



Information Rights

bbc.co.uk/foi bbc.co.uk/privacy

Y. Khattab
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22 September 2020

Dear Y. Khattab,

Freedom of Information Request - RFI20201271

Thank you for your request to the BBC of 21 August 2020 seeking the following information under the Freedom of Information Act 2000 ('the Act'):

The help centre article "Why are there no subtitles on BBC iPlayer via Apple TV?" [2] states the following:

- > *There are technical challenges associated with delivering subtitles to*
- > *Apple TV which will require a significantly different solution to that*
- > *which we use on all other platforms. We are working towards it but*
- > *don't currently have timelines associated with this support.*

Could you please therefore provide a summary of the technical challenges faced in adopting the captioning framework made available in tvOS?

Below is a summary of the challenges associated with delivering subtitles to Apple TV:

Background

AppleTV for a long time supported only WebVTT subtitles, and the BBC does not support that format as it has significant limitations and is not compatible with the BBC Subtitle Guidelines. However, in recent years Apple have added support for the W3C's "TTML Profiles for Internet Media Subtitles" format, usually abbreviated to "IMSC". This is much closer to the BBC's strategic format, EBU-TT-D (the two standards aren't precisely the same, but it is possible to produce files that conform to both).

In-Stream versus sidecar

The big difference between Apple's approach and the approach the BBC uses on all other platforms is how the subtitles are handled relative to the media. On all other platforms, we deliver the subtitles as a separate XML file (often called a "sidecar" file), but Apple require it to be more closely coupled with the media (specifically, referenced from the HLS manifest).

One of the main reasons we keep the subtitles as a sidecar file is that it's not unusual for subtitles to change after publication. In the case of a live programme, this may be to improve the synchronisation, or on any programme this may correct errors or mistakes in the subtitles. Keeping them as a sidecar file means that changing the subtitles is a quick and cheap operation, it doesn't require expensive video processing on every edit.

Further work needs to be done to bind the subtitles into the media as per Apple's request, in such a way that they can be referenced from the HLS manifest. We also need to minimise the processing time and cost associated with a subtitle change. There are a few options being investigated for doing this, but it may well need some bespoke work just for the AppleTV platform.

Packaging format

In addition to wanting subtitles in the IMSC format, Apple also impose some other requirements. This brings in some other complexities and dependencies:

1. The BBC needs to upgrade its main on-demand packager to a newer version than we're currently running. This takes a lot of testing, as it impacts BBC iPlayer on all platforms and devices, and we need to be sure it doesn't cause any unwanted side-effects.
2. We'd need to provide separate streams just for AppleTV. It will be the only TV device consuming media packaged in this way
3. A review of compatibility across AppleTV hardware and tvOS needs to be completed

As you can see, there are a number of complexities involved in supporting the subtitle formats required by AppleTV. We are working through these complexities and do aim to support subtitles on AppleTV when this is possible.

Appeal Rights

If you are not satisfied that we have complied with the Act in responding to your request, you have the right to an internal review by a BBC senior manager or legal adviser. Please contact us at the address above, explaining what you would like us to review and including your reference number. A request for an internal review must be made within 40 working days of receiving the BBC's response to your original request.

If you are not satisfied with the internal review, you can appeal to the Information Commissioner. The contact details are: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF, Tel: 0303 123 1113 or see <https://ico.org.uk/>.

Yours sincerely

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