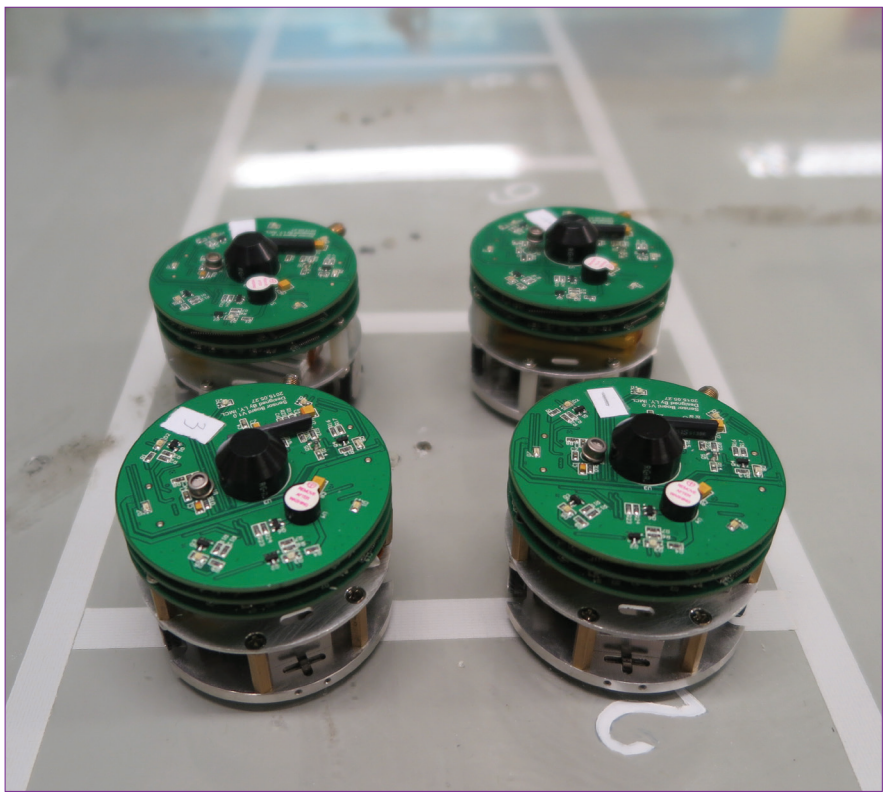
THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

分布式多機械人系統
A Distributed Multi-Robot System for Exploration

能令機械人像人類一樣互相溝通、合作行動的智能系統
An intelligent system that enables a group of robots to communicate and collaborate like humans

這是一套完全分布式、高擴充性的多機器人系統。系統的機器人可以自主地進行計算、感知和監控任務，並能以無線方式互相通信。 用戶可以自定包括編隊、勘探、監測等不同的任務，讓多機器人系統完成。機器人相互之間協同運作，以最快的速度完成指定任務。



機器人模型
The prototype of multi-robots

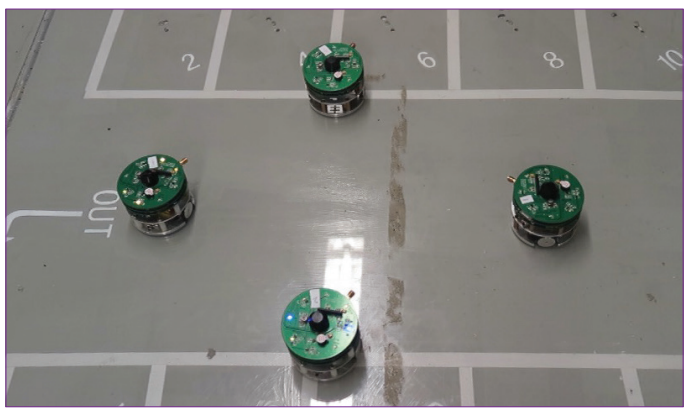
This multi-robot system is completely distributed and highly scalable. The system contains multiple mobile robots, which can perform computation, sensing, and monitoring tasks autonomously and can communicate with each other wirelessly. Users can define different missions (e.g. formation, exploration, and monitoring) for the robots in the system, and they can coordinate with each other to accomplish the designated missions in the fastest way.

特色與優點

- 完全分布式：無中央節點控制，機器人可獨立作出決定，並自主地與其他機械人溝通
- 實時性：機器人可以即時處理受託的任務
- 高擴充性：系統可支持數以千計的機器人同時工作

應　用

- 聯合監測環境變化
- 實時自動編隊控制



多個機器人實現編隊控制
The multi-robots with formation control function

Special Features and Advantages

- Completely distributed system - The robots can make decision and communicate by themselves independently without a central control
- Real-timeness - The robots can complete tasks (e.g. formation control) in a real-time manner.
- Highly scalability. The number of robots in the system can be thousands or more

Applications

- Autonomous environmental monitoring in a collaborative manner
- Autonomous and real-time formation control

Access More info via mobile

Note: Subject to data charges by mobile operators

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