SICK
Sensor Intelligence.

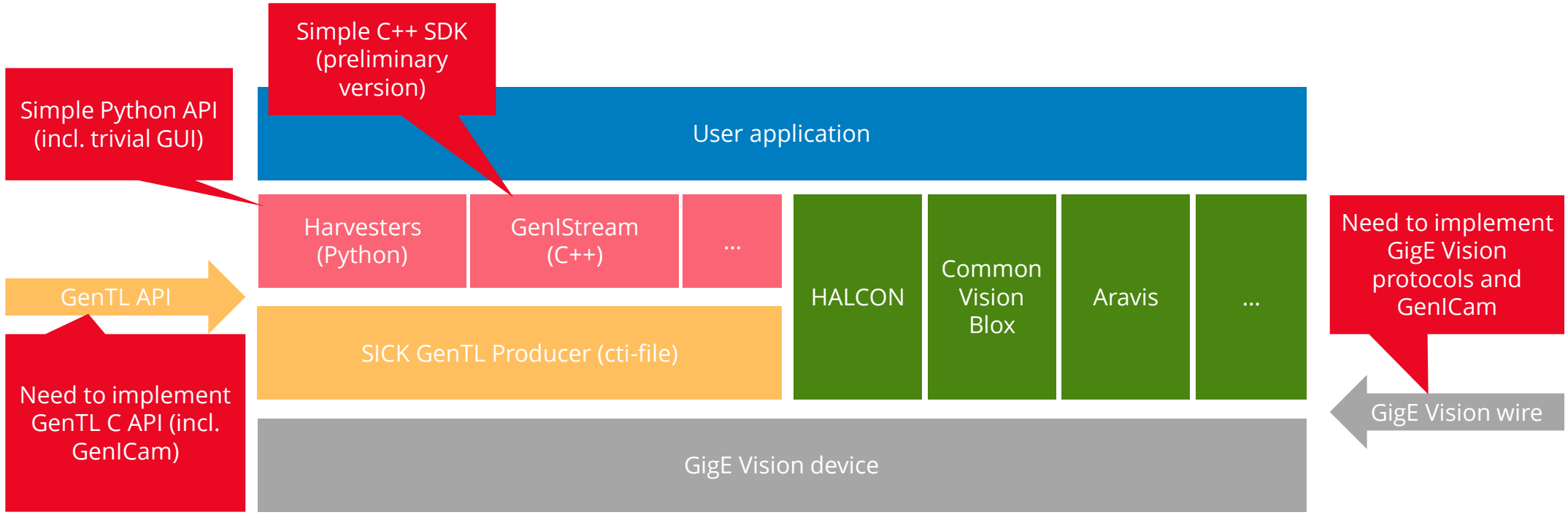
Visionary GigE Vision interface

SICK AG | Mobile Perception
Version 1.0.0
29th of Nov. 2023

Complete picture

From the device to the user application

https://github.com/genicam/harvesters (https://harvesters.readthedocs.io/en/latest/)



User interface features

Overview of current parameters

Image component selection

- Range and/or intensity data

Acquisition control

- Start/stop (free running mode)
- Exposure time (manual or automatic with additional parameters)
- Frame rate

3D model

- GenICam SFNC compliant 3D model description
- Presented through „chunk“ (per-frame) metadata
- Field of view switch

GigE Vision

- Packet size, inter packet delay
- Network infos
- Heartbeat control

Other

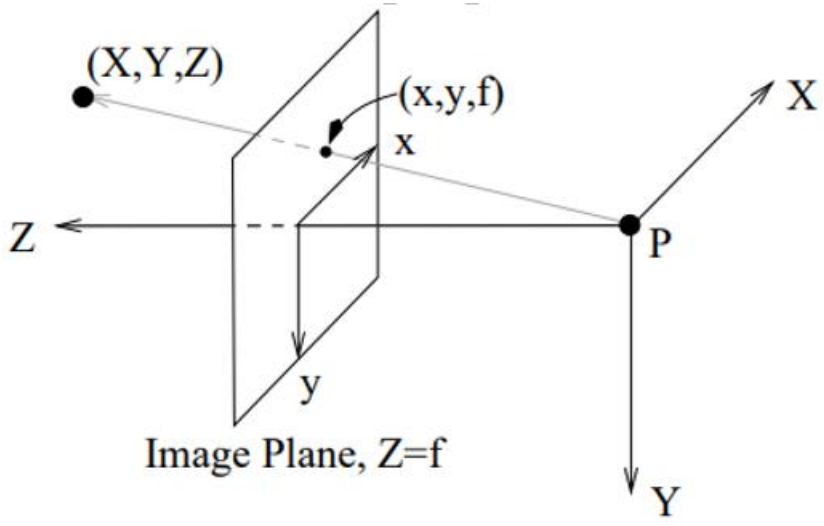
- Device identity information
- Fixed image size or pixel format info

3D output mode

ProjectedC mode proposal

- Output range (Z) **depth-map** only, X/Y coordinates computed based on **projective geometry** model
  - Based on published camera intrinsic parameters (focal length, optical center position…)
- Requires extension of GenICam 3D model (**proposal published**, review & ratification in progress)
- Detailed description to be provided in a **dedicated document**

(source: https://www.cs.toronto.edu/~jepson/csc420/notes/imageProjection)



Current limitations or open topics

On the way to official release…

SICK
Sensor Intelligence.

GigE Vision features

- The development is still in progress, the device is, however, officially GigE Vision compliant
  - Other optional features planned to be added during the beta development phase

Receiver application performance and documentation

- The **performance** might be sensitive to the PC, network components and receiver app itself
  - Might result in lost stream packets (dropped by overloaded network stack)
  - Solution: network driver config, packet size and inter packet delay
  - For beta customers the help/advice will be provided ad-hoc – please ask in case of any issues
- Detailed **receiver examples** or simplified C++ SDK not yet available
  - Harvesters based Python scripts can be shared as starting point
  - For beta customers the help/advice will be provided ad-hoc – please ask in case of any issues