

## 2BAlert Smartphone App

### Status

*Title: Method and System for Measuring, Predicting, and Optimizing Human Cognitive Performance ("2B-Alert")*

#### Developers:

Dr. Sridhar Ramakrishnan

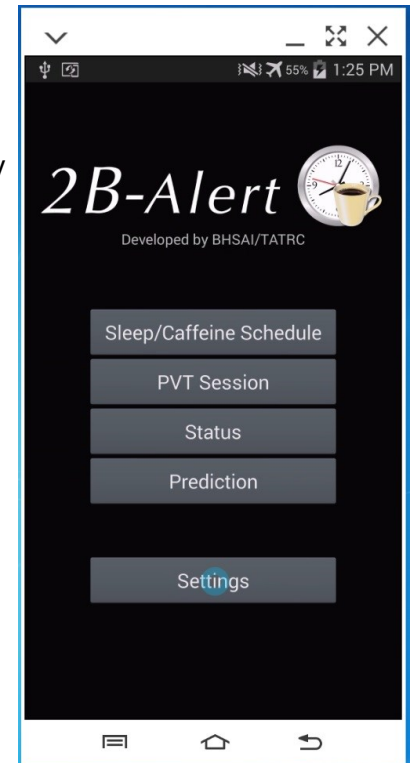
Mr. Maxim Khitrov  
Dr. Jianbo Liu  
Dr. Jaques Reifman

**The Army is seeking a partner interested in commercializing this technology.**

### The Technology:

Sleep loss impairs alertness and cognitive performance. This smartphone app uses sleep-wake history and caffeine consumption along with measurements of past performance as inputs to predict future alertness and cognitive performance levels. Past and current performance are measured using a psychomotor vigilance task (PVT) test for accurate, objective assessment.

The system's user-friendly interface allows for user evaluation of the effects of caffeine consumption and/or nap schedules to optimize future performance at the desired times. The app includes a visual reaction time PVT test, which is the gold standard for estimating cognitive performance. An intuitive graphical user interface allows the user and, if desired, others such as a supervisor or safety officer, to view predicted cognitive performance levels at desired future times.



### Application:

This technology has applicability in multiple market segments:

- Consumer Products — added functionality for existing activity tracking and sleep monitoring devices (e.g., alertness test and nap/caffeine planning tool)
- Transportation Industry — safety tool for airlines, railways, etc.
- Coffee Industry — promotional item for demonstrating benefits gained
- Clinic/Research — tool for pharma to study dosage impact on alertness and cognitive performance, tool for collecting additional objective data for sleep labs, etc.

### Benefits:

- User-friendly, intuitive software available for transfer to a commercial partner
- Built-in PVT test for accurate, objective assessment of current alertness
- User can identify schedule of caffeine and/or nap to achieve peak alertness and cognitive performance at desired time

### Contact

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