Overview Of Programming Concepts In Robotics

Belana Roman
Institute of Flight Guidance
German Aerospace Center DLR
Brunswick, Germany
Belana.Roman@dlr.de

Noah Wiederhold
Institute of Flight Systems
German Aerospace Center DLR
Brunswick, Germany
Noah.Wiederhold@dlr.de

Abstract—This paper gives an overview of the programming concepts in robotics. It is intended to be used as a general source of information. The paper is structured in a way that the reader get to know a number of concepts one at a time. The paper is concluded with a summary of the programming concepts in robotics.

Index Terms—robotics, programming, concepts, ai, augmented reality, virtual reality

I. Introduction

II. Overview of Concepts

- Online Concepts
  - Playback
  - Master-Slave
  - Teach-in
  - CAD/graphical based
- Offline Concepts
  - CAD/graphical based
  - text based
  - task based
    * explicit
    * implicit
  - Simulation
- Hybrid Concepts

III. Online Concepts

A. Playback

B. Master-Slave

C. Teach-in

D. CAD/graphical based

IV. Offline Concepts

A. text based

uses problem solving programming languages gives access to commands for movements with specific parameters for the specific movement

programming enviroments for text based programming:

- KUKA
- ABB RobotStudio
- Fanuc RobotStudio
- Staubli TX
- Adept
- Motoman (b1 p. 113)

B. task based

1) explicit:

2) implicit:

C. CAD/graphical based

D. Simulation

V. Hybrid Concepts

Acknowledgment

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