

COSTUMES and WEARABLES as GAME CONTROLLERS

TEI 2015 Studio

Tess Tanenbaum
UC-Irvine
ttanen@uci.edu

Karen Tanenbaum
UC-Santa Cruz/Irvine
karen.tanenbaum@gmail.com

Katherine Isbister
New York University
katherine.isbister@nyu.edu

Kaho Abe
New York University
info@kahoabe.net

Anne Sullivan
Play Crafts
anne@play-crafts.com

Luigi Anzivino
The Exploratorium
lanzivino@exploratorium.edu

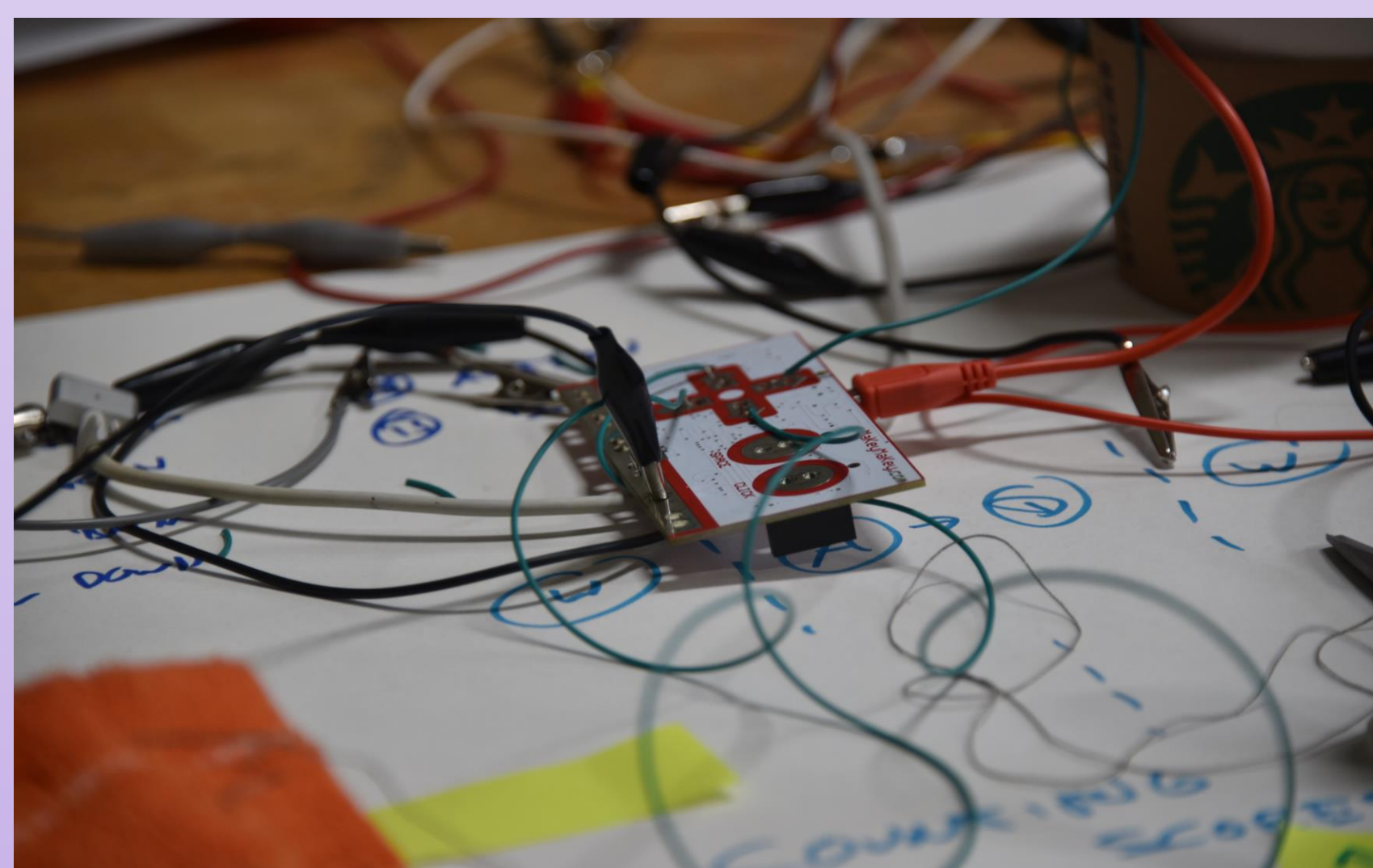
Taking inspiration from theatrical costuming and fashion design, this studio enabled participants to create wearable game controllers that included costuming elements. In theatrical and dance practice, costumes and masks are frequently used to elicit specific character behaviors in performers. Improvisational theater theorist and Mask practitioner Keith Johnstone describes masks as a source of *outside->in* transformation. Schools of *outside->in* method acting have long held that it is possible to use external stimuli including costumes, choreography, and tangible props to elicit transformative experiences in a performer.



The studio organizers assembled a simple kit for quickly hacking together wearable game controllers, so that participants could focus on the expressive and interactive possibilities of designing new wearable game interfaces. We provided a very simple hardware platform comprised of conductive fabric, alligator clips, and the MaKey MaKey interface board, facilitating rapid prototyping of wearable controllers. We also provided an assortment of clothing, costume pieces, and accessories like stretchy wrist and head bands for participants to modify and transform into wearable game controllers. With these seed materials, teams of participants created playful prototypes of a variety of games.



Fashion aficionados similarly use the clothing they select to inhabit an identity and to project that identity in social contexts and interactions with others. What takes place in a bounded 'magic circle' of gameplay with costuming, we believe, also has relevance outside this sphere and in the realm of everyday life. We can see the beginnings of the modulation of wearables into fashion with experiments like Google's collaboration with Diane von Furstenberg putting Glass on runway models. This studio encouraged participants to reflect upon the transformation of wearables into fashion objects in their own right, anticipating the need to design these aspects of future devices.



A color matching game where each person controlled either red, green or blue and had to "activate" their color in different ways to match a target color.



A luchador mask with a soft switch that turned on an LED when the wearer "head butted" someone else.



An audio Simon-style game where sequences of sounds had to be replicated by completing circuits across 2 performers.



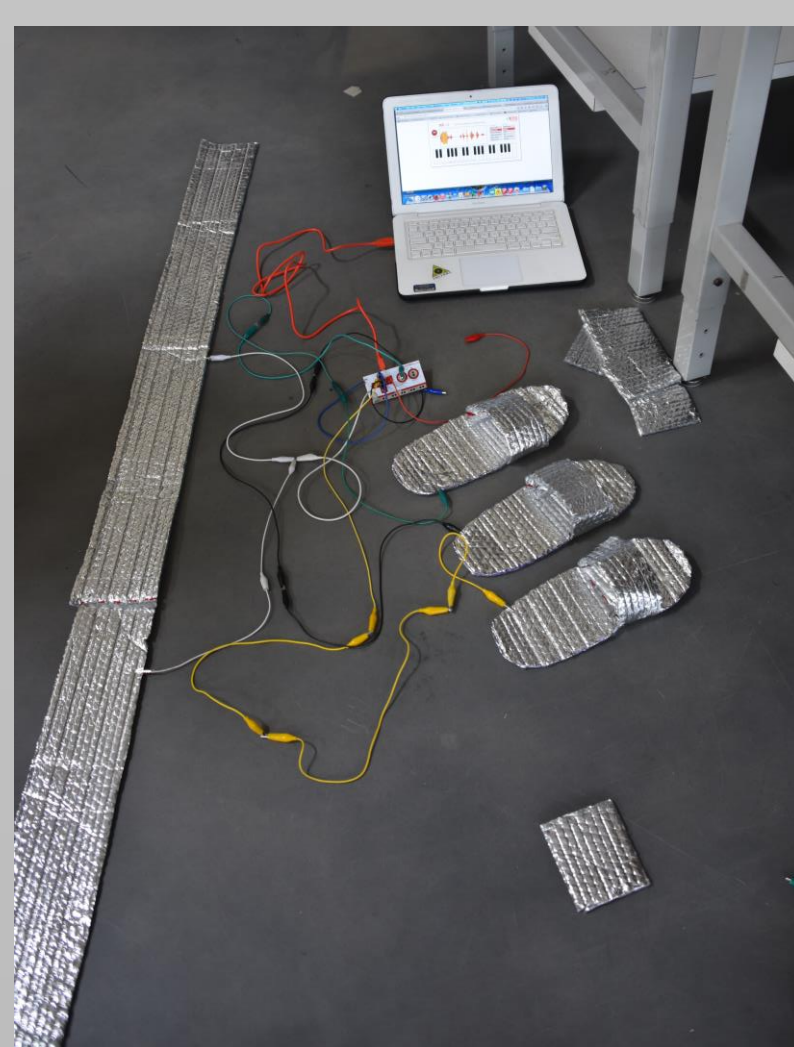
A cooperative "hand-jive" game producing musical feedback and incorporating a third person with a magic wand.



Participants: Beverly Ball, Denver Academy; Kate Compton, UC-Santa Cruz; Heather Faucett, UC-Irvine; Lone Hansen, Aarhus University; Ryan Jenkins, The Exploratorium; Simon Koch, Muthesius Kunsthochschule; Anne McClard, Intel-New Devices Group; Roberto Pugliese, Aalto University; Kate Ringland, UC-Irvine; Alexandre Silveira, Samsung SRBR; Gillian Smith, Northeastern University; Boris Smus, Google; Simon Stusak, University of Munich (LMU); Stavros Vassos, Sapienza University of Rome



A distributed Tetris control system where up, left, right and rotate were each assigned to a different person and activated by jumping back and forth to complete a circuit.



A "coopetition" game where 2 teams of 3 players each had to wear a joint animal costume and attempt to synchronize dance movements together within the team, in competition with the other team.