

Changelog for Roboception rc_visard firmware image

rc_visard_image 1.7.0 - 2019-07-22

New Features

- GigE Vision/GenICam:
 - add ChunkComponentIDValue according to SFNC 2.5
 - add ChunkDecimationHorizontal ChunkDecimationVertical
 - add ChunkLineSource and ChunkLineSelector
- ItemPick (`rc_itempick`):
 - sorting of grasps using gravity and size
 - accept lc and roi in `camera pose_frame` even if request is for `external`
 - compute grasp quality from surface rmse
 - performance improvements

Fixes

- fix log rotation for nginx to prevent disk running full
- GigE Vision/GenICam:
 - fix Decimation and Width for depth images in Low res
 - also apply `AcquisitionAlternateFilter` for `SynchronizedComponents` except if it would result in no images being sent
- ItemPick (`rc_itempick`) and BoxPick (`rc_boxpick`):
 - various small fixes/improvements

Other Changes

- `rc_dynamics`:
 - added state-machine state "STOPPING"
- REST-API:
 - possibility to add/delete multiple datastream destinations at once
- ItemPick (`rc_itempick`) and BoxPick (`rc_boxpick`):
 - made `pose_frame` argument always required

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 acquisition 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:
 - Improve 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: `LineStyle`, `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.
 - possibility 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_itepick`:
 - 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 persistent storage of boolean parameters
- GigE Vision/GenICam:
 - fixes for better compatibility 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