AMA, an application for Annotation, Monitoring & Analysis

Helping to Understand Autism

MAS 771: Autism Theory & Technology

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Project Review
Annotation, Monitoring & Analysis

Psychophysiology
- Skin Conductivity
- Skin Temperature

Context
- Location
- Video
- Photos
- Audio
- Events
- Problem Behavior

Autistic Profiles

Q sensor (Affectiva.com)

Stressed
Relaxed

John
Family
Therapist
Teacher
Background: Annotation & Monitoring

- Paper-Based
  - Prone to errors
  - Slow

- Other tools for annotations
  - Keypads
  - Cellphone Apps
  - CareLog

Human Dynamics @ MIT Media Lab
Strengths of AMA Annotation, Monitoring & Analysis

- Portable
- Scalable
- Shareable
- “Cheap”
- Customizable
- Accurate
Annotations

Classes
- Exercise
- Lunch
- Speech
- Reading

Problem Behavior
- Self-Injury
- Tantrum
- Rocking
- Hand Flapping

Others
Annotation

Main Menu

Summary of Annotations
Customization

Settings Menu

Personalized Buttons

Different Participants
Sensors

Images

Skin Conductivity

Accelerometers

Multimodal Data

View this sensor:
FireFly-9641 (00:06:66:04:96:41)

EDA (mho) : 0.004634625
Temp (C) : 33.242588
Accel: 32585.0, 32898.0, 32888.0
Battery (Volts) : 212
Heart Rate (BPM) : Infinity

Recording  Disconnect  Find Sensor
Learned Lessons

• Cell phone is good platform
  – Android
  – Google App Inventor is very limited

• Types of Annotations
  – Duration
  – Overlap

• Size of Display
Future Work

• Further Development
• User Study/Validation
  – Interview Teachers at Groden Center
  – Subjective/Objective Evaluations
• Data Visualization
• More Sensors (e.g., GPS, Bluetooth)
• Automatic Annotation Using EDA Levels