

Discover-E-motion

ProApps

Designing a Socio-Development Game for Students
with Autism

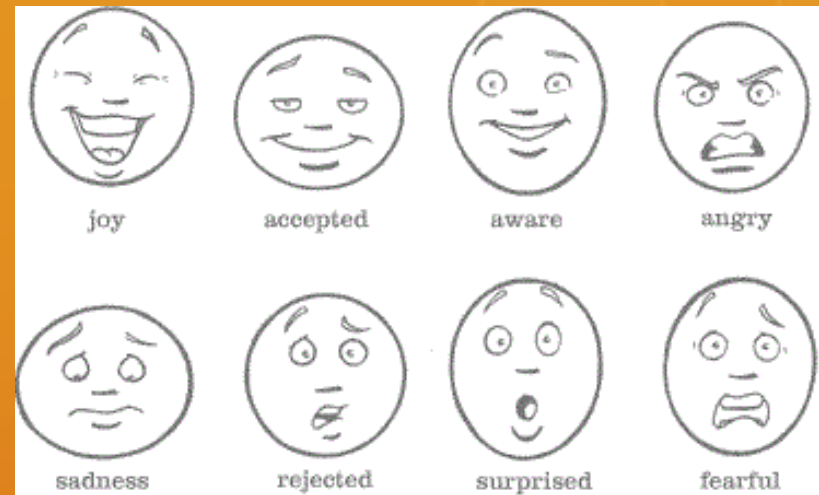
Background Information



- Developmental disorder appearing in first 3 years of life
 - Affects development of social and communication skills
 - Decreased response to sensory information
- Affects about 1 in 88 children (CDC statistic)
- Pacific Autism Center for Education (PACE)
 - Serves up to 60 students in K-12 school
 - Provides high quality learning programs to improve education, self-expression, and interpersonal experiences



Statement of Problem



- Social Processing Steps:
 - Recognize Emotion →
 - Internalize Feeling →
 - Respond Appropriately
- People with Autism have trouble recognizing socio-emotional cues, particularly with regard to facial expressions
- Studies have shown that early assistance with social processing has positive effects on behavioral development for children with autism

Our Approach

- Make an appealing game that addresses the first step:
Recognize Emotion →
Internalize Feeling →
Respond Appropriately
- Add other features that focus on the transition between steps
- Add customizable features:
 - Familiar faces
 - Context specific to the student's life
 - Logging data for trend analysis and feedback
 - Response scenarios



Interviews – Previous Class Project

- Anna Ly and Hain-Lee Hsueh
- Created Emotionary (iPad) and Me.Mu (Kinect)
- Emphasized importance of realistic situations/faces
- Positive Feedback (no negative feedback) as any stimulus is often appealing to the students
- Potential connections to their existing application
- Stressed Importance of testing with students



Interviews – Kurt Ohlfs

- Most of the apps that he has used are focused on communication rather than emotional recognition
- Data Tracking/Output
- Ease of Use:
 - Icon size
 - Intuitive pathways (for students and aids)
- Flexibility and customization of settings



Existing Solutions

- Primarily iPad apps, DVDs
- Focus on one category of social processing steps
 - No attention towards transition
- Not a lot of customization available
- EXPENSIVE!

Preschool Playtime 1 & 2
Price: US\$132.00

A screenshot of an online store displaying several educational products. The products are arranged in a grid. Each product has a title, a price, and buttons for 'ADD TO CART' and 'BUY NOW'. An arrow points from the 'Preschool Playtime 1 & 2' product in this screenshot to the callout box above.

Product	Price
Flash! Pro2 Combo USB	US\$129.00
ABA Worksheets	US\$67.00
School Rules! 1 & 2	US\$179.00
Preschool Playtime 1 & 2	US\$132.00
My School Day	US\$96.00
My Community	US\$96.00

Autism & Special Needs Software

Children, adolescents, preschoolers

[Details](#) [Demo](#) [Purchase](#) [Promotional codes notice](#)

10% OFF when you buy all 7 CDs!

PRODUCT	AGE	DESCRIPTION	PLATFORM	PRICE
 Vol 1 CD-ROM	3-7 years	Preschool Playtime Volume 1 teaches the young child (toddler, nursery school, kindergarten) basic manners and behaviors through real-life social situations.	PC / Mac*	\$69.99*
 Vol 2 CD-ROM	3-7 years	Preschool Playtime Volume 2 teaches the young child (toddler, nursery school, kindergarten) basic peer interactions and play skills through real-life social situations.	PC / Mac*	\$69.99*

Design Concepts

- Picture Matching Game
- Customized Settings:
 - Words/Audio
 - Levels of varying difficulty
 - Familiar Faces
 - Pop up story board
 - Connecting to diary entries (in Emotionary)
 - Sequence of emotions/difficulty levels
 - Recording response time
 - Recording most missed emotion



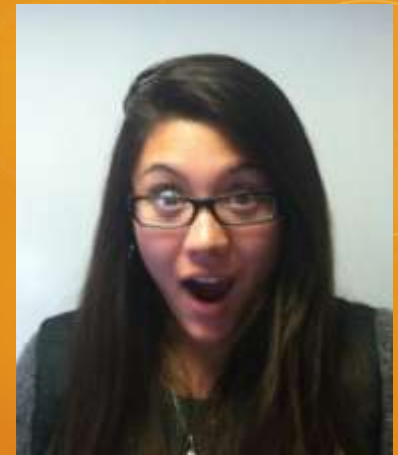
Prototype Construction



Happy



Angry



Surprised



Sad



Afraid

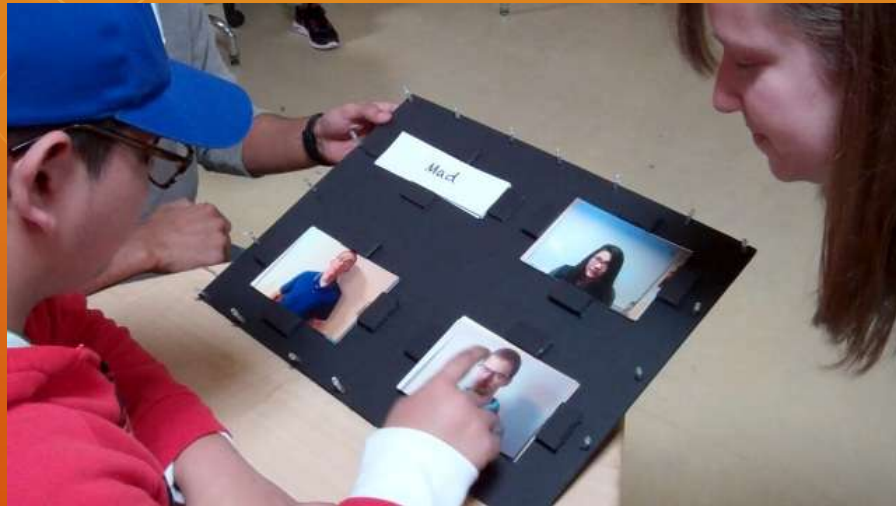


Confused

Surprised



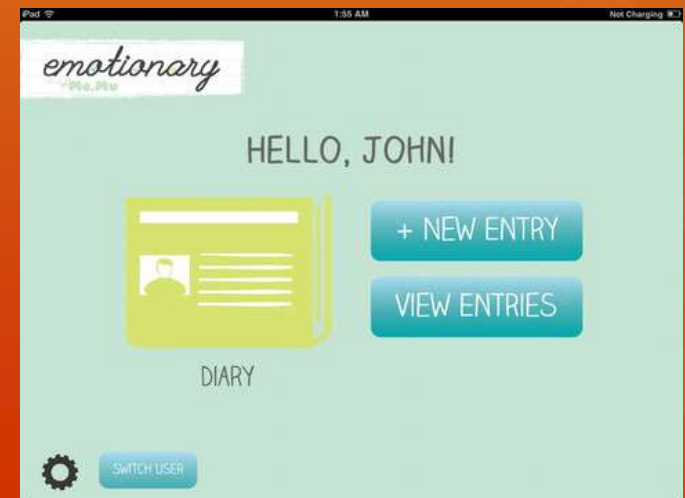
Prototype Feedback





Future of Discover-E-motion

- Code, code, code
 - Xcode – Application writing software
 - Integration with previous app (Emotionary)
- Continue meetings with PACE, gather feedback from students and therapists
 - Test and debug app based on student use
- Release to App Store?



Acknowledgements and Links

- Thank you to: Kurt Ohlfs, Dave Jaffe, Anna Ly, Hain-Lee Hsueh, Olivia Krakower, Jeni Yamashita, Carla Brooks, PACE Students
- Links:
 - PACE Website: <http://www.pacificautism.org/>
 - Emotionary in the Apple Store:
<https://itunes.apple.com/us/app/emotionary-by-me.mu/id555381720?mt=8>