Changelog for Roboception rc_visard firmware image

rc_visard_image 1.6.1 - 2019-04-01

Fixes

- Web GUI:
  - fix for new BoxPick page

rc_visard_image 1.6.0 - 2019-03-28

New Components

- BoxPick (`rc_boxpick`): The optional on-board component of the rc_visard, which provides a perception solution for robotic pick-and-place applications such as de-/palletizing and sorting of packets. It allows the detection of stationary items with rectangular surfaces and the determination of their position, orientation and size for picking.
  - documentation: https://doc.rc-visard.com/latest/en/boxpick.html
  - shop: https://roboception.com/product/boxpick/
  - access via REST-API
  - configurable via Web GUI

New Features

- Web GUI:
  - depth image: add single frame aquisition mode
  - page for new BoxPick component
- GigE Vision/GenICam:
  - add DecimationHorizontal and DecimationVertical as readonly features
  - report if system is ready (fully booted) via custom RcSystemReady feature

Fixes

- Web GUI:
  - Imporove translation of labels and info boxes
  - Various fixes in region of interest modal
  - Fix race condition in hand-eye-calibration
- ItemPick (`rc_itempick`):
  - scale all pixel parameters with resolution
  - various fixes/improvements for corner cases

Other Changes

- Web GUI:
  - Add acquisition mode parameter to depth image page
  - ItemPick, BoxPick, TagDetect, QRDetect: Request new detection only, if last response has arrived.

    - Hand-Eye-Calibration replace error modal popup with error message under each pose
- REST-API:
    - warn if service request contains unused args
    - itempick RegionOfInterest: only return actually used type (box or sphere)
    - also lock service calls of rc_stereocamera, rc_stereomatching and rc_iocontrol if a GEV application is connected
- StereoPlus (`rc_stereomatching`):
    - enable smoothing by default
- ItemPick (`rc_itempick`):
    - deprecate `item_model_tolerance` parameter (now read-only)
- TagDetect (`rc_april_tag_detect`):
    - performance improvements
- SLAM (`rc_slam`):
    - improve map loading and resets/restarts

rc_visard_image 1.5.0 - 2019-01-31

New Features

- New Module: StereoPlus (`rc_stereomatching`):
    - disparity image smoothing (enabled via `smooth` parameter)
    - full resolution disparity image
- Web GUI:
    - add exposure region selection via mouse
    - floating video streams
    - new parameters for StereoPlus (full resolution and smoothing)
    - allow deletion of hand-eye-calibration
    - hand-eye-calibration page shows current sensor mounting

Fixes

- Web GUI:
    - several layout/UI improvements and fixes
    - Hide white balance settings on calibration page
    - ItemPick update streams shown only after detection
    - fix kuka pose format calculations
- `rc_hand_eye_calibration`:
    - If calibration error is NaN or Inf, return failure with status code 2 and a message
    - fix concurrency bug
- ItemPick (`rc_itempick`):
    - surface segmentation: fix return code when roi is empty
- GigE Vision/GenICam:
    - return correct baseline and focal_length_factor even before fully booted up
- IOControl
    - fix GPIO output when switching from active to low

Other Changes

- add baseline and color/monochrome version to model name, e.g. "rc_visard 160m"
- GigE Vision/GenICam:
  - add GenICam parameters for StereoPlus:
    - add `DepthSmooth` (requires `stereo_plus` license)
    - add `Full` quality (requires `stereo_plus` license)
    - remove `StaticHigh` quality
    - add `DepthStaticScene` parameter (replacing `StaticHigh`, but also works in `Full`)
  - remove GevTimestampControlReset
  - add and fix TimestampLatch and TimestampLatchValue (GEV counterparts are deprecated)
  - add DeviceFirmwareVersion (same as DeviceVersion for now)
  - add `sent_frames`, `dropped_frames` and `packet_resends` in REST-API status values
- SLAM (`rc_slam`):
  - add `return_code` in `get_trajetory` response
  - add number of `map_frames` in status values

1.4.0 (2018-10-19)

New Components

- ItemPick (`rc_itempick`): The optionally available software component provides an out-of-the-box and model-free perception solution for robotic pick-and-place applications with suction grippers.
  - documentation: https://doc.rc-visard.com/latest/en/itempick.html
  - access via REST-API
  - configurable via Web GUI

New Features

- Web GUI redesign:
  - additional modules pages:
    - ItemPick
    - AprilTag and QRCode Detect
    - IOControl
  - camera page:
    - set gain manually
    - set white balance manually for color cameras
- GigE Vision/GenICam:
  - support for GigE Vision 2.1 MultiPart
  - add `DepthAcquisitionMode` and `DepthAcquisitionTrigger`
  - add SFNC 2.4 category `PtpControl` with
    - `PtpEnable`
    - `PtpDataSetLatch`
    - `PtpStatus`
    - `PtpOffsetFromMaster`
  - add `AcquisitionMultiPartMode` enum with
    - `SingleComponent`: Immediately send one single component per frame/buffer when it becomes available.

        - `SynchronizedComponents`: Only send a multipart frame/buffer iff all enabled components are available for that time.
- Improved auto exposure for reducing overexposure

Fixes

- REST-API:
    - return 400 error if parameter is out of min/max range
    - update Swagger UI to get correct cURL examples for Windows

Other Changes

- Web GUI:
    - removed French and Chinese translations

1.3.1 (2018-08-28)

Fixes

- REST-API:
    - fix error messages on service call failures (when some messages fields are of wrong type)
- GigE Vision/GenICam:
    - only reset block id when a new stream channel is opened
    - reduce latency on changing enabled components
- Web-GUI:
    - make doc links work in proxied environment

1.3.0 (2018-07-25)

New Components

- IO and projector control (`rc_iocontrol`): The optionally available software component allows read and write access to the rc_visard's GPIOs, e.g. to synchronize with external pattern projectors.
    - documentation: https://doc.rc-visard.com/latest/en/iocontrol.html
    - access via REST-API
    - access via GigE Vision/GenICam interface:
        - category: DigitalIOControl, features: LineStatus, LineSource, etc.
        - custom AcquisitionAlternateFilter which makes it possible to receive only images with/without projector(gpio) on

New Features

- TagDetect (`rc_april_tag_detect` and `rc_qr_code_detect`):
    - add `detect_inverted_tags` parameter that allows detection of negative, i.e. black/white inverted QRCodes and AprilTags in front of black background.
    - possiblity to specify approximate tag size to resolve ambiguous stereo tag matching
- GigE Vision/GenICam:
    - add support for setting exposure region:

        - ExposureRegionWidth, ExposureRegionHeight, ExposureRegionOffsetX, ExposureRegionOffsetY
    - support extended chunk mode
    - new SFNC 2.4 features:
        - Scan3dFocalLegth, Scan3dBaseline, Scan3dPrincipalPointU, Scan3dPrincipalPointV
- SLAM (`rc_slam`):
    - add services to persist and load onboard created maps (`save_map`, `load_map`, `remove_map`)

Other Changes

- `rc_stereomatching`:
    - remove `force_on` parameter from public interface
- `rc_itempick`:
    - add `clustering_max_surface_rmse` parameter
    - performance improvements

Fixes

- `rc_stereo_ins`:
    - fixed correction offsets in case of long vision outages
- `rc_april_tag_detect` and `rc_qr_code_detect`:
    - fix memory leak
    - improved matching between left and right image
- REST-API:
    - fix locking of service calls if module is not licensed
    - make log download work in tunneled/proxied environment
    - fix persistant storage of boolean parameters
- GigE Vision/GenICam:
    - fixes for better compatibilty with some clients
    - some nodes like PixelFormat, Width, Height now correctly depend on ComponentSelector
    - DeviceVersion: report image version instead of rc_gev_server version

1.2.1 (2018-05-04)

Changes

- `rc_gev_server`:
    - add `packet_size` to status values in REST-API

Fixes

- `rc_slam`:
    - fixed map localization
    - fixed various internal issues
    - do "restart" when "start"ed in HALTED, so the internal state is cleared.
- `rc_stereo_ins` and `rc_dynamics`
    - fixes for communication timeouts
    - Use start on SLAM, not always restart (which drops the map)

- GigE Vision/GenICam:
  - fix race on (un)subscribing to images on heartbeat timeout
- REST-API:
  - fix loading of saved boolean parameters at startup

1.2.0.1 (2018-04-05)

Fixes

- `rc_itempick`:
  - Make sure that the grasp z-axis points into item (according to the camera z-axis)

1.2.0 (2018-03-29)

New modules

- `rc_itempick`
- `rc_april_tag_detection`
- `rc_qr_code_detection`

Changes

- `rc_hand_eye_calibration`
  - add `remove_calibration` service

Fixes

- request NTP servers from DHCP
- `rc_stereocalib`
  - Force syncing of calibration files and images to disc
- Web GUI:
  - show hand-eye calibration images again
  - update chinese translation

1.1.1 (2018-02-22)

New Features

- `rc_stereocamera`:
  - added parameters to select a rectangular region used for calculating auto exposure:
    - `exp_offset_x`, `exp_offset_y`, `exp_width` and `exp_height`

Changes

- `rc_hand_eye_calibration`:
  - provide `robot_mounted` bool with get_calibration service
- REST API:
  - include detailed info for all nodes (status, parameters, services) in log tarball
  - limit to 10 destinations per datastream

Fixes

- GigE Vision/GenICam:
  - immediately sync network settings to disk after changes
- Web GUI:
  - minor update to chinese translations
- fix switching of partitions via magic packet (via rcdiscover)
- improve system robustness under high load
- REST API:
  - fixes for ros service call response to API mappings
  - fix: correctly boot into new image if sensor is power-cycled immediately after update
- `rc_stereo_ins`:
  - fix initialization when camera doesn't see anything
  - improve robustness
- `rc_slam`:
  - autorecovery now also recovers the map
- `rc_dynamics`:
  - improve performance and robustness

1.1.0 (2018-01-19)

- Web GUI now also in French and Chinese
- new "producer" field in rc_dynamics_msgs Frame and Dynamics
- REST API:
  - fix bool parameters, actually return true/false and validate input correctly
- first release of SLAM
- `rc_dynamics`:
  - add `start_slam`, `stop_slam`, `restart_slam` services