



ANGRY BIRDS
Dream Blast



David Mason | Senior Vice President of Technology

ANGRY, DESTRUCTIVE, AND EXPLOSIVE PHYSICS FUN

David Mason is Senior Vice President of Technology and Head of Development at Rovio Entertainment. He leads Rovio's cloud services development, and plays an instrumental role in defining the company's technology vision for the future.

Angry Birds. Very angry birds that explode, fly, destroy, and pop pesky pigs, form the foundations of Rovio Entertainment. This games company cemented itself in the annals of gaming history with its highly immersive mobile game—Angry Birds. A game that won awards, broke records, and redefined what casual gaming could mean for hundreds of millions of gamers. Today, the company maintains its reputation for fun, engaging, and highly entertaining games with Angry Birds Dream Blast, a physics-powered and compelling addition to the Angry Birds universe.

With Angry Birds Dream Blast, Rovio took the birds and their rage, added a sophisticated technology stack, and created a tight, engaging, and satisfying game that keeps players coming back for more. It's a tap-a-thon of strategic thinking and smart planning that thrills every time a player beats a level.



"We're always trying out new ideas"

Our game development is very iterative; we're always trying out new ideas. Our approach is to develop a concept internally, work on the best ideas with a small team who take them to prototype, and then we'll decide if a game is worth taking further. If it's the right game, we'll move to preproduction and then assess the market by putting a simple playable version into the hands of players to get their feedback through play testing. Then, if we believe in the game, we try a soft launch to see if we can attract an audience and scale in a profitable way.

"We have 40 nationalities in the company"

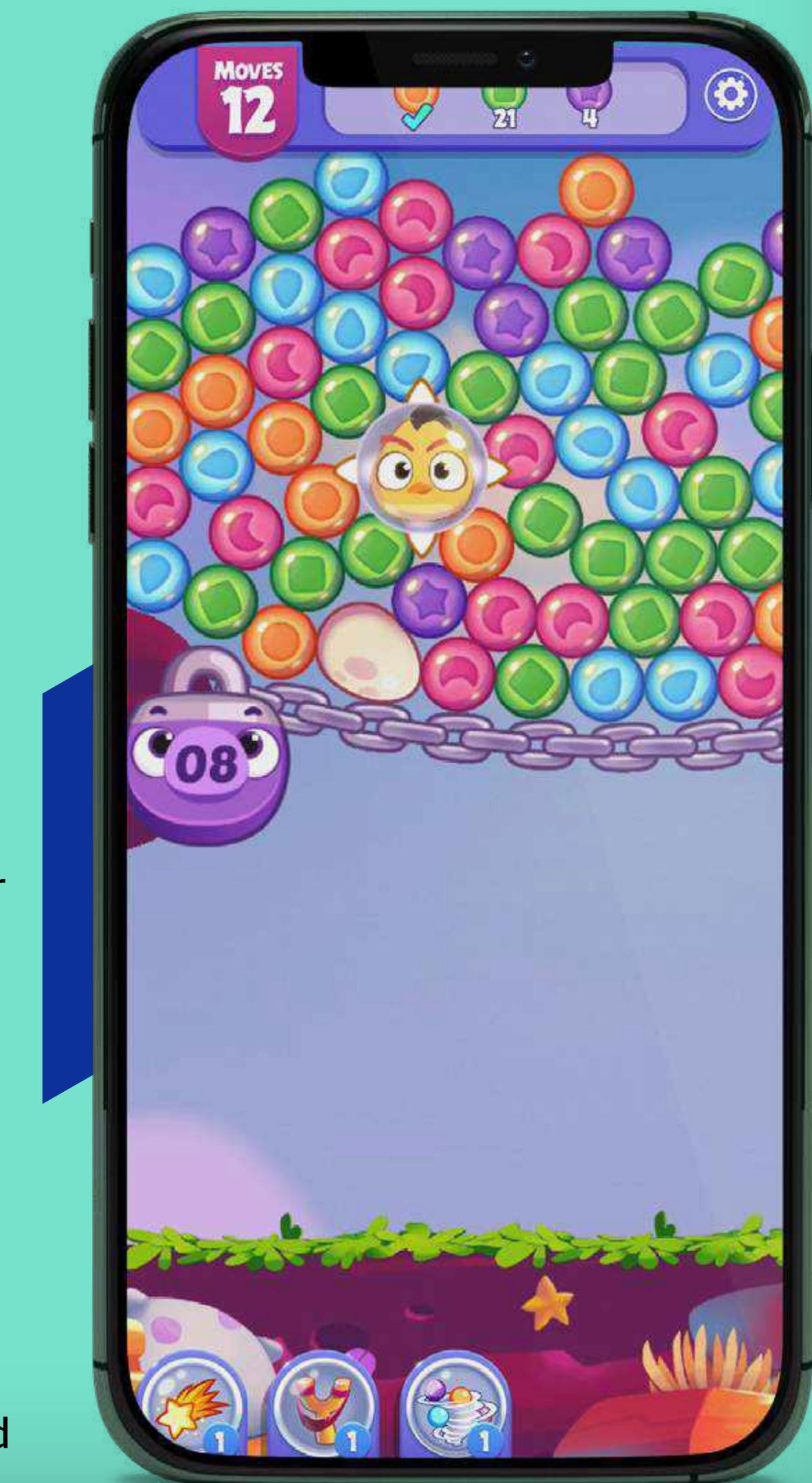
Rovio is a very diverse organization—we have around 40 nationalities in the company and there are 19 different nationalities in our technology team alone! We're always looking for great, global talent so that our games appeal to a global market. We want to work with individuals who are passionate about creating great mobile games—this is why we're always talking about what we're doing and why we're on the cutting edge. Conversations like these help us attract the right talent that believes in the work.

"We can build and deploy infrastructure to the cloud in hours"

We built Angry Birds Dream Blast on AWS because of the multiple benefits AWS brings to the game. To speed up our time to market, we've created common technology and services for our game teams so they can focus on developing the game itself. Angry Birds Dream Blast exploits these common cloud services through our platform, Beacon, including player identity, analytics, ads and cross-promotion, personalization and live ops, and payments—all built on AWS. Angry Birds Dream Blast also leverages our game server infrastructure templates and machine learning capabilities.

DID YOU KNOW ...

Rovio Entertainment Corporation is a global, games-first entertainment company. Its mobile games have been downloaded 4.5 billion times to date. Rovio is best known for the global Angry Birds brand, which started as a popular mobile game in 2009 and has since led to two films, the first of which opened number one in theatres in 50 countries. Rovio is headquartered in Finland.



"We serve tens of millions of players every month"

Each month, we serve tens of millions of players in our games, which means thousands of requests per second from all corners of the globe. We capture two to four billion analytics events per day with more than 1TB of data, and run more than 1300 instances on [Amazon Elastic Compute Cloud \(Amazon EC2\)](#).

"Teams can pick game services out of a box"

We provide Beacon services to our teams through an SDK, REST APIs and our own dashboard. This takes away the pain of having to integrate third-party solutions for ads, analytics, and attribution. We ship the services to the game team so they get all the services they need out of the box.

"We provide challenges and events that bring people back every day"

All our games run live events and create challenges that bring people back every day. Thanks to our Beacon Live Ops calendar, game teams can create event templates—the calendar can then schedule events on demand while reusing previous templates. It can simply change the reward and the art, and apply it. This allows for multiple games to use the same tool really effectively.

"You don't need to be a hardcore infrastructure engineer"

AWS gives us the tools to template. In the past, we built our game servers with the Google App Engine, which is a fairly wrapped service that was quite expensive to run at the scale we generate. Over the last four years, we've moved to AWS and have started to template our game server infrastructure. For Angry Birds Dream Blast, the move helped to reduce the

hours spent on infrastructure. Part of the joy of this game is that we'd already built an entire template and already had other games running on it, so we could just focus on building the best possible game.

Our management layer uses [AWS Management Console](#), and our technology stack includes [Elastic Load Balancing](#), [Amazon Route 53](#), [AWS Shield](#), and [AWS Networking and Content Delivery](#). Enabling the deployment of different environments, testing environments, and production environments is done through [AWS CodeDeploy](#) and [Amazon Elastic Container Service \(ECS\)](#).

Then, when developing the actual infrastructure, game teams pick the services they need to run, such as [Amazon RDS](#), [Amazon Elasticsearch Service](#), or [Amazon ElastiCache](#)—all of these are packaged in the templates. Our templating enables our game teams to leverage AWS' comprehensive stack and takes away the need to be a hardcore infrastructure engineer.

Technology has enabled us to run the game with global reach to players 24/7. This infrastructure lets us scale at demand to all corners of the earth, because it's so cost-effective.



"Machine learning helps us understand the playability of the game"

There's so much innovation that's made possible with machine learning these days. It's changed how we've managed the playability of levels in Angry Birds Dream Blast. Machine learning has given us the ability to predict the playability of levels and to test before we release them into the game.

In the past, we would play the levels and every week would shift new levels into the game, then we would learn and iterate the experience over the next two to six weeks. Gamers playing the levels would teach us if the levels were too easy or too hard. If it's too easy, players lose interest; if it's too hard, they leave. You have to find the right balance.

Now, with machine learning, we can optimize the levels so our players get the best experience from the moment the levels are released. So our hardcore players that are waiting for fresh content get optimized levels straight out the gate.

"Sometimes you just want to walk down the hill"

Machine learning allows us to bring our churn score and lifetime value into our targeting, and to change the player experience on the fly based on their behavior. We also aim to measure the fun of the game. Sometimes a player wants to climb the hill and sometimes they just want to enjoy the walk down. The levels need to vary in complexity, so we get those peaks and troughs right. To customize the game for the individual, we have to understand what different types of players want from the game. Machine learning can give us this understanding.

"Angry Birds Dream Blast is in the top 100 grossing games"

The technology we're using has taken us to market, allowed us to really engage our players, and helped us place in the top 100 grossing games globally. Angry Birds Dream Blast has been a huge achievement and the machine learning, the player experiences, and the technology stack have all helped to write this success story. We're delighted by the success of the game. When we set off, we knew we had something different. The way the game is played—the physics and interaction—means the elements that make up the game are not the same as other casual games out there today.

"Focus on what you believe in"

Rovio has been developing games since the early 2000s, and when we launched Angry Birds classic, it was actually our 52nd game. It was the right game at the right time. The App Store had just come to market, and there was a consistent platform with the iPhone that had consumer traction. Today, with thousands of apps pushed to the App Store every day, it's about focusing on where you believe you have something unique and trying to iterate, learn quickly, test ideas, and build games you believe in.

"I'm on level 920. I love this game"

Angry Birds Dream Blast is something you can pick up and play whenever you want. It's both challenging and rewarding. I enjoy trying to overcome each level and because there are so many different challenges and levels, it means there's always something I need to overcome. I'm now on level 920. I really do love this game. It captures the fun, the anger, and the destruction of the brand.



"We're inspiring another generation of builders"

When I first got offered a job interview at Rovio and told my kids about it, they wanted to know which Angry Bird was going to do the interview! My best friend's son designed his own level for the game; he was so inspired by it.

The mix of creativity and technology helps people see how things are built. It's how started—I was playing Elite and other games as a teen, then I started writing code, and then I went off to do software. So when I see our games making people want to become game developers themselves, it's a great moment. We're inspiring another generation of builders.



ROVIO

STUDIO STATS & FACTS

	Founded: 2003
	Team Size: Circa 400
	AWS Services include: Amazon EC2 , AWS Management Console , Elastic Load Balancing , AWS Shield , AWS Networking and Content Delivery , AWS CodeDeploy , Amazon Elasticsearch Service , and Amazon ElastiCache
	Total number of downloads: Over 4.5 billion
	Follow: @Rovio

ANGRY BIRDS Dream Blast

GAME STATS & FACTS

	Launch Date: January 2019
	Genre: Tap to match puzzle game
	Platform: Mobile
	Fast Fact: A polished, physics-led puzzler that's just as angry and destructive as the classic, Angry Birds Dream Blast was named one of Google Play's Best games of 2019.

