

Chapter 50

Individual and Group Cognitive–Based Therapy Support

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ABSTRACT

Cognitive behavioural therapy (CBT) is a widespread method used to deal with an assorted variety of psychological disorders. Associated procedures and techniques are strongly dependent and limited by the use of traditional paper-based artefacts (e.g., questionnaires, thought registries) which pose issues and difficulties for both patients and therapists. As technology is introduced within this process, a large set of opportunities emerges to enhance therapy for all the actors. This chapter presents a comprehensive framework that targets these issues and takes these opportunities by defining new paths that support individual (on the two active therapy roles) and cooperative endeavours spanning through the course of the various activities that therapy requires. The authors detail the tools that compose the framework, illustrating their functionalities and features with a variety of scenarios that validate its significant contribution to the overall therapeutic process.

INTRODUCTION

This chapter addresses the use of technology in cognitive-based psychotherapy (CBT). It identifies the challenges of the domain, in terms of both individual and group therapy, but also the opportunities for the exploitation of new directions, opened by the introduction of the technology itself. New and refined therapy approaches, broader and multifac-

eted therapy environments, wider and diversified audiences are but a few of those opportunities.

The chapter reviews existing software and identifies its difficulties while dealing with the ubiquitous nature of CBT, the multiuser character of Group CBT and most of all with the critical usability requirements of a health-related activity. We address the commonly overlooked details that retract from user acceptance, paving the way for motivating the introduction of more dynamic and multi-purposed tools covering the extent of the therapeutic process

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through its various dimensions and stages. We also stress the limitations of dedicated applications as facilitators for cooperation between therapists and patients, detailing the restrictions posed on the customization of personalized artefacts where, contrarily to the common standardized “one-fits-all” solutions, care must be taken to adjust the tools to patients and their needs, without neglecting evolution and integration with existing procedures and therapies.

We propose a CBT Framework for the design and development of psychotherapy artefacts, its pervasive use, including relevant data and interaction collection, and its analysis in individual and group sessions. The utilization of extended therapies and seamless mechanisms, supported by the framework’s mobile facet, propels means and tools for remote and pervasive monitoring, reinforcement and motivation throughout scenarios and therapeutic endeavours. This configurable proactive approach extends patient support outside the common clinical settings, aiming at a continuously motivating and sustained therapy process.

On a practical perspective, the framework and its multi-device architecture, offers therapists the ability to develop their own personalized tools in accordance to adequate approaches suiting critical settings and scenarios. The design and development process is guided and supported by domain specific guidelines, ensuring proper usability levels on the generated tools and artefacts, simultaneously coping with therapist’s development and design needs.

The CBT Framework’s multi-setting features cover the in-session and homework activities either through personalized and focused individual therapy or through multi-user in-situ approaches where patients and therapist engage on dynamic procedures within locations which are relevant to the disorders that are being targeted. On the latter scenario, the framework integrates mechanisms to manage co-located meetings and sessions with the use of mobile-devices as point-of-service tools allowing for collaboration and CBT within

unlikely locations where social and communication aspects play key roles.

The framework also extends its support into multimodal interaction applications, thus covering the support for universal access, including people with disabilities and adverse usage scenarios. It provides the necessary functionality to create, arrange and adjust the therapeutic tools and artefacts to a variety of needs that pertain to users’ limitations, therapy and contexts of use, facilitating access to therapy and promoting a tighter communication and relationship between therapists and patients. The tools and built artefacts were evaluated, also in some clinical scenarios, with psychotherapists. The results are very promising and the acceptance levels high.

BACKGROUND

This section will present concepts and related work. First it briefly describes Cognitive Behavioural Therapy (CBT), in its individual and group (GCBT) forms. Then it discusses the opportunities for the introduction of technology in the traditional CBT process and afterwards the opportunities to improve and extend CBT processes through technology. It debates on existing technology, first addressing the systems specifically developed to support psychotherapy and then enlarging the scope to other tools that can be adapted or offer inspiration to a full CBT support.

Cognitive-Behavioural Therapy

Constructivist psychotherapy methods, such as Cognitive-Behavioural Therapy (CBT), defend that humans are active participants in their own lives, agents acting and experiencing in the world. As such, individuals must be actively involved in their change and unfolding processes, and must be encouraged to be autonomous (Mahoney, 2003). In therapy, patients are motivated to perform tasks that not only result in an active behaviour,

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