

# **Morphing sexual characters: Unlimited generation**

**Patrice Renaud, PhD**

Laboratoire de cyberpsychologie, Université du Québec en Outaouais

Institut Philippe-Pinel de Montréal

Hexagram: Institut de recherche / création en arts et technologies  
médiatiques

## **Collaborators**

**Canadian Institutes of Health Research  
Institute of Neurosciences, Mental Health and Addiction**

**Jean Proulx, PhD**

Université de Montréal  
IPPM

**Joanne L. Rouleau, PhD**

Université de Montréal

**Paul Fedoroff, MD**

Royal Ottawa Hospital

**John Bradford, MD**

Royal Ottawa Hospital

**Stéphane Bouchard, PhD**

Université du Québec en Outaouais

**Michel Fleury, PhD**

Darwin dimensions Inc./Hexagram

## Research and development background

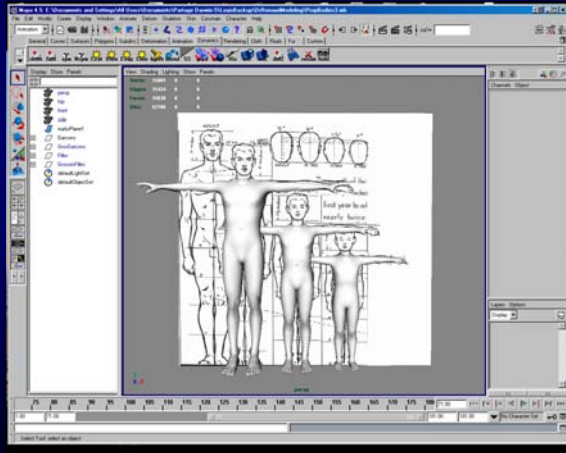
- Sexuality has only been broached in the perspective of cyberpsychology/cybertherapy (Laws, 2004; Optale, 2004; Renaud, 2001, 2004, 2002, 2005)
- To answer problems relating to human sexuality
  - Sexual deviancies
  - Sexual dysfunctions
  - Fundamental issues about human sexuality
- Since human sexuality can be very specific when it comes to preferences it is important to develop tools helping to pinpoint these preferences at the virtual stimuli level
- The development of realistic human-like virtual characters specialized to address problems of human sexuality is a very important first step

## Development objectives

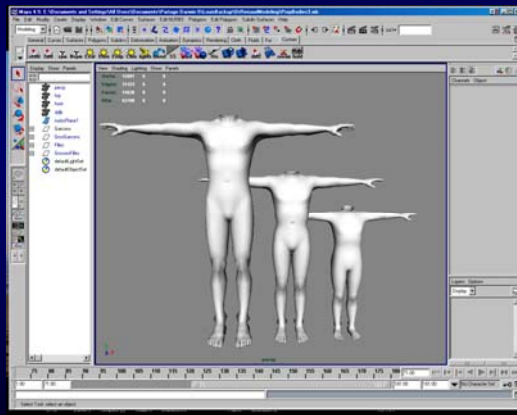
- Both genders
- Age brackets:
  - 6-7 yrs
  - 10-11 yrs
  - 14-15 yrs
  - Adults
- Racial types
  - Caucasian
  - African (black)
  - Asian
- Body types
  - Mesomorph
  - Endomorph
- Using morphism to enlarge the span of possible characters
- Prototype developed in collaboration with Darwin dimensions

# Virtual character in development: Darwin Dimensions

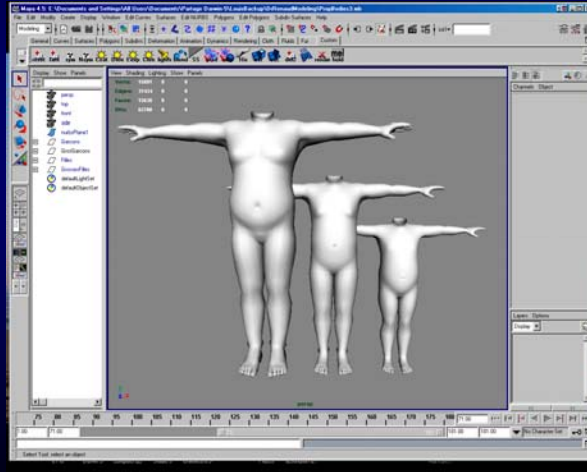
Tanner criteria, 1973



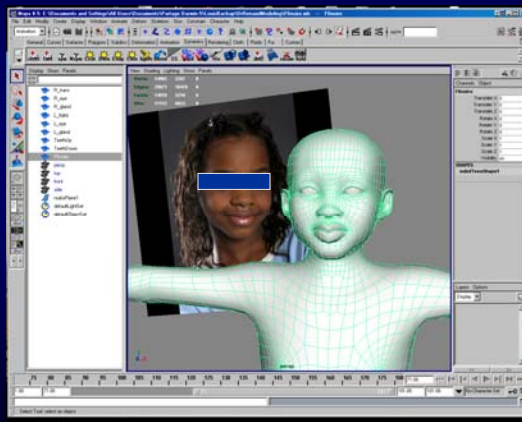
# Male Mesomorphic body type



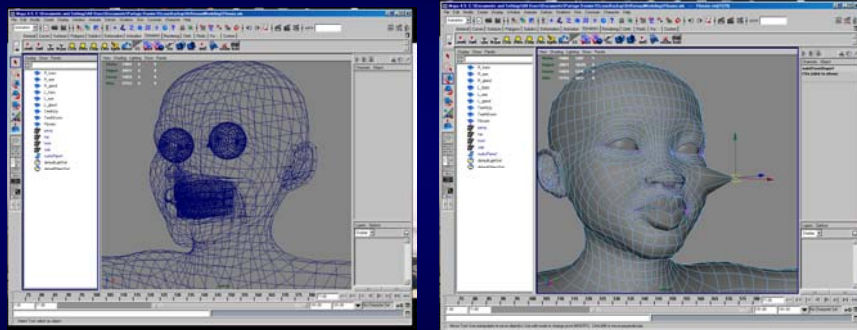
# Male Endomorphic body type



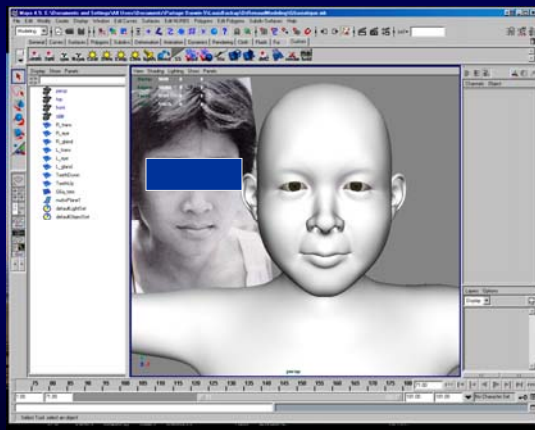
# Black mesomorphic female 6-7 yrs old



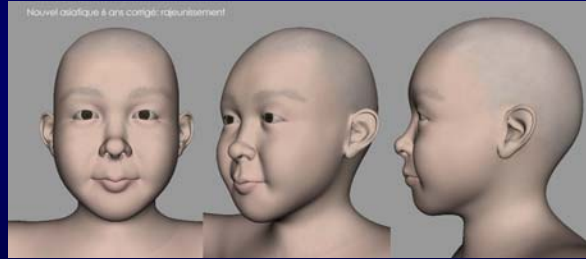
## Characters in development: Darwin Dimensions



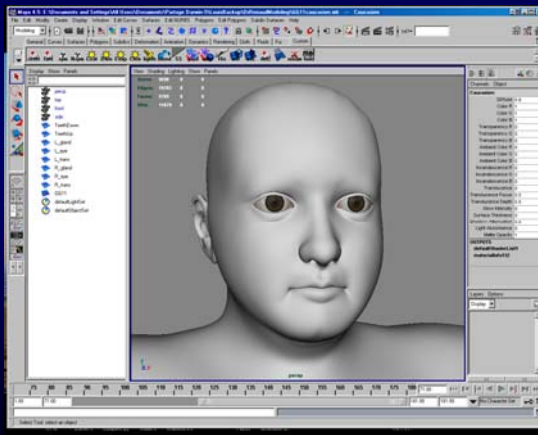
## Asian mesomorphic male 6 yrs old



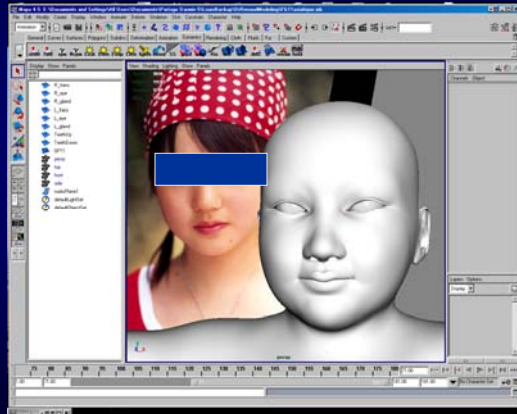
# Asian mesomorphic male 6 yrs old



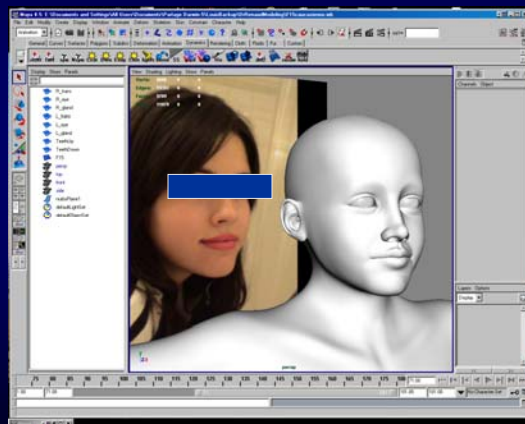
# Caucasian endomorphic male 11 yrs old



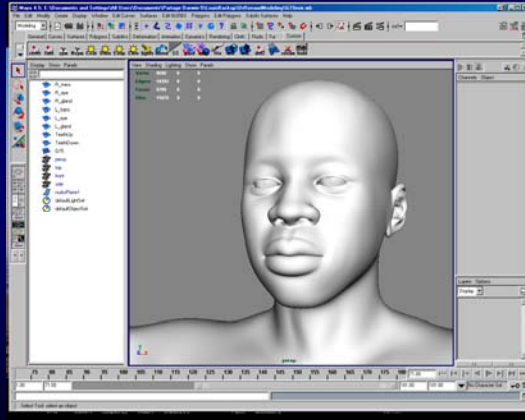
# Asian endomorphic female 11 yrs old



# Caucasian mesomorphic female 15 yrs old



# Black mesomorphic male 15 yrs old



# Generating characters using morphism (Darwin Dimensions)



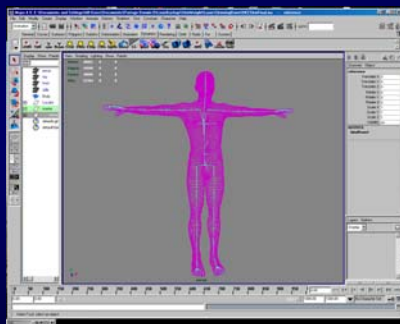


## Generating characters using morphism (Darwin Dimensions)



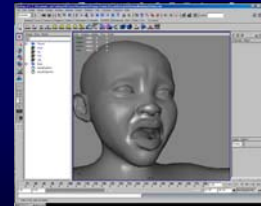
## 3D animation through motion capture

In collaboration with Martine Époque's LARTech  
technochoregraphy laboratory (UQAM)



# Emotional expressions

- Neutral
- Joyfulness/Playfulness
- Seduction/Sexual arousal
- Anxiety/Despair
- Fear/Terror
- In the process of validation using Paul Ekman's taxonomy



Emotional expressions in development: anger, anxiety/despair, fear/terror

# Discussion

- Highly flexible virtual character development concept
- Can help to answer various research and clinical problems related to human sexuality
- Usable with multiple hardware platform
- UQOVE cave-like immersive vault combined with the *ASL Eye-Trac 6000 Head Mounted Optics ocular tracking system*



# Remerciements

- Programmation: Darwin dimensions and Christian Villemaire
  - Fonds de recherche
    - IRSC: Institut des neurosciences, des toxicomanies et de la santé mentale
    - Université du Québec en Outaouais
    - Institut Philippe-Pinel de Montréal
    - Ministère du développement économique et régional et de la recherche du Québec
    - Hexagram: Institut de recherche / création en arts et technologies médiatiques
    - Simulations and Advanced Gaming Environments for Learning project (CRSH)