

## DESIGN AND MANUFACTURING Computer Aided Design and Engineering Research Group (CAD Group)

### Current activities

The work of this group focuses on design process and advanced design modelling, prototyping, manufacturing and evaluation techniques. The work is supported by grants from the EPSRC and other government funding bodies and industry. The main research topics are:

- Computer Aided Conceptual Design
- Sketch Based Interfaces and Modelling
- Gesture Based Design and Interaction
- Collaborative Design and Management (CSCW)
- HCI and Interaction Design
- Human Modelling and Simulation
- Virtual Human Modelling and Product Design Evaluation
- Rapid Prototyping/Virtual Manufacturing

Projects include research into a rapid conceptual design tool to support design input of freehand sketches, a study of human hand and body gestures for design communication and modelling, an investigation into the design performance and risk managements of a collaborative design project at its early stages, and a multidisciplinary study on human modelling and simulation for product design and evaluation.

### Facilities

- A Motion Capture System ( Motion Analysis)
- [TC]2 Body Scanner
- Minolta VIVID VI910 3D Laser Scanner

### Group Members

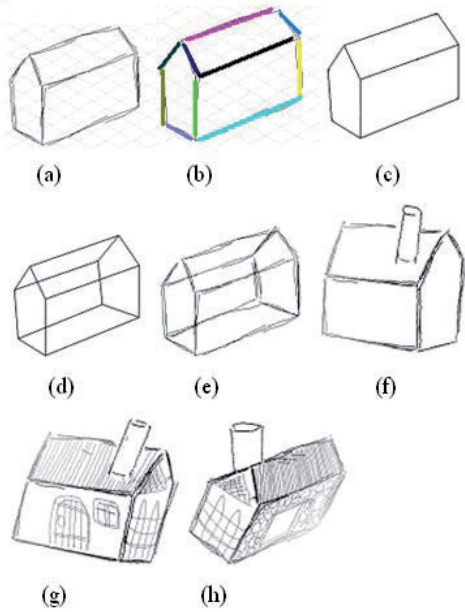
Dr Shengfeng Qin, Dr Jinsheng Kang,  
Professor David Wright (Emeritus)



*7 Cameras Eagle Digital Motion Capture System from MotionAnalysis, USA*



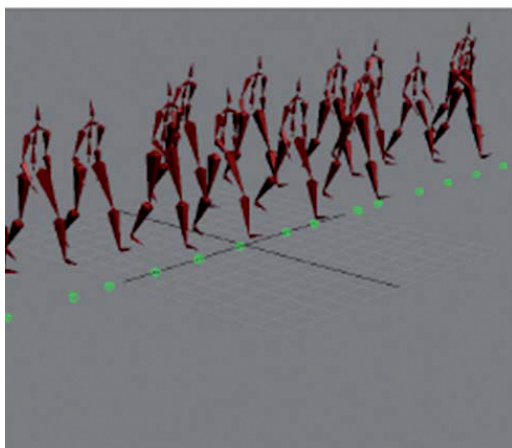
*3D Full Body Scanner NX12 System from [TC]2, USA*



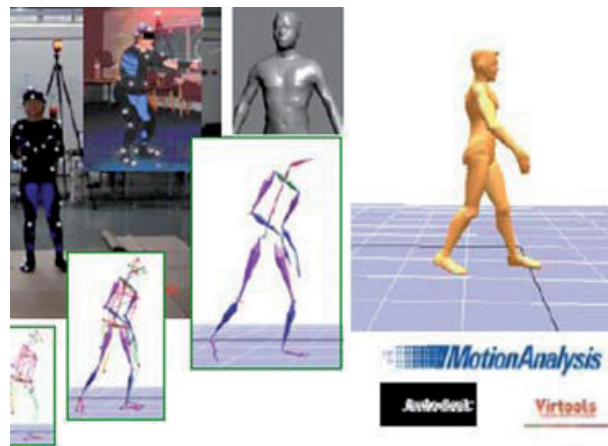
*Sketch based modelling and personalised non photorealistic rendering*



*Gesture based interaction design*



*Modelling the diversity of human motion*



*Synthetic vision and emotion in virtual human modelling*