# FEATURE BRIEF:  POSE DRIVER

## Description

This feature works in two parts

- Inside Maya (1st iteration of a prototype already existing for Maya)
- Inside CryEngine

Both would function the same when it comes to their blending.
A relationship you set up in Maya would be exported to the engine using some kind of intermediate (working together with Evgeny's property framework for example).

**Vector Cone Driver**

The vector cone driver is a dot-product based vector cone blender like Michael Comet's poseDriver implementation. (LINK)  This is an orientational driver, where the orientation of a joint outputs blended 0-1 weights to poses that are vectors in the cone's 'pose space'. These weights can be plugged into joints (blend to pose), maps, and blendshapes.

**Group Transform Driver**

This driver outputs a weighted 0-1 value based on a group of joints' location/orientation relative to a specific target pose. These weights can be plugged into joints (blend to pose), maps, and blendshapes.

## Function

The user creates driven joint relationships in Maya, he then exports these relationships to an intermediate file. This file - or data within an existing file format-, when loaded into the engine, creates the same live, driven relationship that existed in Maya.
A joint relationship defines a pose where a positional/rotational condition of a single joint or a group of joints has to be met (resulting value: 1.0). This value controls the behavior of another joint (transform) a map or a blendshape.

## Justification

Moving forward with higher fidelity characters, we really need the ability to drive normal maps, displacements, joints, and blendshapes with driven relationships.  In this example video from the Sept 2011 feature request, you can see a concrete example of Roman Lorica armor being driven by the upper arm:
\\192.168.11.111\ryse\tech_art\progress\sprint1\lorica_test.mp4  This way, the armor looks great in every pose, and even during procedural animation like ragdoll physics.