

# A Case report of Technological Aids for Episodic Memory.

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## 1. Overview

This presentation describes a single case report where technological aids were used to promote independence of a child with significantly impaired episodic memory. In particular, the presentation looks at novel use of existing technologies in route finding and memory logging.

## 2. Background

The Client, a 12 year old girl, has impaired episodic memory as a result of post meningitic hydrocephalus which occurred shortly after birth. This impairment reduces the ability to learn, store, and retrieve information about personal experiences that occur within daily life [1]. The client was referred with the aim of providing recommendations of aids which could potentially support her, with particular regard to the following two areas:

1. Route Finding: Independent navigation, particularly at school. The client needs to be able to know where she is, where she has come from and where she is going as well as navigating from A to B.
2. Memory Logging: The client finds photos and recording information useful to aid memory re-call. A method to capture, store and organise memories to remember events, information and social interactions is required.

## 3. Methods

Initial research into aids intended for memory impairments returned an array of devices, largely aimed at those with dementia. The majority of devices available provided alarmed prompts to carry out day to day tasks. Navigation aids were solely tracking and/or alarm based systems to alert carers of an individual's whereabouts. Whilst these systems can enhance independence by providing reminders and increasing the individual's safety, they can also limit day to day functioning. Thus alternative

technologies/devices that did not have the primary purpose to aid memory were investigated.

### 3.1 Ethical statement

Appropriate approval was obtained.

## 4. Results

Alternative devices sourced and explored included navigation and memory logging applications for smartphones and tablets, wearable cameras and specialized GPS navigation systems.

## 5. Discussion

At this time we are awaiting trial of the equipment with the client. It is planned that discussion will be around what we have learned from this case: sharing ideas of potential aids for those with memory impairments, gaps in current provision and the beneficial role of assistive technology services to support uncommon impairments.

## 6. Conclusion

Exploration for this case demonstrated the potential of existing technologies to aid those with impaired memory. It also illustrated the importance of Assistive Technology services to support those with less common impairments, i.e. where standardised support strategies are often not in place.

## 7. References

1. Dickerson, Bradford C., and Howard Eichenbaum. "The episodic memory system: neurocircuitry and disorders." *Neuropsychopharmacology* 35.1 (2010): 86-104

### Keywords:

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