

6BUIS020C – Final Project Report

**AlzhCare: A cognitive therapy application for Alzheimer’s  
Patients with smart results, and a safety tool to support the  
Caregivers**

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## **Abstract**

Alzheimer's disease is a progressive neurological disorder that impairs memory and cognitive ability. It is the most common cause of dementia in adults and currently has no cure. Memory loss, confusion, issues with languages communication, behavioural changes and mood swings are common symptoms of the disease. This project analyses the difficulties faced by the caregivers in taking care of the diseased, due to their mental impairments also paying complete attention on the patients amidst the obliged busy lifestyle. Further to support the medical professionals in providing cognitive enhancement therapies to the patients which can help to slowdown the progression of the disease. Therefore, this project provides a suitable solution to support the stakeholders in the best possible way towards providing proper care, enhancing cognitive abilities, and ensuring their safety.

The research and validation on the problem domain was done through the literature review, interviews with the domain experts such psychologists, psychiatrists and with the end users the caregivers. Through the research conducted, it was clearly revealed that caregivers are stressed out, face lot of difficulties and safety issues while taking care and managing the patients. Keeping track of the patient's current mental status is crucial due to the progressive growth and gradual loss in the cognitive abilities. Further in order to maintain the patient's cognition within a standard level, they need continuous support and cognitive enhancement therapies with the guidance of medical professionals.

AlzhCare provides a mobile application to helps the medical professionals and caregivers to have a track on the cognitive stimulation therapies assigned and the memory level whenever required, also a safety tool for the caregivers which can track the location, heartbeat, blood pressure, oxygen level of the patients towards providing vigilant care to the patients and ensuring their safety. Application allows medical professionals to assign cognitive therapies to the patients based on their memory level and to evaluate the patients through the reports and analytics generated. They can provide feedbacks and guide the caregivers based on the evaluation. The caregivers may also track the location of the patients if they get lost, do check-ups on heartbeat, blood pressure, oxygen levels while ensuring the patient's safety. AlzhCare was thoroughly evaluated by the domain and industry experts and guaranteed that it can create a positive impact on the stakeholders in overcoming their real-life challenges.

**Key words:** AlzhCare, Alzheimer's disease, caregivers, Safety tool, cognitive enhancement therapies, medical professionals, Memory level, challenges.