

# ViSiCAST:

**Virtual sign: Capture, Animation  
Storage & Transmission**

BDA Conference  
2nd August 2000

Belfast

**Dr John Low**

**RNID**



# Notes on presentation

- This was a user workshop which started with virtual reality examples, through general use of avatars with many video and CD viewer examples, before describing the project including examples of signing avatars. Quite interactive.
- Feedback very mixed although our openness to listen was enthusiastically welcomed

# Virtual Reality



# Virtual Town Hall



# Avatars: Virtual humans

- Films
- Internet
- Computer games



# Virtual Dancing



# Annanova







[annanova.com](http://annanova.com)



# Vandrea



# The *ViSiCAST* Project

**Virtual Signing: Capture, Animation, Storage & Transmission**

**IST Programme -1999-10500**

*5<sup>th</sup> Framework Program*

*Key Actions:*

- **Systems and services for citizen**

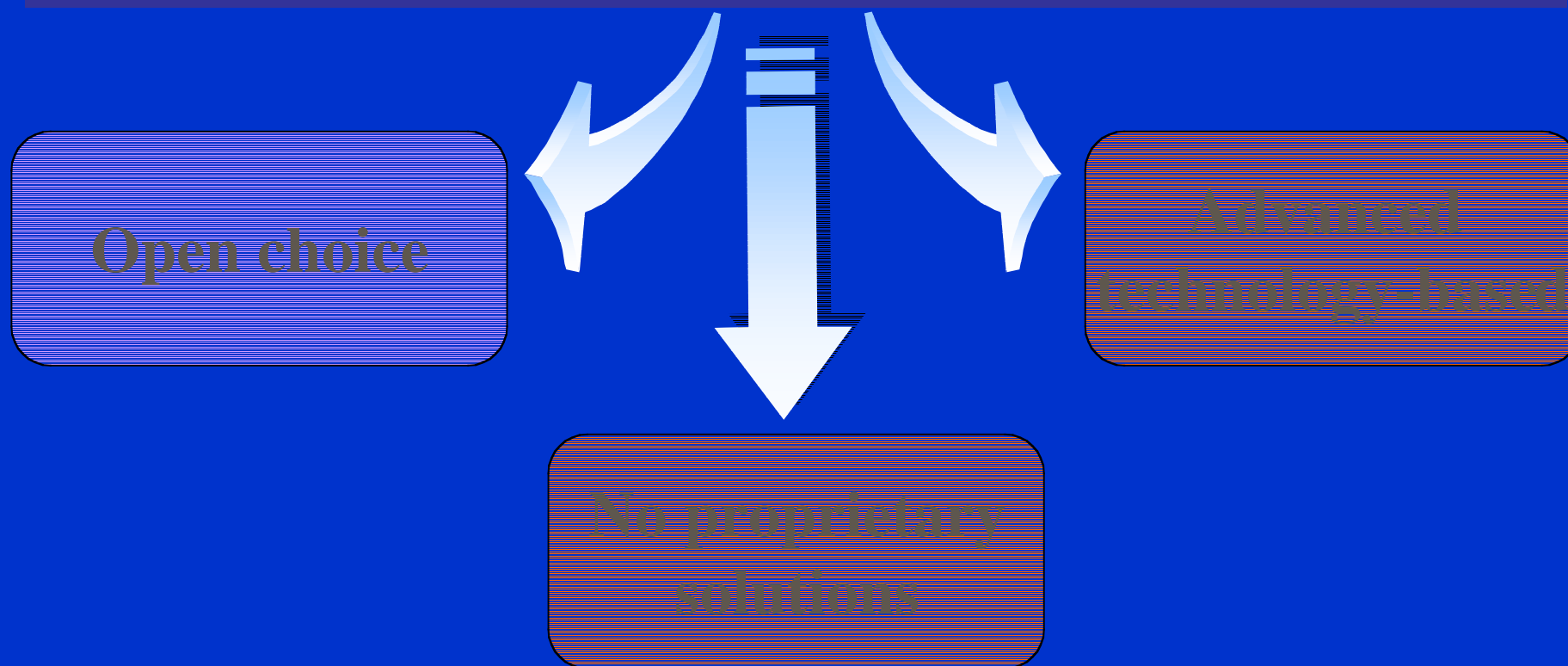
To meet the needs and expectations of European citizens for high quality and affordable services of general interest. RTD will be carried out in the fields of **health, persons with special needs** (including elderly and disabled), **administrations, environment and transport**.

- **Multimedia context and tools**

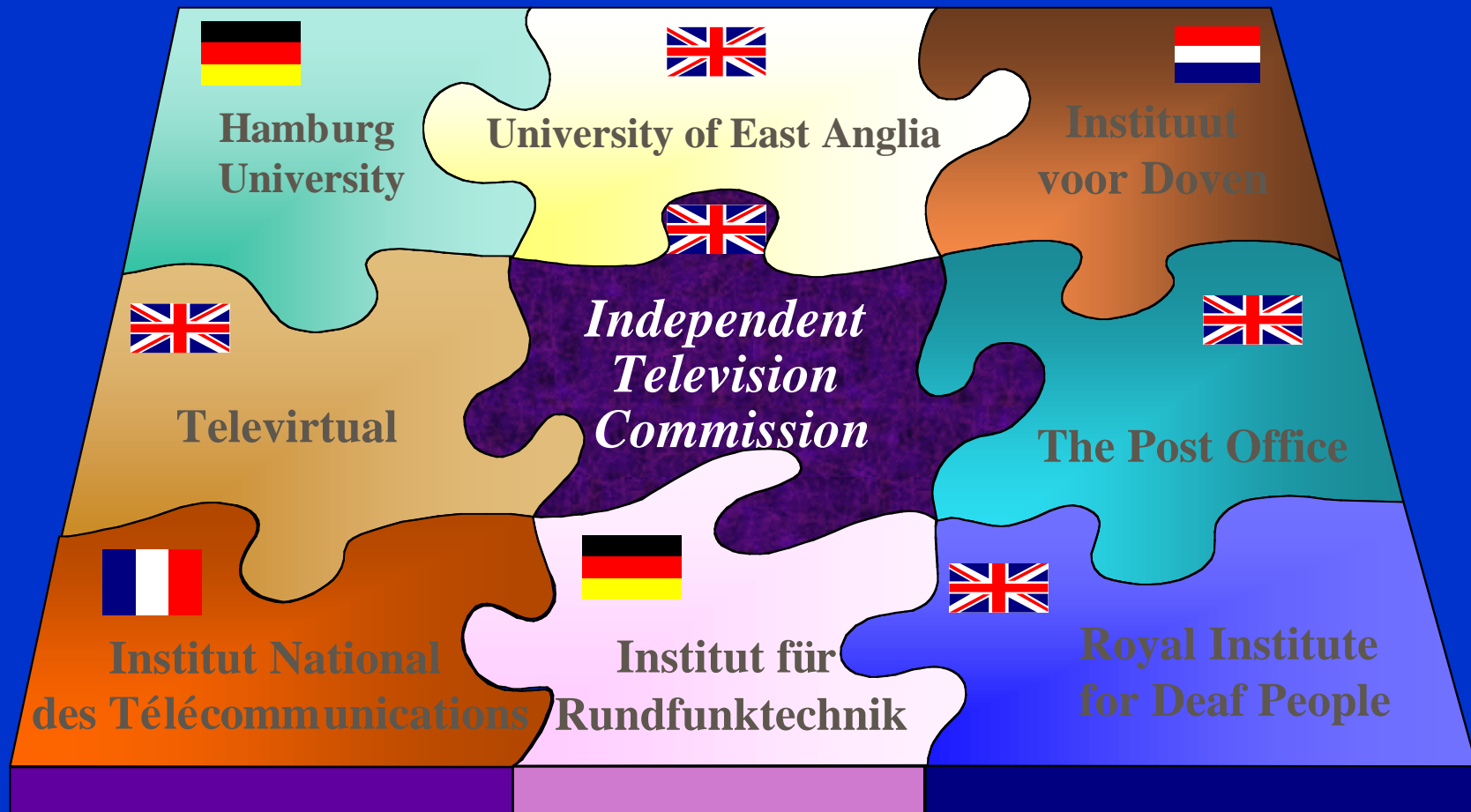
*Duration:* **36 months**

# Project statement

Information access and communication  
of signing deaf people



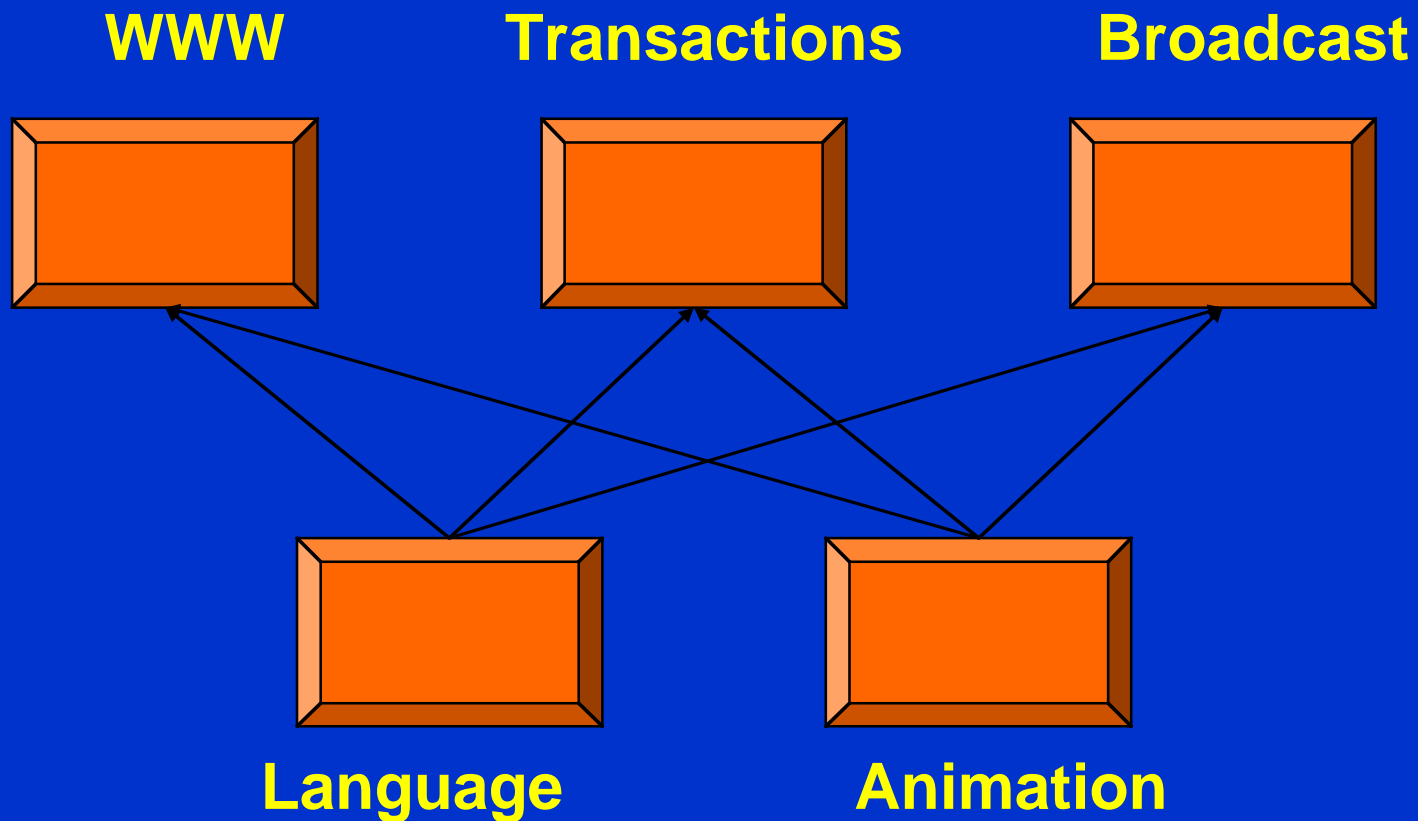
# The *ViSiCAST* Consortium



# ViSiCAST Partners

- **ITC, UK** : Project co-ordination
- **IRT, Germany** : Broadcast technology
- **TeleVirtual, UK** : Avatar creation
- **IDGS, Germany** : Sign language notation
- **UEA, UK** : Processing of language, speech & signing
- **INT, France** : Broadcast imaging & animation standards
- **IvD, Netherlands** : Multimedia content creation
- **Post Office, UK** : Face-to-face transaction systems
- **RNID, UK** : Monitoring of signing and evaluation

# ViSiCAST Structure



# Multimedia and Internet applications

- Adding signing services to multimedia
  - improves access to information for leisure, learning and communication
- Browser plug-in
  - accurate signing of existing content on the internet
  - translation of own text to generate signed content on own website



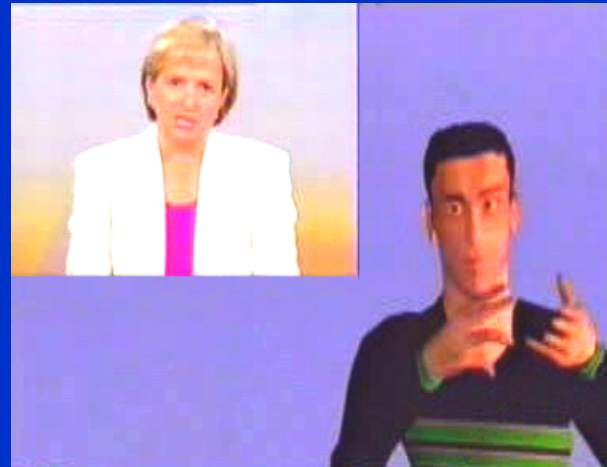
# Face-to-Face Transactions

- Post Office, Advice Services, Shops
- Simple spoken phrases recognised and translated to sign language

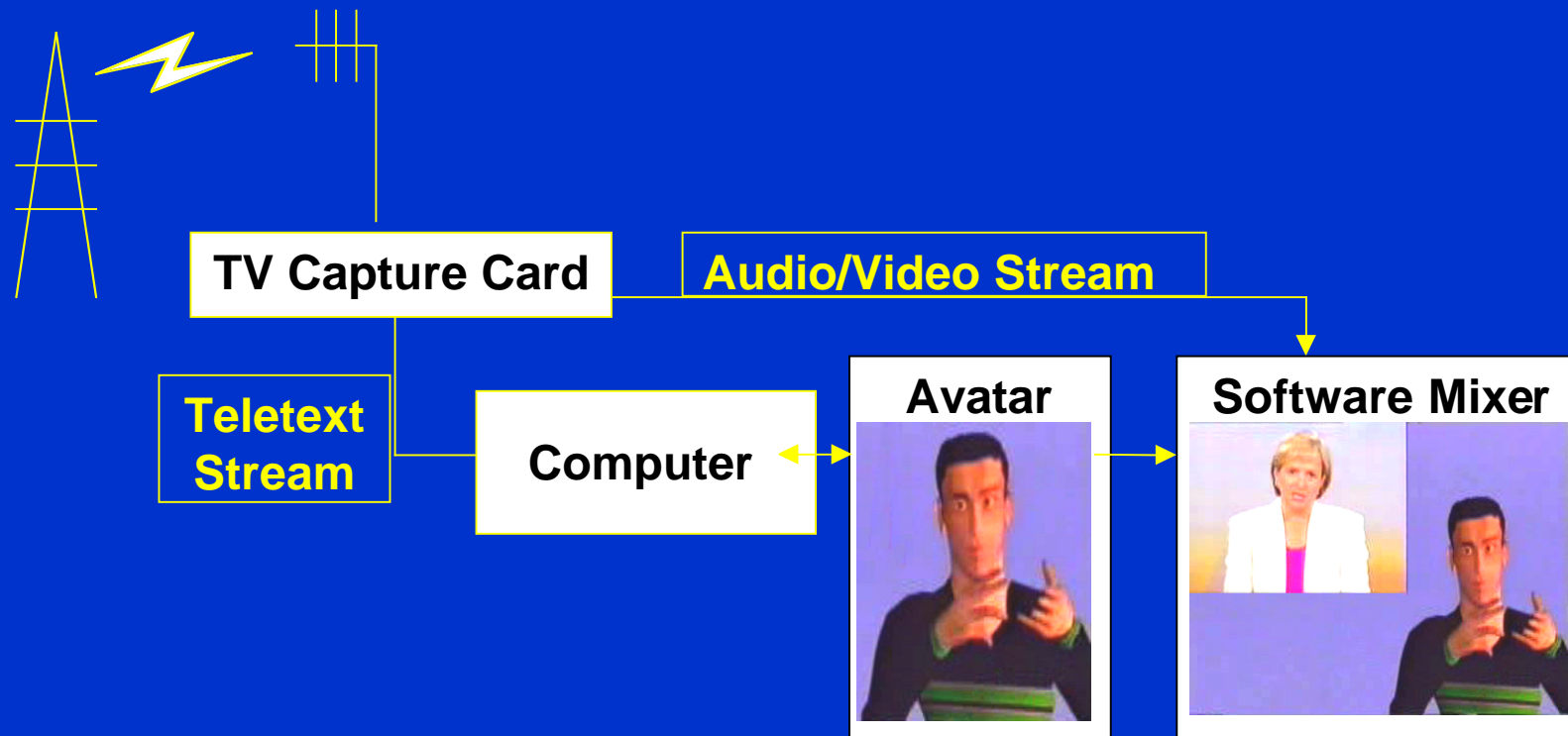


# Television and Broadcast

- Developing transmission technology
  - virtual signer in set-top boxes
  - transmission of signing from text subtitles



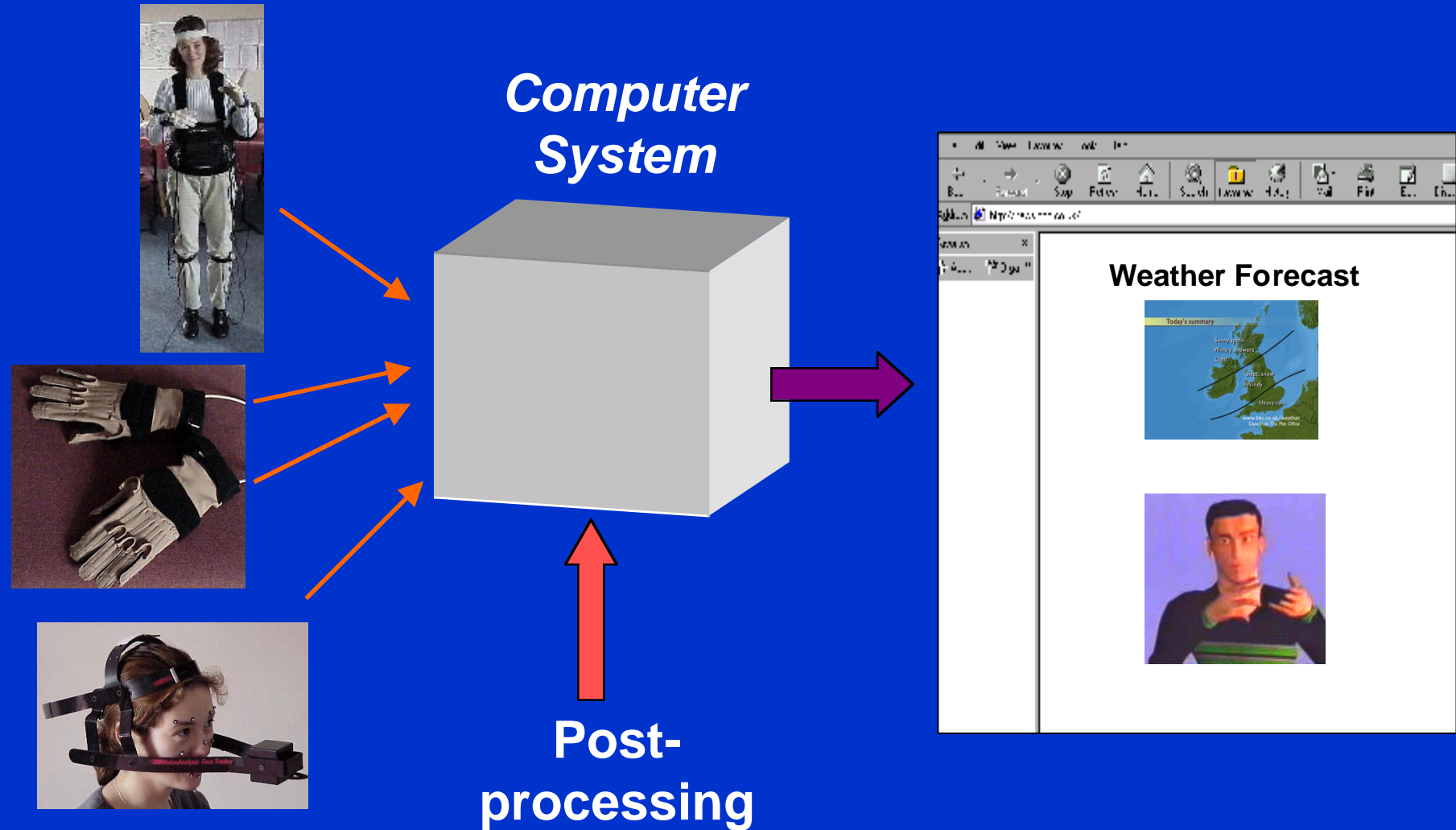
# TV and broadcast



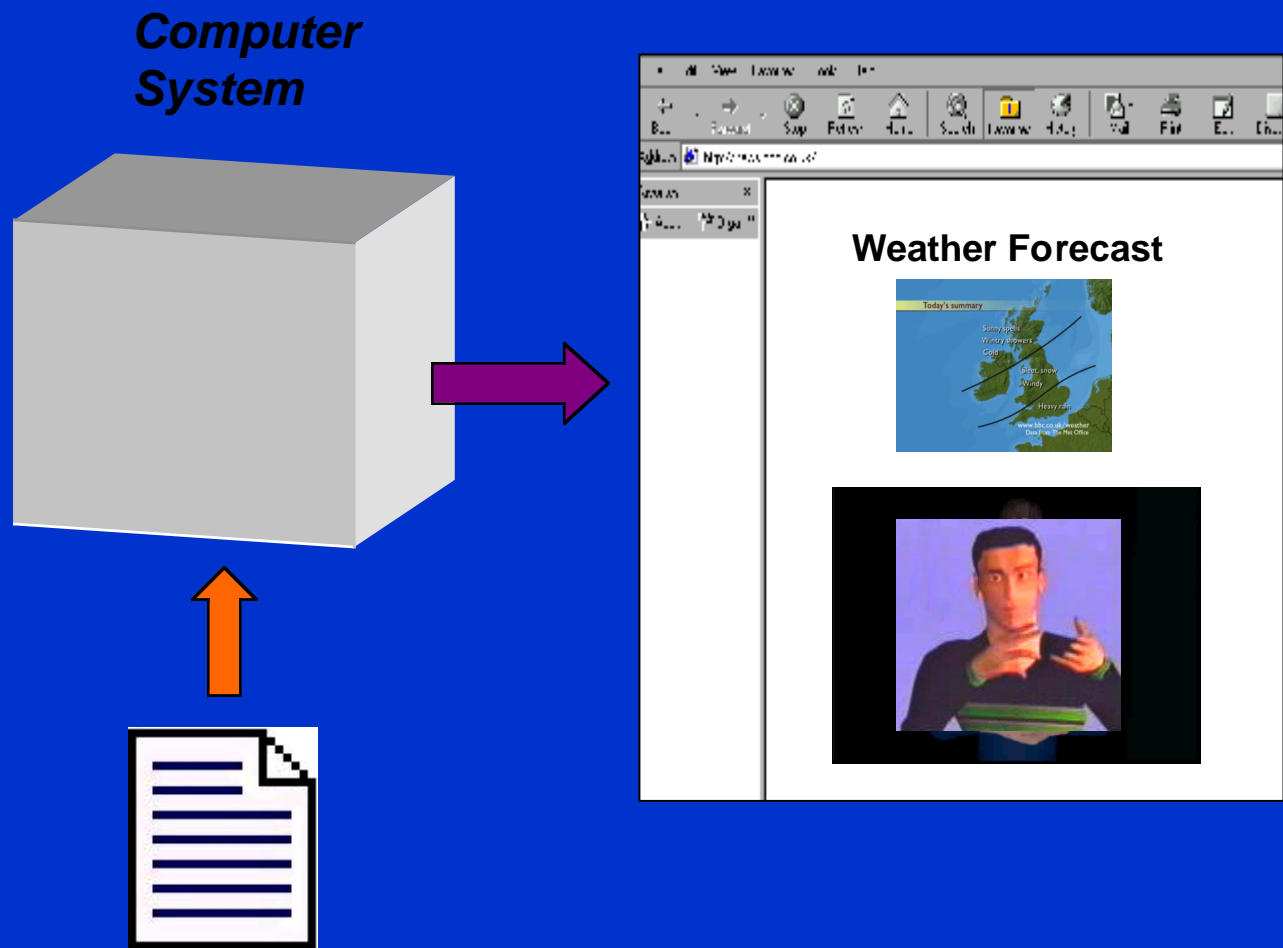
# Current technology: Motion capture



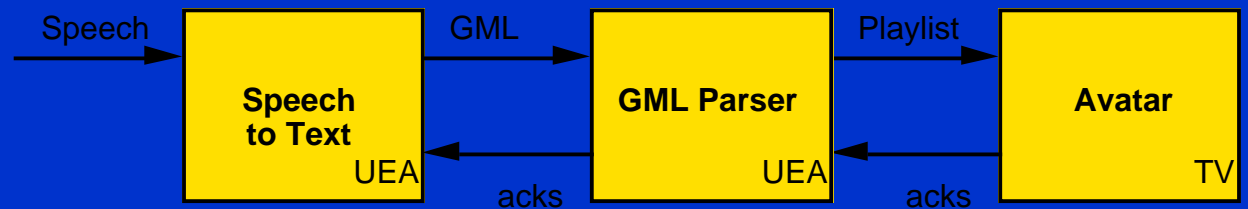
# Motion Capture



# Display System



# Constrained System



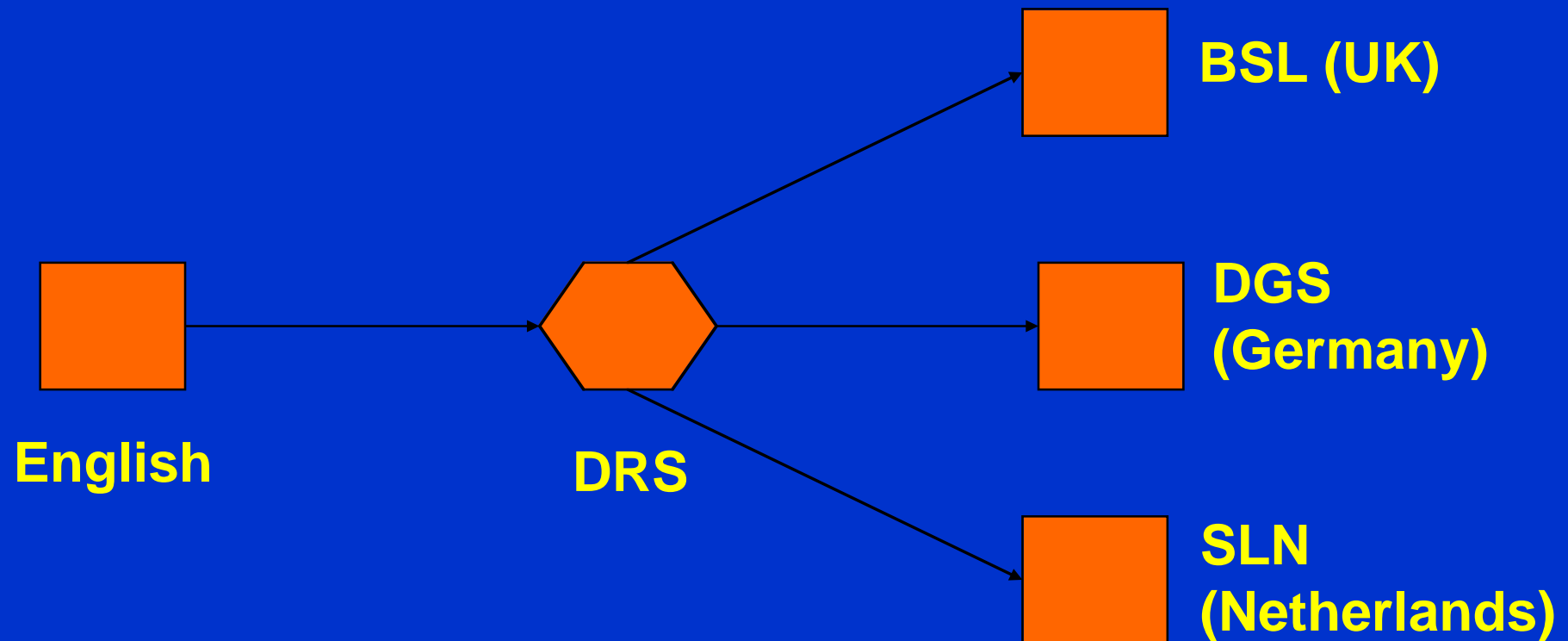
Tessa with GML

# **New technology to be developed: Language and Notation**

- Translate English text to European sign languages: BSL, DGS, SLN
- Define a an intermediate code between text and sign languages: “ Gesture Markup Language” or GML
- GML builds on the Hamburg Notation System, “ HamNoSys” which codes hand shape and orientation, location, and movement

# English to Sign

- Translation via intermediate code: Discourse Representation Structure (DRS)



## **RNID' s role**

- Bridge between the project partners and the deaf people who could benefit from the technology
- Wide dissemination of project aims
- Collation of feedback through visits to UK deaf clubs and groups
- Evaluations of prototype systems by deaf people to influence how systems can be improved

# ViSiCAST : Conclusion

- Aims ambitious within 3 years
- Novel computational linguistics work to generate and represent signing
- Advanced avatar technology for signing virtual humans
- Input essential from deaf people so that the technology develops to maximise benefits

Thank you