

## Context-Aware Mobile Device Software for Substance Abuse Interventions and Behavioral Modification

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**Keywords:** Research Tool, software, substance abuse, addiction, mHealth, HuRIS.

### **Summary:**

The [National Institute of Drug Abuse \(NIDA\) Bioinformatics Section](#), is seeking statements of capability or interest from parties interested in collaborative research to further co-develop software for mobile personalized assessment, addiction treatment, and behavioral modification.

### **Technology:**

Available for commercial development is software that provides personalized feedback for treating drug dependence and associated risky behaviors. The tool is designed for both healthcare providers at the point-of-care and for self-help. Many people who could benefit from treatment do not receive it because of its low availability and high cost.

The available software “mPAL” (Mobile Personalized Assessment and Learning), combines mHealth-based educational functions with the Ecological Momentary Assessment (EMA) functions of TED (transactional electronic diary) software. mPAL allows interchange of data obtained from EMA and learning system in order to deliver context-aware intervention in real time, customized to the individual needs of participants. mPAL enables participants to interact with educational materials at the time and place of their choosing and receive personalized feedback when and where it is most needed. The software integrates into HuRIS where comprehensive patient data can be leveraged alongside the mPAL data to provide better understanding of the underlying factors under investigation.

### **Potential Commercial Applications:**

- Substance abuse
- Drug abuse
- Alcoholism
- Behavioral modification
- Smoking Cessation
- Pain Management

### **Competitive Advantages:**

- Low-cost mobile treatment mechanism
- Provides personalized feedback to patients at the time and place they choose
- Proven usability in prior clinical studies

**Development Stage:** Clinical.

**Patent Status:** Software Research tool – Patent protection is not being pursued for this technology.

**Publications:**

<http://ttc.nci.nih.gov>

1. Vahabzadeh M, et al. PGIS: Electronic diary data integration with GPS data initial application in substance-abuse patients. In, Proc. 23rd IEEE International Symposium on Computer-Based Medical Systems, pp 474- 9, 2010. [DOI: 10.1109/CBMS.2010.6042691]
2. Lin JL, et al. A high-level specification for adaptive ecological momentary assessment: real-time assessment of drug craving, use and abstinence. AMIA Annu Symp Proc. 2005:455-9. [PMID 16779081]
3. Vahabzadeh M, et al. An electronic diary software for ecological momentary assessment (EMA) in clinical trials. In, Proc. 17th IEEE International Symposium on Computer-Based Medical Systems, pp 167-72, 2004. [DOI: 10.1109/CBMS.2004.1311709]

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