APDCAM Control   
Change Log  
Last modified: 24.04.2017.

**2016.01.23**

* + implemented ReadAPDConfigFromCamera
  + implemented OpenCamera
  + added status indicator which shows if the current camera is connected or not
  + defined timer to be able to read status periodically if measurement is not running
  + implemented GetStatus functionality
  + modified ADCmult/div and Clk mult/div labels
  + clk selector now enables/disables proper setting fields

**2016.01.28**

* Defined ReadStatus and LoadStatus
  + Implementing LoadStatus to display status on status tab
  + Created Fan status display area
  + Implemented plot functionality
  + Added Plot data button
  + Created fan control area in settings tab
  + Created shutter control area in settings tab
  + Defined new members for APDCAMStr in Structures.h
    - calibLightOut
    - fanSpeed[3]
    - shutterState
    - shutterMode
  + Added them to read in ReadSettingsFromCamera
  + Display the settings in Settings tab

**2016.01.29**

* Voltage on is only active if Voltage enable checked
  + Defined peltier control GUI elements
  + Defined new members for APDCAMStr in TypeDefs.h
    - peltierIndirectControl
    - pGain,iGain,dGain
    - disablePIDControl
  + Added them to read in ReadSettingsFromCamera
  + Display the settings in Settings tab
  + Getting and displying HV enbaled bit
  + Added basic info GUI elements to mainwindow
  + Implemented ReadAPDInfo
  + Implemented APDInfo parameters display on mainwindow
  + implemented dinamic channel GUI elements creation according to detector configuration
  + There was a bug in displaying HV on bit
  + Implementing save settings for all new elements
  + Implemented Open camera button functionality

**2016.02.01**

* Implementing voltage setting, done
  + Configuring plotting
  + Reimplemented plotting, now its dinamic
  + Reconfigured plot look, now x axis is readable and plots have title
  + Plots are zoomable az draggable
  + Defined horizontal and vertical sliders

**2016.02.02**

* Implementing shutter control
* Implemented calibration light control
* Test pattern combo box added
* Implemented fans speed control
* Offset control GUI element added
* Defined offset member in ADCAMStr structure
* Added offset reading to ReadAPDConfigFromCamera function
* Offset setting implemented

**2016.02.03**

* Made some modifications to be able to run under Linux
* Implemented open under Linux
* Implemented periodic checking for Camera presence, now if connection to the camera is lost, it will periodically tries to reopen it.
* Defined control status GUI elements

**2016.02.08**

* Minor modifications in texts displayed
* Fixed a crash bug, when no data file are available
* Added error handlig to plot data

**2016.02.18**

* Changes were made according to APDCAM\_GUI\_test\_160212.docx  
  document

**2016.02.20**

* ADC freq is not calculated and displayed.
* Test pattern were defined in drop down list

**2016.02.26**

* Deleted unnecessary display messages.
* Added ReadConfigFromCamera after measurement, this ensures that the
* values in the settings window are up-to date

**2016.03.05**

* Temporary fixed not working measurement from the second try
  + Added APDCAM\_Close and APDCAM\_Open at the end of measurements, obviously there is a difference between reopening the camera before measurements and just making an another measurement without opening the camera again

**2016.04.06**

* Added structure inicialization to the start of the program for apdStr and apdcamStr.

**2016.04.09**

* set primary buffer size to 100 and this solved the lost measurement issue.

**2016.04.11**

* Fixed plotting issue when sampleNum was less then 100.000 samples, the plotting failed.

**2016.04.14**

* Starting to reimplement GUI to be able to dynamic and can be used with APDCAM-10G as well.
* Defined Classes for Plot, Status and Settings tabs
* Defined variables to be able to determine if this is and APDCAM or an APDCAM-10G
* Defined InitGUI and DeleteGUI functions
* Made a temporary save for APDCAM control to be able to fully rearrange GUI
* Minimum resolutin requirement is set to 1024\*768
* Basic layout done
* Plot window put back
* Sliders scaling working again
* Status tab GUI done
* Added factory reset buttons
* Buttons are working
* Buttons Meaure, Trigger, Abort and factory reset buttons are inactive if camera is not open
* Started to define settings GUI elements
* Implemented CustomTextEdit class to be able to handle enter pressed events
* Now i am able to handle enter hits in text edits
* Added save, load and send button
* Implemented basic layout of the settings tab

**2016.04.15**

* Buttons working on Settings tab now

**2016.04.19**

* Started to build Settings tab GUI
* ADC block finished
* Sampling block finished
* Channels block finished
* Detector block finished
* Offset block finished
* Shutter block finished
* All GUI elements functioning as earlier
* Setting are loaded
* Status is read
* Measurement is running
* Sample freq is now changing as well when ADCDiv and ADCMult changes
* Peltier controls are working
* Created thread for status and for reconnecting

**2016.04.20**

* Made status indicator 3 state, when camera is lost the is a reconnecting state.
* Made a separate thread for status reading and camera reconnecting
* Added detectorReferenceTemp member for apdcamStr in Structures.h
* Added referenceTemp reading for ReadConfigFromCamera and this is now loaded to the GUI
* Detector voltage now can be set with enter hit on the field
* Clk source selector now immediatelly sets clock settings
* corrected SaveSettings

**2016.04.21**

* Managed to create automatic incude for 32bit and 64 bit systems as well without needing to modily .pro file
* Temperature regulation implemented, it is fully functioning
* Implementing fan control

**2016.05.05**

* Added HV indicator, if it is on it is blue as on the camera
* The program is starting now in full screen mode
* Non changable fields background is now gray
* Fixed issue with GUI when it is small, now it looks OK.
* Detector, shutter and offset settings are saved to config file
* And they are read back correctly

**2016.05.11**

* Added qApp calls to make the GUI responsive

**2016.05.12**

* Added data saving group to settings tab
  + Added dataSavingPath memeber to apdcamStr
  + Extended config file writing
  + Extended settings saving and loading
  + Extended config reading

**2016.05.24**

* Making chages according to APDCAM\_GUI\_test\_160513.docx test document.
  + Making font sizes constant to display the GUI with the same look on every system.
  + Made data saving path displaying better
  + Fixed a bug with config file path
  + Fixed issue with GUI elements when we tried to resize the window vertically
  + Bit switching is also working now, it needed an API fix

**2016.05.26**

* Implementing analog power setting
  + Implemented onAnalogPowerClicked function
  + Connected checkbox and the function
  + It works

**2016.05.27**

* There was a bug in HV setting, if we were only changed the voltage value, it switched on the HV as well.
* There was a bug in saving setting, hv on and hv enable was swapped
* Changed channel select check boxes to push buttons
* Plotting from memory is working, only if channel mask is different then it is not(it did not worked before)

**2016.05.30**

* Plotting from meory is working fine, also channel selection is working well as well. Not selected channel data will be cleared o the next plot, so plot window only shows the actual data everytime.
* Data saving working, now the current data is saved under different directories with the name of the current date and time.
* One click measurement working
* Send settings to camera button removed from the settings tab
* Implementing all settings immediate set
  + Redefine QtextEdits to CustomTextEdit, done
  + Implementing handling functions to be able handle enter hits or combox changes
    - Adc div and mult functions implemented, connected, works
    - Clk div and mult functions implemented, connected, working
    - SamplingDiv, src, count, bit, test patterm implemented, connected, working
    - Channel select implemented, connected, working
    - Trigger function
* When we close the software, it saves the current settings to the default config file.
* Plots title font changed
* Implementing trigger settings load to GUI

**2016.05.31**

* Added support email address to the about page
* Data saving enable connected to handle function
* GUI elements working fine
* Directory change is working correctly, settings saved OK
* Data saving working OK
* Trigger settings are implemented, connected, wokring, except trigger level
* Settings tab got reorganized a bit, now it looks better
* ADC factory reset implemented
* Control card factory reset implemented
* Working on to display plots in a bigger window.
  + Slot is connected if channel enabled
  + It is working, now, plot window is displaying the correct data from the correct channel
* Data can be displayed on plot display even if camera is switched off
* Plot display is fixed, it displayes data correctely if it is less than 100.000 samples
* **The software is now version 0.9.**

**2016.07.06**

* Recompiled on Ubuntu 16.04 LTS
* Needed some modifications for APD10GLib
* Had to install freeglut3-dev library

**2016.07.07**

* Implementing APDCAM-10G open function

**2016.07.12**

* Trying to fix Open function
* Now it works

**2017.03.18**

* Implementing trigger
  + Implemented, ready for testing
* Implemented automatic version number update when opening about panel
* Implementing logging
  + default log file name is APDCAMControlLog.txt
* Implementing Display function
* **Version number is now V0.9.1**

**2017.03.19**

* There was a bug in Trigger function, the trigger level variable was not allocated before used
* **Version number is now V0.9.2**

**2017.04.10**

* Implemented APDFactory data reading from camera at startup
  + Implemented ReadAPDFactoryConfig function
* Implemented LoadFactoryInfos
* Camera S/N is now displayed and also that what type of camera is on opened
* **Version number is now V0.9.3**

**2017.04.11**

* Found the bug in test pattern setting which caused the measurement failed
  + Only one ADC was set with the test pattern
* Defined testPattern in APDCAMStr scturcture
  + Now test pattern settings are read from the camera and loaded to gui
* Changed Open camera button behaviour, now until reconnecting not finished it won’t be active
* Minor GUI fix with the trigger block
* **Version number is now V0.9.4**

**2017.04.20**

* Implemented onExitClicked slot
* Disabled PID control switch off functionality under temperature control
* **Version number is now V0.9.5**

**2017.04.23**

* Switched off Log file opened message display in GUI
* Implemented ReadAPDNetworkConfig function
* If data saving path could not be created, a message will be displayed now.
* Tabs are disables when a camera is not opened
* Message displayed if the measurements could not be finished as expected
* **Version number is now V0.9.6**

**2017.04.24**

* Implemented network check and GUI disable enable during reconnect
* **Version number is now V0.9.7**

**2017.05.30**

* Fixing data saving bug, more checking were implemented

**2017.05.31**

* Now the software displayes the absolute path where the data was saved and the directory could be created
* **Version number is now V0.9.8**
* Fixed power control GUI issue, now it automatically switches back to temperature control if the firmware does not supports power control feature
* Fixed firmware and fpga version display issue
* **Version number is now V1.0**

**2017.06.01**

* Added Save data button for the main tab, which gives the ability to save data after measurement, if data saving was not enabled or some error happened during data saving
* **Version number is now V1.1**