

# AMPER: AGENT-BASED MEMORY PROSTHESIS TO ENCOURAGE REMINISCING

AMPER will apply user-centred design to create an agent with a novel human-like autobiographical memory, performing a carer-assisted intervention for personalised reminiscence in individuals with Alzheimer's Disease, telling stories and bringing to the surface memories residing in the still viable regions of the brain, so that their sense of value, importance and belonging may be restored.



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## INTRODUCTION

- Alzheimer's Disease (AD) patients tend to become withdrawn and depressed due to communication problems and loss of confidence.
- Memory loss in people with AD occurs in reverse chronological order which means pockets of long-term memory remain accessible even as the disease progresses.



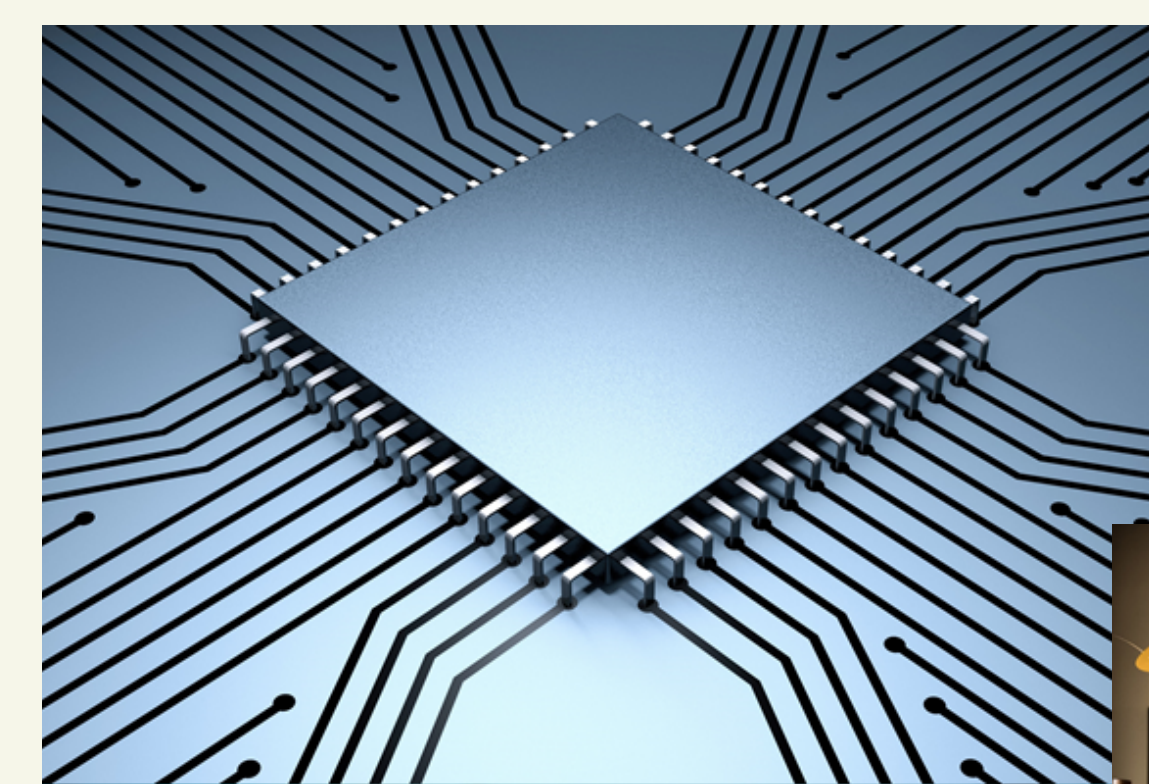
## REMINISCENCE

- Autobiographical memory provides a reflection of "self" enabling an individual to relive an event
- Biographies calm and cheer AD individuals and create awareness in family members of their loved one's past, enabling them to better accept the disease
- Reminiscence therapy (RT) benefits include enhanced self-understanding and sense of personal stability, minimised despair, reinforced self-identity and improved social interaction



## AMPER

- AMPER will explore the interaction between memory and life stories through biologically-inspired computational modelling, creating a "human-like" agent, and helping AD individuals to reminisce more effectively in real-world social contexts
- AMPER will utilise generational and cultural information as well as unique personal repositories of AD individuals' experiences for person-centred reminiscing so that the intervention is meaningful and cognitive abilities can be enhanced in context
- AMPER will employ user-centred co-creation approach taking into consideration input from stakeholders throughout design and development phases to ensure that the resulting application is accessible and useful to the target group
- AMPER will explore adaptiveness by investigating a variation of context-based delivery and narrative strategies to suit the changing needs of different AD individuals at different times



## METHODOLOGY

- An iterative prototyping approach will be employed to allow input from stakeholders and early testing of design decisions.
- Prototype with increasing scale and complexity will be developed:
  - Initial prototype populated with generational and cultural collection of information will be tested by non-target user
  - Refinement and personalised collection of life experiences will be added for testing with target users
  - Final version will include adaptation features for target users testing
- Participants will be recruited from Sporting Memory Network across UK and Brain Health Register cohort

## PARTNERS



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