Katthi Shashikala status report

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| **Date** | **Yesterday** | **Today** | **Tomorrow** |
| 14/09/2020 | None | 1.I read about v4l2  https://www.kernel.org/doc/html/v4.16/media/uapi/v4l/v4l2.html#v4l2spec  2.I cloned v4l2 test app(yavta) and trying to understand the flow by using printfs  Git\_hub link: <https://github.com/fastr/yavta> | I will try to understand the call flow of v4l2 test application |
| 15/09/2020 | 1.I read about v4l2  https://www.kernel.org/doc/html/v4.16/media/uapi/v4l/v4l2.html#v4l2spec  2.I cloned v4l2 test app(yavta) and trying to understand the flow by using printfs  Git\_hublink: <https://github.com/fastr/yavta> | I studied the v4l2 terminologies that are ouput plane ,capture plane,qbuf,dqbuf and updated the document and uploaded into git hub  Git\_hub link: <https://github.com/shashikala-katthi/TSHtraining/Video/Docs> | None |
| 16/09/2020 | I studied the v4l2 terminologies that are ouput plane ,capture plane,qbuf,dqbuf and updated the document and uploaded into git hub  Git\_hub link: <https://github.com/shashikala-katthi/TSHtraining/Video/Docs> | I executed the commands to see kernel logs and i taken the logs and dmesg into one file using script file  I updated the document | I will try to understand the call flow of v4l2test app by using kernel logfile |
| 17/09/2020 | I executed the commands to see kernel logs and i taken the logs and dmesg into one file using script file  I updated the document | I understood the call flow of v4l2test app(yavta) | I will write my own test app |
| 18/09/2020 | I understood the call flow of v4l2test app(yavta) | I started writting of my own v4l2 test app but it's not completed | None |
| 21/09/2020 | None | I completed the test app upto alloacte buffers  v4l2test1.c->open the device,close the device  v4l2test2.c->open,query the device capabilities,close  v4l2test3.c->open,query the device capabilities, set the format to YUYV,set the framerate to 1/30,close | I will complete my own test app |
| 22/09/2020 | I completed test app upto allocate buffers | I completed the test app  v4l2test4.c->open,query the device capabilities,set the format to YUYV,set the framerate to 1/30,allocate 6 buffers and map the buffers using mmap,close  v4l2test5.c->open,query the device capabilities,set the format to YUYV,set the framerate to 1/30,allocate 6 buffers and map the buffers using mmap,stream on and stream off,close  v4l2test6.c->open,query the device capabilities,set the format to YUYV,set the framerate to 1/30,allocate 6 buffers and map the buffers using mmap,stream on and stream off,free the buffers,close  Git\_hub link: <https://github.com/shashikala-katthi/TSHtraining/V4L2test> | I will see the each and every structure members of v4l2 |
| 23/09/2020 | I completed test app | I read videodev2.h file to know internal structure members of v4l2 | I will study briefly about v4l2 |
| 24/09/2020 | I read videodev2.h file to know internal structure members of v4l2 | I studied briefly about v4l2 | I will write program for dynamic library |
| 25/09/2020 | I studied briefly about v4l2 | **I created dynamic library for calculation and updated a video\_training.doc**  **Git\_hub link:** <https://github.com/shashikala-katthi/TSHtraining/dynamic_library> | I will write makefile for dynamic\_library |
| 28/09/2020 | I wrote program for dynamic library | 1.I studied about ffmpeg document  2.Makefile for dynamic\_library is written and uploaded to git hub  **Git\_hub link:** <https://github.com/shashikala-katthi/TSHtraining/dynamic_library> | I will read the video document |
| 29/09/2020 | I wrote Makefile for dynamic library | 1.I read about video document  <https://github.com/leandromoreira/digital_video_introduction>  2.I cloned ffmpeg-h264-dec  <https://github.com/shengbinmeng/ffmpeg-h264-dec> | I will kept printfs in main.c and decode.c and i will read about HLS streaming |
| 30/09/2020 | I read about video document and i cloned ffmpeg-h264-dec | I read about HLS streaming and RTSP  I kept printfs in main.c and decode.c in ffmpeg-h264-dec | I will try to understand the call flow of ffmpeg-h264-decoder |
| 01/10/2020 | I read about HLS streaming and RTSP  I kept printfs in main.c and decode.c in ffmpeg-h264-dec | I have been trying to understand the call flow of ffmpeg-h264-dec | None |
| 05/10/2020 | None | I tried to understand the call flow of ffmpeg-h264-dec | I will print the height and width and buffer address in the call flow of ffmpeg-h264-dec |
| 06/10/2020 | I have tried to understand the call flow of ffmpeg-h264-dec | i understood the call flow of ffmpeg-h264-dec and print a full log with height,width,timestamp,buffer address,buffer size,keyframe,picture type | I will read about dl libraries and prepare a ppt for v4l2 |
| 07/10/2020 | I understood the call flow of ffmpeg-h264-dec | I read about dl libraries  <https://tldp.org/HOWTO/Program-Library-HOWTO/dl-libraries.html>  I prepared a presentation of v4l2 | None |
| 08/10/2020 | I read about dl libraries  I prepared a presentation of v4l2 | I read about VR,AR,MR,XR and differences between them | None |
| 09/10/2020 | I read about VR,AR,MR,XR their differences | I have written a calculation application using dl libraries and uploaded to git hub  **Git\_hub link:** <https://github.com/shashikala-katthi/TSHtraining> | None |
| 12/10/2020 | None | I have studied about Gstreamer ,what is pads and elements and pipeline  <http://4youngpadawans.com/gstreamer-real-life-examples/amp/> | I will study more information about Gstreamer |
| 13/10/2020 | I studied about Gstreamer ,what is pads and elements and pipeline | I have studied about Gstreamer ,internal pipeline structure  <https://en.wikipedia.org/wiki/GStreamer>  cloned Gstreamer using below link  <https://gitlab.freedesktop.org/gstreamer/gst-docs> | None |
| 15/10/2020 | I studied about Gstreamer ,internal pipeline structure | I studied first 2 tutorials and observed below points  1.Intialize gstreamer,build pipeline for playbin element,after we are trying to play video  2.creating gstreamer elements,adding elements to each other,customizing the elements behaviour.  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/hello-world.html?gi-language=c> | I will study dynamic pipeline |
| 16/10/2020 | I studied about gstreamer initialization and how to add elements and connect | I studied dynamic pipeline  1.How to be notified of events using Gsignals  2.How to connect pads directly  3.various states of Gstreamer element  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/hello-world.html?gi-language=c> | None |
| 19/10/2020 | None | I have studied about time management in gstreamer  1.How to query te pipeline for information  2.How to get the position of pipeline and duration of pipeline  3.How to seek an arbitary position in the stream  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/time-management.html?gi-language=c> | I will study about media formats and pad capabilities in gstreamer |
| 20/10/2020 | I studied about time management in gstreamer | I have studied about media formats and pad capabilities in gstreamer  1.what are the pad and pad template capabilities  2.How to retrieve the capabilities  3.If two elements can be linked tgether what we need to know before  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/media-formats-and-pad-capabilities.html?gi-language=c> | I will study about Multithread in gstreamer |
| 21/10/2020 | I studied about media formats and pad capabilities in gstreamer | I have studied about Multithread in gstreamer  1.How to create new threads of execution for some parts of pipeline  2.what is the pad availiability  3.How to replicate streams  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/multithreading-and-pad-availability.html?gi-language=c> | I will study about short-cutting the pipeline in gstreamer |
| 22/10/2020 | I studied about Multithread in gstreamer | I have studied about short-cutting the pipeline in gstreamer  1.Inject the data into pipeline by using element  2.Retrieve the data from pipeline using element  3.Manipulate the data by accessing the buffer  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/short-cutting-the-pipeline.html?gi-language=c> | I will study about media information gatthering gstreamer |
| 23/10/2020 | I studied about short-cutting the pipeline in gstreamer | I studied about media information gatthering gstreamer  1.How to recover information regarding a URL  2.How to find out if a URL is playable  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/media-information-gathering.html?gi-language=c> | None |
| 27/10/2020 | None | I have prepared for presentation and i gave presentation today on below topics  1.V4l2 introduction,v4l2 test app call flow with source code explanation and logs explanation  2.ffmpeg introduction and commands ,ffmpeg-h264dec source code explanation with logs | I will study about gstreamer |
| 28/10/2020 | I gave presentation on v4l2 and ffmpeg | I studied about GUI integration on gstreamer  1.How to output particular video by using handler  2.How to refresh the gui by registering a timeout callback  3.How to notify the only of interesting messages  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/toolkit-integration.html?gi-language=c> | I will read about gstreamer |
| 29/10/2020 | I read about gstreamer | I read about streaming on gstreamer  1.Taking care of buffering messages sent by the pipeline  2.Taking care of clock loss  <https://gstreamer.freedesktop.org/documentation/tutorials/basic/streaming.html?gi-language=c> | None |
| 03/11/2020 | None | I have studied about playback tutorials on gsteamer and kept logs in each tutorial source code to understand the flow  Regarding audio streams:  1.playbin's properties: flags, connection-speed, n-video, n-audio, n-text, current-video, current-audio and current-text.  2.How to retrieve the list of tags associated with a stream with g\_signal\_emit\_by\_name().  3.How to retrieve a particular tag from the list with gst\_tag\_list\_get\_string()or gst\_tag\_list\_get\_uint()  4.How to switch the current audio simply by writing to the current-audio property. | I will study about subtitle streams on gsteamer |
| 04/11/2020 | I read about audio streams in gstreamer  <https://gstreamer.freedesktop.org/documentation/tutorials/playback/playbin-usage.html?gi-language=c>  Uploaded to github:  <https://github.com/shashikala-katthi/TSHtraining/tree/master/Video/gstreamer> | I have studied about playback tutorials on gsteamer and kept logs in each tutorial source code to understand the flow  Regarding subtitle streams:  1.How to choose the subtitle stream by using current-text and n-text properties of playbin.  2.How to add external subtitle by using suburi property.  3.How to customize the font used for the subtitles (with subtitle-font-desc property). | I will study about streaming on gstreamer |
| 05/11/2020 | I read about subtitle streams in gstreamer  <https://gstreamer.freedesktop.org/documentation/tutorials/playback/subtitle-management.html?gi-langua>  Uploaded to github:  <https://github.com/shashikala-katthi/TSHtraining/tree/master/Video/gstreamer> | I have studied about playback tutorials on gsteamer and kept logs in each tutorial source code to understand the flow  Regarding streaming:  1.How to enable progressive downloading with the GST\_PLAY\_FLAG\_DOWNLOAD playbin flag  2.How to know what has been downloaded using a Buffering GstQuery  3.How to know where it has been downloaded with the deep-notify::temp-location signal  4.How to limit the size of the temporary file with the ring-buffer-max-size property of playbin. | I will study about pipeline in gsteamer |
| 06/11/2020 | I read about streaming in gstreamer  <https://gstreamer.freedesktop.org/documentation/tutorials/playback/progressive-streaming.html?gi-language>=  Uploaded to github:  <https://github.com/shashikala-katthi/TSHtraining/tree/master/Video/gstreamer> | I have studied about playback tutorials on gsteamer and kept logs in each tutorial source code to understand the flow  Regarding pipeline:  1.How to connect appsrc with playbin using the special URI appsrc://  2.How to configure the appsrc using the source-setup signal  Regarding video properties:  1.How to retrieve the list of color available balance channels with gst\_color\_balance\_list\_channels()  2.How to manipulate the current value of each channel using gst\_color\_balance\_get\_value() and gst\_color\_balance\_set\_value() | I will study about audio stream properties in gstreamer |
| 09/11/2020 | I read about pipeline in gstreamer  <https://gstreamer.freedesktop.org/documentation/tutorials/playback/short-cutting-the-pipeline.html?gi-language=c>  <https://gstreamer.freedesktop.org/documentation/tutorials/playback/color-balance.html?gi-language=c> | I have studied about playback tutorials on gsteamer and kept logs in each tutorial source code to understand the flow  Regarding audio stream properties:  1.How to enable Audio Visualization in playbin with the GST\_PLAY\_FLAG\_VIS flag  2.How to enforce one particular visualization element with the vis-plugin playbin property  <https://gstreamer.freedesktop.org/documentation/tutorials/playback/audio-visualization.html?gi-language>= | None |
| 10/11/2020 | None | I have studied about playback tutorials on gsteamer and kept logs in each tutorial source code to understand the flow  Regarding pads in elements of streams:  1.How to set your own sinks to playbin using the audio-sink and video-sink properties.  2.How to wrap a piece of pipeline into a GstBin so it can be used as a sink-bin by playbin.  <https://gstreamer.freedesktop.org/documentation/tutorials/playback/custom-playbin-sinks.html?gi-language=c>  Uploaded to github:  <https://github.com/shashikala-katthi/TSHtraining/tree/master/Video/gstreamer> | None |
| 11/11/2020 | I studied about pads in elements | I have studied about Hardware acceleration  1.Hardware acceleration can be enabled or disabled by changing the rank of the decoding element with gst\_plugin\_feature\_set\_rank(). | None |
| 12/11/2020 | I studied about Hardware acceleration | I read about playback speed tutorial on gsteamer and kept logs in each tutorial source code to understand the flow  playback speed:  1.How to change the playback rate using a Seek Event, created with gst\_event\_new\_seek()  and fed to the pipeline with gst\_element\_send\_event().  2.How to advance a video frame-by-frame by using Step Events, created with gst\_event\_new\_step(). | None |
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