



Shelfcam User Manual

Captana GmbH
24.1.2024

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1. Basic Shelfcam Features

Monitoring shelves in real time is a complex task in modern retail environments. Therefore, Captana designed the Shelfcam to provide a plug and play solution for easy setup and cost-efficient monitoring while complying with GDPR requirements.

The Shelfcam integrates a 48MP imaging sensor and an ultra-low power AI SOC to capture pictures of shelves and process them in the most efficient way. To keep the camera permanently in the cloud WIFI AC 2.4/5GHZ is directly integrated.

The camera could be easily setup by tapping the mobile phone on the camera front. Via NFC the setup credentials can be transmitted from the mobile phone directly on the camera. The integrated RGB led will give a signal when the setup was successfully performed.

To be compliant with GDPR rules the Shelfcam has a motion sensor inside. Only when no motion was detected over a certain amount of time the camera will be allowed to take a picture of the shelf.

2. Technical Details

Shelfcam:

Charging:	via Captana EyeCharger (Product Code 9862) or USB-C
Resolution:	48 MP
Motorized Lens:	Yes
Motion Sensor:	Yes
In-camera GDPR protection:	Yes
Dimensions:	60 x 45 x 21 mm
CPU:	ARM 32 Bit SOC
RAM:	128MB
Internal Flash:	32MB
LED:	RGB LED
Networking:	AC 2.4/5GHZ WIFI
Active NFC:	Yes, for camera setup
WIFI:	2.4 GHz / 5 GHz (WIFI 5 PSK) 2412~2462/5250~5350/5470~5725/5725~5850MHz
Wireless firmware update:	Yes
Operating Temperature:	0 °C - 40 °C
Compliance:	CE, RoHS, FCC/IC
Packaging Unit:	5 cameras & batteries / box
Weight:	56 g with battery

3. Safety Instructions



This symbol identifies a potential hazard which, if not avoided, could result in death, serious injury or property damage. Read this guide for important safety and health information for the product that you purchased.



WARNING: Failure to properly set up, use, and care for this product can increase the risk of serious injury, death, property damage, or damage to the product or related accessories.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with a dry cloth.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
8. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where it exits from the apparatus.
9. Only use attachments and accessories specified and provided by the manufacturer.
10. Unplug this apparatus during lightning storms or when unused for long periods of time.
11. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

CAMERA SAFETY



WARNING: Failure to take the following precautions can result in serious injury or death from electric shock, fire, or damage to your GoPro HERO9 Black:

- Inspect your camera and accessories before use to ensure they are not damaged and are assembled captana instructions. For safety purposes, use only genuine supplied or purchased parts with your Shelfcam. The use of any other component, accessory, or charger that is not recommended by captana may cause fire, electric shock, or injury. Your warranty does not cover damage caused by use of unauthorized attachments.
- Do not drop, disassemble, open, crush, bend, deform, puncture, shred, microwave, incinerate or paint the camera, battery or powered accessories.
- Do not insert foreign objects into any opening on the camera, such as the USB port.
- Do not use the camera if it has been damaged—for example, if cracked, punctured, or harmed by water.
- Do not dry the camera or battery with an external heat source such as a micro-wave oven or hair dryer.

- Do not place naked flame sources, such as lighted candles, on or near the product.

When charging the camera, do not handle the plug or charger with wet hands. Failure to observe this warning could result in electric shock.

Using a charger other than a captana charger can damage the camera battery and could result in fire or leakage. Use this product only with an agency approved power supply which meets local regulatory requirements (e.g. UL, CSA, VDE, CCC).

Camera will not float. Do not get the battery wet. Failure to observe this precaution could result in fire or electric shock. Do not submerge your camera in liquid if the battery door is open. Damage to the camera or battery caused by contact with liquid is not covered under the warranty.

If using the external power connection, follow all safety guidelines for the third-party power device.

The temperature of your camera may become warm during operation, which is a normal condition during use. In such circumstances, disconnect the battery or power source and let it sit and cool before attempting to use it again. Continued operation could result in fire, burns or other injury.

This product is not a toy. It is solely your responsibility to comply with all local laws, regulations, and restrictions. Should a child swallow any part of this product, seek immediate medical attention.

CAUTION: Radio-frequency emissions from electronic equipment can negatively affect the operation of other electronic equipment, causing them to malfunction. The wireless transmitters and electrical circuits in your product may cause interference in other electronic equipment. When using captana products near another device, read that device's user guide for any safety instructions. Power your camera off whenever it is forbidden to use it or when it may cause interference.

NOTICE: Avoid exposing your camera or battery to very cold or very hot temperatures. Low or high temperature conditions may temporarily shorten the battery life or cause the camera to temporarily stop working properly.

BATTERY SAFETY



WARNING: The following precautions apply to the rechargeable battery that was included with your Shelfcam. Improper battery use may result in serious injury, death, property damage, or damage to the product or related accessories as a result of battery fluid leakage, fire, overheating, or explosion. Released battery fluid is corrosive and may be toxic. It can cause skin and eye burns and is harmful if swallowed. If fluid from the battery contacts skin or clothes, flush skin with water immediately. Before inserting any new battery, thoroughly clean the battery compartment with a dry cloth. To reduce the risk of injury and ensure proper performance of your battery, follow these guidelines:

- Keep batteries out of the reach of children.
- Keep batteries clean and dry.
- Do not dismantle, open or shred battery pack or cells. Do not short-circuit the battery. Do not store batteries in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. Failure to follow this warning can cause an explosion or fire.
- Do not subject batteries to mechanical shock.
- Never use or charge a damaged, leaky or swollen battery.

- Batteries need to be charged before use. Always use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.
- Do not leave a battery on prolonged charge when not in use. Discontinue use immediately should you notice any discoloration or deformation in the battery. Failure to observe these warnings could result in the battery leaking, overheating, rupturing, or catching fire.
- Batteries give their best performance when they are operated at normal room temperature 68°F (20°C)± 9°F (5°C).
- When possible, remove the battery from the equipment when not in use.
- Only use authentic captana batteries that are designed for Shelfcam.
- Do not dispose of the battery in regular trash containers. Recycle the battery according to your local regulations.

4. Requirements

V:Cloud and Shelfcam

- Working ESL installation
- VUSION ESLs with LED and FW $\geq 3.1.5$
- All ESL mounted Bottom Left or Right according to Product Slots
- V: Cloud API + Vusion Manager Pro access for Store
- Wi-Fi Access for Shelfcams with WPA 2 PSK, DHCP, DNS and Non-blocking internet access outgoing to *. captana.io via Port 443 TCP/TLS. WPA2 Enterprise or Captive Portals are not supported.
- Store internet with upload faster than 10 Mbit/s
- Backoffice Data like Product/Item Name and Manufacturer/Brand in V: Cloud

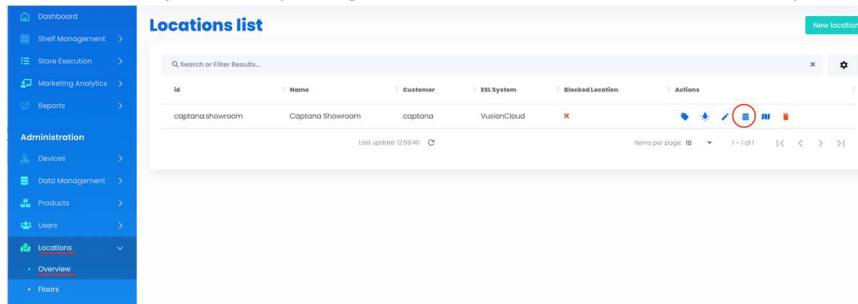
Jeegy Cloud and Shelfcam

- Working ESL installation
- VUSION ESLs with LED and FW $\geq 3.1.5$
- Core Service / Appliance $\geq 1.10.4$
- All ESL mounted Bottom Left according to Product Slots
- Jeegy Cloud API access for Store
- Internal API Rights: ["read: internal ", „read: status API"]
- Pricing API Rights: ["read: items "] ["write: medias-flash "] ["read: medias"]
- Wi-Fi Access for Shelfcams with WPA 2 PSK, DHCP, DNS and Non-blocking internet access outgoing to *. captana.io via Port 443 TCP/TLS. WPA2 Enterprise or Captive Portals are not supported.
- Store internet with upload faster than 10 Mbit/s
- Backoffice Data like Product/Item Name and Manufacturer/Brand in Jeegy.

5. Shelfcam camera setup

Before connecting the cameras

Check and adjust the opening hours of the store. Cameras will only take pictures during this period.



Camera LED Status Codes

Insert Battery:

Rainbow blink.

First connection:

Yellow Pulse while connecting.

Camera is trying to connect to Captana Cloud using the given WiFi

Red for error

Use the Captana Live App to check the error Message.

Green for success

Firmware update:

Blue pulse

Camera is performing a firmware update.

Camera awake:

Green pulse

Camera is awake and waiting for Instructions from Captana Cloud

Mount the Camera

Mount Camera in a way that it has a full view on the gondola, for full aisle make sure to have some overlapping between the cameras.



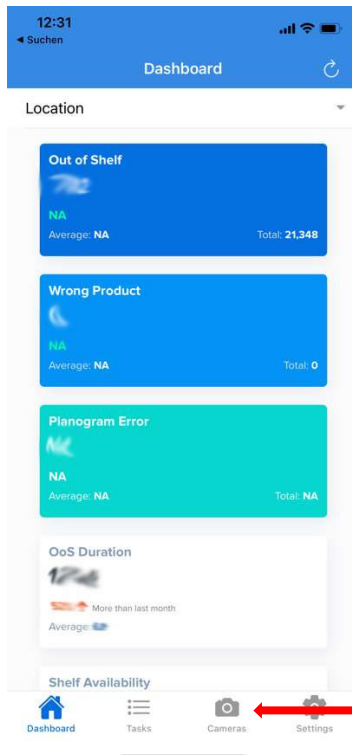
Captana Assistant

Open the “Captana LIVE” App on your NFC capable iOS or Android phone

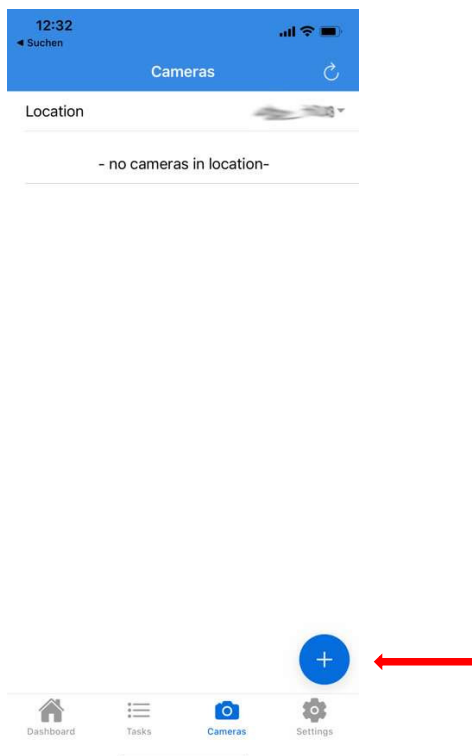
1. Log in to the App by using your Captana credentials.

A screenshot of the Captana Assistant login interface. The screen has a blue header with the word 'Login'. Below the header, there is a white box containing the text 'Welcome to captana'. Underneath this, there are four input fields: 'Cluster' with a dropdown menu showing 'captana.dev', 'Email' with the address 'captana@ses-imagotag.com', 'Password' with masked characters, and 'Save Credentials' with an unchecked checkbox. At the bottom of the white box is a green 'SIGN IN' button. The background of the screen is blue.

2. If correct login credentials are used, the Dashboard is shown.



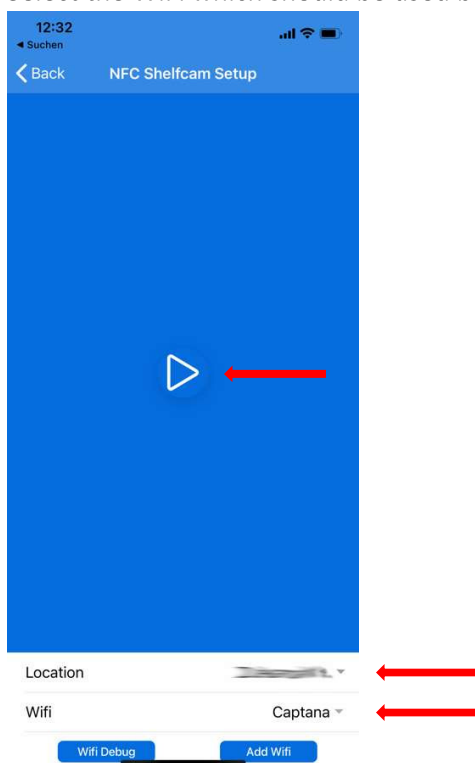
3. Use the Camera button to navigate to cameras and enter the cameras section.



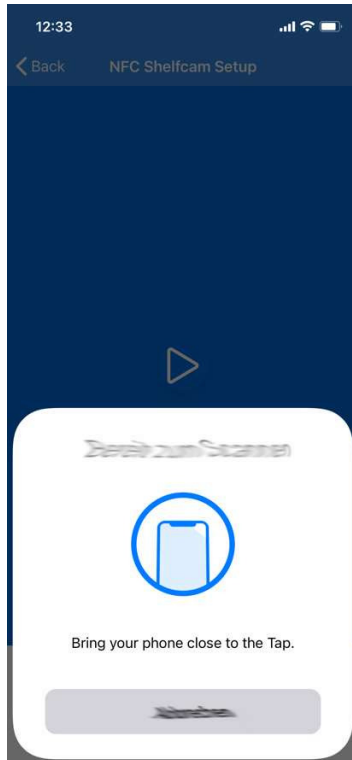
4. To Add a new camera, click the “+”-Button.
Select Add Shelfcam



5. Select your Captana Location to which you would like to add the Shelfcam
Select the WiFi which should be used by the Shelfcam



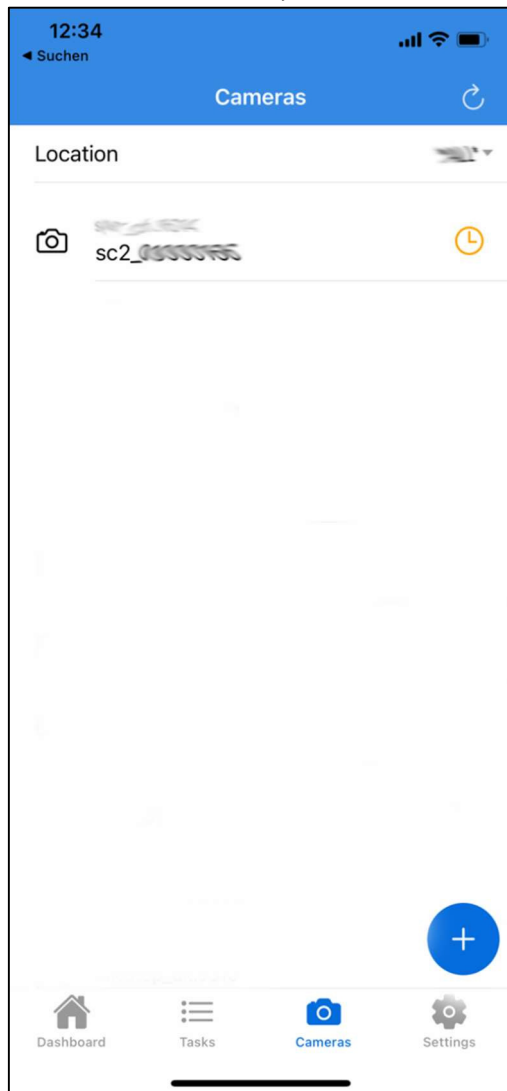
6. a) On iOS: Hit the “Play” button to start the NFC setup
Touch the Shelfcam with your phone’s NFC to transmit the settings



- b) On Android: Touch the Shelfcam with your phone’s NFC to transmit the settings



7. If your Wi-Fi Settings are correct and the Shelfcam can connect to Captana Cloud your Cam is now connected to your location. The Captana Assistant App will automatically show the camera section where you can see the added Shelfcam.

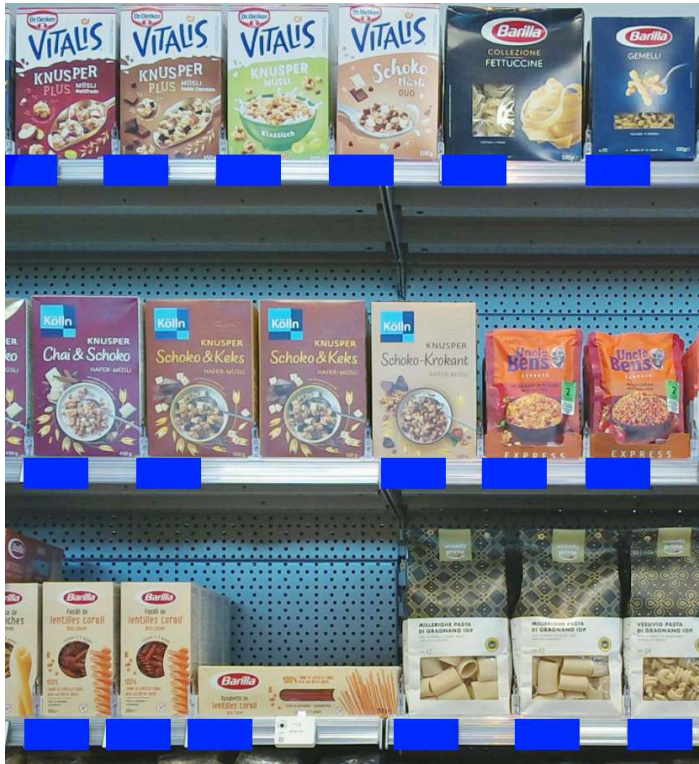


Shelves and flashing

Afterwards all Shelves will appear in the Shelves List

Shelves													
Search or Filter Results...													
☐	ID	Location	Section	Name	Level	SKUs	Facin	Out of	Wrong	Flange	Analyze	Availabil	Analyze
							gt	Shelf	Products	in Errors	Quality	ity	Time
											Score		At
☐	1	captana show room	...	Shelf 2	6	133	...	...	0	0	...	...	12.10.2022, 12:16
☐	4	captana show room	...	...	6	85	106	...	0	0	...	...	12.10.2022, 12:42
☐	5	captana show room	...	...	6	109	142	...	0	0	...	...	12.10.2022, 12:27
☐	3	captana show room	...	...	3	8	122	161	...	0	...	...	12.10.2022, 14:19
☐	2	captana show room	...	...	2	6	142	162	...	0	...	...	12.10.2022, 14:19

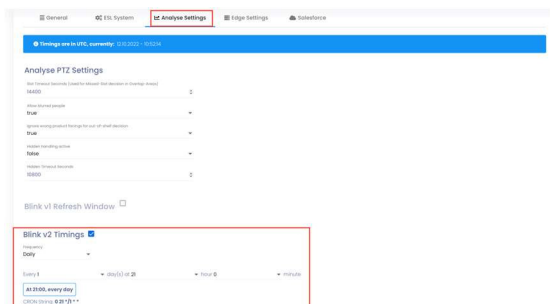
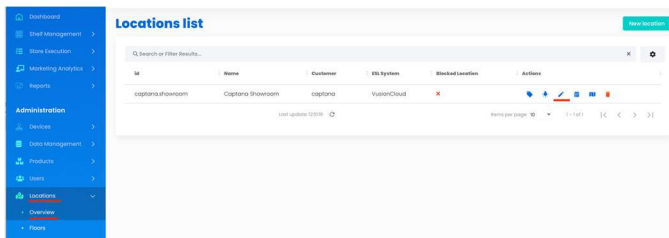
Labels will be marked in blue until the flash of the label/ESL was visible



You need to set up the flashing.

Best is to do it when the store is empty.

Please note: The time is indicated in UTC.



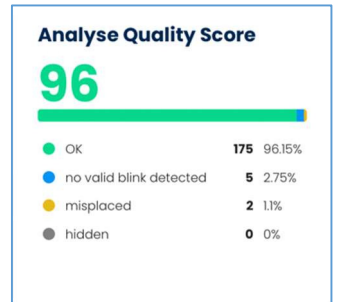
Basics Labels

Label: BF30EC1F

Label position verified by CV and blink detection.

Label: Unknown

CV detected the label, but no blink detection has verified it.



Reasons:

- VUSION ESL FIRMWARE not equal or Larger 3.1.5 *
- Battery
- Offline labels in the store
- No API access.
- No flashing set.
- Blocked view while flashing
- LED blocked or damaged



6. Support

For further information regarding the Captana Shelfcam please contact us:

Bundesstrasse 16, Ettenheim, Germany 77955

E-Mail: info@captana.ai

Phone: +49 (0)7822 861996 0

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.