



6COSC006W – Final Year Project Report

CareZen: An ADHD Screening and Monitoring tool for Kids

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Abstract

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DHD is a common neurodevelopmental disorder that typically manifests itself in early childhood and may persist into adulthood if left undiagnosed or untreated. ADHD can be challenging to identify because the symptoms vary, and it can be difficult to differentiate the child's behaviour between ADHD and normal child behaviour.

The project aims to analyse and identify why children with ADHD go undiagnosed despite the rising prevalence rate and devise an effective solution based on the context. The research project aims to leverage the opportunity in the market and existing technology to fulfil the needs of parents and physiatrists by transforming ADHD screening, diagnosis, and monitoring process into a single mobile platform.

Based on existing literature, survey results, and expert evaluations, **CareZen**, an all-in-one application that helps the parents of a child who has ADHD with assistance from specialists/doctors and teachers, was developed. The application includes key standing out features such as a validated SNAP-IV screening tool, a Parent-Guided Therapy plan initiated by the doctors and a rewarding system to motivate the child as each task is accomplished. The doctor-initiated therapy plan progress can be monitored using an enhanced dashboard that uses the complete and non-complete statistics of the task summary within a time period. This dashboard provides the doctors/specialists with insights needed to evaluate and create future therapy plans for the child. In addition to the above features, a unique Heuristic Rule-based algorithm has been utilized to get the best therapy plan recommendation for the new patient using previous plans, totally based on the algorithm.

In delivering an effective IT medical solution regarding ADHD for children, the psychological, technical, legal, and functional aspects of the solution were validated through interviews and questionnaires conducted with experts, teachers, lecturers and parents. Recommendations and suggestions will be integrated into the future version of the application.

Keywords: Inattention, Hyperactivity, Impulsivity, SNAP-IV, Parent-Guided Therapy Plan, Activities, Teacher, School, Psychologist