Case study

Dutch Junior Open 2019 – live streaming of the world-famous squash tournament

Mission

Squash is a very fast and dynamic sport – characteristics that make it attractive to watch but difficult to broadcast. Just consider that the game is played with a small ball that can fly as fast as 281 km/h (world record)! Fortunately, HD standards have recently opened the door to quality live streaming. **That's also one of the reasons Sander van der Brakel, developer and owner of Mediavibe and iMakestuff, decided to install a live camera pointed** at the central court in the modern Frans Otten Stadium in Amsterdam, the Netherlands. The venue offers one of the most beautiful glass courts in Europe, where more than 1,500 visitors can watch the game. Such features attract many great tournaments and competitive players all year round.

"As a long-time squash player and a software development business professional, I pushed through the idea of a permanent camera on the center court so we could stream our competition matches and tournaments," explains Sander van der Brakel, and he continues: "The first tournament we decided to stream live to YouTube was the Dutch Junior Open. It attracts young players from all over the world. It's a perfect event to stream live so that all the families from different corners of Earth can watch, and players can replay their matches afterwards."

The prestigious Dutch Junior Open tournament is one of the largest individual junior squash tournaments in the world and has a long history – it has been held every year since 1987. It presents a perfect opportunity to showcase what live streaming has to offer nowadays.

Solution

"When we got the green light to investigate the options for live streaming, we had two main goals: to stream directly from the camera without the need for an extra computer or other device, and to obtain a good stream quality at a high framerate," says Sander van der Brakel. These requirements soon led to an investigation of the CamStreamer applications with an AXIS camera.

"The combination of CamStreamer software and an Axis camera seemed to be the only stable solution in

the market, allowing for live streams directly from the camera. Moreover, the CamStreamer App ran flawlessly, and the first live broadcast was set up within one hour after the camera was in place. The CamStreamer App definitely outperformed our expectations," explains van der Brakel. The organizers used the AXIS Q3517 Network Camera to take advantage of the possibility to stream live at a 50 hz framerate and 1440p resolution. The CamStreamer App, however, wasn't the only application onboard.

The CamScripter App – an application running on JavaScript-based micro apps – had the crucial job of integrating the online-based score system from SquashScores.com directly to the live stream. The SquashScores.com uses JSON files to show scores on screens, and the same data were used to show the scores in the video. The JSON file was downloaded from the website every second to check the scoreboard variables such as name, country, current score, referee decisions, etc. with the Camscripter App updating the data shown on the video in the same interval.

"It was a short read to get the hang of the Camscripter apps, but with some of the examples available it made sense quickly. It worked really well. We had no outages

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or frame drops. We do have a dedicated 100/100 Mbit internet connection just for the stream and data, which I think helps a lot in keeping the system running smoothly," says Sander van der Brakel.

The score infographics was then displayed via the CamOverlay App, which was also used to show the logos of the venue and sponsors. The CamOverlay's Info Ticker service was used to announce upcoming matches and give additional information when needed, such as in the case of injury timeouts..
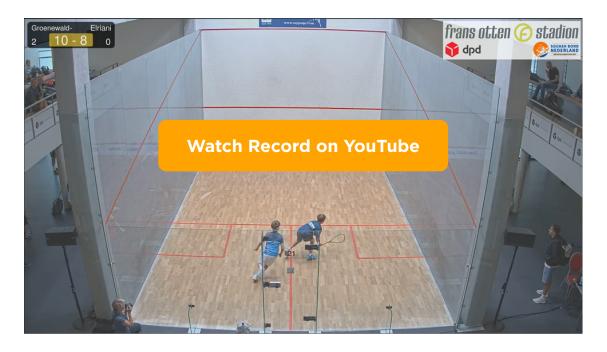
Result

The YouTube live stream was a huge success with hundreds of concurrent viewers every match. "With replays included, there have been almost 10,000 views at the moment. It's a massive step forward in increasing the visibility of the sponsors and the sport in general! Especially when considering that without the live stream, we'd have a maximum of 500 people watching the tournament," says van der Brakel. The live stream from central court is in use every day – for other

tournaments, competition days, and training purposes. As for the future, there are many other opportunities for adjusting the live stream, such as displaying players' heart rates in the live broadcast thanks to a special app. "The CamStreamer apps are versatile enough to implement almost anything we want in the live stream," concludes Sander van der Brakel.other exotic location.

List of Supplies

Video quality:	1440p
Audio:	AXIS T8351 Mk II Microphone
Camera model:	AXIS Q3517
ACAP application:	CamStreamer App
	CamOverlay App
	CamScripter App
Streaming platform:	YouTube
Location:	Netherlands

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