Team 3 Project Charter

Heart Rate Deceleration Analysis

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Problem Statement

There is not currently an intuitive and easy to use available software to analyze heart rate data and behavioral attention data. The goal of this project is to create a generic software that any researcher can use easily, without needing comprehension of complex multi-purpose software like SAS.

Project Objectives

1. Our project will implement an algorithm that will compare heart rate with other data to provide a heuristic to assist in the diagnosis of infants who are considered at high-risk for autism.
2. Take an input data streams and output a summary of analyzed data using various algorithms.
3. Implement visualizations of various sets of data against heart rate.
4. Design an intuitive and user-friendly interface for the system.
5. Enable researchers to customize the behavior of the software to suit their research needs.

Stakeholders

Project Owner: Bridgette L. Tonnsen, Ph.D. Assistant Professor of Psychological Sciences, Purdue University, btonnsen@purdue.edu
Developers: Ruhana Azam, Manoj Polisetti, Rajith Weerasinghe, Phillip Thain
Users: Researchers doing work specific to heart rate analysis.
Project Manager: Phillip Thain
Project Coordinator: Hasini Gunasinghe

Deliverables

1. Preprocessing of heart rate data combined with other data streams used for the study (e.g. behavioral attention data).
2. Implementation of the heart rate deceleration analysis algorithm.
3. User friendly UI to help researchers to customize their analysis.
4. Provide both graphical and numeric output (e.g., a CSV file that specifies the algorithm output for each heart beat) to facilitate further analyses.