**Ground Rules for Proper Testing**

While testing the Application is an important aspect of any application development, the testing process plays a vital role in validation of application as well because the application is usually built on a few assumptions and leveraging the existing technology.

We understand that it is impossible to create an exact replica of actual scenario, it is also advisable to have a realistic testing criterion.

**Ground Rules and Assumption**

1. **Stream will be RTSP**, which means the image data is transferred as packets of data, which further implies that bandwidth, medium of transfer/ type of cables, LAN architecture plays important part in data transfer and therefore image creation from data packet is subjected to the loss encountered. Some other criteria include Electromagnetic interference too.

***Actual scenario***:

1 RTSP stream will be used at max at 4 ends, WS1 – Python and Frontend, replicated for WS2.

***Testing:***

While testing it is important to take care that 1 RTSP stream is not replicated too many times as this will result in division of data and this loss of data can cause visible delay.

1. **Streaming will be smooth without user being able to fast-forward or go back in stream.**

***Actual Scenario***

Since RTSP does not support rewinding and fast forwarding the flow of data will mostly be continuous, without any sudden disruptions to its flow apart from occasional glitches.

***Testing:***

While Testing since RTSP is created using a file, we tend to abruptly fast forward/ rewind the flow of data for a larger duration of say 10 – 15 mins, this usually cause the VLC object to freeze and the object is not able to grab frames from RTSP, (while the stream is still being read by VLC object).

This situation will get normal in some time after the garbage data is flushed out, it will result in visible delay and application tends to fail the scenario.

However, if this testing scenario is modified as per actual scenario and flow is data is not fiddled with or if required the action of rev/ff is for a shorter duration of say 5 mins the freezing of VLC object can be avoided, this is because the accumulation of garbage data is minimized and VLC does not take a longer duration to flush this data.

1. **Steam can get disconnected.**

***Actual scenario.***

In actual scenario this would be a rare case when data transfer from sensor to system is stooped (mostly due to hardware failure).

***Testing***

Though this would be 1 in a 100 scenario, the application is designed to be fail safe and that analysis will resume as soon as stream is available.

Therefore, this scenario is critical and must be tested in every possible way.