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# 21ST CENTURY INTERPRETERS WITH SMART GLASSES

CHANTEL CHEN, VICTOR CALLAGHAN, FLORENCE MYLES



## SIMULTANEOUS INTERPRETING

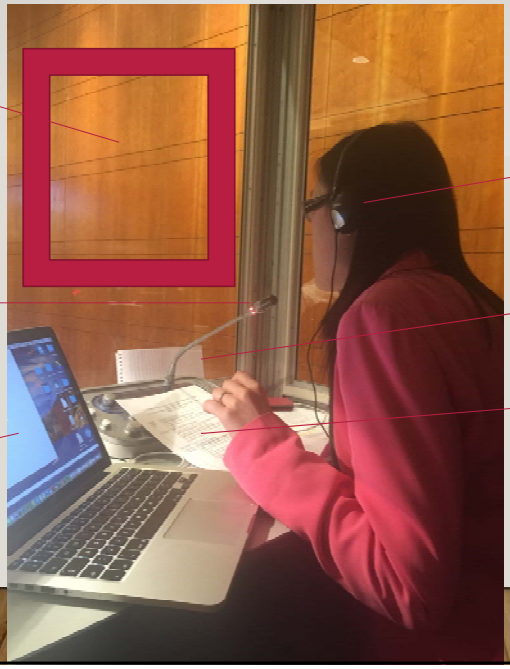
New Interpreting Lab, University of Essex

Interpret into B language for the audience

- Participants include A language speakers and B language speakers
- Interpreters: simultaneous interpret language from A to B or B to A, for live and efficient communication

Performance of an interpreter is reduced by multitasking which consumes cognitive resources (depends on number and nature of tasks → How can smart-glasses reduce cognitive load ?

## Inside booth



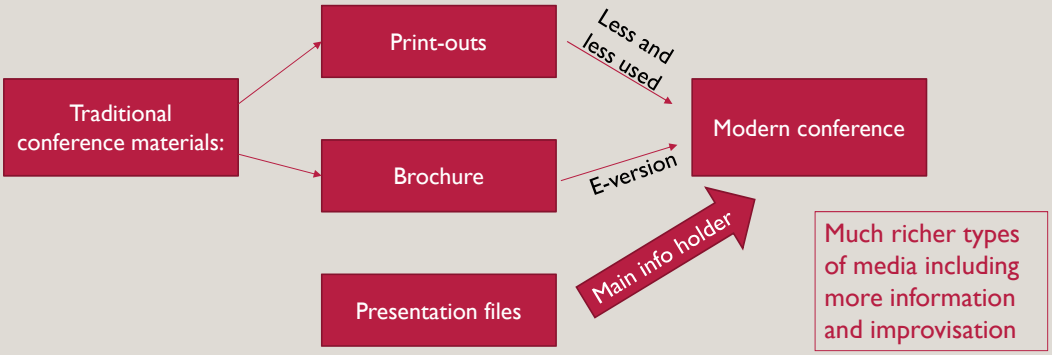

The cognitive load can be so severe that interpreters often work in pairs for 20 mins each

## BOOTH CONDITIONS

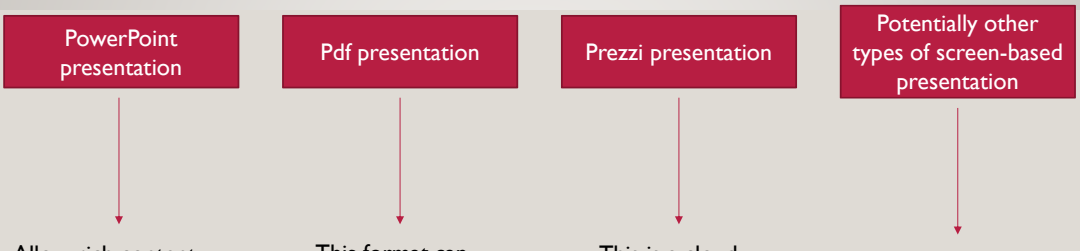
Some important aspects (of traditional booth)

- Quietness of the booth (so interpreters can concentrate)
- Sound quality (to provide clearer speech)
- A good view of the conference/meeting proceedings. (to synchronise explanations)

## CHANGING INTERPRETING ENVIRONMENTS




## EXAMPLES OF CHANGING FORMATS

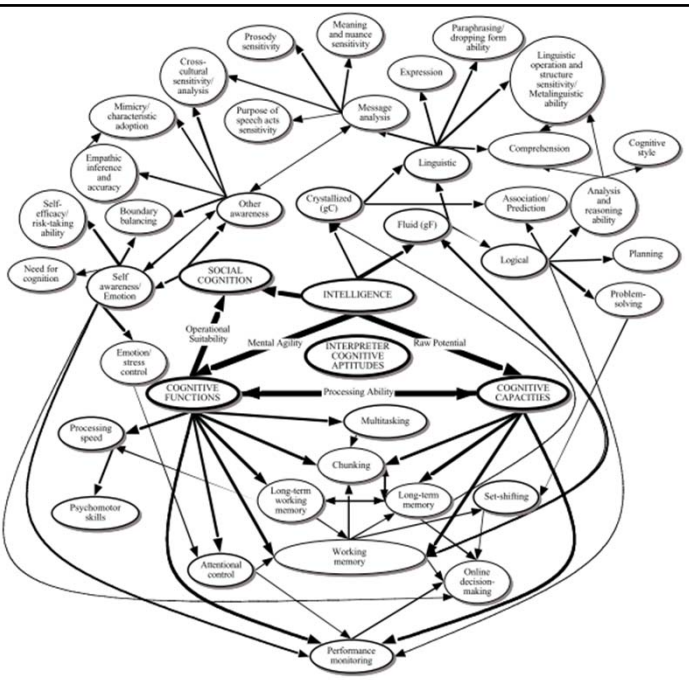



Allow rich content and can integrate images, diagrams and video, can also add notes ----- Interpreter friendly

This format can be easily shared and displayed. It prevents from format change and further editing ---- interpreters cannot edit files

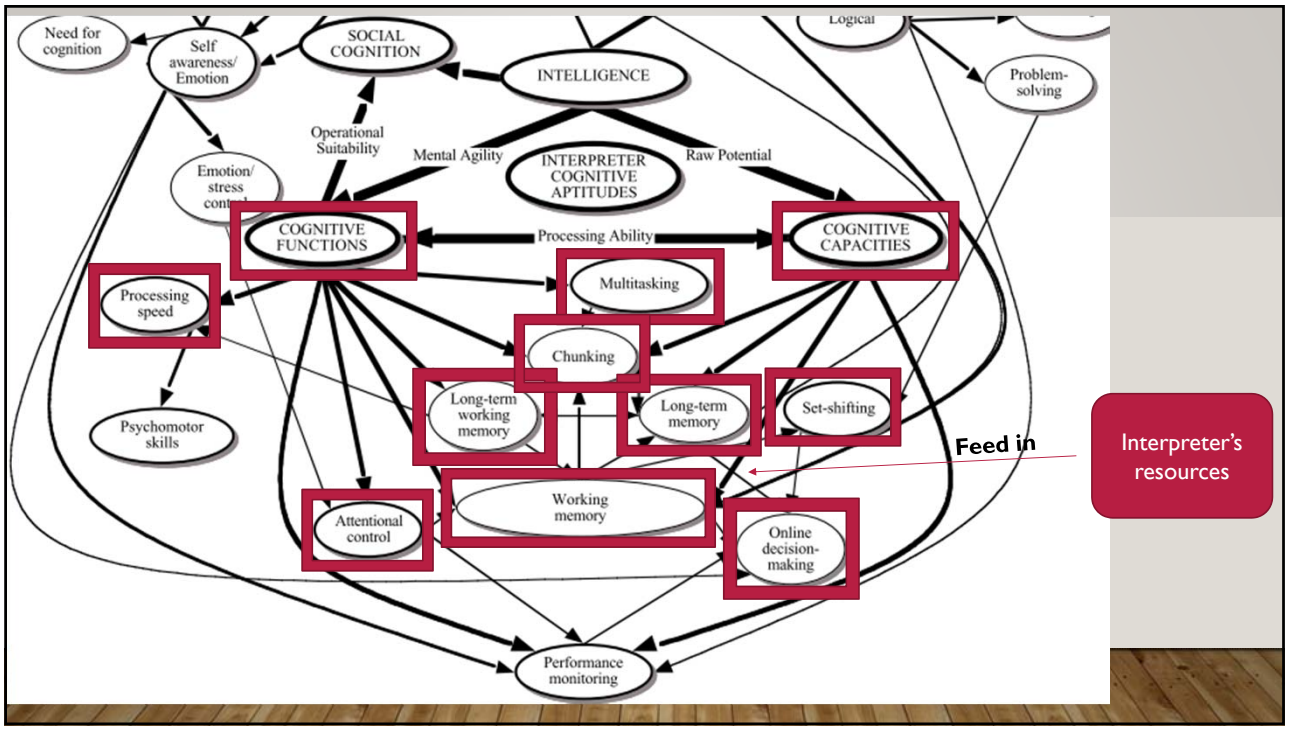
This is a cloud-based software, require a fee to operate and access, fancy display can cause dizziness to interpreter

There may be other formats of presentation, which may bring unexpected effects to interpreters.




*Foundational Cognitive Aptitude Model*

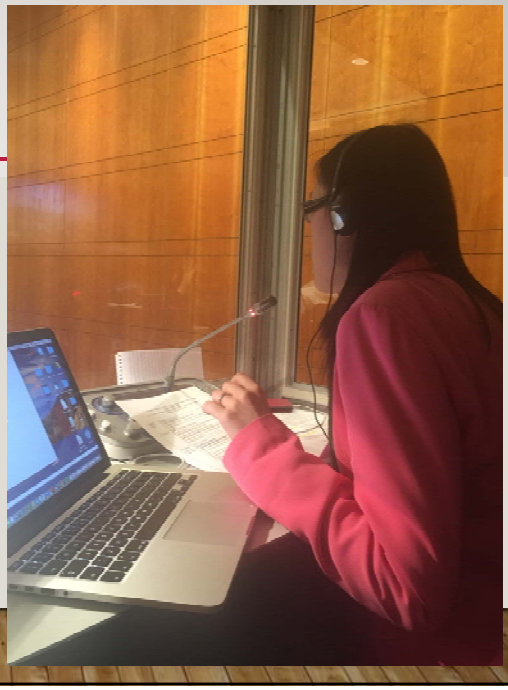
# INTERPRETERS' COGNITIVE APTITUDE MODEL BY MACNAMARA (2012)



## INTERPRETERS RESOURCES

- Conference agenda
- Speaker's presentation file
- Glossary

Materials are on separate media: laptop, paper, and notepad.



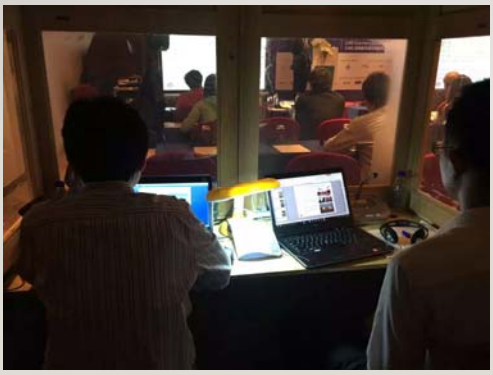
## Disruptions and challenges from the conference environments

lighting disruption

Music disruption

screen size and image quality variation

screen position

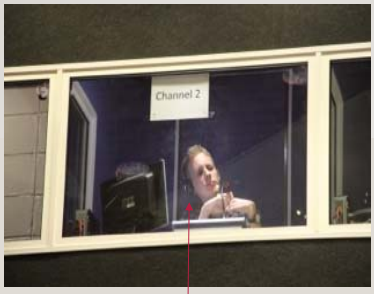


Good and direct view, relatively small room, dimmed lights

No view of the main screen, side view of the speaker, large conference room

Simultaneous interpreter's view at the Lecture Theater 6 in University of Essex

Lighting affect interpreter's view of the projector




Interpreter's gaze is away from the desktop computer inside booth

Unrecognizable text

## COGNITIVE DEMANDS

**Stroud Number**; number of elementary mental discriminations (between 5-20 in people)

- Working memory
  - eg remembering large vocabularies for specialist areas)
- Understanding reasoning and manipulating information
  - Understanding the logic or sentiment of what is being said so that can be convey – not just word-for-word translation)
  - Using long glossary lists
  - Resolving unfamiliar (usually unexpected) words not in glossary (sometimes accessing internet, where, even the typing requires cognitive effort)
  - Dealing with changes from scheduled order or idiosyncratic behaviours of speakers

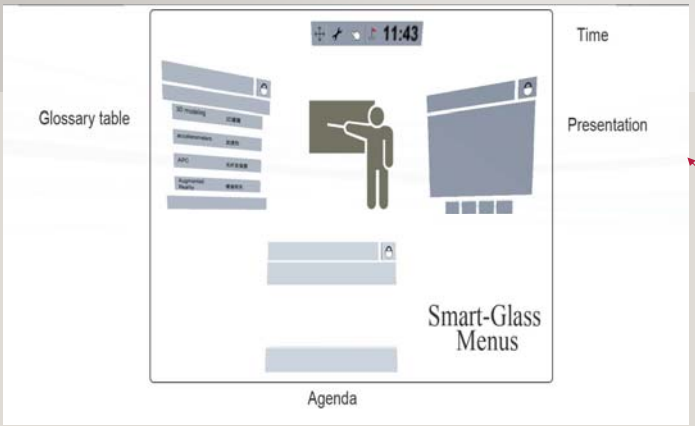
## SMART TECHNOLOGY + INTERPRETERS = BETTER PERFORMANCE?

This work-in-progress research is exploring how smart glasses can:

- Extend working memory (what information to provide, and how, eg online glossaries, annotated speaker names etc)
- How cognitive load can be reduced through better HCI (eg placement of information in field of view, automating searching, co-interpreting linkage)

## SmARTI

(Smart Augmented Reality Technology for Interpreters)
a potential solution to simultaneous interpreters




Chantel Chen wearing Sony (AR) Glasses

Chantel Chen wearing Meta 1

## TESTING SMART GLASSES WITH INTERPRETERS






## STUDIES ARE NOT JUST COVERING COMPUTATIONAL ISSUES

### FOR EXAMPLE - META 1 GLASSES

- Too heavy to wear for more than 3 minutes
- Not suitable for girls with long hair
- Colored shades affect vision
- Strap creates discomfort

## PROJECT STATUS

- Work-in progress
- SmARTI (Smart Augmented Reality Technology for Interpreters) model created
- Meta-1 scoping trials data being analysed to allow next version of platform and evaluations to be created and evaluated

# REFERENCE

Macnamara BN (2012) Interpreter Cognitive Aptitudes. J Interpret 19:9–31.