蜂群玩偶世界平台

基于两项系统级发明专利的低功耗集合式互动玩偶平台（**Patent Pending**）

蜂群玩偶世界平台是一个面向长期运行与可运营性的系统级互动平台，
其核心能力由 两项正在申请中的系统发明专利构成：

① 基于低功耗事件驱动节点的多实体协同交互系统
平台将玩偶与实体设备定义为低复杂度、低功耗的事件节点，
节点仅负责感知、提示与确认，不承担持续计算或智能决策，
在离线优先的条件下，通过事件触发方式参与系统运行，
显著降低功耗、硬件复杂度与长期维护成本。

② 基于历史事件回放的集合式角色持续运行与状态恢复系统
平台在云端维护一个以事件为核心的集合式角色世界，
通过对历史事件的记录、回放与重建，实现角色状态的长期连续存在，
即使实体节点长期休眠、离线或更换，
角色世界仍可稳定恢复并持续演化。

通过上述两项系统能力，
蜂群玩偶世界平台实现了多个玩偶、设备与角色在时间维度上的协同存在，
使互动体验不再依赖单一设备的在线状态，
而由系统级世界状态与群体关系所驱动。

Swarm Doll World Platform

A Patent-Pending Low-Power Collective Interactive Doll Platform Based on Two System Inventions

The Swarm Doll World Platform is a system-level interactive platform designed for long-term operation and scalability.
Its core capabilities are defined by **two patent-pending system inventions**:

(1) A multi-entity collaborative interaction system based on low-power, event-driven nodes

Physical dolls and devices are designed as low-complexity, low-power event nodes,
responsible only for sensing, prompting, and user confirmation,
without performing continuous computation or autonomous decision-making.
Nodes participate in the system through event-triggered interactions under offline-first conditions,
significantly reducing power consumption, hardware complexity, and long-term maintenance cost.

(2) A collective character persistence and state recovery system based on historical event replay

The platform maintains a cloud-based collective character world driven by recorded events.
By replaying and reconstructing historical events,
the system enables long-term continuity and reliable recovery of character state.
Even when physical nodes are dormant, offline, or replaced,
the character world remains persistent and capable of continued evolution.

Together, these system-level inventions allow multiple dolls and devices
to participate in a shared, long-lived interactive world,
where continuity is ensured by system state and accumulated events,
rather than by the always-on availability of individual devices.