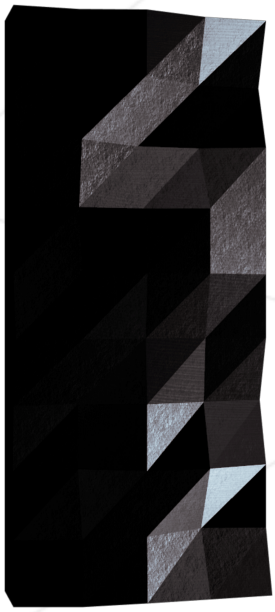

OpenGL Project

HumanGL

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Summary: This project is an introduction to OpenGL.

Table des matières

Chapitre I

Foreword

Do you remember the 21st night of September ?
Love was changing the mind of pretenders
While chasing the clouds away

Our hearts were ringing
In the key that our souls were singing.
As we danced in the night,
Remember - how the stars stole the night away, yeah yeah yeah.

Hey hey hey,
Ba de ya - say do you remember
Ba de ya - dancing in September
Ba de ya - never was a cloudy day

Ba duda, ba duda, ba duda, badu
Ba duda, badu, ba duda, badu
Ba duda, badu, ba duda

My thoughts are with you
Holding hands with your heart to see you
Only blue talk and love,
Remember - how we knew love was here to stay

Now December found the love that we shared in September.
Only blue talk and love,
Remember - the true love we share today
Hey hey hey
Ba de ya - say do you remember
Ba de ya - dancing in September
Ba de ya - never was a cloudy day....there was a
Ba de ya - say do you remember
Ba de ya - dancing in September
Ba de ya - golden dreams were shiny days

Now our bell was ringing, aha
Our souls were singing.
Do you remember every cloudy day - yau !

There was a
Ba de ya - say do you remember
Ba de ya - dancing in September
Ba de ya - never was a cloudy day....there was a
Ba de ya - say do you remember
Ba de ya - dancing in September
Ba de ya - golden dreams were shiny days

Ba de ya de ya de ya
Ba de ya de ya de ya
Ba de ya de ya de ya - De ya.... x2

This subject won't be easier if you are listening Disco, but that's freakin' cool.
And if you're feeling bad about some difficulties, just think about Travolta.

Chapitre II

The project

II.1 What you're gonna do

In this project, you must implement a skeletal animation with a hierarchical model. Body parts are correctly articulated using the OpenGL matrix stack. If the torso rotate, all the members must follow logically, therefore if the upper arm move only the forearm have to follow. When you modify the size of a member, related parts automatically re-position themself.

Your model will have the following parts :

- a head
- a torso
- two arms with
  - upper arm
  - forearm
- two legs with
  - thigh
  - lower part

And it should be able to walk, jump and stay put.

II.2 Constraints

The following constraints have to be respected in order to have points.

II.2.1 Realisation

You should call the same drawing function for each body part and only one time per part. This function will draw a 1x1x1 geometric shape in the current matrix.

`Upper and lower part of the same member are indeed two different parts.`

II.2.2 Language

A makefile or something similar is required.

You can use the graphic library of your choice (SDL2, Glut, SFML..) but you need to use OpenGL matrices and associated functions.

You are free to use whatever language you want. If you use C, you have to respect the Norm, as usual.

II.3 Bonuses

When your hierarchical model is completely working, it would be easy to add :

- More body parts or a completely different model.
- Other move patterns (Disco dance, Kung-fu fighting, etc etc..)
- A kick-ass interface where you can for example modify body part size.
- Camera gestion.

II.4 Defense sessions

Be prepared to :

- Obviously run the program and show the different move patterns.
- Change member sizes.
- Show your drawing function, his calls and explain how it works.
- Explain your hierarchical model and the resulting matrix stack.

Chapitre III

Illustrations