NYU

Carolyn Concepcion | Adarsh Kosuru | Joy Li | Haylee Hongeun Jung

AUTISM

AUTISM APPEARS IN THE FIRST 3 YEARS OF LIFE, AND **AFFECTS** THE BRAIN'S DEVELOPMENT OF **SOCIAL** AND **COMMUNICATION** SKILLS

$2.4 million

$137 billion

Center for Disease Control and Prevention

National Center for Biotechnology Information

IMPACT OF DIAGNOSIS

EARLY DIAGNOSIS

EARLY INTERVENTION

BETTER FUTURE

National Center for Biotechnology Information

DESIGN CHALLENGE

How might we help reduce the time spent in detecting autism and improve the accuracy of the diagnosis?

How might we rise to the challenge of designing for a billion sensors to create life changing technologies?

DIAGNOSTIC PROCESS

Center for Disease Control and Prevention

Center for Disease Control and Prevention

Repetitive behavior : stimming

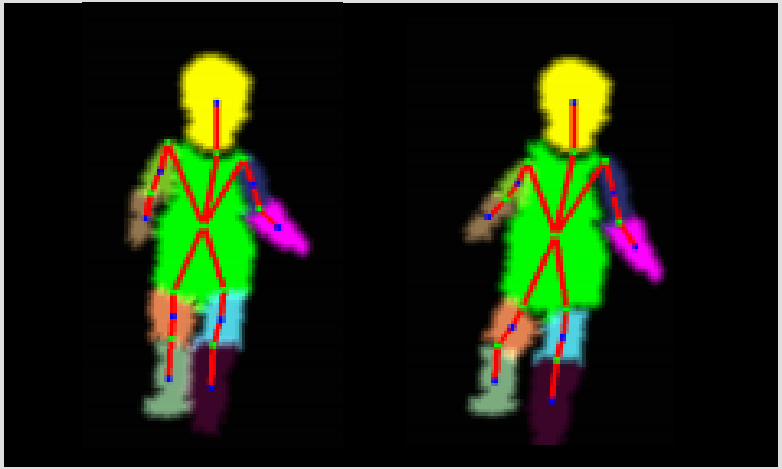
Avoiding eye contact

Communication challenges

DETECTION TOOLS

Eye Tracking

University of California - The Autism Center of Excellence



Computer Vision

University of Minnesota

TREATMENT TOOLS

PLEO

AUTI

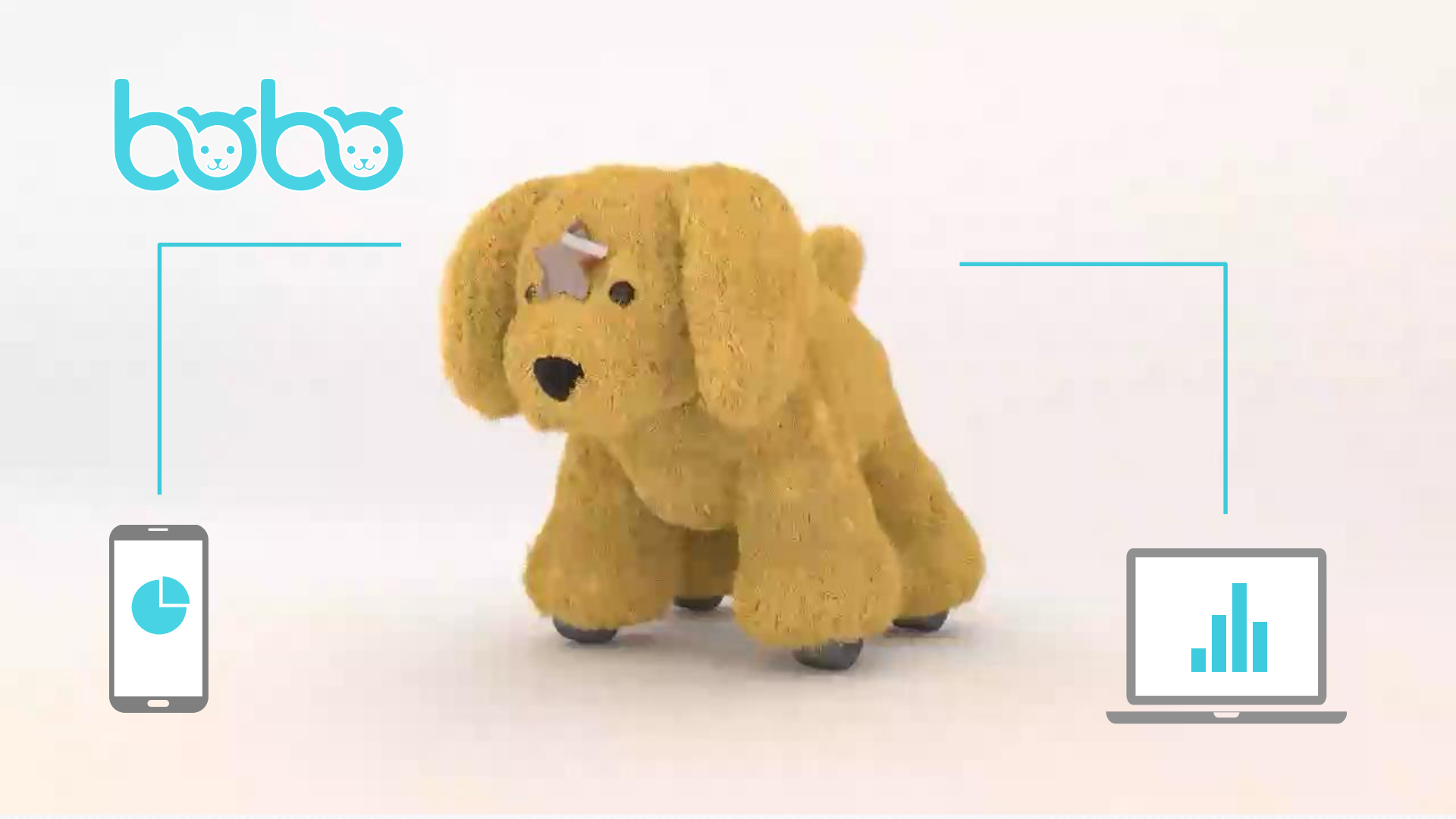
KEEPON

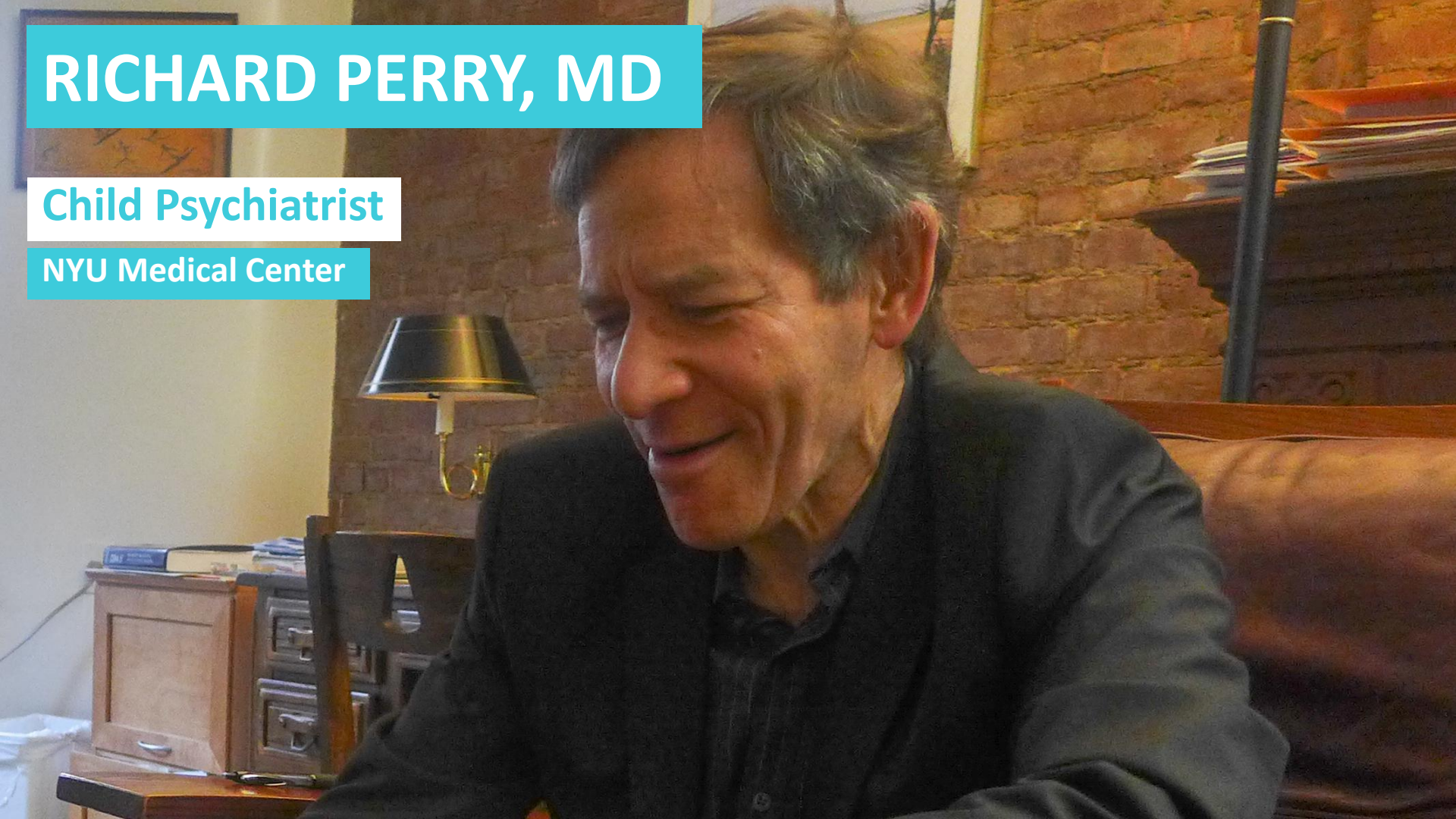
UBOOLY

OPPORTUNITIES

DIAGNOSTIC TOOL

TREATMENT TOY

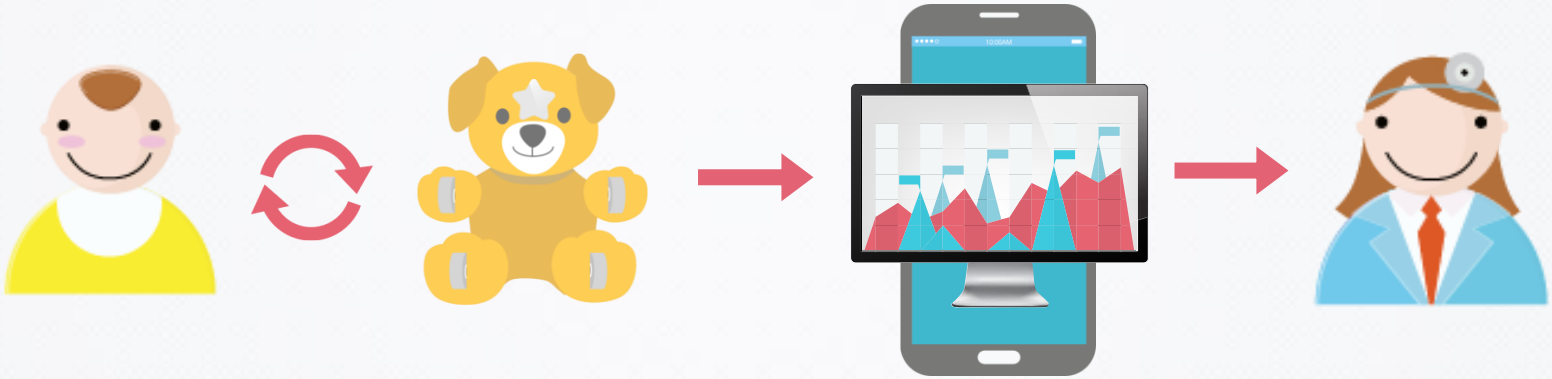

bubo

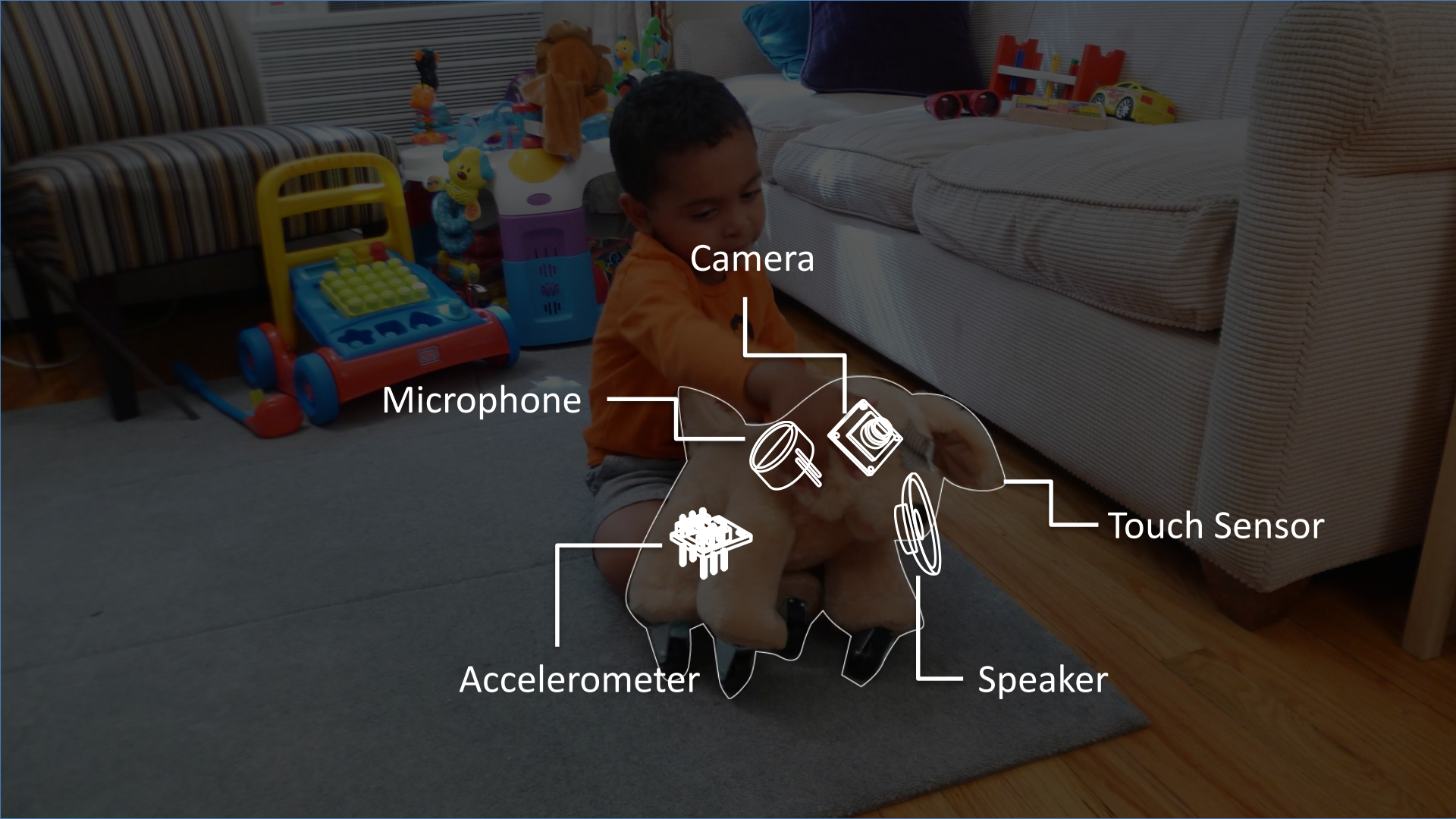

RICHARD PERRY, MD
Child Psychiatrist
NYU Medical Center

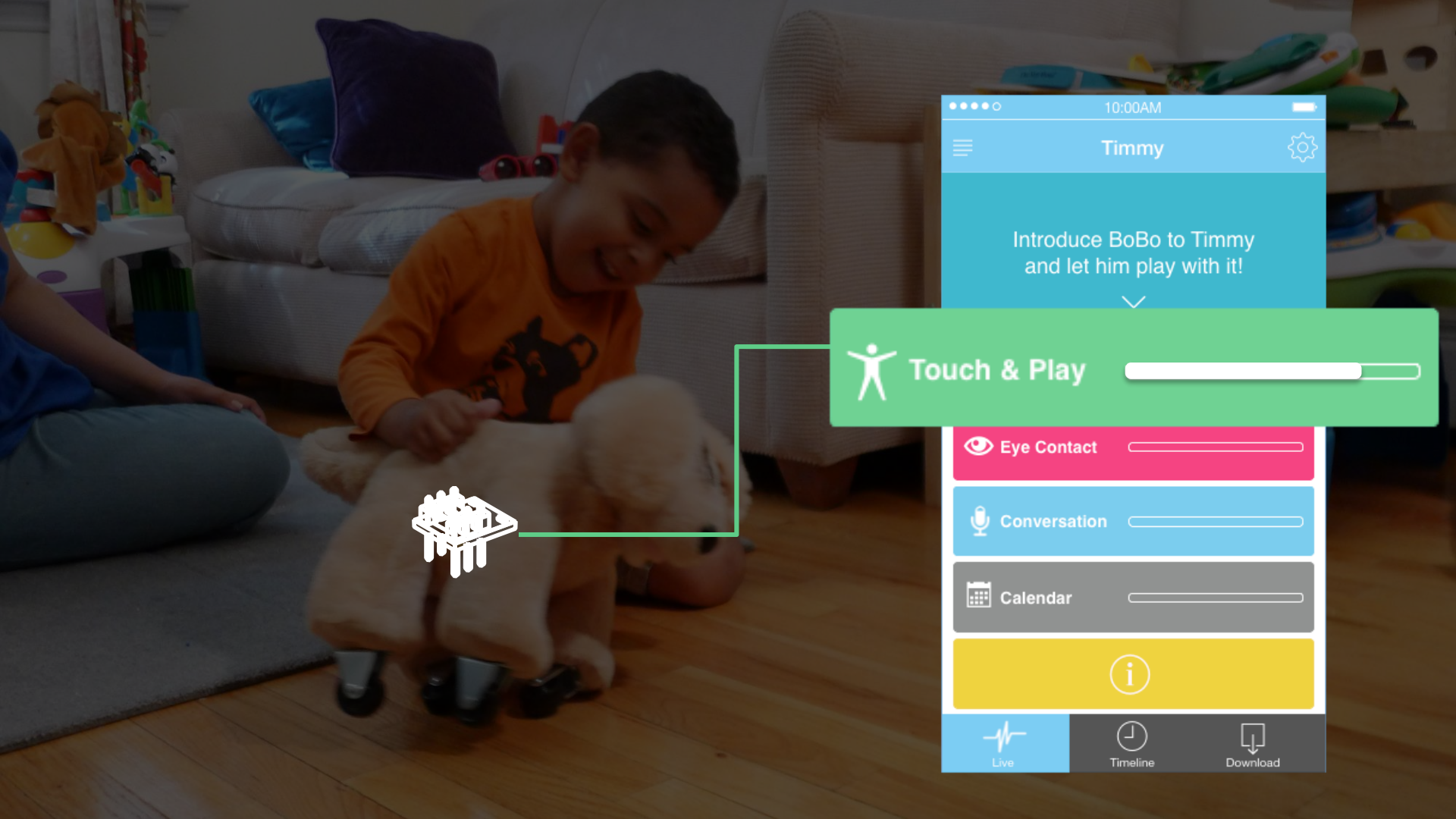
LAURA & TIMMY

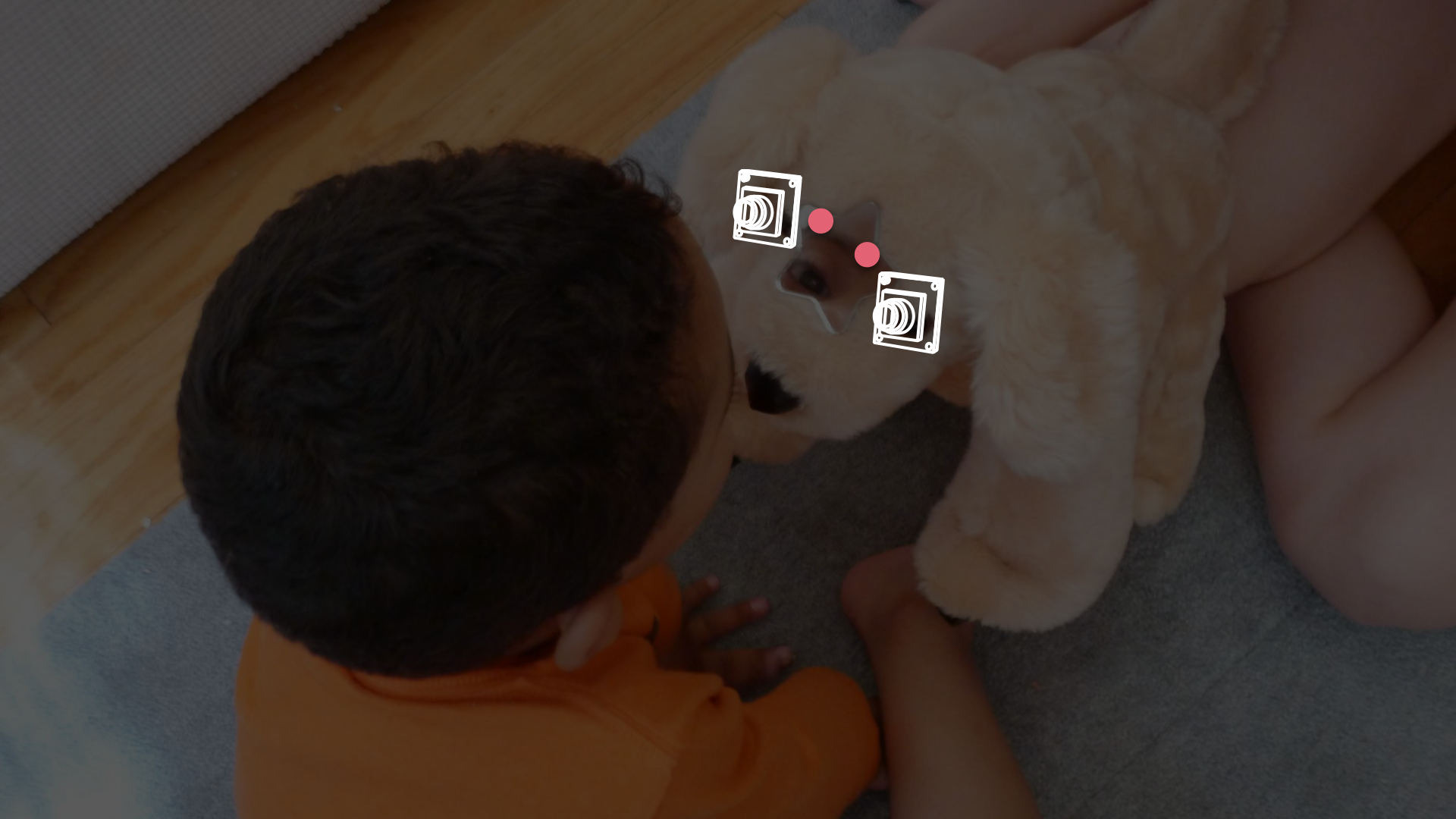
Not Social
Lag Behind In Speech

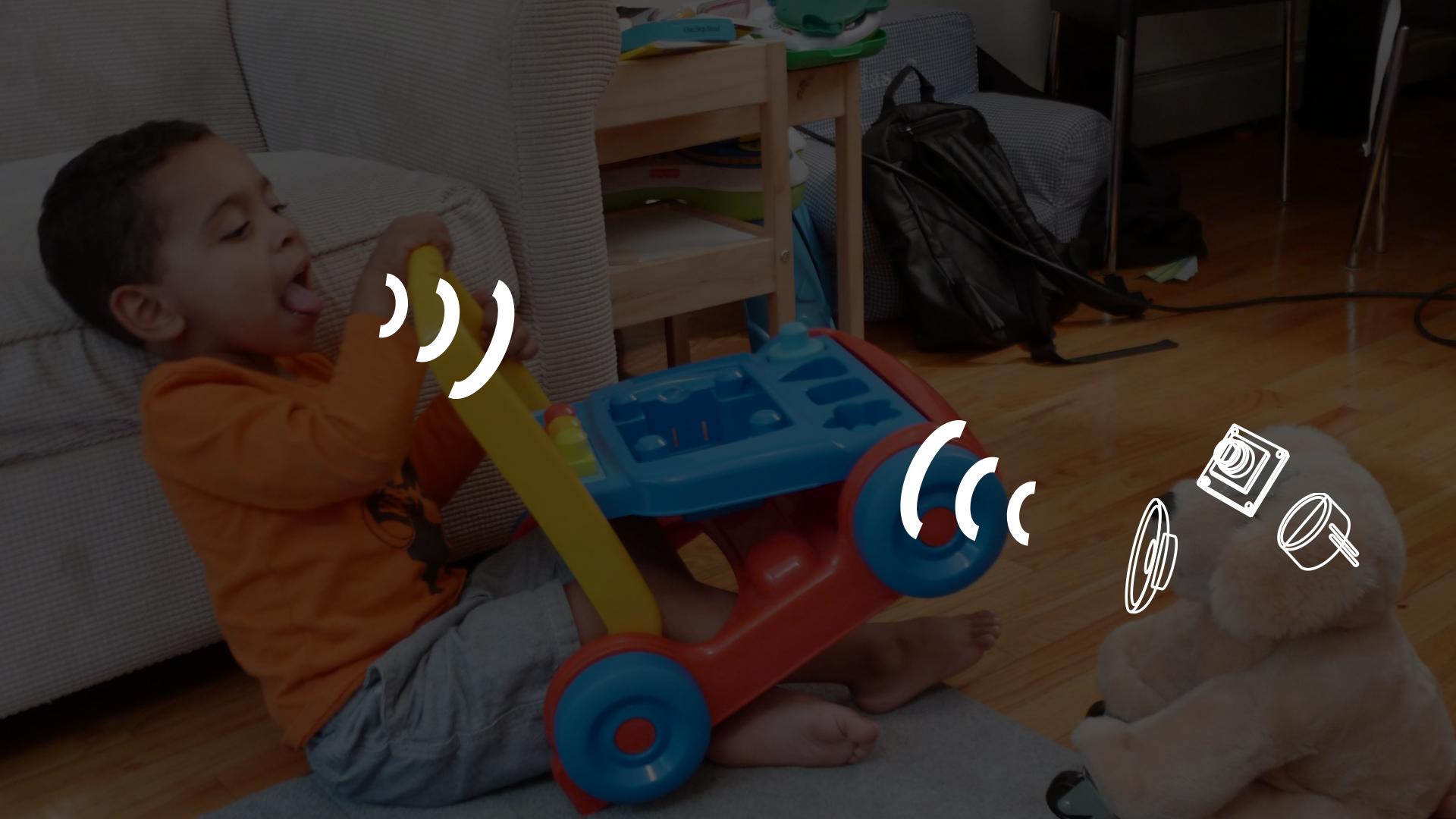
Repetitive Behavior
Avoiding Eye Contact
Communication Challenges

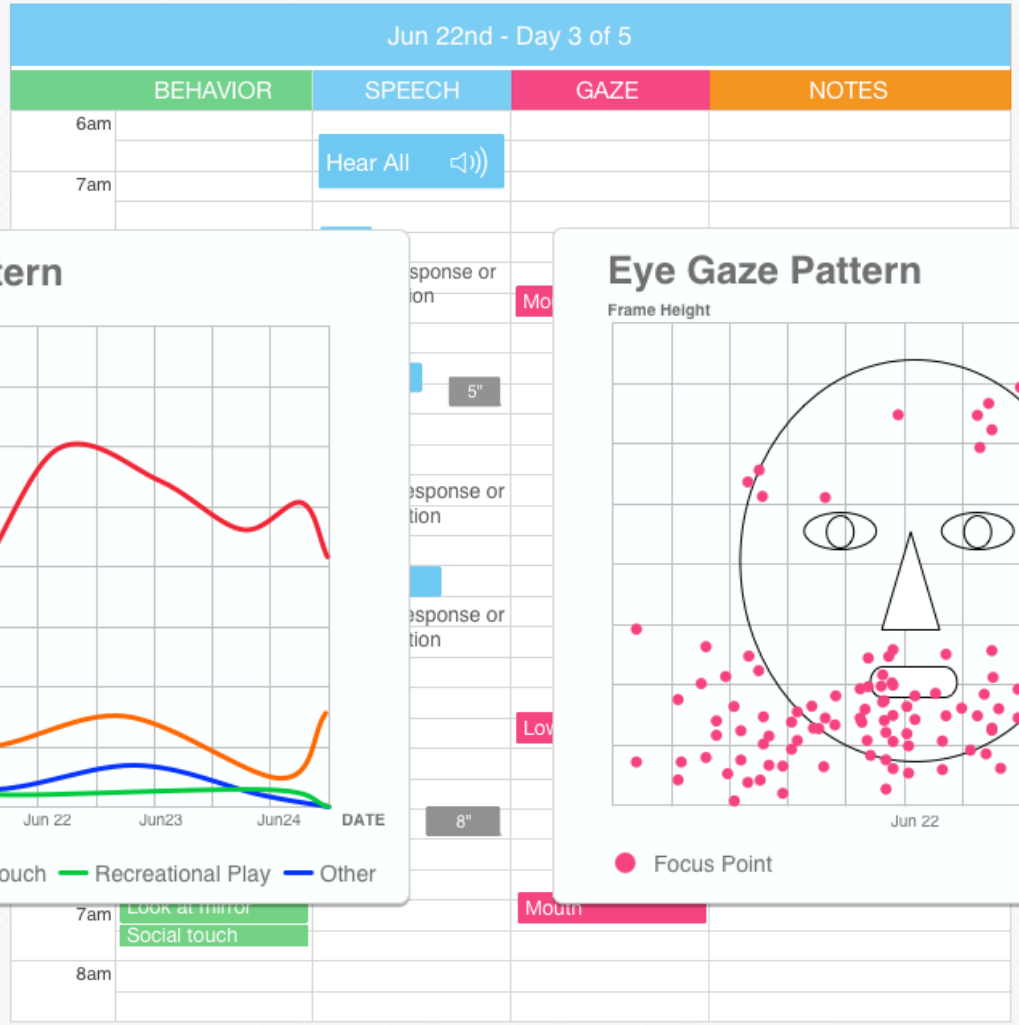



Camera
Microphone
Touch Sensor
Accelerometer
Speaker

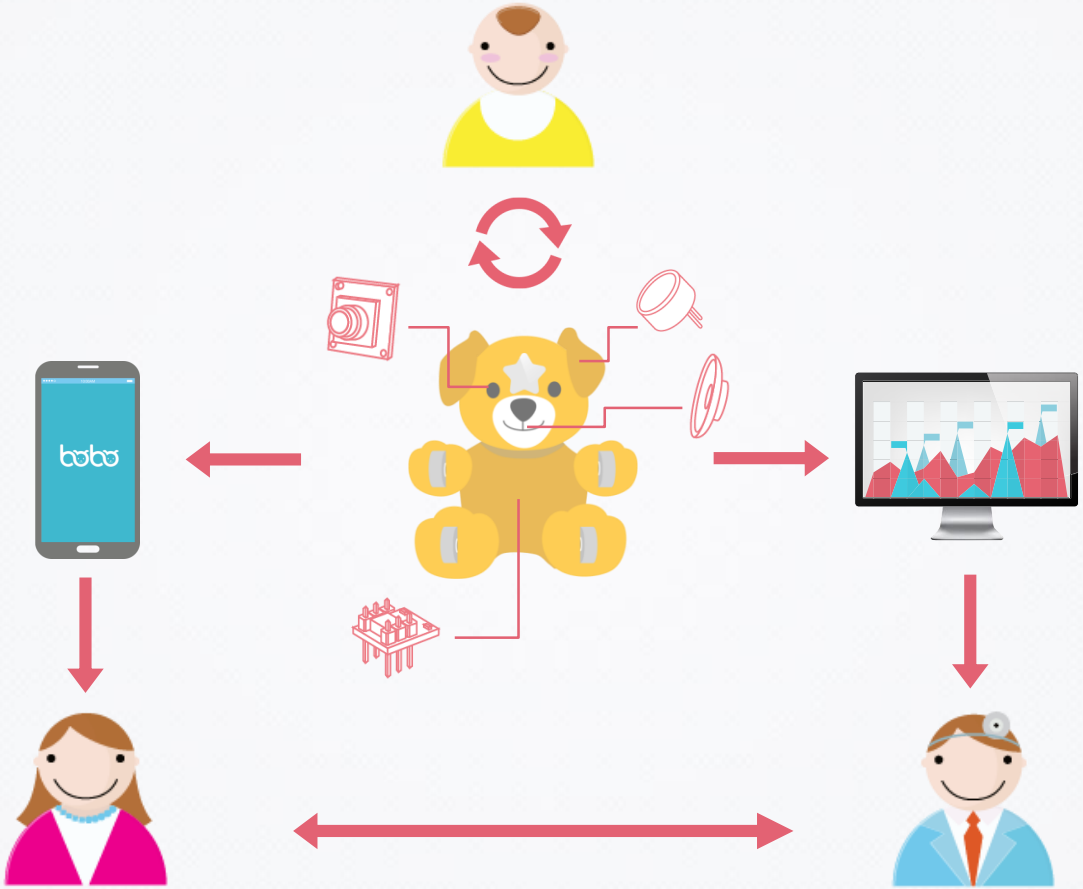

10:00AM
Timmy
Introduce BoBo to Timmy
and let him play with it!
Touch & Play
Eye Contact
Conversation
Calendar
Live
Timeline
Download






Jun 22nd - Day 3 of 5
BEHAVIOR
SPEECH
GAZE
NOTES
6am
7am
8am
Hear All
5"
8"
Social touch
Behavioral Pattern
Minutes
80
70
60
50
40
30
20
10
0
Jun 20
Jun 21
Jun 22
Jun23
Jun24
DATE
Repetitive
Social Touch
Recreational Play
Other
Eye Gaze Pattern
Frame Height
Jun 22
Frame Width
Focus Point

AUTISM


bobo

CONSIDERATIONS

Data collection

Clinical testing

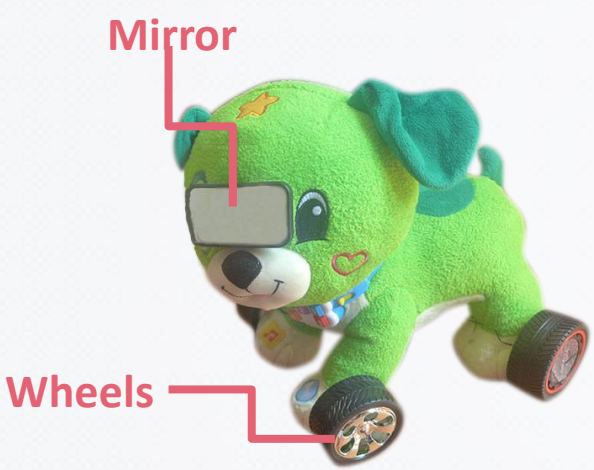
Funding

POSSIBILITIES

Modular

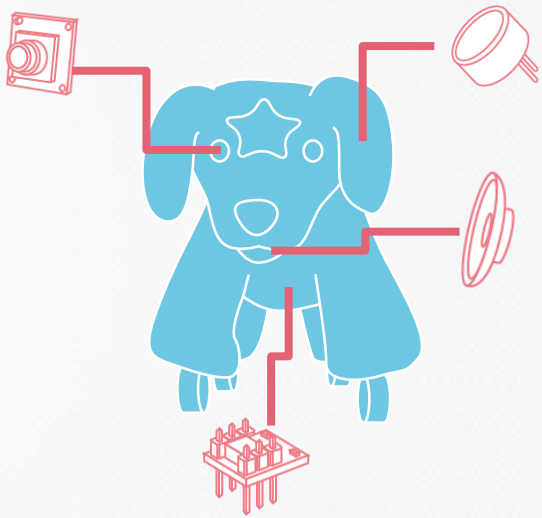
Aggregate data

New applications



1st Generation

2nd Generation



Future Generation