



Automotive Workshop X

19th October 2021

This was the tenth Automotive Workshop organised between WorldDAB and RadioDNS.

Nick Piggott introduced the workshop, reminding the attendees that this is a discussion rather than presentations, and that the focus is on solving implementation problems that can be easily identified and fixed based on current functionality.

Feedback on usefulness of the Automotive Workshops

The Automotive Workshops have enabled WorldDAB and RadioDNS to complete the receiver functionality research with manufacturers and we are now concentrating on getting feedback from broadcasters; what are they transmitting, what would they like to transmit and their current support for hybrid radio.

WorldDAB and RadioDNS can see growth and improvements within hybrid radio, and RadioDNS registration requests from radio stations are up more than 40% year-on-year. This is evident from within WorldDAB and RadioDNS, but they would like to know from implementers if they can also see a progression and would like to share any evidence from implementers based on their experience.

It is understood that there are continuing obstacles in metadata and implementation and everyone at the workshop is committed to getting this right, and every attendee works within larger teams with wider ambitions and more diverse targets, and so the first area to be addressed today is what we can do in this meeting to help influence change inside the organisations of those at the workshop.

Paddy O'Reilly (Jaguar Landrover) highlighted that the lead time in developing a system for a vehicle to customer delivery is typically 3 years. Software over the air has massively improved systems, but changes are often beyond just a simple system update, so this means they can't run as fast as they would like. On the other side, of increasing

importance is visual presentation; avoiding driver distraction but moving away from a featureless user experience.

David Layer (NAB) was very positive about the format of the meetings, saying he likes the fact that everyone has the chance to speak and interact with broadcasters and manufacturers.

Joe D'Angelo (Xperi) asked about the learning from the analysis that has been done in order to move forward. Nick Piggot picked this up and spoke briefly about the receiver functionality research, how open standards are quite wide and there has been a pick-and-choose approach resulting in many permutations. The purpose of these meetings is to cut down on these going wrong. The next step is to discover what the broadcasters are actually sending, what they think they are sending and if they know what they could be sending. Plus, we need some understanding of whether it is happening the same everywhere as this could disrupt product planning. Joe D'Angelo suggested the creation and maintenance of a database in order to guide product development and suggested this is a role WorldDAB could take on which Rosemary Smith (WorldDAB) said she would take back to them and said there was an understanding of the need for more clarity. Nick Piggott added that the research about to be done will be a good starting point for a database of services. He added that one shared frustration is that the standards documents seem so clear when they are created and then there is a difference in understanding and implementation. Should there be more work done with logos or station visuals, or are there more barriers we don't know about?

Gregor Poetzsch (Cariad) said that throughout every market in Europe all features are slightly differently implemented and that they had assumed everyone would work to their interpretation, but this is not the case. He added that he thinks this workshop is very important, but also to have face to face meetings with real life demos of ideas and features. Dave Walters (BBC) in chat said he doesn't see this wider broadcast/manufacture conversation taking place elsewhere at scale and in such an open fashion, so this format works. Hadi Mawazzi (BMW) agreed.

Laurence Harrison (Radioplayer) added that he thinks the real strength is the breadth of attendees and the format of the workshop means everyone can share ideas and perspectives. Some of the studies that have been done as a result of the meetings are useful, but the most important aspect is probably raising awareness. As far as the format of the meetings goes, Laurence said he thinks the workshops have been better for being virtual but there may be scope for some in-person meetings in order to do a deeper dive when necessary. As for a list of barriers to implementation, cost is an issue that Radioplayer often hears about.

Nick Piggott said there has been a learning from these workshops that broadcasters need more help to build a business case for implementing the standards and so that has been picked up as part of the research cycle. This is reliant on manufacturers providing statistics (e.g. how many cars currently on the road support the standards) which will change the nature of the business discussion and could help overcome the financial obstacle.

Driver Distraction:

Rosemary Smith (WorldDAB) introduced this topic. She said that we are now at a point where guidelines for driver distraction are coming together and we want to debut them here for review by the group and to ensure we are making sense. Also that we don't go too far down the path without a much wider group commenting to make sure we are heading in the right direction.

Driver distraction is falling into three areas: Legibility, Relevance and Frequency of update. If the content isn't legible, the driver is distracted. Every time content is updated, it causes a distraction. Is the content relevant enough to require an update and does it need to be as frequent? It needs to be thought about from the perspective of the driver, as just filling the screen with content is unnecessary. As well as these considerations there is also local legislation that could constrain any guidelines provided which could need to be accounted for. Additionally there are design considerations from the manufacturers that the broadcasters need to consider. Plus frequency of update being 20 seconds is taken to be the industry norm but it isn't documented anywhere and consideration needs to be made on timing, synchronising, design and resolution.

Nick Piggott reminded the group that the idea behind this is to create some sensible perimeters and feedback is needed on whether or not the guidelines need to be more or less specific than what has been suggested.

Gregor Poetzsch said there needs to be more discussion on restrictions for Slideshow, as there are already restrictions on showing video, and it's unclear at what point Slideshow could be viewed as being "video".

Rosemary Smith continued that it needs to be made clear to drivers that text and visuals are available and that they should update without driver intervention. Scrolling should be automatic or easy to expand. The message to broadcasters and manufacturers needs to be the same so there isn't a disconnect. Further considerations also need to be made.

What the guidelines need are examples. There are many bad examples but there also needs to be some good examples with visuals of a screen display that does not distract the driver.

Nick Piggott responded to Barbara Zambrini (BBC, in chat) who asked about consistency by saying this will be consistent across markets and if there are inconsistencies in legislation then it will be documented.

Paddy O'Reilly asked about luminance which started a discussion on daylight sensing and whether adapting content brightness should come from the broadcaster or the device. Considerations such as listening to a stream in a different time zone might cause problems, if the broadcaster is responsible for implementing "night mode" designs. There could also be a problem with logos, Paddy said that when JLR were testing in Germany a few years ago listening to a station with white background on logo and it lit the whole car up. Dave Walters said if both broadcasters and manufacturers dim then the device will end up with the display in darkness. Nick Piggott said he has some experience of this with DTV and asked if the group thought there needs to be an extension of visual protocol for the vehicle to be able to specify light or dark regardless of whether it is dark outside or a driver preference and therefore broadcasters need to support both modes. Dave Walters said this means additional complexity for broadcasters.

It was decided that there needs to be more discussion on luminance and by the next workshop there could be a framework in order to give feedback before making a decision.

The group circled back to frequency and began discussing the idea of updates every 20 seconds, and that this could affect commercial partners if ads are less than 20 seconds. It was suggested that if adverts are less than 20 seconds then there are no visuals. If so, this needs to be written into the guidelines. Gregor said their legal team has said that updates more frequent than every 20 seconds could cause an issue even though it could technically be possible. He also said that their user experience team works with companies such as Spotify and Deezer who provide a certification to work within their guidelines otherwise they will not approve working with them.

Nick Piggott suggested that broadcasters are instructed not to send more frequently than 20 seconds and manufacturers are allowed to discard anything that arrives faster than 20 seconds.

Rosemary summarised by saying that the draft document will be circulated and any comments should be submitted by email. At the next meeting the guideline document

will be in the next draft form, having considered all the feedback, ready for one final review before it is sent out to the market to provide clarity.

Android Automotive

Gregor Poetzsch (CARIAD) gave an update on Android Automotive, saying that there have been some challenges implementing radio navigation within the Google Media Centre template. Android for the car environment has been created as open source with special functionality, plus support for the Google app store but only those auto-enabled apps in the store will be available. Additionally there are 3rd party apps available too.

There are also challenges with the divergence between the Google Media Centre display vs the radio display. In the media centre all apps must fit into the template, including any radio apps or music apps such as Spotify. There is a standard layout for media apps in Android Automotive, and there is an expectation that radio will fit into the media template, plus the option to create an alternative app. This will make it easy to access, switch, create favourites and get additional features.

Barbara Zambini asked how GAS (Google Automotive Services) fits in. Gregor replied that they can be worked with as partners, but there are some caveats such as using Google Maps and Google Assistant which OEMs don't always want to do. All of the apps can fit into the GMC template but this doesn't apply to radio, so radio apps don't need to stick to this template, although they are sticking to it as much as possible.

Nick Piggott asked if Gregor knew what the current situation was with making these changes and what the negotiations and discussions have been. Gregor replied that it is an on-going process. The template is just a sample app and is not default, but everyone is taking this as ready. It seemed the intent was not to use this app, but just as an implementation example, but he said he thinks that a good template would really help to continue discussions and find a middle ground for all the different markets in Europe, North America and Asia.

Elisha Sessions (BBC) asked what broadcasters can do to help with discussions. Gregor replied that broadcasters should join WorldDAB and be part of the user experience group. They are taking part in the NAB pilot but he thinks this isn't something that will be achieved in just one step.

Nick Piggott asked if the sample app isn't very good, should there be a better stock app made for Android Auto to distribute. Gregor said this is one idea, but it's a bigger task for an Android app because having everyone on the same page with different ideas on the user interface features and how they should be implemented will be a lengthy discussion

and there are different challenges for different markets. He said he thinks it would be good to at least deliver the ideas for a different app. Nick said that sample apps have a habit of being the basis for other apps, but getting agreement on the final app will be the difficult part. Gregor agreed.

Paddy O'Reilly said that each OEM has their own look and feel plus radio, telephone, navigation and HVAC all in the same display as well as further options and so each OEM will design the user experience they want so it has a similar feel.

Joe D'Angelo agreed that it is challenging, and highlighted that NAB PILOT has commissioned work with a software developer delivered alongside some hardware extensions to be included in the Google apps sample library. OEMs will do what they want to do with the sample apps, but what the NAB PILOT group will have delivered is a fully featured and implemented radio experience.

Furhad Jidda (Garmin) raised the issue of new versions and Hadi Mawazzi (BMW) said it would be great if Google could join a meeting like this one.

Nick Piggott said the current app makes radio look really boring and a disappointing experience, so maybe an opportunity is being missed if we can't get a consensus on what a good app does look like and we might end up with one we all agree looks bad.

Station visual information:

David Layer gave a presentation on station metadata, saying this is something he is involved in at the NAB and it's a goal for all broadcasters to provide good metadata. The NAB knows that broadcasters want to provide metadata and whilst additional non-broadcaster provided metadata can be used, these additional metadata sources shouldn't replace broadcaster's content.

Nick Piggott asked why an onboard system would choose metadata from another source than the broadcaster, although it is understandable if there is no content from the broadcaster. Is it because sometimes visual content is being sent, but it's not a good standard and asked if there are issues with perceived quality and resolution; most standards were set 20 years ago and screen resolution is of a much higher standard now. What can the broadcasters do to solve these problems?

Paddy O'Reilly said that the visuals are often not there. As far as he knows there are only 2 stations in the UK that carry slideshow and then only in London. In the US HD and Sirius has it on all channels carrying HD. He added there is a lot of catching up to do in the UK.

Dave Walters highlighted that cost per bit always seems to be more valuable to transmit audio rather than visuals and asked if IP will change this. He also said that the BBC is careful about the attribution of content made by the BBC and that they would struggle with an insertion of 3rd party metadata that the BBC did not broadcast.

It was noted that there has been a 3rd state discussed in the past, the first is that the broadcaster sends visuals, the second is they are not sending and don't want any further intervention and the third is there are no visuals being sent and no indication from the broadcaster if they are intending to send visuals and in this case supplementation would be OK.

Joe D'Angelo brought up if there was any legislative or regulatory protection for broadcasters conflict of services, he added they don't have it in the states, but was asking about Europe.

Dave Walters said he guessed it isn't a problem until it is a problem, so a service might like to provide visuals independently of the broadcaster, until they use the wrong image at the wrong time, and that's when broadcasters get uncomfortable and might proactively seek to stop that happening because of the risk to brand identity.

Nick Piggott added that with station logos some manufacturers were buying and burning logos and as a result there were mistakes and the outcome was damage to brands or passing off or broad competitive law issues. However if there were no objections (ie scenario 3) could it be assumed that an alternative option for metadata could be used and therefore do we need to work out how to do this?

Jeremy Sinon (Hubbard) said that a lot of broadcasters have been working on perfecting this for many years and so for example Hubbard have been honing this over the years on stream players, mobile apps and anywhere it can be controlled. Then we have fall backs, so if a track is new and the art doesn't exist a picture of the artist will be used instead, for instance. Hubbard works hard at pushing out proper data and would hope this work would make it to the dashboard and it would be a priority, but if the broadcaster isn't doing that work it would be nice if there was something in place for a better user experience.

After input from Joe D'Angelo regarding negotiations with record labels and usage rules it was agreed that anyone working on this must be mindful of the relevant image licensing conditions.

Alarms update

Havard Wein (NRK) gave the group an update on alarms, saying they have had one ensemble on air for 2 years, tested live on air twice a year and are looking at implementing on other 6 ensembles as well. Unfortunately he hasn't seen many radios that support it, so the testing has been done on domestic radios and he sees the lack of support to be the biggest issue, so they are sending alarm alerts also via slideshow. Harvard asked if we can all work together to encourage receiver manufacturers to implement alarms and to get in touch with him. Dave Walters said in chat that now we have written down what the alarm behaviour is, let's take it to the Technical Committee of WorldDAB and tell them how alarms should be behaving.

Voice control

Gerd Gruchalski (Cariad) introduced the idea of voice control and said that although it is easier for a driver it isn't always easy for the receiver to understand because of the user saying an unfamiliar name or with a foreign pronunciation, or if names contain other non-alphanumeric symbols.

The best solution is a database of names and synonyms, ideally including phonetic information. It must be up to date as it is useless if it is old or incomplete. Cariad has a database which is an excellent resource but it could be of better quality and they want to discuss how this can be done. Ideally stations would create and maintain their own phoneme/voice metadata, which may sound more complicated than it is.

Nick Piggott asked if this can start to happen from now, can this data be used immediately. Caroline Graze (Radioplayer) said that Radioplayer already has this.

The meeting concluded due to lack of time and Nick Piggott said that we will cover new streaming formats next time and we will let everyone know when the next workshop will be, hopefully coinciding with a physical event.