed Allazkani and Karam Bwidani escaped the civil war in Syria and found refuge in Turkey, where they built a thriving mobile gaming enterprise from scratch. The Istanbul-based company, which specializes in arcade-style racing games, was set up in 2016 and launched its first game, *Traffic Tour*, less than a year later.

Traffic Tour challenges drivers to scorching missions through highway, city, desert, rain and snow while making the most of slick handling and massive acceleration to chase down rivals and rack-up the bonus scores. Wolves' next release, *Motorbike*, was launched in 2019, challenging players to dodge police and attempt daring overtakes. This was followed by *Motor Tour* in August 2020, a bike version of the ever-popular *Traffic Tour*.

The team's latest title, *Racing Go*, published in September 2020 and takes players on an ultra-realistic, high-octane car race around the streets of the world's most iconic cities, featuring superb graphics and the option to go up against other gamers in real-time. It also revs up the tension with a 'Drag' mode to test players' timing and skill in shifting manual gears, plus 'Takedown' challenges, where winning means neutralizing rivals with a series of exhilarating smashes.

Wolves has worked with AWS from day one, evolving its existing titles and adding new games to their portfolio, while sharpening design and development to be more data-driven. Ready to switch it up a gear, the team is currently seeking investment to treble its 15-strong team, expand from mobile-only to console games—kicking off with a VR version of *Motorbike* for PlayStation—and open their first international office.





“The sound of bombs and gunfire was scary”

When the civil war started in Syria in 2011, it was frightening and dangerous for civilians. Where I lived, near Damascus, we could hear bombs and gunfire, and every day there were power cuts lasting hours. I was working as a programmer and studying online, so was heavily reliant on internet access. Sometimes, the electricity would cut out in the middle of a lecture, and it was impossible to work, which was when I started to think about leaving Syria.

My friend Ahmed Allazkani, who'd already relocated to Turkey, persuaded me to make the move. I had to leave most of my family behind, but my wife is here with me in Istanbul. We married a month before we left—even in the middle of a civil war, life goes on. It's hard to explain, but when you're living in a situation like that, you get used to it. Our brains have an incredible ability to reprogram events and accept them as normal. Now, every time I call my family, I ask: 'How are you managing with no electricity?'

“Our dream was to make high-quality arcade racing games for mobile”

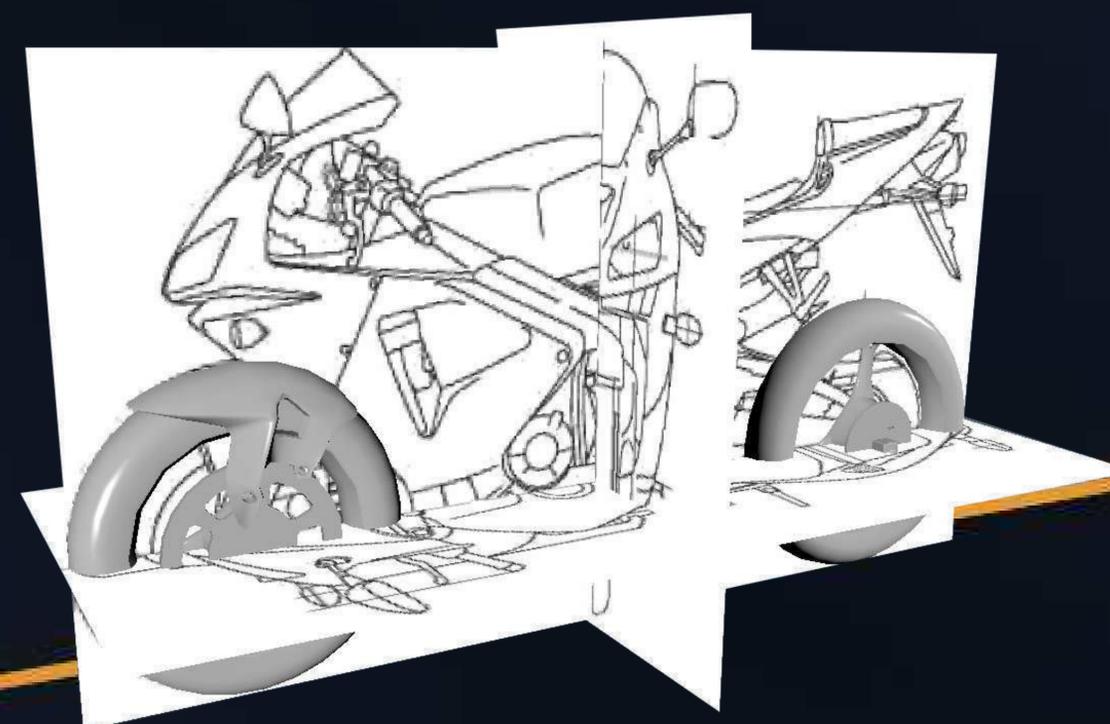
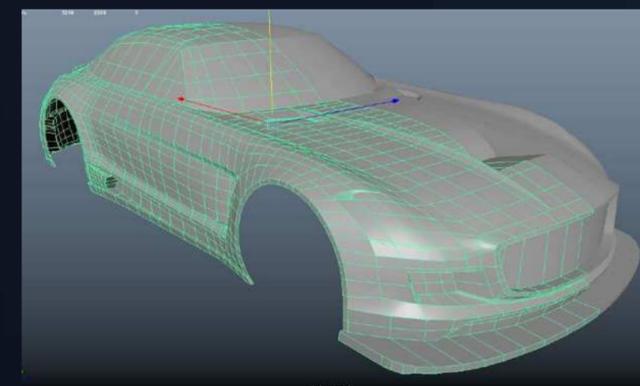
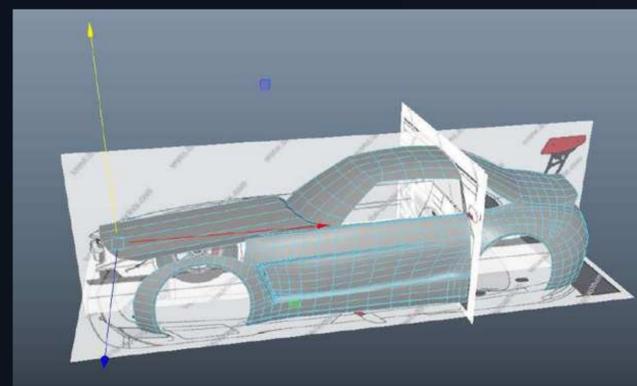
When I arrived in Istanbul in 2012, I was approached by Mohammed Dayoub—then a Game Director and now Chief Executive of Wolves Interactive. He had been developing action titles in Damascus for several years and was passionate about starting a mobile game studio, which led to him coming up with the idea for Wolves Interactive and forming a team. Just like me, he'd come to Turkey to escape the war and was intending to

return—but when his home was destroyed, he couldn't go back. Although living in different regions of Turkey, we worked together remotely on a couple of interactive projects. Mohammed would come up with an idea and design, and I would bring it to life as a programmer.

We decided to try to make a few simple games for mobile devices and when that went well, it got us thinking about building the sort of high-quality racing arcade games we love playing. We knew it would be too tough as a startup to compete in the console game market against big companies like EA and Gameloft, so we realized our best chance was to create amazing games, but make them lightweight enough for mobile.

Neither of us knew many people in Turkey, so we put out a call on DUBARAH—an online community network which connects displaced Syrians, asking designers and developers for help with developing the prototype of our first game, Traffic Tour. We were amazed and humbled at the response. Initially, we funded everything ourselves; developing games, our in-house tools, marketing—all of it was created from nothing.

Ahmad Allazkani had been running a clothing company in Damascus, but had been forced to relocate to Istanbul because of the war, so he already knew all about Turkish business and financial regulations. When we showed him what we'd created with Traffic Tour, he loved it and offered to work with us. The three of us set up Wolves Interactive in 2016, and a few months later, we were joined by Karam Bwidani, who'd left Syria in 2013 and was working in Turkey as a freelance game dev.





“We didn’t know anyone when we arrived in Turkey so we’ve built everything from scratch.”

RACING GO



In 2019, we managed to close our first round of fundraising and persuaded Hussam Alnatur to join forces with us. A gaming guru in the Gulf area, Hussam has his own gaming company and good connections with Sony. He helped us create our first PlayStation game, marking a new milestone in our journey.

“We broke even in our first month”

When we launched Traffic Tour in 2017, it went viral with more than 10 million downloads in the first six months. Just a month after publishing, we were breaking even. We still joke about having created a money machine: you put money in and more money comes out. Traffic Tour has since hit over 40 million downloads, and we’ve reached more than 60 million players across all our games. It’s an incredibly powerful feeling to know our player base is the equivalent of the population of a small country!

We started to improve Traffic Tour and plan more projects, but quickly realized it would take too long to develop every single future game from scratch. That’s why, as well as developing the games, we’ve also poured huge amounts of time and effort into building our own in-house tools and making a template for creating future games. Traffic Tour took six months to launch, plus another year to improve and stabilize. Now, thanks to our tools, we’re developing games much faster. In the past two years, we’ve created

three games for Android and iOS platforms.

We have about 12 tools that we use in each game, but that’s come about gradually. We started with five tools in Traffic Tour and have developed more as we’ve gone along. Our latest game, Racing Go, has improved multiplayer and purchasing systems, but took less time than Traffic Tour to develop, thanks to the time we saved by using our development tools.

“Players smash into a rival’s car and shift gears in perfect time to win”

For Racing Go, we designed levels to mimic some of the most iconic cities around the world—Paris, London, Istanbul, Moscow and Los Angeles. But before we started developing and designing, we studied pictures of each on Google Maps and found a famous street or building to give the game an authentic feel. We also rebuilt all of the cars from scratch, including the interiors and exteriors, focusing on texture and detail.

We introduced a new mode called Takedown, where the player needs to smash into an opponent and damage their car, while avoiding taking a hit themselves. We added in a feature so the player can see how badly their car’s bashed up. Another very different game mode in this game is Drag, which is all about skill and timing. There’s no need to steer, but the player needs to ‘manually’ shift gears at exactly the right time to be able to win.



We worked hard on the physics system to make this happen, because to make everything feel real, you need a powerful CPU for processing. As we're dealing with mobile devices, everything needs to be optimized and adapted, so that was a

major technical issue. This was particularly relevant, because where previously a player had only one opponent, in Racing Go they can go up against five others. It was a huge step up in terms of optimization to make that work, and some systems needed to

be rewritten. For example, our AI system for automatic driving had to be recreated to be optimized. In some cases, we used caches and workarounds, but we eventually managed to find a solution for each issue.



“We read up on car engines and how gears work so we could build an algorithm”

We came up with the idea of the manual gear shift ‘drag mode’ while we were developing our second project, Motorbike. We built the tool and the system and incorporated it into that game as well as Racing Go. To begin with, drag mode was just a section but, after a few weeks, we were bombarded with messages from players saying how exciting and fun it was and asking us to add a pop-up message to offer that option at the very start of the game. Now, when you open Motorbike on your mobile device, you’re asked immediately if you’d prefer to play in drag, as opposed to normal mode.

From a development point of view, drag mode presented a really tough challenge. We had to build a new system for the manual gearbox because the player is responsible for shifting gears. We read up on car engines and how gears work in real life so we could build an algorithm. That’s

how we improved our physics engine, which is now incredibly realistic. Once we’d done that, we improved our audio system to be compatible too, so there’s this incredibly authentic soundscape that reflects the gear shifts, acceleration and braking moves.

“We’ve been with AWS from day one”

We did our research and it was obvious that AWS is the go-to for game tech, which is why they’ve been our choice from day one. We mainly use [AWS Elastic Beanstalk](#) to scale and deploy our code, which is written using PHP, running with Apache on Linux. We also benefit from the network load balancing and auto-scaling features to handle and manage the EC2 instances. We use a static IP for our instances, using a private NAT gateway and, for storage, we use [Amazon RDS for MySQL](#), [MongoDB \(AWS CloudFormation\)](#) and [Amazon S3](#). And on top of that, we take advantage of a couple of other great features, like [Amazon EBS Snapshots](#).



WHAT IS RACING GO?

Racing Go is a new endless arcade racing game that takes you to another level of smooth driving simulations and high graphic quality.

GAME PLAY

Drive your car in the endless highway roads, overtake traffic in challenging career missions, collect blueprints, unlock new cars, upgrade them and challenge your friends in real-time racing.





We couldn't find the right tools to monitor how our apps were doing, so ended up developing our own, including a real-time revenue tracking system, which means I can check the server any time to measure how any of our applications are doing. Our in-house analytics system tells us

how players are navigating our games and shows us where there's room to improve—for example, if we can see a player's stuck on a certain level because it's too hard, we can fix that. We also have a system to make in-app purchases easier. It's a base layer for our project, so it's now easy to add that

to the purchasing system, plus it's already linked to our revenue tracking and analytics system.

More specifically, for our revenue tracking system and player management, we use [Amazon Elastic Compute Cloud \(Amazon EC2\)](#). All our players' data, IDs and progress

is saved on our server, which we built ourselves, and which is hosted on AWS and linked to our database. We save things like the progress of our players and all related information using [Amazon Relational Database Service \(Amazon RDS\)](#) and [Amazon Elastic Block Store](#).



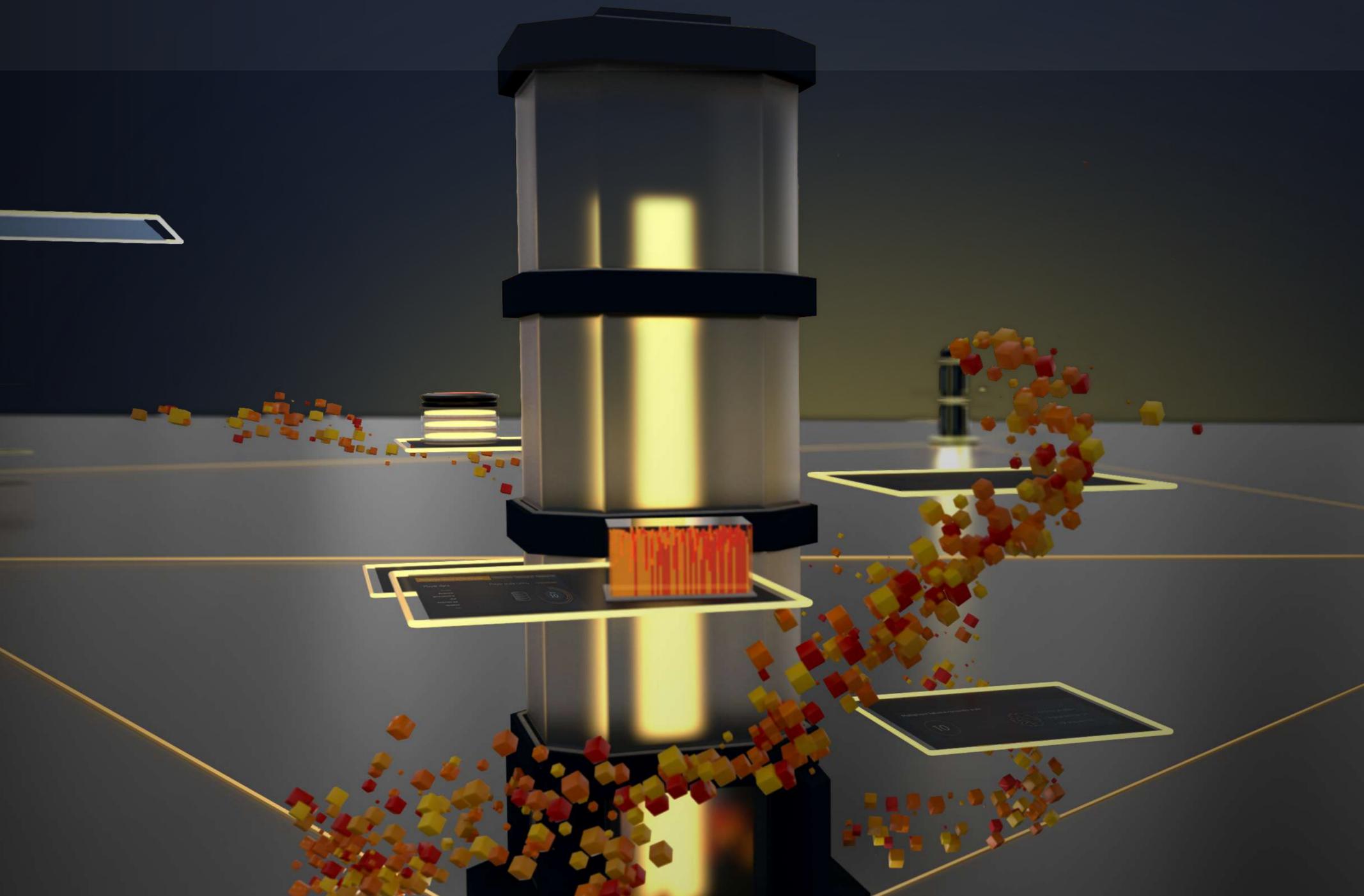


“Publishing your game is just the beginning”

One of the biggest lessons I’ve learned is that the day you publish a game is just the beginning. When we started, we worked hard to prepare Traffic Tour for release. We wanted to publish it but, because we were nervous, we started tweaking stuff and adding new features

and ended up missing the deadline. That experience taught us to get used to the fact that not everything’s going to be ready in time for the launch, but there’s nothing to stop you from constantly improving and adding to a game afterwards.

Every game we’ve created is special to us, which is why we keep maintaining and improving all of them. Traffic Tour is so much fun to play, why wouldn’t we keep updating it? On launch day, it included 16 cars, but we’ve kept adding new ones and it’s up to 40 now. We’ve also added plenty of other special offers and features. A game is like a baby—if you keep nurturing it, it’ll keep growing.



AWS Services used:

Elastic Beanstalk 	RDS 	Cloud Formation
S3 	EC2 	Elastic Block Store

At-a-Glance

Key games:

 (2017)	 (2019)	 (2020)	 (2020)
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Fast fact:

Wolves’ first game, Traffic Tour, went viral after launching in 2017, notching up more than 10 million downloads in the first six months—that figure has since grown to 50 million.

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