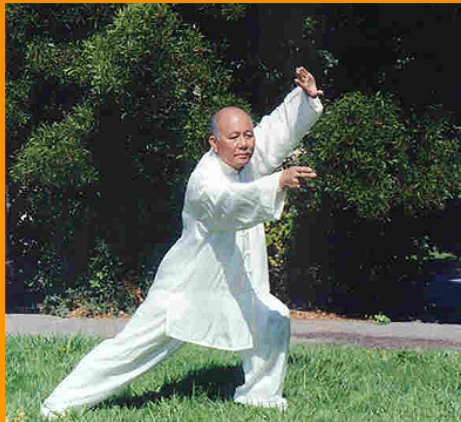


TaiChi Trainer

Real Time Group Project



Build on and extend last year's work

- Three teams worked on this last year
- All three deliverables were incomplete in some way
- You will need to build your own technology and further fine tune the motion capture animation, which has already all been cleaned up

Last year group 2



- Met most requirements, though only small section of animation used

Last year group 12



- Limited success – no character in environment

Last year group 8



- Fulfilled most requirements – the best one!
- However, 50Mb download so not of practical use
- No deployable final product supplied
- Needed more work on functionality, look and feel

The project

- Create a 3D computer generated photo real character that performs the tai chi chuan short form (both to the left and to the right) in real time using motion capture data.
- Display the finished animation in real time in a web page/downloadable program with controls that allow the viewer to change the view.
- Note that this is exacting animation with many small nuances that need to be added.
- Note that the technology chosen must be suitable for reaching a mass audience.

The project

- This project relates to programs like Wii Fit and computer fitness training aids.
- A future version of this might include a live webcam feed:
 - As the user works their way through the tai chi form they are able to pause the 3D model and also compare their movements as displayed in the window with the movements of the computer generated character.

Future uses

- The TaiChi project is intended to provide a high quality proof of concept artefact that might be used to secure future funding.
- A successful RTGROP team might be interested in pursuing this further.
- An iPhone version might be attractive?
- A version for deploying on Xbox 360?

Requirements - essential

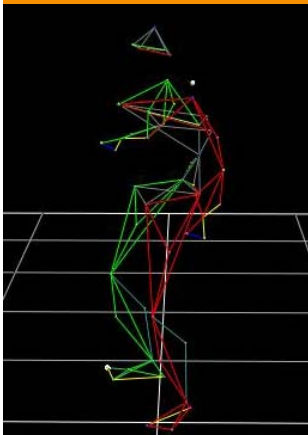
- Photo real 3D male and female characters for animating. Note that poseable hands are required.
- Suitable photo real environment (dojo?) for the character.
- Fine tune the animations. Could capture it all again using new motion capture cameras?
- Choose an appropriate real time 3D display technology (web page/program) – to be negotiated with client.
- Supply display controls: rotate (left/right and up/down) around the character, zoom in and out, pause. Also control the speed of the animation (faster/slower).
- Display the University of Portsmouth logo and 'School of Creative Technologies' in the 3D environment.
- Supply all assets on a disk (characters, models and 3D environments, motion capture data, 3D software and web pages) with full instructions of how to deploy the real time interactive 3D animation.
- Supply a video of the completed animation.

Requirements - negotiable

- Play a looping .mp3 music track in the background.
- Place small voice samples (describing/naming each move) linked to, and triggered by, the appropriate sections of the animation.
- The ability to display a webcam image of the user doing the form in a small window superimposed in the corner of the 3D environment (or alternately the 3D image is superimposed in the corner of a full screen webcam image).

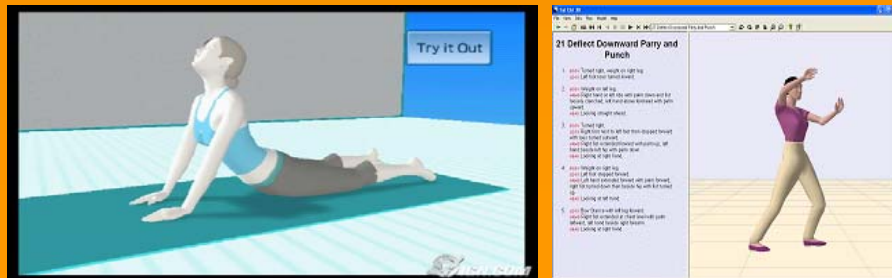
Supplied materials

- Motion captured the short form to the left and right (approx 20 minutes in total)
- All the data has been cleaned up and is available (from Alex Counsel and the motion capture team)
- Videos of the short form
- All of the work created by last year's three teams that was supplied to the client



More information here

- Look at Wii Fit here:
<http://www.nintendo.com/wiifit/>
- Search YouTube.com for TaiChi to get an idea of what it looks like!
- There is an existing Tai Chi 3D program that was originally released in 1999, look here: <http://www.odcsoftware.com/>
<http://www.odcsoftware.com/taichi3d/Manual.htm#Overview>



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