Kellar Instructional Handheld data (KIHd) System

A Real Time Mobile Collaborative Data Collection and Analysis Tool
Autism’s Impact on Society

• Affects more children than cancer, diabetes, and AIDS combined
• Fastest growing developmental disability
• 1 in 150 Americans diagnosed
• 1.5 million Americans affected
• $35 billion in cost in the U.S. annually

A Real Time Mobile Collaborative Data Collection and Analysis Tool

**KIHd System**
- Real Time Observable Data Collection
  - How many?
  - How Long?
  - How Accurate?
  - How Fluent?
- Easy Data Entry and Analysis
- Browser Based Multi-Platform
- Simultaneous Use
- Immediate Feedback

**Replaces**
- Clipboards (Paper Processes)
- Non Standard Data Collection
- Manual Data Manipulation
- Manual Data Transposition
- Incomplete Data Analysis and Reporting
- Delayed (or no) Feedback
Collaborative Interactive Framework
Handheld Data Collection
Screen Shots of KIHd System
Admin Pages

KIHd System

KIHd System is a handheld (PDA) based online real-time data collection and analysis tool for teachers and parents to help children with special needs.

Current Database: KIHDSYSTEM

- Database Configuration
- Define Task
- Add Child
- Add Parameters
- View Graphs, Reports
- Data Collection
- Help

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Current State of Technology

- $600K U.S. Department of Education Steppingstones of Technology Grant
- System (Patent Pending)
- Proprietary Software (Copyright)
- Four Years of Development and Testing Completed
- Classroom Tested
1. Developed concept and test technology feasibility and grant application
2. Prototype Design and Usability testing followed by grant application
   - Mason IDD Immersion team
   - Beta Testing with teachers
3. Field testing followed by successful grant application
   - Refinement and testing with Mason LIFE Instructors
4. Autism Focused Implementation Research
   - 2 Year U.S. Department of Education, Steppingstones of Technology Grant (CFDA 84.327A, Innovations for Students with Disabilities/H327A060031)
      - Increase in traffic as expected (more teacher participants)
      - Time on site increased from 20 seconds to 6 minutes
      - Pages viewed per visitor increased from 8 pages to 18 pages
      - Completion of the requested version of the print graph
      - Completion of the stand alone synching system
      - 2007-2008
        - Home program continuing since summer 2007
        - Adding more student participants
        - Increase number of classrooms
        - Market development
Teacher Perception of System
(Likert Scale 1= Strongly Disagree, 5 = Strongly Agree, N= 11)

I feel comfortable with the coordination of my current KIHd System tasks
The KIHd System is better than our previous charting system
I feel comfortable consulting with others in regards to the KIHd System
I feel comfortable with my responsibility level in regard to the KIHd System
I am concerned about the change in my teaching using the KIHd System
I am concerned about the change in the supervision role using the KIHd System
The level of training by the research team is excellent
The level of support by the research team is excellent
The student/s seems productive when the KIHd System is being used in their classroom
I save time by using the KIHd System
Competitive Landscape

• mTrial
  – Palm System Only
  – Only Measures Frequency
  – Not Real-time

• Observer
  – Uses a Preprogrammed Curriculum
  – Not User Adaptable
  – Not Multi-platform
  – Highly Complex

• DT Trainer
  – Only for Students 2-9 years old
  – Uses a Preprogrammed Curriculum
  – Curriculum Not Changable
Product Models and Market Segments

Education Regulatory Mandates (No Child Left Behind)

- KIHd Stand Alone + Web Based
  - Mobile Device
  - Synchronize with Web Database
  - User Licenses 3, 15 and 100

- KIHd Web Based
  - 3 users/10 students
  - 15 users/75 students
  - 100 users/500 students

- KIHd Enterprise
  - For all Users
  - Data Stored on Local Server
  - License to # Servers and #Users

New Markets

- General Education
- Health Sciences
- Animal Studies
- Worker Productivity
- Quality Control (e.g. assembly line)
- Homeland Security

Etc.......
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KIHp System http://kihdsystem.gmu.edu

Version 1.0 Available January 2008

User Licenses
• Web Based for Home or Classroom
• Stand Alone + Web Synchronization

Server Licenses
• Enterprise Edition