



Advanced Prototype for an Automated Version of the Robotic IV Pole

Nancy Kozah, Abbas Sayed-Kassem, Georges Hajj Moussa, Amira J. Zaylaa

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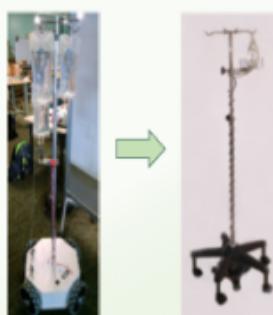


Nancy A. Kozah, Abbas H. Sayed-Kassem, Georges J. Hajj Moussa, and

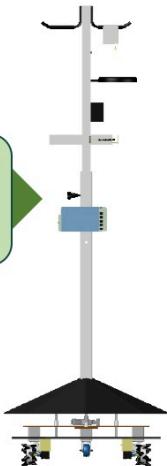
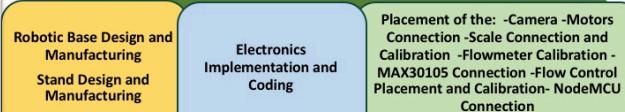
Dr. Amira Zaylaa

Introduction

Intravenous (IV) poles are devices used to provide care and deliver medications to patients. IV poles are used on a daily basis in different departments in hospitals. IV pole types are: Commercial and Robotic.



Methodology and Robotic IV Pole Prototype



Problem Statements

The existing commercial IV poles impose a constraint on the patient's motion while dragging the pole.

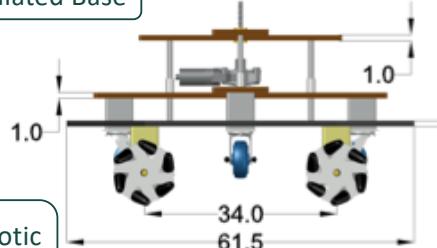
Consume the nurses' time while helping the patient, or while checking the the IV bag, and might give inaccurate measurements

The existing Robotic IV poles lack the monitoring of different parameters related to the IV bag status

Robotic IV poles are not fully automated

Prototype Simulation and Experimental Results

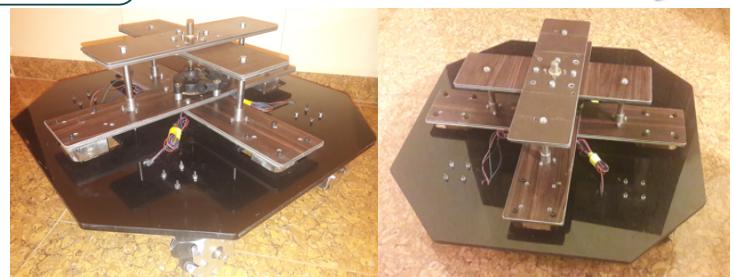
Simulated Base



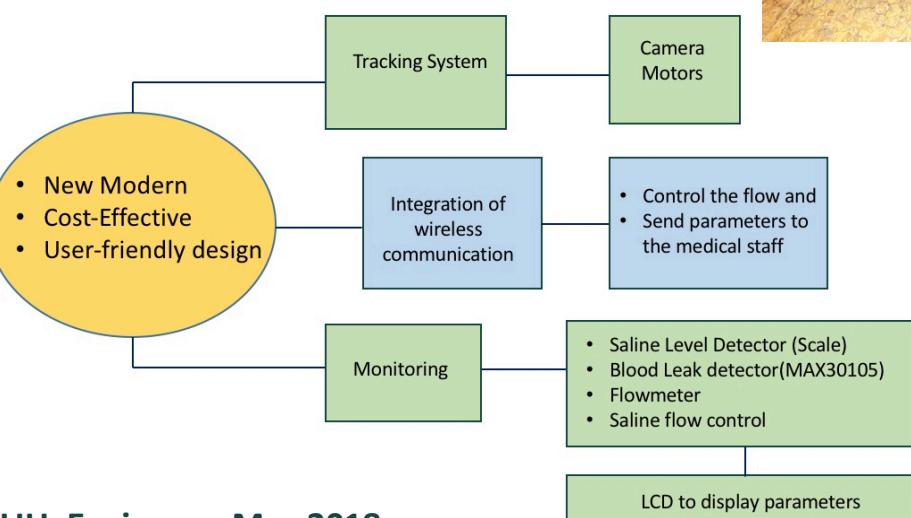
Simulated fluid meter



Real Robotic IV Base



Objectives



Conclusion

Prototype's simulation showed the best fit of the different parts

The real base of the new robotic IV pole was carefully developed

Implementation of the other real parts will be our next step