

With key Motor Control Technologies

INSIDE THE COVER WRITE YOURSELF DESIGN STORY

Hone Successfully

Knowing what we don't know
is often the first step toward
developing expertise.

Internet of Things

CAMELLIA Mini CONTROLLER

Swarm

Intelligence

Get into the
**STATE OF
THE ART**
Metaverse

Exclusive

Software and Hardware work
together.

The Physical and Virtual worlds
are bridged.

WAYS TO MAKE
REAL OWN Robot, Droid and Als

Self-fulfillment



Camellia Café 2016-2021

WWW.CAMELLIA.XIN



Specification

DC Motors

- 2 DC Motors
- Clockwise/Counter-Clockwise set
- Running time set
- Speed set
- Real time control
- Sequence control
- Motor Power: 6 - 12V

PWM Steering Servo Motors

- 4 PWM Steering Servo Motors
- Real time control
- Sequence control
- PWM: 5 - 95%
- Motor Power: 6 - 12V

UART Steering Servo Motors

- 255 UART Steering Servo Motors
- Real time control
- Sequence control
- Topology: Bus, Ring, Mess
- Motor Power: 6 - 12V

Human Machine Interface

- Touchscreen
- Pixel LEDs
- 2 LEDs

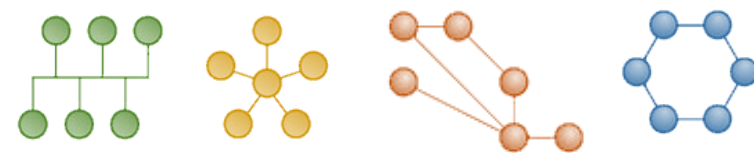
01 - POWER This power port is for this Mini controller and DC motors, 6VDC - 12VDC.

02 - DC Motor Two DC motor control ports,

03 - LED Two LEDs.

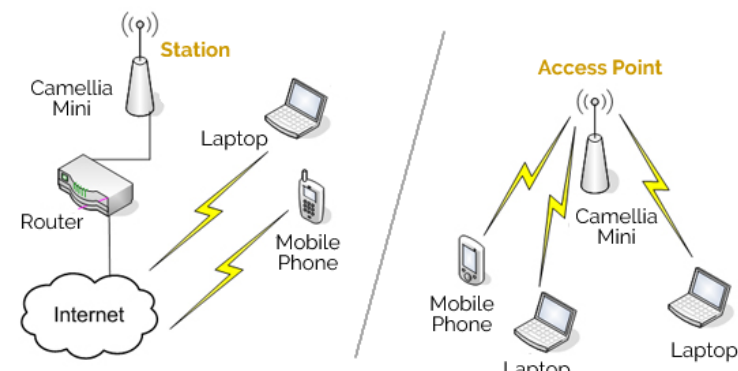
04 - PWM Steering Servo Motor Four PWM steering servo motor control ports.

05 - UART Steering Servo Motor Two UART PWM steering servo motor control ports. Both ports have the same output signal at the same time. With both ports, a redundant network, or a Ring or Mess topology network could be configured.



06 - POWER for Steering Servo Motor This power port is for steering servo motors, 6VDC - 12VDC.

07 - Model Selector Select a Wireless Local Area Network model or a Wide Area Network model.

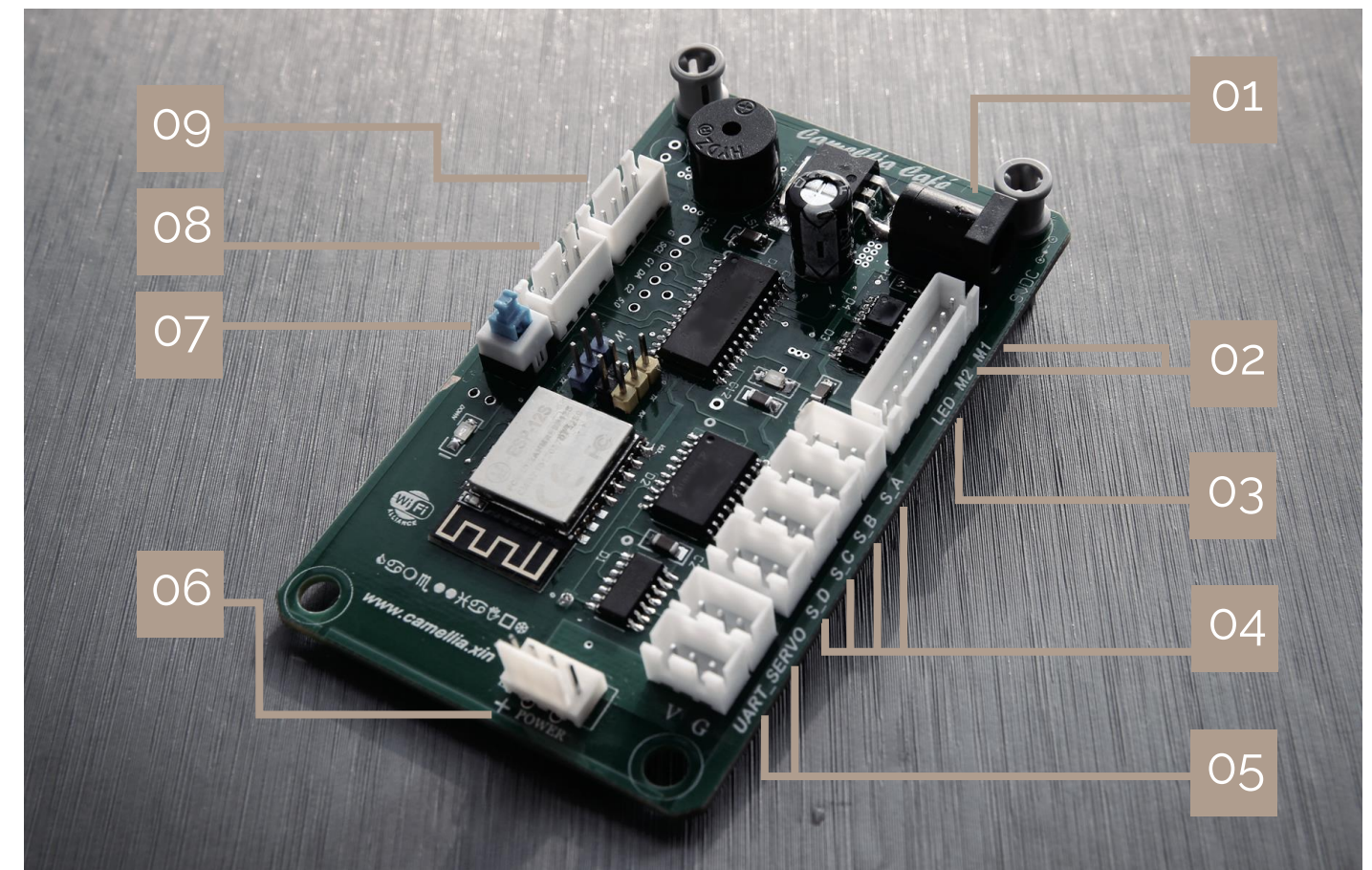


08 - Pixel Display 8x8 colourful pixel display LEDs port.

09 - HMI Touchscreen port.

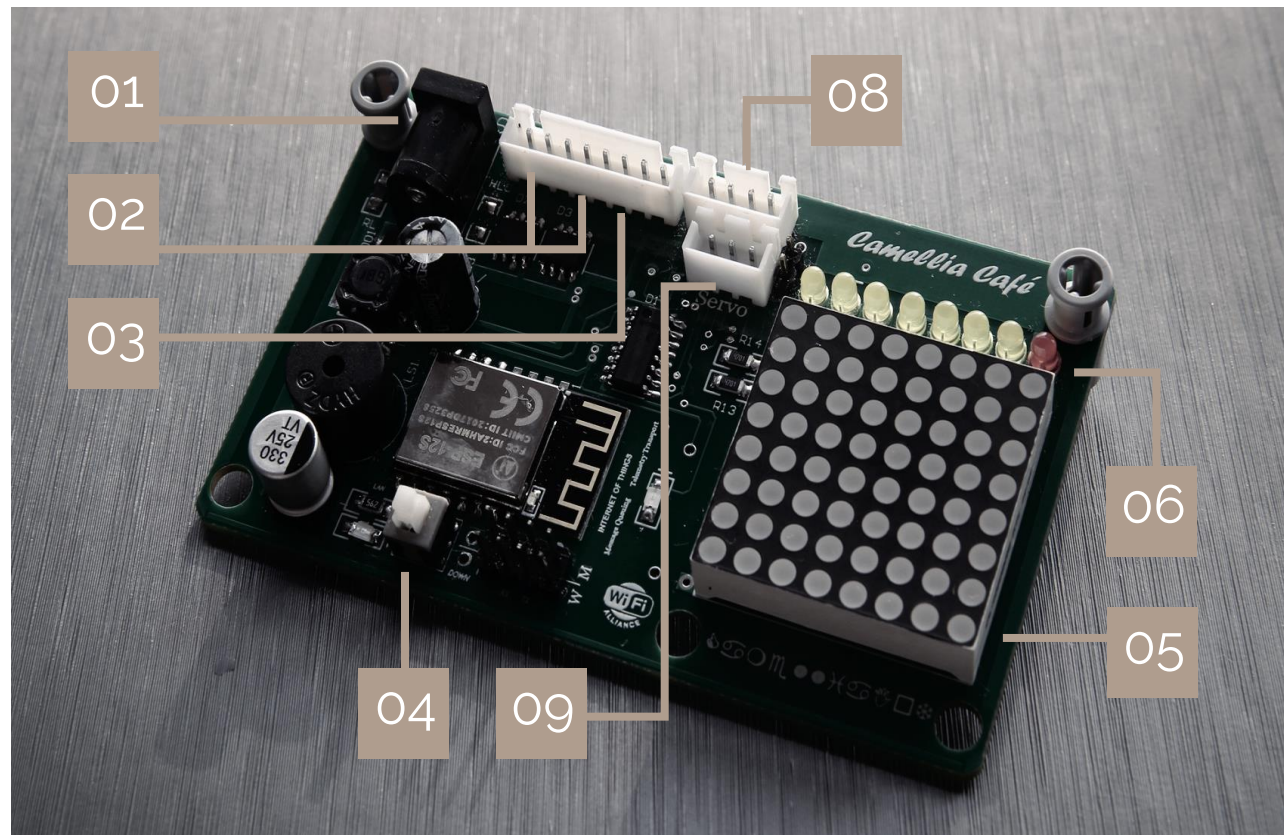
ESPRESSO

Just as Espresso's name implies, this Mini controller has the essence motor control function and HMI...



FRENCE

Mix DC and Servo Motor Control



Specification

UART Steering Servo Motors

- 255 UART Steering Servo Motors
- Real time control
- Sequence control
- Topology: Bus, Ring, Mess
- Motor Power: 6 - 12V *

Human Machine Interface

- Touchscreen
- Integrated Pixel LEDs
- Integrated 8 LEDs
- 2 LEDs

DC Motors

- 2 DC Motors
- Clockwise/Counter-Clockwise set
- Running time set
- Speed set
- Real time control
- Sequence control
- Motor Power: 6 - 12V

* UART Steering Servo Motors use another power: 6 - 12V.

AMERICANO

Simple but Basic

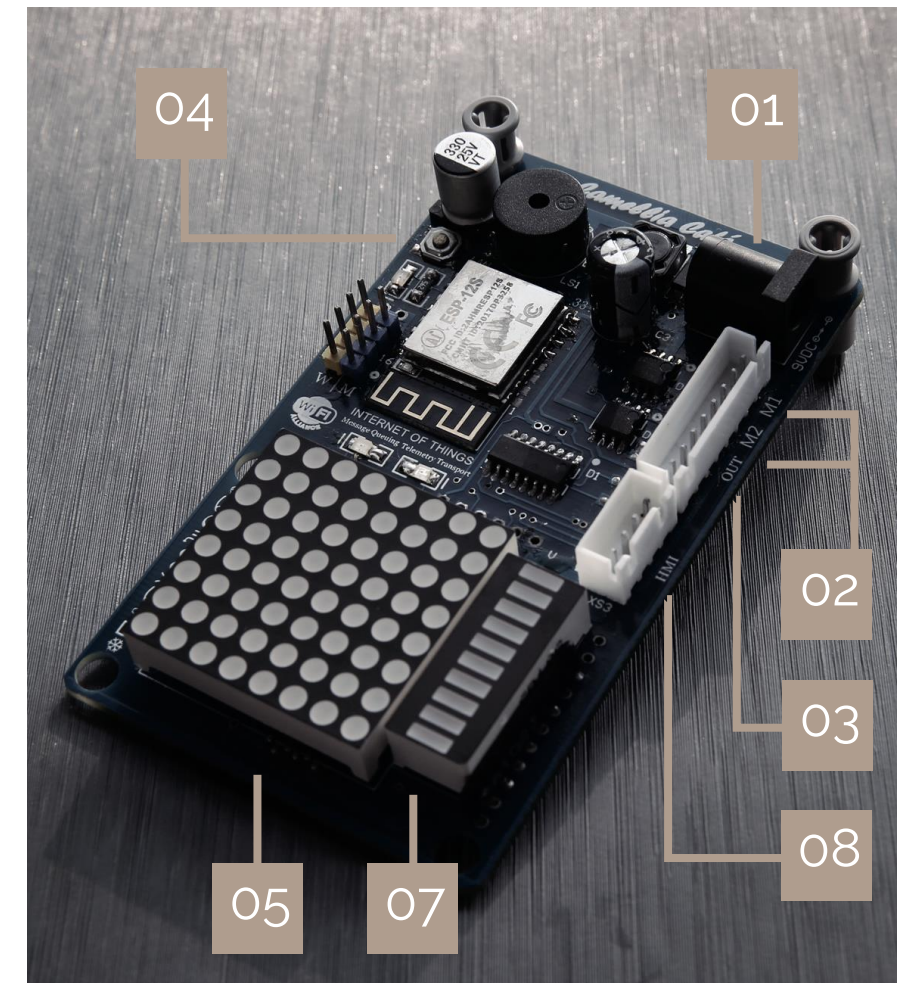
Specification

DC Motors

- 2 DC Motors
- Clockwise/Counter-Clockwise set
- Running time set
- Speed set
- Real time control
- Sequence control
- Motor Power: 6 - 12V

Human Machine Interface

- Touchscreen
- Integrated Pixel LEDs
- Integrated Array 10 LEDs
- 2 LEDs



01 - POWER 6VDC - 12 VDC.

02 - DC Motor Two DC motor control ports,

03 - LED Two LEDs.

04 - Model Selector Select a Wireless Local Area Network model or a Wide Area Network model.

05 - Pixel Display Integrated 8x8 Pixel display LEDs.

06 - LEDs Integrated 8 LEDs.

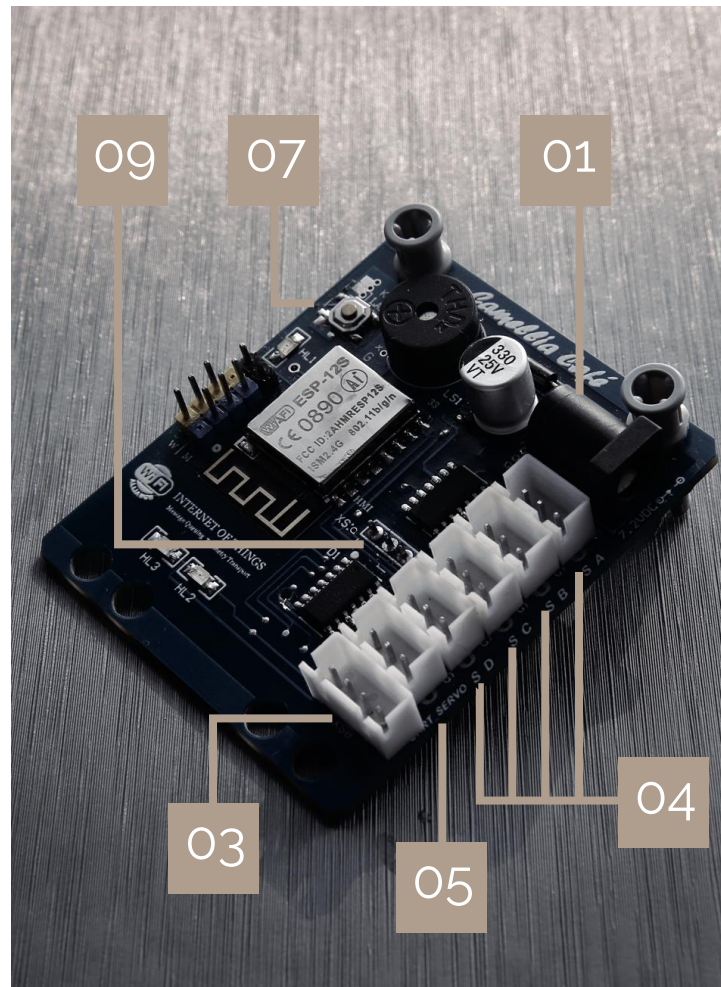
07 - Array LEDs Integrated Array 10 LEDs.

08 - HMI Touchscreen port.

09 - UART Steering Servo Motor UART steering servo motor control port.

CAPSULE - SERVO MOTOR

MICRO and MULTIPLE



Specification

UART Steering Servo Motors

- 255 UART Steering Servo Motors
- Real time control
- Sequence control
- Topology: Bus, Ring, Mess
- Motor Power: 6 - 12V

PWM Steering Servo Motors

- 4 PWM Steering Servo Motors
- Real time control
- Sequence control
- PWM: 5 - 95%
- Motor Power: 6 - 12V

Human Machine Interface

- Touchscreen
- 3 LEDs

01 – POWER 6VDC – 12VDC.

02 – DC Motor Two DC motor control ports.

03 – LED Three LEDs for Steering Servo Motor; Tow LEDs for DC Motor.

04 – PWM Steering Servo Motor Four PWM steering servo motor control ports.

05 – UART Steering Servo Motor UART steering servo motor control ports.

06 – Model Button Select a Wireless Local Area Network model or a Wide Area Network model.

07 – Pixel Display 8x8 colourful pixel display LEDs port.

08 – HMI Touchscreen port.



What we do is unfolding the Robot, Droid, Autonomous Car and Drone. You will see the inner of them.

Help you learn Hardware and Software step by step.

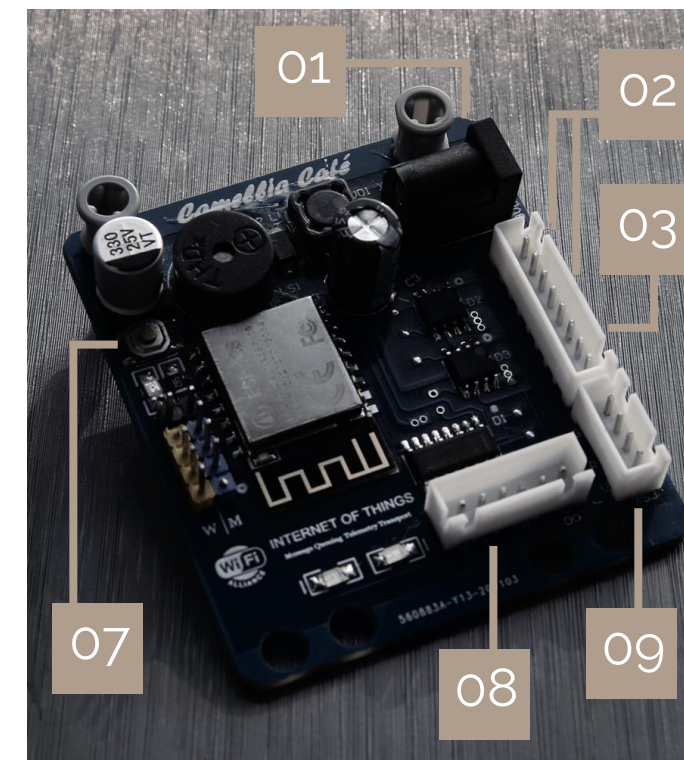
From a Resistance to a Chip, From a "Hello World!" Code to an Algorithm ...

Everything could be connected and shall be connected



CAPSULE - DC MOTOR

COMPACT and FLAVORFUL



Specification

DC Motors

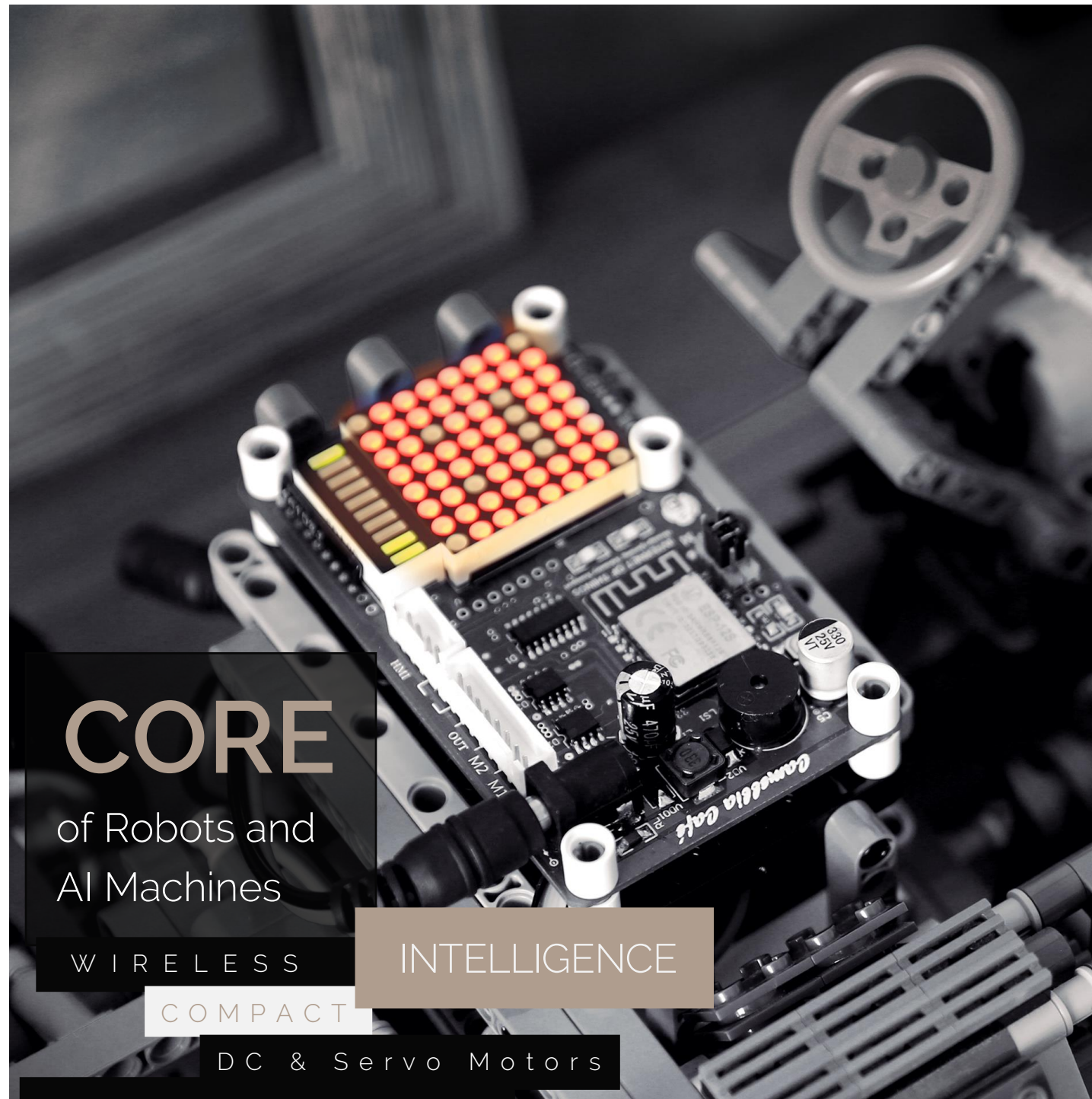
- 2 DC Motors
- Clockwise/Counter-Clockwise set
- Running time set
- Speed set
- Real time control
- Sequence control
- Motor Power: 6 - 12V

Human Machine Interface

- Touchscreen
- Pixel LEDs
- 2 LEDs

PIXEL LEDs A colourful pixel is two or more tiny LEDs with different colour put very closely. When some LEDs are on, others are off, or all are on, you will see a different colour thinking it is only one pixel.





CORE
of Robots and
AI Machines

WIRELESS INTELLIGENCE

COMPACT

DC & Servo Motors

Pixel Display

**Make your AIs
Just by YOURSELF**

We are focusing on the future of industries.

Parenting is the most important job that a person can perform, and our children will grow up to inherit a world that looks much different from our own ...

Invite children to do multiple robot drafts or different versions of an AI machine, and seek feedback from others.

Camellia Mini

We learn: 10% of what we READ, 20% of what we HEAR, 30% of what we SEE, 50% of what we SEE and HEAR, 70% of what we DISCUSS, 80% of what we EXPERIENCE, 95% of what we TEACH others, and 99% of what we MAKE by ourselves.

Motor DC Motors, PWM Steering Servo Motors and UART Steering Servo Motors could be controlled with highly efficient H-bridge driver ICs and PWM technology. Each type of Motor has its special Control Module. Just to add or remove Control Modules in Camellia Mini Controller according to requirements to maximize function and minimize size.

DC Motors

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- Running time set
- Speed set
- Real time control
- Sequence control
- Motor Power: 6 - 12V

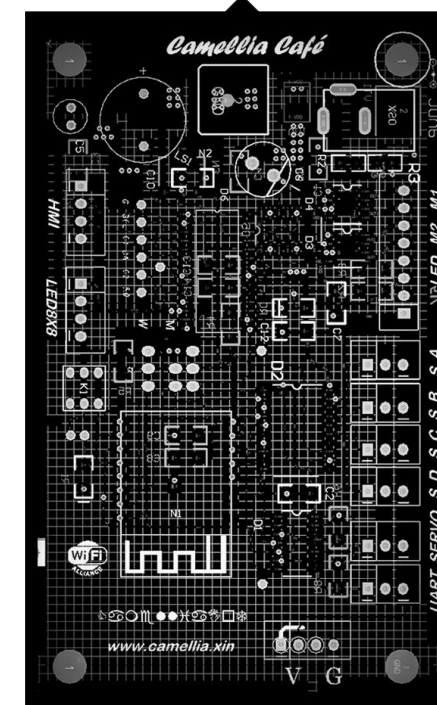
PWM Steering Servo Motors

- 4 Digital Servo Motors
- Real time control
- Sequence control
- PWM: 5 - 95% @ 40Hz - 7000Hz
- Motor Power: 6 - 12V

UART Steering Servo Motors

- 255 UART Servo Motors
- Real time control
- Sequence control
- Topology: Bus, Ring, Mess
- Motor Power: 6 - 12V

Pixel Display or Touchscreen The Pixel Display is the basic window to a robots' heart. The touchscreen enables the user to interact directly with what is displayed, rather than using a mouse, keyboard, or other such.



A colourful Pixel is two or more tiny LEDs with different colour put very closely. When some LEDs are on, others are off, or all are on, you will see a different colour thinking it is only one pixel.

A Touchscreen is one of Human-Machine Interface. It is an input device and normally layered on the top of an electronic visual display of an information processing system.

Language of Robot or AI machines is different from us. It is 0 and 1, which is called Binary System. Let us see how a robot does calculations of adding, subtracting, multiplying and dividing. Besides, "AND", "OR", "NOT", and "NOR" are logic operations. They are Booleans. "if-else", "switch-on", "while", and "for" are basic coding. Third, it is ASCII code that translates robot or computer language to our human's words.

Internet of Things

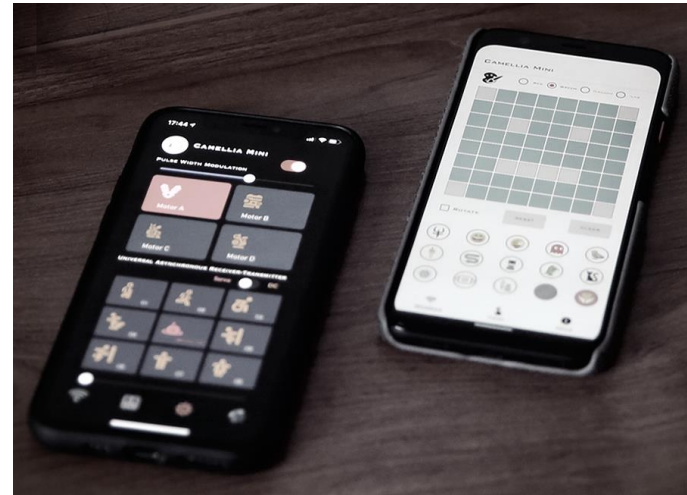
For ANYWHERE

www.camellia.xin

Peer-to-Peer, or P2P is a distributed application architecture that partitions tasks or workloads between peers. Peers are equally privileged, equipotent participants in the application. In a P2P network, the peers are smart devices which are connected via the Internet. Information can be shared directly between devices in the network without the need of a central server.

Machine to Machine, or M2M is any technology that enables networked devices to exchange information and perform actions without the manual assistance of humans.

Human to Machine, or H2M with inventions which are securing sensors and controllers, is protecting data in motion, improving the performance of connectivity solutions, and instrumenting almost every aspect of our lives.



Wi-Fi An Access Point and Station local wireless network.

Look at your AI machines directly, and operate it just at home or in office, even outside.

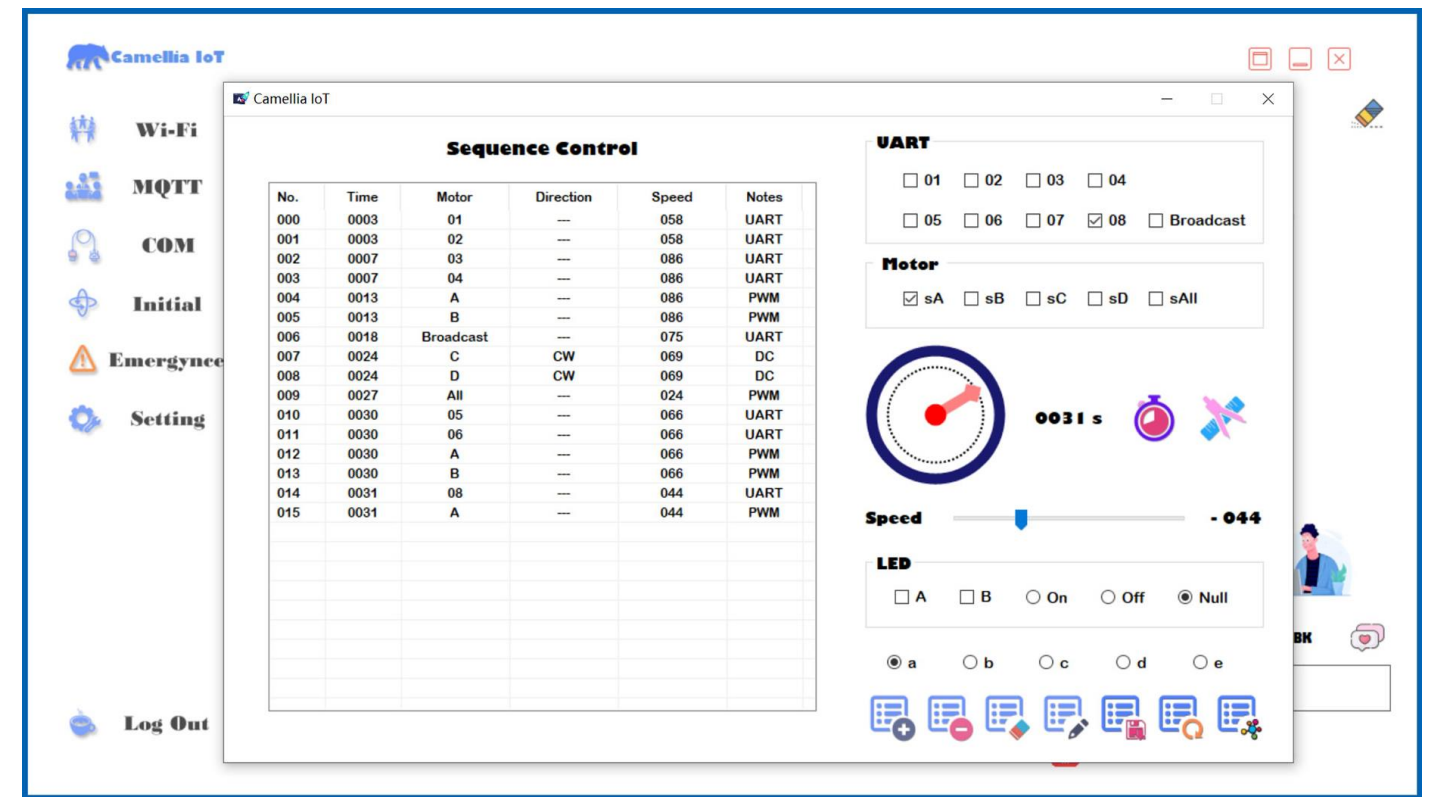
MQTT A publish-subscribe network protocol that transports messages between devices.

Remote control your Robots from anywhere via Mobile or PC anytime.

Wonderful Window, iOS&iPadOS and Android App

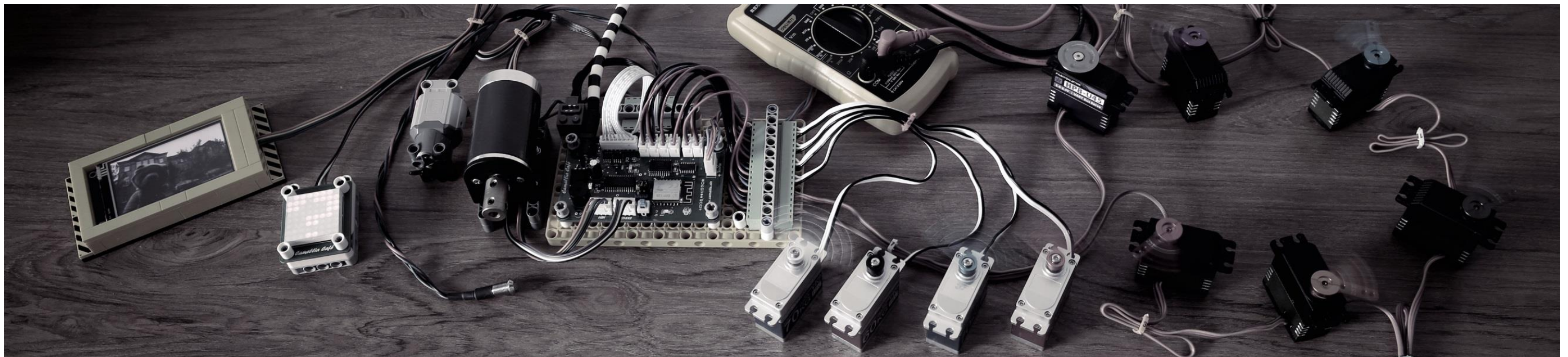
Sequence Control

The FUNCTION INCREASES SIGNIFICANTLY



“ Sequence control refers to user actions and computer logic that initiate, interrupt or terminate transactions.

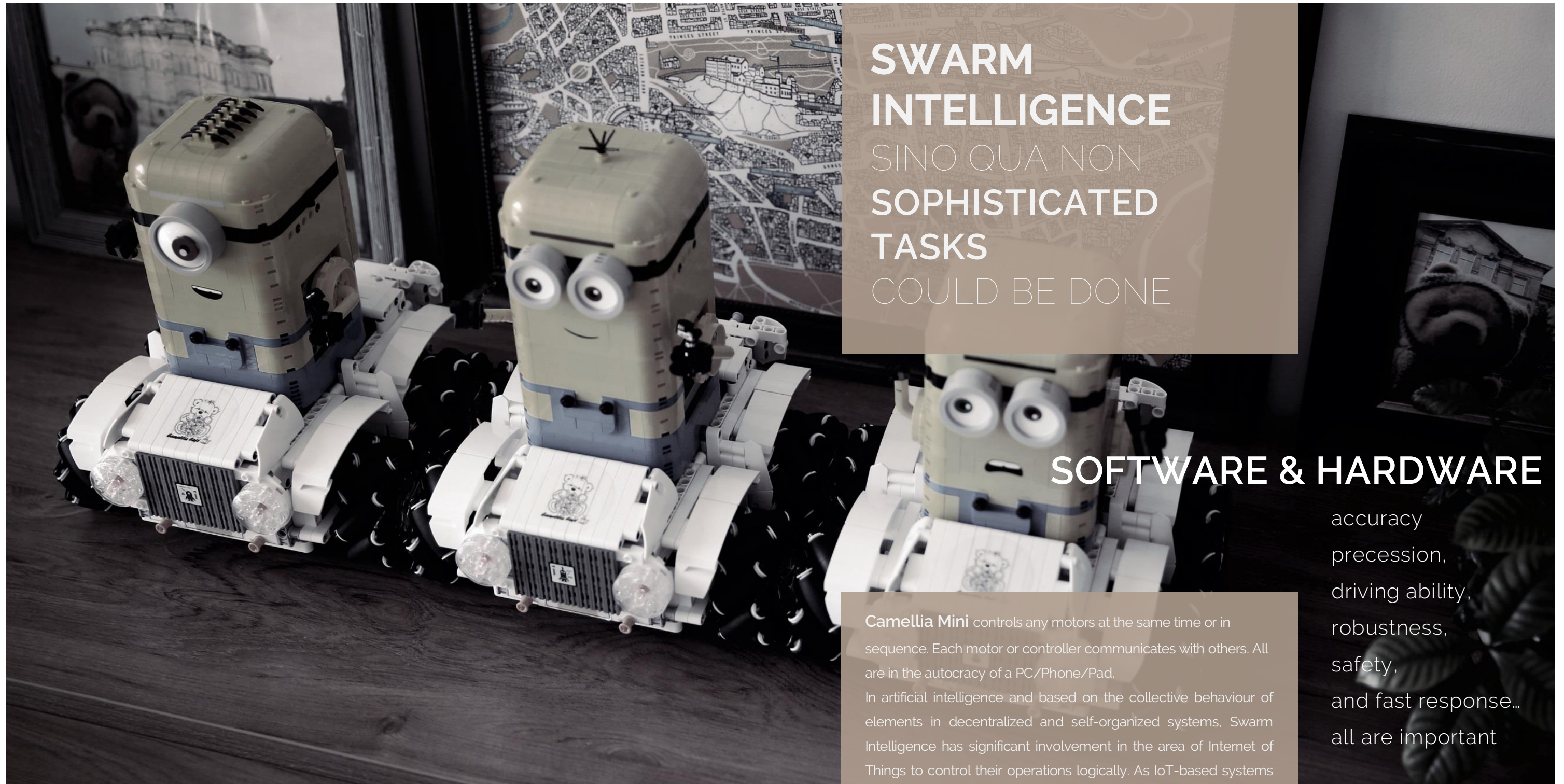
Sequence control governs the transition from one transaction to the next. General design objectives include consistency of control actions, minimized need for control actions, minimized memory load on the user, with the flexibility of sequence control to adapt to different user need.”



Live experiences that are mixing the PHYSICAL and the VIRTUAL

Augmenting Motor Control and Robot/Droid Design with special effects, new characters, and exciting information.





**SWARM
INTELLIGENCE**
SINO QUA NON
**SOPHISTICATED
TASKS**
COULD BE DONE

SOFTWARE & HARDWARE

accuracy
precession,
driving ability,
robustness,
safety,
and fast response...
all are important

Camellia Mini controls any motors at the same time or in sequence. Each motor or controller communicates with others. All are in the autocracy of a PC/Phone/Pad.

In artificial intelligence and based on the collective behaviour of elements in decentralized and self-organized systems, Swarm Intelligence has significant involvement in the area of Internet of Things to control their operations logically. As IoT-based systems are complex and consist of intelligent objects, powerful decentralized algorithms supported by Swarm Intelligence are used to resolve such complex problems. Algorithms like ant colony optimization, artificial bee colony, and social spider optimization play essential roles in normalizing the IoT processes.

This will help four wheels of a car run respectively, two robot arms work together, three droids play a ballet, and dozens of drones display a 3D firework in the sky...

OFF THE SHELF or BESPOKE MODULE

Minimize the size and maximize the desired functions. It is called optimization.

Just like different styles of coffee, these off-the-shelf Mini Controllers will meet your different needs.

To speak for something, we select and tail different modules; you enjoy exclusivity and limited runs.

Camellia

Camellia Café

We l

NFT

Robots
Droid
AIs
Auto
Drone

Servo Motors
IoT's
Controller
Algorithm

chip
PWM
H-Bridge
Metaverse

Camellia Café

EXPERIENCE

CREATIVE SPACE

METaverse

BECOMING

What we do with the metaverse is have experiences.

And experiences are what shape us. We're increasingly having more and more of our identities defined by what we do online.

The creativity of the metaverse is the metaprogramming the experience of crafting new experiences for us.

The metaverse will be co-created by all of us.

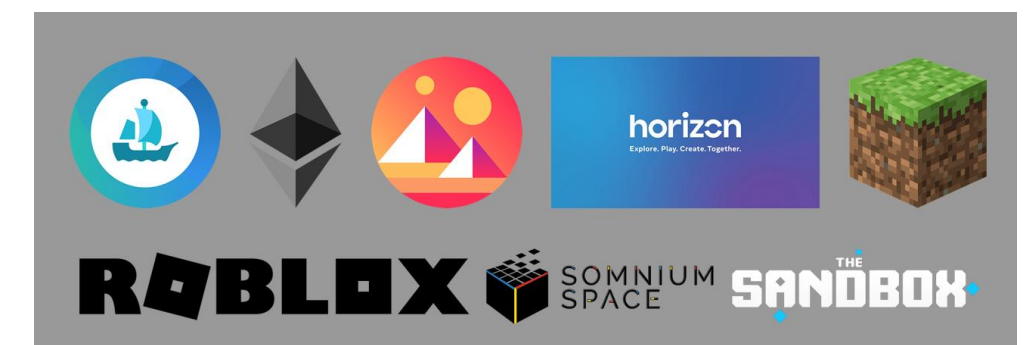
IF LEARNING WERE COFFEE in Camellia Café **METaverse**

Billions of years passed, new suns arose in the wake of their nebulae; these became creation engines for more complex unthinking elements: carbon, oxygen and others. These more unique elements were vital because they enabled life.

The Metaverse is the threshold of another major transition in the history of life, in which humans, silicon, AI and networks are woven together into a cooperative structure as profound as the emergence of multicellular life.

The current internet is mostly about transactions and access to information. In the metaverse, we'll mostly be talking about activities. It is helpful to think of the metaverse both as a thing as well as a process. You don't simply look at pages and apps but engage in activities with others within Camellia Café.

The Internet of Everything will feed data, geospatially-triggered content and digital twins into the metaverse – letting us comprehend, manipulate and simulate the natural world in new ways that save us time, and unlock new possibilities in our lives and businesses.



The rise of Non-Fungible Token or Assets may become the basis of virtual goods in an emerging generation of your thought, design, avatar customizations, and metaverse experiences.

The metaverse is the next generation of the internet. It is being built around activities you'll enjoy with your friends and coworkers. An exponential increase in creators is mixing and matching, embedding and liking, leveraging a new era of creator-oriented tools. It will take you to places you never imagined. And it is fantastic.