

# **MASTERS FINAL ORAL EXAMINATION**

**Monday, April 11<sup>th</sup>  
9:00a.m. @ 223 Atanasoff**

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## **Emotion Aware System for the Elderly**

The growth in elderly population challenges technologists to develop applications explicitly designed for the elderly which are innovative yet intuitive to use. According to recent studies in Gerontology, one of the challenges that an elderly person has to confront is solitude and boredom. With the detectability of emotions through Brain Computer Interfaces (BCI), one can provide reliable services to the elderly that address their emotional needs. In this paper the applications of the Emotiv EPOC, a BCI, is explained by developing a system called AWARE which helps mitigate loneliness in the life of an elderly and provides emergency services and other services based on their real-time emotional state. The AWARE system uses a model of computation that has taken pervasive computing to the next level by reducing the need for an explicit user input and facilitates the understanding of the user's emotions by the system to address their emotional needs.

**IOWA STATE UNIVERSITY**  
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