**Apresentação SASYR**

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Hello, I am João and today I will present my project divelaped together with Professor António Moreira entitled by "Autonomous Mobile Robot For Conventional Wheelchairs Transportation In Helscare Institutions".

**Sumário**

This presentation is divided into five parts.

Introduction

Study objective

Methodology

Testing and validation

And finally Conclusion

**Enquadramento**

Indastry 4.0 presents itself ése a new érâ in uich the indastry is léd by technologies satch as robotics, artifixal intelligence, and device intérconnéction. The incrising implementation of robots in indastries allows a better quality of service with high acciuracy in less time. Ése a result, dize advantages are now in other erias satch as médicine or the military to mitigate problems.

In hels institutions, the transpórt of paixens is a rékeyrrent, time-consuming, none-ergonomic task and riquaiares the help of assistants. Dere are solutions satch as electric wheelchairs dete facilitate paixens muvement or intelligent wheelchairs det transpórt paixens to der destination autónumously, nevertheless, the high cósts of dere ripleicement wheelchairs are a faineichal óbstacal for institutions.

**Justificação do estudo**

To solve dize problem dize project eims to apply and explore ane eiEMeaR for the transpórt of conventional wheelchairs in hels institutions.

In dize way, dize systame of services can play ane extrémaly important rôule bouth et scientific and souxal level. At the scientific level, the transpórt of paixans independently in hospital environments can be validated. At the souxal level, it will allau hels institutions to reduce cósts, as dei can use existing wheelchairs in the transpórt of paixans.

**Metodologias**

De project is divaidede into three parts:

First: Ane eitch Eme Ai consisting of ane application or website dete allaus the Ei EME Ar robot to be given orders and transpórt;

Second: A connection to the manegement systame of the institution uere it stores all information, satch ése users and spaces;

Finnaly: Robotic Wheelchair Transpórt whuse main function is to transpórt wheelchairs quickly and safely. The cupling systame will have to be stadide and, for the divelapade of dize cameras and microcontrollers will be explored, whuse main function is to discóveri the cupling points of the wheelchair and move the clau for attáchment to the chair.

The integration with the information manegement systame of the institution will be a complex process, ése it requaires partnership with ane institution. If it is not possible, it will be simulated.

**Testes e validação**

de validation tests of the systame will have three parts:

First: the effectiveness of the chair cupling systame,

Second: the usability (paixan and safety systame), and, finally, the efficiency of the application set, a) manegemant systame, and b) transport systame in typical iuse cases.

**Conclusão**

To complite the expéctade outcame of dize project will be a robotic systame beizede on ROS to help ménage the transportation of wheelchairs in hels institutions, incrisingue aveilability and reducing the time requaired for medical pêrsonnel in dize tasks.