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THE HUMAN-CENTERED DESIGN IN CREATING DEVICES FOR PEOPLE WITH DISABILITIES

Keywords: Human-Centered Design, Design Thinking, Double Diamond

The article explores the Human-Centered Design (H-CD) approach to solving complex problems, emphasizing user-centered solutions. Design Thinking (DT) is used to streamline communication among various stakeholders in the design and production process, ensuring products meet user needs. The paper focuses on the Double Diamond (DD) methodology, developed by Design Council, to create a mobile device for people with disabilities (OzN), functioning as both a bed and a wheelchair.

The DD process focuses on understanding and addressing the needs of OzN and their caregivers. The stages (Understand → Define → Develop → Materialize) combine divergent and convergent thinking to find optimal solutions. Each stage increases the technology readiness level (TRL), progressing from basic research (TRL_I) to full commercialization (TRL_IX).

We introduce a mobile device for individuals with motor disabilities, designed using the DD method. Dr. Barbara Grzyb's observations highlighted the gap between available commercial devices and the needs of people with disabilities (OzN). This new device integrates the functions of both a wheelchair and a bed, making it easier to care for severely disabled individuals. It is lightweight, stable, and maneuverable in small spaces.

The device is the result of correctly identifying the needs of OzN and their caregivers, shaped by an interdisciplinary team. It significantly improves user comfort and will undergo further development, including prototyping, testing, and adjustments, before being prepared for production.

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