FrameWorkx

Video Processing Framework

FrameWorkx allows customers to easily build their own image processing system, with a collection of video sources and sinks which can be combined with any number of image processing blocks to create a custom pipeline to meet the specific needs of their application.

Built in processing blocks

Many existing image processing algorithms are already available in FrameWorkx including:

▪ Video Capture and Display	▪ Symbology Overlay for Display and Streams
▪ DART Target Detection and Tracking	▪ Video Encoding (H.264, H.265, MJPEG)
▪ Deep Neural Network Target Classification	▪ Video Decoding (H.264, H.265, MJPEG)
▪ Image Stabilisation	▪ Video Ingest and Streaming (RTSP, MPEG-TS)
▪ Multi-Resolution Image Fusion	▪ Meta-data Extraction and Insertion
▪ Local Area Image Enhancement	▪ Video Recording

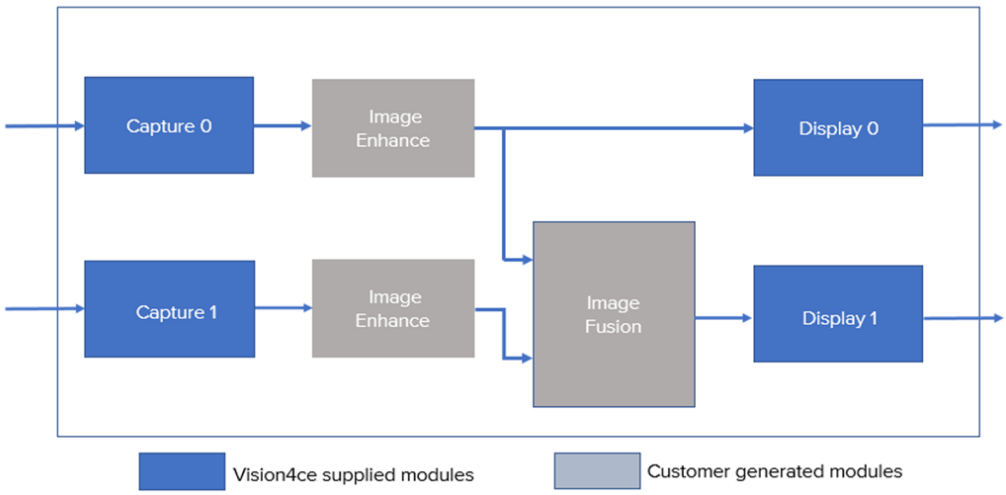
Note: Vision4ce supplied processing blocks are individually licensed, so customers only pay for those that they need.

Custom processing blocks

A simple C++ API allows customers to create their own processing blocks to implement custom image processing algorithms. Sample code is provided to demonstrate the use of the API. Examples are also available demonstrating integration with OpenCV.

Flexible processing pipelines

FrameWorkx uses the concept of 'pads' and 'connectors' to pass data through a pipeline. The structure of the application and the interconnections are defined in an XML configuration file which means that the application's function can be modified simply. FrameWorkx has a serial or ethernet based control protocol which can be used to reconfigure the application at run time.



Example processing pipeline

Deployment

FrameWorkx has been deployed on a variety of hardware, from PCs running Windows or Linux to custom image processing hardware like the CHARM 100 which offers a compact standalone video processing board for embedded video and image processing applications.

FrameWorkx can run as a standalone application, or more closely integrated with a customer application when loaded as a dynamic link library.

Designed and Manufactured in the UK