



DTVKit Technical Steering Committee - 28th March 2019

Present: [KW] Karl Wood (DTVKit), [CP] Charlotte Parkes (DTVKit), [HC] Harriet Clarke (OBS), [SF] Steve Ford (OBS), [CA] Chris Aldworth (OBS), [AS] Adam Sturtridge (OBS)

Phone: [JN] Jason Nash (OBS), [PE] Phil Evans (DTVKit), [JC] Jim Carroll (Mobica), [JV] JC Verdie (Netgem)

Next Meeting: September/October 2019

Items

1. Actions from the previous meeting

- a. **Individual access to Github should be reviewed to prevent unauthorised users from accessing the code.**

Action closed: CA has completed this task, and has ensured that all accounts are individual accounts.

- b. **DTVKit Guidelines for up-streaming large changes/contributions**

- i. It would be beneficial if those who gave contributions could test what they are providing to ensure that the donation is working. This would make moderating a lot easier, resulting in saving time.
- ii. Android uses new languages that may not be complying with the coding standards. Any new repositories should comply with the coding standards.

Action: Review the coding standards so they comply with the different languages that Android uses e.g. Java, and ensure all new repositories comply with these standards

- c. **Test Suites and Compliance**

- i. PE has included Testing the DTVKit roadmap.

Action: PE and PM need to arrange a conversation with KW to discuss the logistics of the test suites, and the resources required to make it happen.

- d. **Mantis**

Action: OBS are still looking into notification support on Mantis, and need to check the notifications are working. Also, need to evaluate what the sign-up process of receiving notifications is.

- i. CA is currently looking into installing a plugin; this plugin allows users to choose what modules they are interested in when they sign up.

Action: CA to send an email explaining the process of getting notifications for the modules they require, and for future sign-ups.

- ii. Github notifications need to be investigated
- iii. CA – Github notifications did change their process of notifying people of changes, however they have reverted back to the original process which notifies people via email of the repositories that they are watching.

e. **Android**

Action: Need to find a replacement moderator for Andrew Frost as he has left HARMAN.

Action: PE, JN and JC to have a conversation about Android TV support and potential moderation support.

f. **DTVKit Forum**

- i. The DTKVit forum is not getting used to its full potential. Members are sending out emails to ask queries instead of using the forum.

Action: Before sending an email out to the members, the forum needs to be improved to make it more user-friendly, and the process of using it easier to use.

Action: Look into having email notifications, and also look into if there is a way that you could have an email reflector on the forum.

Action: CA to look into the logistics for email reflectors.

g. **Raspberry Pi**

- i. In the last TSC, it was suggested that PE discussed with Qt to see if they could provide any assistance with Raspberry Pi. However, Qt is not willing to give anything to assist with this.

h. **HARMAN Media Framework**

- i. HARMAN and SF were meant to have a conversation to discuss this, but this did not take place

Action: PE to email Andrew Frost from HARMAN to discuss where we go from here.

2. Android

a. OBS integrated DTVKit into Android 18 months ago, using the Binder IPC.

i. **Subtitles**

I. OBS has created a mechanism that can go straight into Android; this can then be up-streamed to the DTVKit zapper. It is expected that this will be complete in one month.

Action: Once this is complete, and upstreamed to DTVKit, an email should be sent out to members to let them know it is available.

ii. **PVR**

I. OBS currently have PVR and timeshift working on products that use the live channels app.

iii. **MHEG in Android**

I. OBS have spent a lot of time learning the technical aspects of integrating MHEG within the Android framework. There has been a lot of problems with getting MHEG working alongside the subtitles and graphics interface. We are very close to having a correct solution for this which draws directly to a Java surface from native C++.

iv. **CI Plus in Android**

I. CI Plus has been integrated into Android. OBS is now looking into implementing ECP.

v. **MediaCas**

I. There is a standard API used for CA systems that Google have introduced. The end goal is to ensure that DVB has all the elements in place to integrate with MediaCas. The time-frame is to have this complete by IBC.

vi. **HbbTV**

I. OBS has not been focusing on this at the moment.

II. JC - Mobicca have been working HbbTV in Android, they are looking into a range of platform layers that are on mobile, automotive and Android TV. They have advised that they might be able to help with application layers, and they are currently working on custom launchers.

Action: JC and PE to have a conversation to discuss internal projects that could be done.

III. Potential for collaborations and demos for IBC.

3. CI Plus ECP Reference Implementation – Update from OBS

a. CI Plus ECP adds additional security features to offer improved levels of security and robustness for the protection of premium UHD content.

b. OBS have added a reference implementation to DTVKit. However, this is not at product level; this is due to not having access to any hardware to be able to test this implementation. It is expected that this will be completed in 6 months, and will become a full product.

4. Testing

a. DTVKit is working to create their own generic test streams

Action: CA and HC to create a test spec/storyboard for review, then KW can create the streams based on the specification provided.

- i. The infrastructure is in place to run the tests; the next steps are to agree on the content that will be inputted into it.

Action: HC, CA and JN to decide on content to create for the streams.

- ii. KW is using TSDuck for the stream creation. This is much better documented than Opencaster which we were originally planning to use.
- iii. Once the structure is in place, KW will automate the stream creation process. He expects a first stream can be expected by the end of April 2019.

Action: An email should be sent out asking members what they would like to see on the test streams – then we can highlight highest priority areas.

Action: In the next DTVKit newsletter, CP to include information promoting the testing section in the forum.

- b. GTest for testing platform layers – Is there interest from the DTVKit community for having such a tool available?

Action: Need to define the level of interest that there is for GTest and decide based on this outcome.

5. 64 bit DTVKit reference app – is this needed and what implications will it have for moderation?

- a. This will be beneficial; it will make it easier for KW to moderate. Therefore he will have more time to invest into completing test streams,

Action: KW to provide a set of instructions on how to use this.

Action: SF, CA and HC to ensure that if a change is made to the App, that it carries on in 64bit. Currently, there are issues as it does not build out of the box._

6. Raspberry Pi as a generic DTVKit development/prototyping platform – 4K Open as an alternative or do we still need one?

- a. One year ago, research was completed to see if Raspberry Pi could be used as a generic development platform for DTVKit.

Action: JC to share his knowledge of HiKey with PE and JN.

Action: Research alternatives for Linux and Android in the next month, and then feedback.

7. CI Plus Repositories

- a. Currently, there are multiple repositories for CI Plus 1.3 and CI Plus 1.4. CI Plus 1.3 has become inactive. Therefore there is no need to have this repo any more.

Action: Announce that 1.3 is being removed from the repositories so that everyone is aware.

8. Mail Lists

- a. No comments

9. Forum

- a. No comments

10. Mantis/Github

- a. Need a process for what to do when a ticket is resolved
[Action: Create a process so when a ticket is resolved it auto reassigns and then notifies the moderator.](#)

11. Roadmap

- a. Integration work for a complete solution, which isn't Android for DTVKit.
- b. **RPC Layer and Media Framework**
 - i. Look into incorporating this into DVBCore. It was suggested that DTVKit should be spending resources on making it easier for set-top-box makers to make a final product, DTVKit has all the building blocks, but needs to do more to make them usable. Creating a RPC layer will make it easier to add user interfaces and different browsers. Another benefit of RPC layer means that it will make the DVB code more portable on silicon platforms.
[Action: JN, SF, JH and KW to create a diagram, which outlines the best options. Once the options are decided this can then be sent out to the members to get their opinions on it.](#)

12. Test Suites

[Action: Need to find out what test activity members would be interested in](#)

13. Next Release Schedule

- a. September 2019

14. Mantis Tickets

- a. Mantis 742 - Resolved assign to Steve
- b. Mantis 743 - Resolved
- c. Mantis 804 - Resolved assign to Peter Stanton
- d. Mantis 498 - Leave open
- e. Mantis 786 - Leave open
- f. Mantis 785 - Leave open
- g. Mantis 784 - Leave open
- h. Mantis 785 - Leave open
- i. Mantis 782 - Resolved assign to Peter Stanton
- j. Mantis 781 - Resolved
- k. Mantis 442 - Keep on hold
- l. Mantis 247 - Hold
- m. Mantis 592 - Hold
- n. Mantis 295 - Suspend
- o. Mantis 780 - Resolved and assign to SF
- p. Mantis 778 - Leave open
- q. Mantis 729 - Resolved and assign to SF
- r. Mantis 148 - Leave open
- s. Mantis 435 - Leave open
- t. Mantis 501 - Close
- u. Mantis 264 - Close
- v. Mantis 273 - Close
- w. Mantis 508 - Leave open

15. AOB

- a. Next meeting date: September/October 2019