Your Aisoy1 fully assembled, so you can start from minute 0 to program robotic applications. If you have a raspberry pi or compatible SBC, you can download software and transform it into the brain of Aisoy1, so that your robot will be autonomous using Airos1. Of course, you can also program robotic applications and artificial intelligence with SDK.

Aisoy1 is not just an educational robot, is the most affordable development platform in the market for social robotics and artificial intelligence. Let’s take part with Aisoy1 in the next technological revolution: social robotics. For people at any age who want to learn or experiment with artificial intelligence and affective computing applied to robotics and human-robot interaction.

Aisoy1 includes programming tools tailored to all levels. It is perfect to begin and evolve in the world of robotics,ther you use Scratch * in your classes or want to program complex programs in C++. These tools let you take full advantage of Aisoy1’s hardware resources (sensors and actuators) and its software (voice recognition, computer vision, natural language processing, connection to social networks, etc.).

Aisoy1 is the ideal tool for reinforcing creativity while improving skills in programming, robotics and artificial intelligence. Aisoy1 integrates with scratch through ROS.
Features

- **Raspjet, a powerful Jetpack for Aisoy1**
  Now Raspberry Pi can be the brain of Aisoy1

  We’ve optimized the most Aisoy1, so you won't have to invest in the same technology twice. If you already have a computer at home, why not transforming it into the brain of your robot? And if you don’t have one, do not worry, now Aisoy1 is 100% compatible with Single Board Computers (SBC), such as Raspberry Pi, so you can use raspjet to integrate these small computers with Aisoy1.

  Raspjet is the first of the Aisoy jetpacks, a new series of accessories that integrate Aisoy1 with various SBC. Raspjet facilitates the connection from Raspberry Pi to the different ports of Aisoy1 so that you can turn it into the main brain of the robot using Aisoy Robotics software *. Aisoy1 has dc power (+5 V) output available for these SBC, so there’s no need to surround the robot with cables and adapters, just connect them and enjoy. It also includes a line in jack where to connect the audio output of your SBC, to be played through Aisoy1’s speaker. Oh, and since it’s a jetpack it’s placed on the back of Aisoy1, freeing the available ports on your SBC, so you can continue adding new devices and continue to create without limitations.

- **Chatscript**
  Ultra improved dialog manager

  You may have heard about the Loebner prize, where several cutting-edge technologies in natural language processing and automatic dialog systems are tested. Bruce Wilcox, one of the leading experts in AI for the game industry chatscript created his own dialogue engine to compete in this award and he won in two editions! After months of working together with Bruce Wilcox, we’re proud to announce that Chatscript, the most advanced chatbot engine, has been integrated into the core of Aisoy1, becoming its main dialogue engine. By using Chatscript it’s faster to include knowledge within Aisoy1’s brain, and give it new utilities unsuspected until now.

  With Chatscript, Aisoy1 has advanced dialog skills, and new personalities can be developed quickly. Right now, only the English version is 100% Chatscript, but this functionality will be available very soon in other languages such as French and Spanish.

- **Airos1, the emotional engine**
  Take information, analyze it, feel, decide and act. This is the basis of their behavior and personality.

  “Life” is to feel, interact, learn, touch and get thrilled… so in Aisoy Robotics can state that we’ve created life with Airos1, the emotional engine that allows Aisoy robots to be autonomous in their decisions and feelings. At Aisoy work in the field of artificial intelligence applied to emotional decision making, and have used Aisoy1 as the platform to test experimental models. Airos1 is part of work, a complete system of emotional learning and decision making, running on ROS, which integrates and coordinates optimally Aisoy1 resources to offer a new way to interact with robotic technology.

  With Airos1 have tried to implement the same mechanisms used by humans in their interactions, such as speech or vision. It includes complex cognitive learning and decision making processes, so that your robot is not only something that runs your technological creations, but someone capable of feeling (up to 12 emotions) with whom you can talk about technology. Yes, it’s hard to explain, it’s best you to try it, turn on your Aisoy1 in standalone mode and be amazed.

  Have you seen? Thanks to Airos1 your robot has its own personality, and in this version you will find
that is a fan of science fiction. You’ll be surprised how much it knows about scifi, is a true fan of Asimov, and it will illustrate about your favorite series, Dr. Who. Do you know it? Be sure to ask.

**More connectivity**
Compatible with ROS, internet enabled, possibility of communication with Zwave devices, Bluetooth … and much more.

Many users asked us about the need of improving the connectivity of Aisoy1 robot, not only to access cloud services but also for using it with other common devices in homes such as tablets or smartphones. totally agree, and now with raspjet it is possible to take advantage of ethernet and wifi connectivity of the SBC you’re using with Aisoy1, such as Raspberry Pi.

Aisoy1 is 100% compatible with ROS by Willow Garage. ROS is a framework employed by a large number of industrial and service robots, and it has been rapidly adopted by most of the robotics community, both professionally and research and hobby. ROS has a very active community, and they continually offer sophisticated algorithms that can be used by ROS compatible systems, for example, used in mobile robots SLAM. Imagine your Aisoy1 driving your roomba … totally possible with ROS!

As Aisoy1 talks ROS is possible to use a 3D model of the robot in the gazebo Gazebo simulator, one of the components of the ROS ecosystem together with Player. If you want to experiment with this model for your research, or technological curiosity, do not hesitate to ask us.

**Multiple sensors and actuators**
Aisoy1 integrates a sensorimotor hardware system to manage efficiently its sensors and actuators. This is the system that allows an Aisoy1 to be controlled by USB from an external computer, where applications are running. And although you can connect your robot to any computer, the perfect companion will always be someone his size, such as the Raspberry Pi.

Aisoy1 integrates accelerometer, independent clock (RTC), touch sensors, servos overconsumption sensor, 2 MP camera and microphone. And you can add more sensors via I2C and SPI. Thanks to them, Aisoy1 is able to know what is happening around and act accordingly. Among many other things, it can know if someone is touching its back, turning the light off or if you’re shaking it. Aisoy1 can react by movements using its four servos, changing the color of its RGB heart, drawing or writing on its led dot matrix, or directly speaking to you.

**Enhanced vision**

have improved Aisoy1’s artificial vision algorithms to increase their accuracy and speed. Thanks to them, you can build Botapps that recognize faces, signs and alphanumeric expressions, objects, movements and even QR tags, which are very useful in applications and games for educational purposes.

**Playing differently**

Playing with a Aisoy1 is a new experience. Their games are not based solely on a screen like traditional consoles, they make the most of its abilities as a robot: reasoning, see, recognize and above all the most human, speak!
Specifications
• Processor: 700 MHz ARM1176JZF-S core (ARM11 family).
• Memory: 512 MB SDRAM
• Sensors: 3D position, Touch, Strength
• Video: Camera 1Mpx
• Servos: Three mini servos (rotation of the neck, eyelids and eyebrows)
• Wireless communication: WiFi 802.11n
• Input and Output: miniUSB, HDMI
• Movements: Three micro servos to move top (head, eyebrows and eyelids)

Size and weight
• Height: 22.30 cm.
• Width: 16.30 cm.
• Depth: 15.60 cm.
• Weight: 1.5Kg.

Software
• Operating System: Linux
Aisoy Core
• Emotions Engine Airos1.
• Recognition System.
• Sensorimotor System.
• Aisoy Dialogue System.
• ASR and TTS.
• Others languages by Ivona.

Power and Battery
• Rechargeable NiMH 7,2V 2,4Ah Battery
• DC Power (power adapter in the box)
• 4 hours of operation in standard conditions.
• Charging via power adapter: 4 hours

Audio
• Speaker: 1W.
• Frequency response: 20Hz to 20,000Hz
• Microphone

Lights
• 70 minileds matrix integrated into the mouth area. Express emotions and displays symbols and characters.
• Led RGB in the heart area. Change in tone depending on the emotion and other parameters