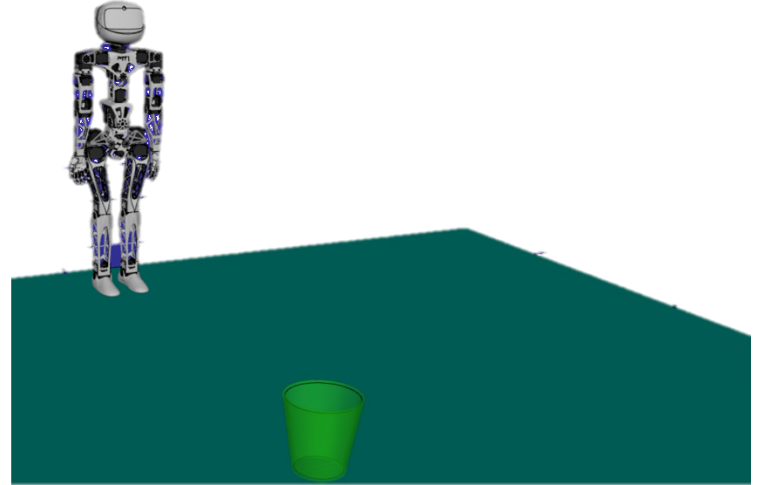




3DEXPERIENCE®

Mechanical Systems Experience

Poppy play Basket



Package Content

► In this package you will find:

1. Workshop
2. Resources
 - ▷ Initial model (MSD_Complet_Dynamic_Poppy_Robot A.1_)
 - ▷ Final kinematics simulation (NewVersion_Kinematics Simulation_Play_Basket A.1)

About this course

The objective of this course is to use the Mechanical Systems Experience applications to make a dynamic simulation in the scenario : Poppy plays basketball.

► **Upon completion of this course, learner will be able to :**

- ▷ Configure the mechanism representation of the system
- ▷ Set up a dynamic simulation
- ▷ Execute and validate the dynamic simulation

► **Keywords**

- ▷ Systems Engineering: Virtual Universe, Dynamics simulations
- ▷ Mechatronics: Control, Modeling

► **Audience**

- ▷ Educators and students interested in systems engineering and dynamics simulations

► **Prerequisites**

- ▷ CATIA Mechanical Design Fundamentals
- ▷ CATIA Mechanical Systems Design Essentials

Environment Requirements

In order to practice, you must have access to a software installation and environment that include:

- ▶ The **3DEXPERIENCE R2017x** platform
- ▶ Roles granted :



- ▶ Access to the following applications :

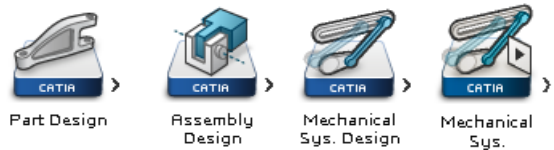


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1. Case of Study : Poppy Plays Basketball

The objective of this course is to realize a dynamic simulation where the robot throws a ball into a basket using the Mechanical System Design and Mechanical System Experience applications.

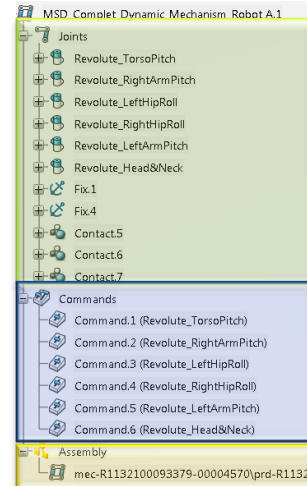
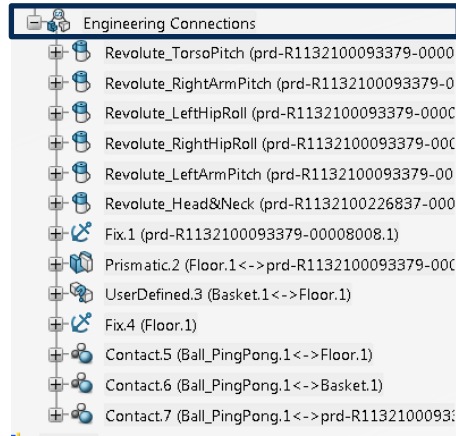


2. Mechanical Systems Design



Mechanical
Sys. Design

Mechanical System Design is a **3DEXPERIENCE** application in the 3DModeling sections, this application allows to create a representation of a mechanism based on the engineering connections defined during the creation of the products.



Engineering
connections

Commands

Sub-assemblies

3. Mechanical Systems Experience



Mechanical
Sys.

This **3DEXPERIENCE** application in the 3DModeling sections allows to create a dynamic or kinematic simulation of the mechanism's representation. This application is split in 3 work sections : Model (Product with mechanisms representation), Scenario (Dynamic or Kinematics configuration scenario), Result (Animation of the simulation).

4. Tutorial

In this video we will illustrate the essential steps to realize a dynamic simulation:

1. Import the model into the **3DEXPERIENCE**,
2. Configure the robot mechanism,
3. Setup the dynamic simulation,
4. Validate the simulation.

