Therapeutic Plan Specification Language for a Computerized, Automated Intervention for Depression

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We have developed an automated, mobile CBT intervention for depression that uses insights from Graphic Design (e.g., user interfaces) and gamification theories (e.g., serious games). This solution can significantly increase the quality of the user experience, thus leading to better outcomes (e.g., reduced attrition rates, more stable improvements, increased functioning). To make the solution viable for usage by independent therapists, we need to provide an intuitive and efficient modality for specifying the content of the therapy. The therapeutic plan, which describes the sequence of activities that the patient is going thorough during therapy, is in essence a collection of actions and rules. While the actions are well defined by the features, and thus easily understood by the therapist, the rules are more complex to model due to their detailed logic and recurring nature. We propose and approach to enabling persons without a software engineering mindset to specify complex conditions based on streams of events. The foundation of our proposal is a domain specific language simple enough that it could potentially be written directly by a user. We are also considering the adaptability of our approach to an intuitive visual interface. Initial work on detecting potential infinite loops in such specifications is also presented.

References

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