

HayAnksi!: A cCBT Application for Adolescents with Anxiety

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Abstract

This paper aims to outline primary objectives and methods underpinned during the development of HayAnksi! App -based on a pun, derived from the Turkish exclamation “Hay aksi!/Whoops!”. HayAnksi! is a computerized Cognitive Behavioral Therapy (cCBT) application elaborated with other therapeutic approaches and information technologies. HayAnksi! incorporates solutions based on wearable technologies and the usage of artificial intelligence with more conventional cCBT modules. The target group of the said interventions is adolescents with anxiety. The objectives are to increase the awareness of participants about anxiety disorders with psychoeducation and to encourage them to apply the therapeutic techniques via wearable devices. The app collects physiological and psychological data through smartwatch integration and the data collected through the app informs the direction of available interventions and tailors personalized treatment regarding anxiety.

Keywords

Anxiety, cCBT, adolescents, wearable technologies, AI.

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Biographies

Tuğba K. Enginel is a 4th year student at Antalya Bilim University Electrical, Electronics and Computer Engineering. She took part in projects in many different fields such as FMCW radar, smart bracelet, and 3D object design. Ms. Enginel holds a bachelor's degree in Astronomy and Space Sciences from the Ege University and Economy from the Anadolu University. She is a member of the Antalya Food Community, which works for more sustainable and organic agriculture. She volunteers astronomy and computer lessons at amateur level for those who need and are curious.

Veli Kağan Muratoğlu is an MSc student in Clinical Psychology at Antalya Bilim University. He graduated from Marmara University's Psychology Department in 2021. Before he started his master's studies, he worked in a private addiction rehabilitation center and partook in a medical technology start-up focusing on cardiac rehabilitation. Currently, he continues his private practice as a CBT-oriented psychotherapist. His areas of interest are cognitive behavioral therapies, therapeutic relationship, and digital solutions in mental healthcare.

Alev Topçu is a psychologist working at Balıkesir Provincial Health Directorate. She has psychology and guidance and psychological counseling double major bachelors degree, from Bosphorus University in 2003 graduation. Her work consists of constituting and giving trainings and talks on suicide prevention, resilience and preventive mental health educations and giving individual consultancy as emotion focused therapy and CBT oriented psychologist. Her areas of interest are cognitive behavioral and emotion focused therapies, youth mental health and digital solutions in mental healthcare

Muhammed Ali Özden is a mobile software developer. He graduated from the Computer Engineering department of Süleyman Demirel University in 2024. During his university years, he gained experience in various fields, including game development, web development, and mobile software development. He also attended different seminars and bootcamps during his education. Currently, he is working as a mobile software developer at a software company.

Damla Özdemir is a 4th year Computer Engineering student at Antalya Bilim University. She participated in entrepreneurship-related competitions many times throughout her university life. She had the opportunity to gain experience in web design, mobile application development and project management in different companies. Miss Özdemir had the chance to work at Antalya Bilim University as a part-time student. Her areas of interest are flutter mobile development, agile development methodologies, test automation, and Object - Oriented Programming (OOP).

Haktan Şahin is a 4th-year Computer Engineering student at Antalya Bilim University. Throughout his university life, he has actively participated in entrepreneurship-related competitions. Haktan has gained valuable experience in web design and mobile application development, having worked at two different companies. In one of his roles, he focused on web development, while in the other, he specialized in Flutter for mobile application development.

Hazal Bulut is a second year and full time data engineering student at Oslo Metropolitan University. She has worked with web applications (front and backend), software development, database systems and mathematical system-

modeling through school projects. She has an interest in learning new programming languages, mobile applications and artificial intelligence.

Semai Ülgen is an Associate Professor and Chair of Industrial Engineering Department at Antalya Bilim University, Antalya, Turkey. She earned B.S. in Mathematics from Bilkent University of Faculty of Science, Turkey, Masters and PhD in Mathematics from Purdue University, West Lafayette, IN, USA. She has published journal and conference papers. She had worked as a professor at the University of Mississippi, Oxford, MS, USA, at Grand Valley State University, Allendale, MI, USA, at Northwestern University, IL, USA and at Indiana University, Bloomington, IN, USA. Dr. Ülgen was a recipient of the Young Scientist Award for Turkish American Scientists and Scholars Association (USA). Her research interests include Finsler Geometry, Applications to Mathematical Physics, Stochastic Processes and its Applications. She is a member of IEOM, AMS, Turkish Mathematical Society. She owns a research and trade company (INNOSU) on water efficiency in agriculture and industry.