Dimensions/Weight

- Height: 103 cm (3.5 feet)
- Weight: 12.5 kg (27.5 pounds)

Software

- Android OS
- Full SDK
- Content Editor to easily create content and new activities – drag/drop along a timeline
- Remote control
- Will run most standard Android Apps through the chest mounted display

Connectivity

- WiFi
- Bluetooth
- Fully cloud connected

CPU/Memory

- Rockchip 3399
- 1.8GHz Quad core,
- Mali-T860 GPU
- 4GB RAM
- 32GB ROM
- 7 MCUs and 3 DSPs at various locations to control motors, sensors, etc.

Motors (degrees of freedom)

- 14 12V DC motors with magnetic encoders to measure angles
- 5 motors in each arm -- two at shoulder, two at elbow, and one at wrist
- 2 motors in the neck to move head side-to-side and up-down
- 2 motors in base for locomotion

Batteries (2 options)

- A small battery that gives approximately 4 hours of continuous usage
- A large battery that gives approximately 8-10 hours of continuous usage

Standard Software

- Conversational speech dialog, natural language understanding, Text to Speech
- Face recognition, Object tracking and following, Maze-running

- Obstacle collision avoidance
- Remote Control and safety monitoring by **smart phone in WiFi**
- Numerous entertainment applications (songs, stories, dances, etc.) and educational applications (for teaching English, math, science, technology, etc.)
- Software to manage, update, and enhance content
- iPalProgrammer for programming iPal2 with a simple drag and drop interface
- High level content editor to enable non-programmers to develop robot content combining media (like a song), robot motions, expressions, etc.
- Emotion Recognition and Response

Microphones

- 1 in chest

Sensors

- 3 infrared sensors for short range object detection
- 5 ultrasound sensors for longer range object detection
- 5 touch sensors around the body of iPal2

Chest Display

- 10.1 inch screen

Miscellaneous

- iPal app store for new apps, education and entertainment content, upgrades, and related products
- Robust modular design, easy to replace parts
- Assembly line designed for production of thousands of units per month
- Can select different color highlights for iPal2 and other customizations
- No gaps in robot to catch or pinch fingers
- Batteries in base to lower center of gravity and make tipping over unlikely
- Sensors work all the time, so iPal2 avoids obstacles and moves only when safe
- Outer skin made of non-toxic ABS material
- Tested for collisions, impacts, etc.