Anxiety is the most common mental health problem affecting children and teens across the world, affecting 117 million youth, with rates continuing to rise. Anxiety disorders place youth at higher risk for depression, substance abuse, and suicide, as well as chronic physical health problems. Cognitive behavioral therapy (CBT) is an evidence-based “talk therapy” for child anxiety disorders, but it requires 4-5 months of weekly treatment and 40-50% of youth still do not recover. SmartCAT is a mobile health platform designed to improve the effectiveness and efficiency of CBT for childhood anxiety disorders to lead to faster and more complete recovery.

**Technology Description**

SmartCAT includes a smartphone app for youth and a clinician portal that integrates care with the treating clinician. The app is designed to get kids practicing CBT skills (i.e. coping, relaxation, problem-solving) in their day-to-day life, in a way that is more fun and engaging than existing solutions, using interactive games, multi-media activities, and a skills coach for real-time help tackling anxiety. Unlike existing anxiety apps, the activities on the app are coordinated with clinical care. Using the HIPAA-compliant clinician portal, therapists or counselors can assign “challenges” for youth to tackle real-world fears, schedule time-based and GPS-based reminders, and gain insight into the youth’s progress by viewing data from the app. These features serve to increase patient engagement, motivation, and learning, which will help therapists do their jobs more effectively, provide faster relief for youth and families, and reduce costs to health-care payers.

**Advantages**
- Evidence-based
- Gamified skill-building
- Tailored for children and teens
- Integrated with clinical care

**Applications**
- School-based mental health counseling
- Behavioral health care in pediatrics
- Community mental health and private practice
- Stand-alone program for subclinical anxiety

**Notable Mentions**
- SmartCAT 1.0 recognized at the White House in 2014 as a winner in the Office of the National Coordinator for Health Information Technology’s Behavioral Health Patient Empowerment Challenge
- SmartCAT 2.0 development and open trial funded by $675,000 grant from National Institute of Mental Health
- Results suggested that by adding SmartCAT, treatment can be reduced from 16 to 8 sessions while boosting recovery rates by 38% compared to published brief CBT trial for youth anxiety

**Stage of Development**
- fully developed and market-ready
- completed user-centered design, usability, and feasibility studies
- preliminary efficacy established in NIH-funded open trial (R34 MH102666)

**IP Status**

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Innovator Bios

Jennifer S. Silk is a licensed child clinical psychologist with expertise in anxiety and depressive disorders in the pre-teen and teen years. She has published more than 100 articles and chapters and has led 6 federally funded research grants on these topics. Dr. Silk was honored for early career contributions to child mental health research by the Brain & Behavior Research Foundation and was recently named a Fellow of the Association for Psychological Science.

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Bambang Parmanto leads the Health and Rehabilitation Informatics research group at Pitt. He is past chair of the American Health Information Management Association (AHIMA) Research Committee and is the recipient of the 2010 AHIMA TRIUMPH Research Award. His research on telehealth and health information has been funded by the National Institutes of Health (NIH), Microsoft Research, the Department of Defense, and the Veterans Administration.

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