VinIF

DỰ ÁN:

DEVELOPMENT OF A BALLBOT TO ASSIST PATIENTS AND DOCTORS IN THE HOSPITAL

Tổ chức chủ trì: **Vietnam Maritime University**

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TÓM TẮT VỀ DỰ ÁN

Ballbots are omnidirectional self-balancing platforms that can be exploited in many applications to detect, track, or interact with objects or humans, such as a service robot in the hospital or restaurant, airport..etc. Ballbot will enable mobile robots to stand tall and move elegantly through busy environments.

An Intel® NUC PC is used as the main controller, and Windows Embedded 7 is used as the operating system. The control algorithm is realized with multithread programming in Visual Studio C++ to ensure the control interval of 15 ms.

Numerical and experimental results show that the robot can maintain its balance, track the desired trajectory.

THÔNG TIN NỔI BẬT VỀ DỰ ÁN

The dream of intelligent mobile robots helping people during their daily activities in homes, offices, industry, and nursing services is persuasive. An omnidirectional mobile robot (ballbot) that can freely move in all directions without turning is highly desirable in many industrial environments to fetch and carry objects or interact with the environment and humans. In general, the ballbot has three most special features:

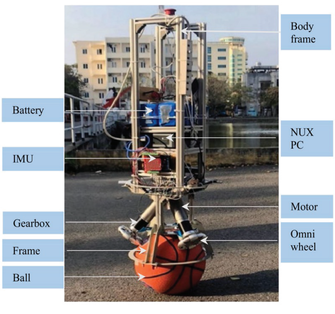
1. Ballbot is a robot that moves on a single ball, not on wheels.
2. Ballbot can transfer in any directions on the floor and do so in a rhythmic manner.
3. Ballbot can demonstrate the ability to maneuver in a narrow, changing and crowded area such as in a hospital.

Ballbot bearing frame structure

Test the robot to interact with people in a narrow space

HÌNH ẢNH ĐẠI DIỆN DỰ ÁN

Robot demonstration in Dynamic-Mechanics conference



Basic components of the ballbot

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