

# Designing Kinect based games for children with Autism

Aug '13 – May '15, Georgia Institute of Technology

Faculty Mentors: Dr. Agata Rozga, Dr. Brian Magerko, Dr. Gregory Abowd

Student Collaborators: Mirko Gelsomini, Patricia Perez

These games are a fun interactions with one and two player modes to encourage social and motor skills in children with Autism.



*Designing:* The games are prototyped based on user centered design process with the teachers at the [Lionheart School](#), Alpharetta. The prototypes are iterated based on their requirements and feedback. There are two modes of representation of the child - 2 D Skeleton figures, Green Screen Image.

*Evaluation:* The requirement data is qualitatively analyzed using *affinity modelling* and the impact of the games on social and motor behavior is quantitatively and qualitatively analyzed by *video-coding* the childrens' game play sessions.

Other technology probes included: A *freeform interactions* that also mapped the Kinect's skeleton joints to 2D characters like iron man, princess and Mr. Bean.



A *story telling application* with simple 2D animations for various movements of animals like flying, jumping and hopping and also explored gesture-detection with Kinect .

**Technology:** The front end application was a web application designed using Html, css, javascript and jquery. The Kinect joints were detected by a C# application which sent the skeleton information to the web application using socket communication.