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Intelligent Medical Carts with Following and Medical Management

具跟隨功能與醫療管理之智慧型護理車

隊伍名稱

917 壯士：完美團隊 / 917 warrior: Perfect team

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作品摘要 Abstract

護理人員過勞辛苦的案例時有所聞，平時巡視病房都必須推著笨重的護理車，長期下來造成護理人員相當大的負擔。本團隊自行開發設計智慧型護理車，希望能為辛苦的護理人員減少工作負擔與帶給病患更好的照護品質，並提出以下創新的功能與特色：

1. 適應性人員線上學習的機器人跟隨服務：

提供使用者身分確認的機制，確認其為使用者才進行智慧型護理車的跟隨服務，讓護理車在不需事先建立任何資料庫、人臉辨識技術或是額外感測配備輔助的情況下，可以短時間內快速學習並認識使用者。

2. 智慧型護理車的照護服務：

藉由倒車功能，使護理車停放在病床旁，方便護理人員對病患給藥與檢查，也利用與護理車的語音互動，執行「三讀五對」給藥的標準流程，避免給錯藥的人為錯誤事情發生。

3. 智慧型機器人的隊形跟隨系統：

減輕護理人員不足的問題，護理人員可同時被智慧型護理車與輪椅機器人跟隨，為此方便照護病患。



圖1 > 智慧型護理車

There are a lot of overworking cases which indicates overfatigue of nurses. When the nurses visit the wards, they have to push a heavy medical cart which is a great loading to the nurses. In that case, we have developed a intelligent medical cart by ourselves to reduce the loading of hard-working nurses, and provided much better quality of cares to the patients. We propose the innovations and characteristics as follows.

1. Adaptive user on-line learning of human tracking on the robot:

Provide the user identification verification mechanism which don't need to build any databases、face recognition or additional sensor assisted. The advantages are fast training to the users in short time, and robot will ensure the users identity before start tracking.

2. Intelligent medical cart caring service:

By backing the medical carts, the robot can park besides the hospital beds. It is convenient for nurses to do drug administration and physical examination. Taking advantages of voice interacting, the nurse can doing the standard process which named 3 checks and 5 rights for medication administration. Thus, the system can avoid the mistakes happening by humans.

3. Intelligent robot formation tracking system:

By reducing the impacts on the shortage of nurses who can be followed by the intelligent medical carts and wheelchair robot. The hard-working nurses can take care of patients much easier and more convenient.