Caper Smart Cart
Product Specifications

Content

1. Overview

The Caper Smart Cart is the first AI-powered shopping cart that lets grocery shoppers skip checkout lines. Shoppers scan the barcode, toss the item inside, pay and go! With the help of 3 high resolution cameras and weight sensors that constantly train the CV algorithm, the Caper Cart is continuously learning. Soon no barcode scanning will take place, as the smarter cart will instantly recognize each and every product that enters the basket.

The Caper Cart is made up of three essential components: the cart frame, the front unit and the top unit (screen encasing). The front unit is a simple structure that rests at the rail guard in front of the cart frame, it consists of 2 cameras and an LED. The screen encasing and the front unit can be removed from the frame. It is held together by a series of screws found beneath the components.

2. Dimensions

The Caper smart shopping cart is 116 x 61 x 124 cm (L x W x H) including the screen unit, and 116 x 61 x 106 cm (L x W x H) with just the frame alone. Figure 1 shows measured in millimeters showing the full width of the cart.

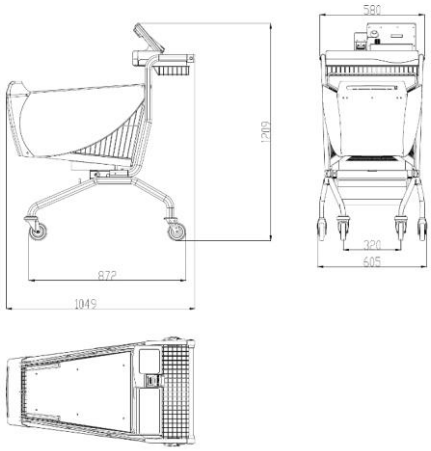


Figure 1. Hardware dimensions

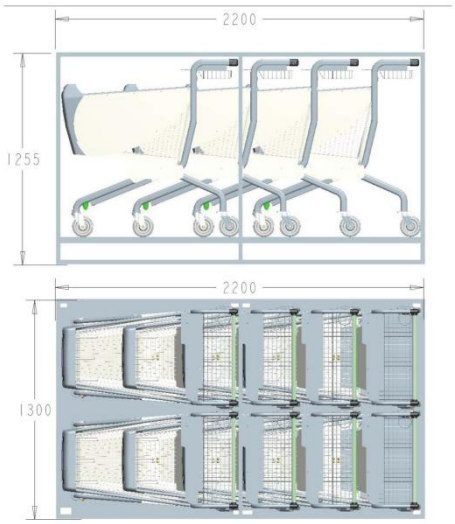


Figure 2. Nested dimensions

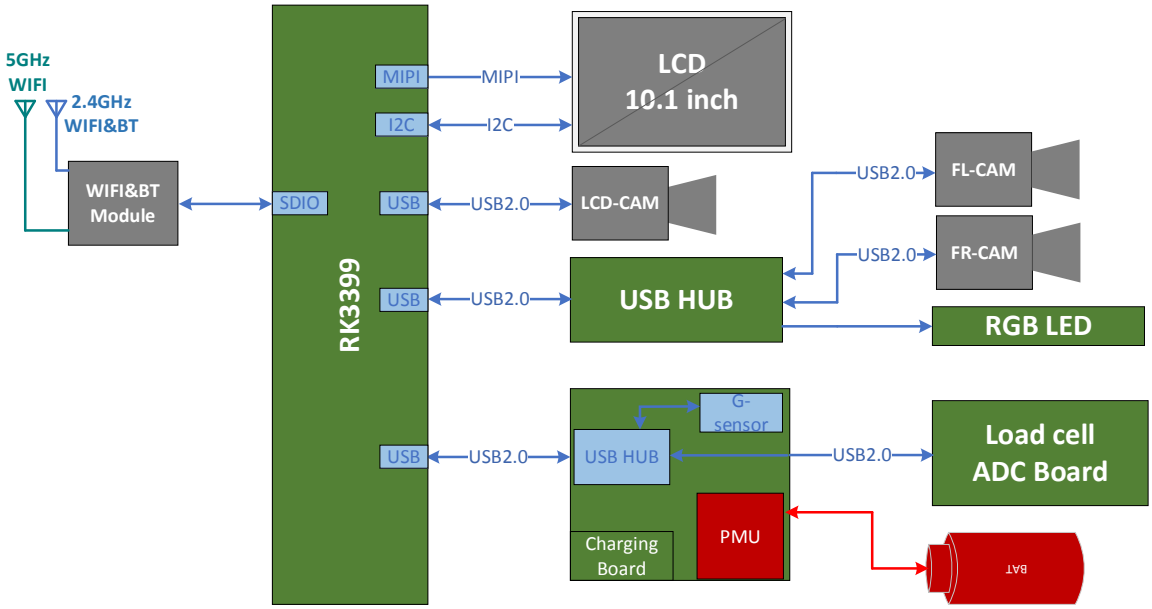
Each Caper cart is 116 cm long. Each additional cart adds about 38cm. Figure 2 shows a measurement of 4 carts nesting together, in millimeters.

3. Hardware Specifications

3.1. Electrical characteristics

	MIN	MAX	UNIT
Charging Voltage	15	20	V
Storage temperature	-40	70	℃
Working temperature	-20	40	℃
Working voltage	12V		
ESD	Air±8K	Contact±4K	V

3.2. Hardware Architecture



3.3. Hardware Modules

Figure 3. Hardware modules front view

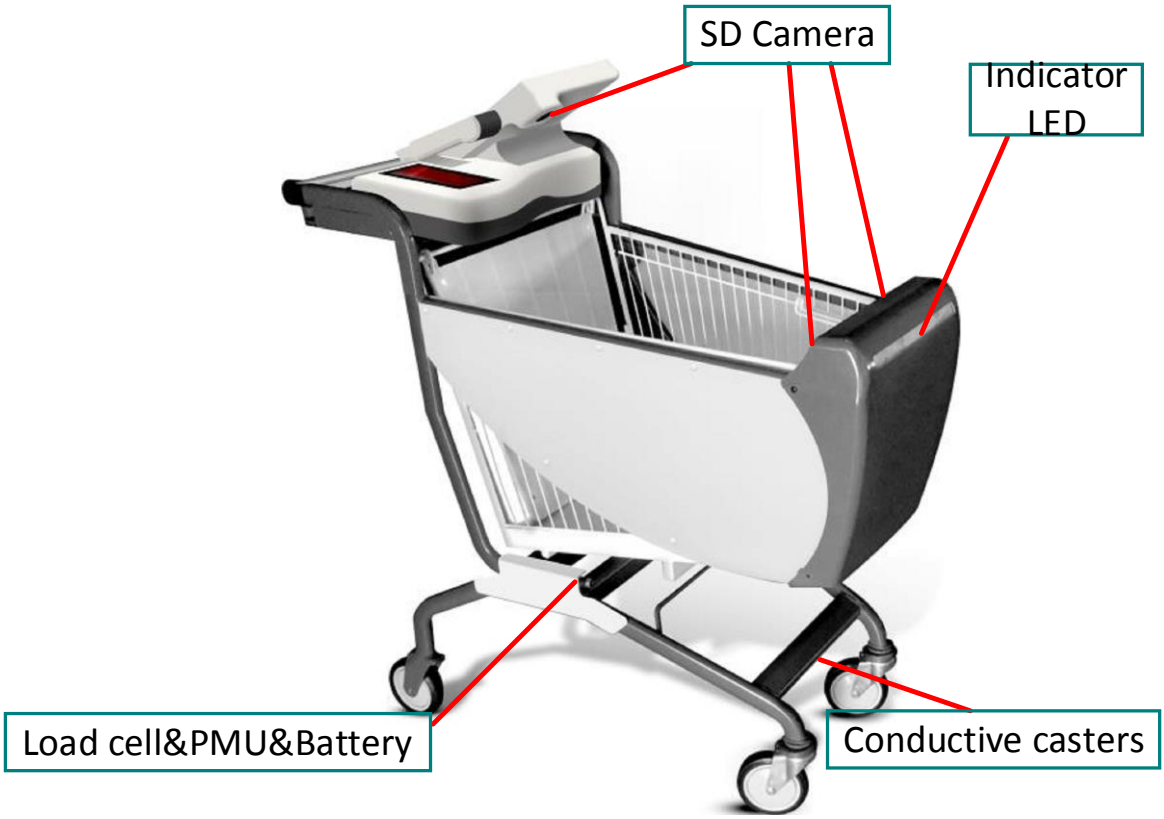


Figure 4. Figure 3. Hardware modules side view

3.4. Characteristics

CPU	RK3399
Operating system	Android 7.1
Charger input voltage	100V - 240V
Charging condition	16V 3A
Battery output	11.1V 2A
Battery life	24 hours (stand by), 18hours(assume 10 hours of usage)
Battery capacity	11.1V 28Ah
Switch	2 switches
Speaker	8Ohm, 3W
Indicators	Multi-color LED shopping status indicator in front unit. 3 color LED charging indicator in base unit
Camera	2MP
WIFI distance	30-50M
WIFI standard	802.11 a/b/g/n/ac
Barcode	UPC-A/UPC-E/EAN
Barcode scan angle	Elevation angle 45°, Inclination angle 45°
Barcode resolution	4 mil
Display	10.1 Inch TFT display, 1280*800, 600 nit
Weight scale	35kg/50lbs
Weight accuracy	±1g
Operating Ambient Temperature	-20°C to 40°C
Operating Ambient Humidity	10% to 90%
Debug port	USB type A port

4. Material

Shell material	ABS/PC
Shell color	Matte white/grey
Frame material	Iron tube
Frame color	Glossy grey
Frame finish	Powder coating
Side panel	PC
PCB requirements	PCB thickness 1.6mm, green

FCC Warning

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

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 interferenceto 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.

Specific Absorption Rate (SAR) information:
This Smart shopping cart meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. Thestandards include a substantial safety margin designed to assure the safety of all persons regardless of age or health.

FCC RF Exposure Information and Statement
The SAR limit of USA (FCC) is 4W/kg averaged over one gram of tissue. Device types: Caper-V010.1 (FCC ID: 2AX3E-CAPERV0101) has also been tested against this SAR limit. The highest SAR value reported under this standard during product certification for when properly worn on the body is 0.050W/kg. This device was tested for typical body-worn operations with the back of the handset kept 0mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain a 0mm separation distance between the user's body and the back of the handset. The use of belt clips, holsters and similar accessories should not

contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

Body-worn Operation

This device was tested for typical body-worn operations. To comply with RF exposure requirements, a minimum separation distance of 0mm must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components.

Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.