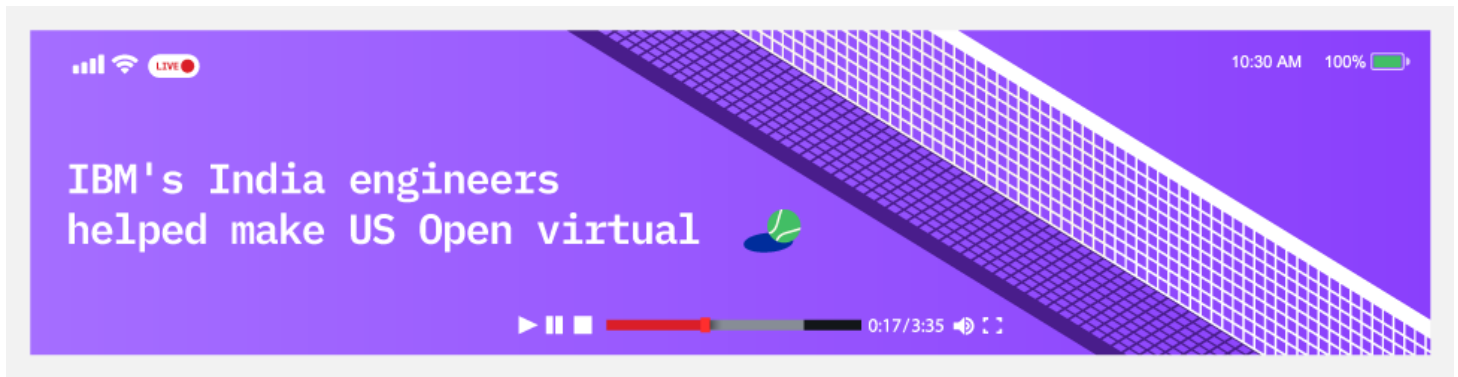


IBM Creates New Fan Experiences using AI and Hybrid Cloud

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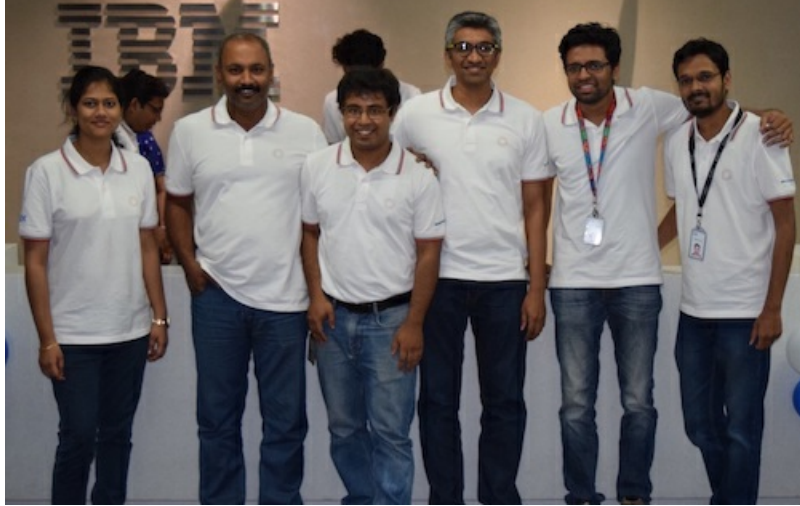
The US Open began this week at the Arthur Ashe stadium in a radically different environment, devoid of fans and punctuated with artificial crowd noises akin to a laughing track in your favourite sitcom, but which required a lot more tech to make. Virtual fans who tuned into the broadcast were also greeted with innovations that required some of IBM's best minds in India to develop.

Following the sudden decision to go ahead with the US Open without any spectators, IBM had only 12 weeks to quickly develop new experiences. One of these was the Match Insights feature. **Karthik Sankaranarayanan, Senior Manager of AI for Interaction** at IBM Research India, says this feature is powered by the deep learning-based Natural Language Generation (NLG) technology that has been incubated and developed by research scientists in IBM's Delhi and Bengaluru centres over the past few years.

At the US Open, IBM Watson Discovery's NLG capability will go through the massive amounts of statistical tennis data available online – about players, games, tournaments, etc – and automatically generate insights for fans to read. IBM Watson is the company's famous computerised 'brain,' while Watson Discovery is its enterprise AI technology. Statistical data can be overwhelming for most people to interpret and understand.

NLG technology is able to wade through vast amounts of data, identify patterns, correlations, and anomalies hidden there, and communicate only the most insightful aspects in plain, easy to understand language. “And in a way that is quite indistinguishable from what a human author would do,” says Sankaranarayanan. He says that while most Natural Language Processing (NLP) has traditionally focused on how to make sense out of language data that is inputted to a machine, by what is called Natural Language Understanding (or NLU), NLG focuses on the complementary challenge – how does a machine produce or generate written text in natural language from tables, graphs, charts or other forms of data.

The company used its hybrid cloud architecture with Red Hat



OpenShift to power Watson's advanced natural language processing tech. "The scientific results of the work done out of India like NLG have been accepted and published at prestigious AI venues such as Association of Computational Linguistics, the world's leading AI conference in Natural Language Processing," says Sankaranarayanan. The India team also collaborated with the company's global research teams to create the cheering sounds. "A completely silent stadium wouldn't be that engaging. We had to use AI to go through hundreds and hundreds of hours of tennis matches to generate the right kind of sounds to

make the experience more realistic for people watching online," Sankaranarayanan says.

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IBM believes NLG is the next frontier in the evolution of AI for human-machine interaction. "Our tech is now able to even engage in debate. The computer can take a topic, create an argument and counter-arguments. We like to call it conversational AI, the way humans interact, which requires the computer to understand context and intent to push the conversation forward," says **Gargi Dasgupta, Director of IBM Research India and CTO of IBM India.**

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