

John Glauert, Andrew Bingham, Stephen Cox, Ralph Elliott, Ian Marshall, Éva Sáfar, Richard Kennaway,
Mike Lincoln, Barry Theobald, Farzad Pezeshkpour, Judy Tryggvason, Vince Jennings, Kevin Parsons
School of Computing Sciences, UEA Norwich, UK

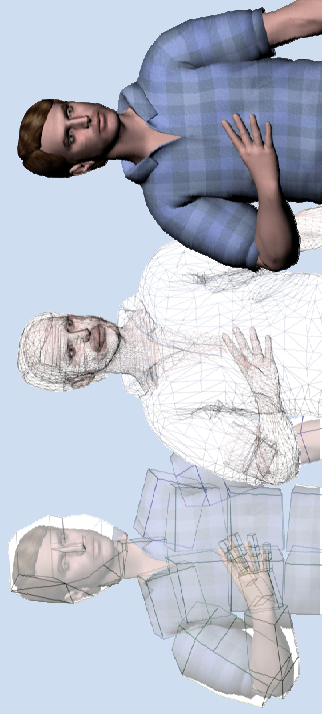
Signing Matters

- 1 in 1000 prelingually deaf
- British Sign Language (BSL)
 - Own grammar and phonetic structure
 - Not based on English
- Sign is their natural language
 - May have low reading age for written English
- Sign Supported English (SSE)
 - Simplified BSL in English word order
 - Lacks richness of true natural sign language
- Little support for digital services in sign



An Important Academic Challenge

- Purely visual communications channel
- Multiple modalities
 - Manual gestures
 - Facial expressions
- Challenge in recognising gestures
- Challenge in faithfully animating gestures
 - Study of notations for gesture
 - Synthetic animation techniques
- Relatively little known about grammar and semantics of signing



Using Virtual Human Avatars

- Why not use Video?
 - Excellent quality
 - Difficult to edit and modify for new use
 - Cannot blend sequences created under different conditions
- Avatar presentation
 - Increasingly acceptable quality
 - Useful for ephemeral information
 - Allows content generation on demand

Signing Research at UEA

- ViSiCAST: Virtual Signing, Capture, Animation, and Storage
 - EU Framework V project: ITC, RNID, Teletext Ltd, IvD (NL), University of Hamburg (DE), IRT (DE), INT (FR)
- eSIGN: Signing on eGovernment Websites
 - EU eContent Project: University of Hamburg (DE), RNID, Viataal (NL), Norfolk County Council, Teletext Ltd, Systematics (DE)
- Practical Avatar Signing
 - BBC, dti

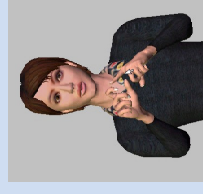
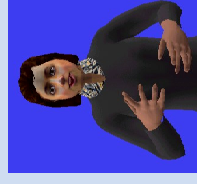
Simon the Signer

- Andrew Bingham, Ian Marshall,
Farzad Pezeshkpour
- Wins two Royal Television Society Awards



TESSA

- Stephen Cox, Mike Lincoln, Judy Tryggvason
- Wins BCS Gold Medal and IT Award



```
<signml>
<signsign>
<sign_manual both_hands="false">
  <handconfig extdir="ul"
    palmor="dl"
    handshape="point12"
    thumbpos="across"
    locations="forehead_right"/>
  <directedmotion direction="or">
    <handconfig palmor="r"/>
  </directedmotion>
</sign_manual>
</signsign>
</signml>
```