



NEWS RELEASE

This Week in Tech: Infotainment, the Road Ahead

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By: Shripriya Subramanian

This Week in Tech is a monthly flagship **webinar** session hosted by the Visteon India Career Code Team and namesake of its podcast.

The first session of the webinar, titled “Infotainment, the road ahead,” was held on April 30, and included guests Rahul Singh and Binoy M.V. from the infotainment platform team with Shripriya Subramanian from communications as the moderator. The webinar was a discussion of the future of Android-based infotainment, its roadmap and the associated challenges.

The conversational format of the webinar, coupled with the spontaneous response from the guests, made this sixty-minute show worth listening to.

Here are some highlights from the conversation:

Shripriya: Hello Rahul and Binoy. So, how’s it going? How are you and your team coping with the lockdown, and more importantly, how are you keeping your teams motivated?

Binoy: We are doing well. Business continuity is our top priority. Our team is spread across India, the United States, Brazil and Germany. We have stood up to the challenge, and almost all of us are working from home now. We have moved hardware (wherever possible), creating small home-office environments. All of us are getting used to the new normal and are going above and beyond to ensure there is no lag in deliverables.

Rahul: The style of communication has changed. We are a more virtually connected team now – we hone our



technical acumen, creativity, and team spirit over Microsoft Teams! We still have those debates and crazy discussions. Nothing much has changed, and we are delivering our best from wherever we are.

Shripriya: Why does the industry feel the need for Android?

Rahul: That is a good question. If we take a sneak peek into industry trends, we'll see that major OEMs are already collaborating with Google.

So, what magic does Android really bring? You can explain it in many ways. First, Android is one ecosystem that brings almost a million plus applications. Second, Android is completely open source. You can modify anything and everything in Android depending on your needs. Third, Android has the world's largest developer community. These highlights make Android the preferred operating system for automotive.

Another trend to note is that most auto manufacturers have shrunk their product development timelines from 48 months to well under two years. Android enables rapid product development – something the industry needs.

Binoy: Success of the platform also depends on how efficiently you are able to bring in the best possible user experience, and how attractive is the platform for the developer community. Android fits the bill perfectly.

Shripriya: What are some of the compelling future use cases that your team is developing?

Rahul: There are so many consumer-centric and innovative use cases we are working on. I can talk at length. We are focusing a lot on virtual reality (VR). Voice is our top priority. Screens are getting bigger but hands are not. Therefore, voice takes the center stage when creating the best possible in-car experience.

We are focusing on personalization too. Today, the consumer wants to buy a car with a pinch of personalized features. In the near future, seating and steering wheel position, and ambient lighting based on user profile, will become a norm.

Have you heard about “continue where you left off”? It is jargon mainly used in the smartphone and the tablet industry. You could be reading a book on your mobile phone, then switch to the same page of the same book on your tablet. Can we create the same experience with your in-vehicle infotainment (IVI) or rear seat entertainment (RSE)? We are working on some of these features, and you will soon be seeing them in a car around you.

We talk about context awareness. SoLoMo is another technology or jargon used in the smartphone industry. Think about this scenario: Your car tells you there is a shop that is giving you a discount based on your current location. The car further assists by navigating you to the shop. How cool would that experience be? We are bringing together simultaneous localization and mapping, advertisements, gaming and much more. You open up a large number of different use cases when you integrate the right operating system (OS) with the right hardware and feature set. This

is going to be the next are of explosive growth.

We are also integrating our infotainment solutions with the internet of things (IoT), and it is catching on fast. We have had many lengthy discussions about teaming up with third-party technology solutions and enabling sensors on the vehicle steering. Your car will be able to detect your health status and, if you are not feeling well, will book a doctor's appointment for you while you drive. By the time, you reach your office, your medications are on their way. The future is limitless!

Binoy: Adding to what Rahul highlighted, we are also working on multi-display solutions. These displays can be driven by a single Android system. Currently, most of the systems we are developing are based on Android P. Android P has a limitation though – two displays cannot run two different applications.

However, in Android 10, there is a feature called multiple launcher, multi-resume. It can independently operate two applications in two displays. In this way, Google supports the use cases of the automotive industry.

At CES 2020, we displayed a solution with five displays – instrument cluster, passenger display, center information display and two rear-seat entertainment displays. All these were driven by a single Android operating system.

Shripriya: Why user experience (UX) is so important?

Binoy: Consumers don't just want to buy a car, they want "their car" with something special in it. In various mobile devices, such as those from Samsung or Oppo, the user interface (UI) is pretty similar. However, when it comes to automotive, the HMI or UI is a big branding factor for the automakers. In fact, it defines their DNA. Most automakers want to bring in a differentiating UI, and they want to ensure that the UI is updated frequently during the vehicle lifecycle.

Rahul: Irrespective of the life cycle, we can provide fresh content to the user. For example, on Christmas Eve, you can color your entire user experience in red, and on all the other days, you can make it black.

Rahul Singh has extensive experience in designing and developing immersive experiences on mobile, connected digital products like IoT, voice over internet protocol (VOIP), point of sale (POS) and automotive infotainment. Currently he is a software developer, reviewer, tester, principal architect and the product manager for Android platform core software development at Visteon.

Binoy M.V. is an experienced Technical Professional in human-machine interface (HMI) and graphics with 17 years of experience working in the embedded industry. He has experience developing embedded products such as mobile devices, digital TVs, automotive infotainment and instrument clusters. He has been a key player in HMI and graphics for Visteon platforms including Einstein 2, 2.5 and 3, OpenAir I1.1, Phoenix 1.0 and now Android.



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