

MA * GES

*** A NEW DIGITAL BODY LANGUAGE FOR THE WORLD**

Our journey started with a few freewheeling conversations that explored our relationship with our phones. We tried to envision what the next generation of ultratools may look like, and came up with a couple principles to guide our design process.

These principles are:

Accessibility:

A keystone technology like an ultratool should be able to be used by anyone, regardless of physical ability

Mindful technology:

Ubiquitous technologies should not take precedence in our lives, instead they should recede into the background; our tech should be activated by us, not us by it.

Beyond the screen:

Phones currently hijack our attention by exploiting our visual processing faculties disproportionately. To regain autonomy, we believe we need to find ways of interacting with our technology beyond our screens.



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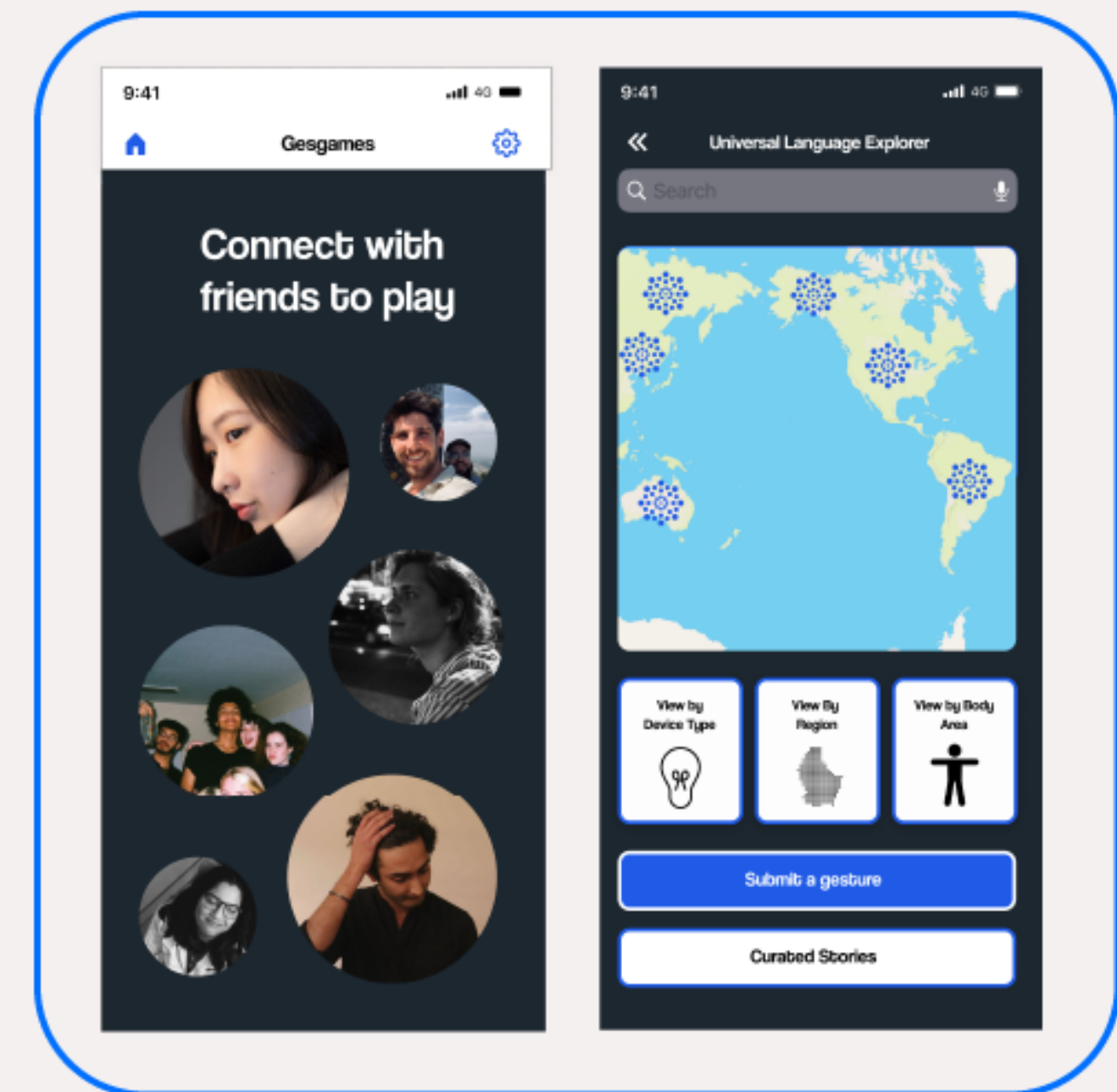




UX DESIGN

The Mages wearable seamlessly pairs with our app; allowing users to easily input and record gestures. Once a gesture has been input, it can then be mapped to a function, whether that is to control an IoT device or to control the phone itself.

The Mages App also includes a social element that allows users to play multiplayer digital games through physical interactions as well as visualize how different cultures may have developed different digital body languages.





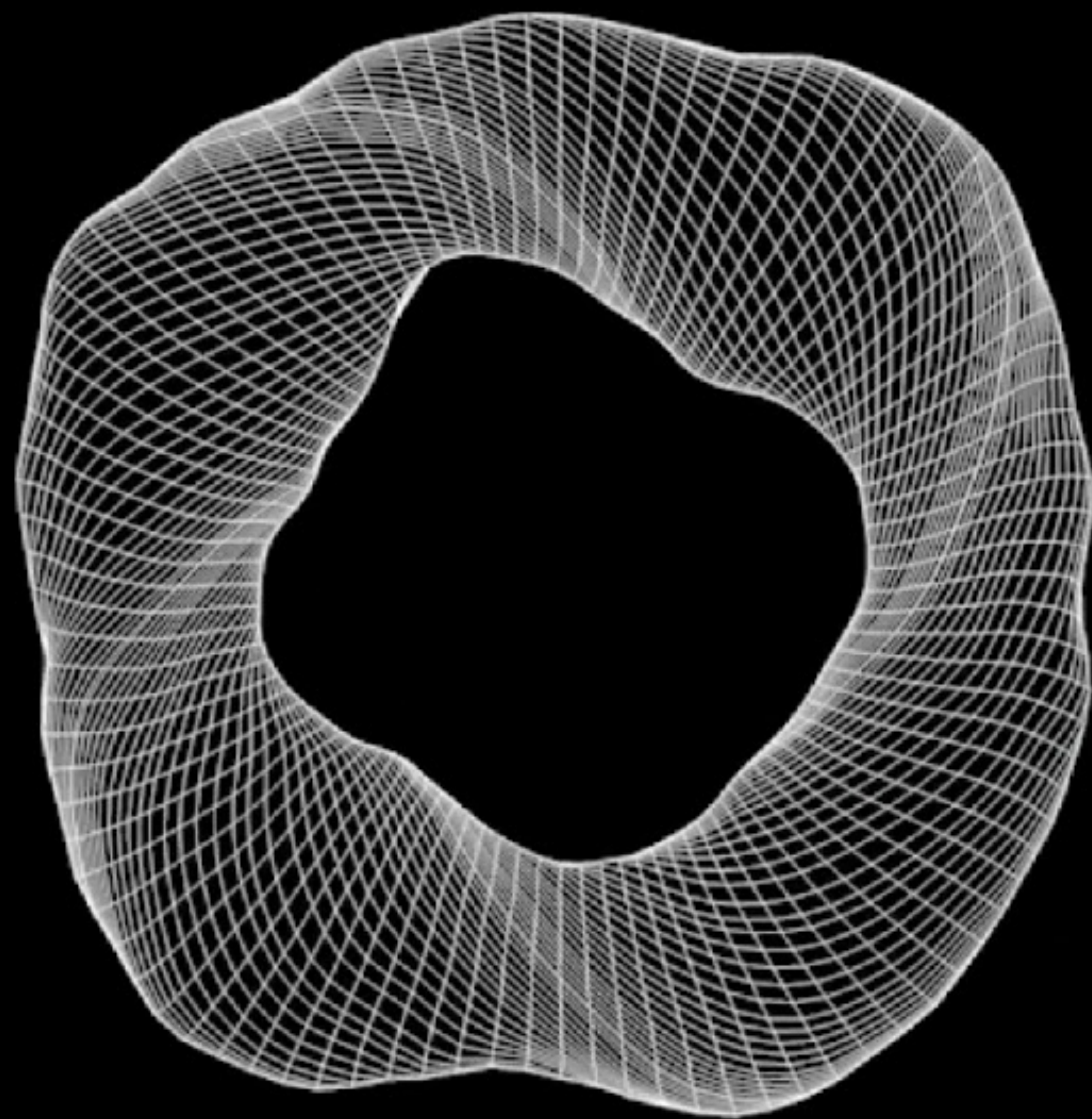
Prototyping

Our prototyping process occurred across timezones, between Berlin and London. Using an Arduino Nano BLE, Tensorflow and TinyML, Ryan developed a gesture recognition system taking advantage of the internal sensors in the Arduino Nano. Meanwhile, Natalie experimented with E-textiles to extend the microcontroller's sensor capabilities and develop a wearable that can be attached to any joint on the body. Through this process of back and forth, our team constructed the working prototype of Mages, which used a gesture to share content via WhatsApp.



E -Textiles

The E-textile Natalie created used Conductive thread Elitex (silver plated) and black fabric Eeonyx (stretch resistive fabric) embedded in kinesiology tape to create a wearable sensor that was extremely responsive to the bending of a joint; nicely complimenting the gyroscope and light sensors embedded in the Arduino Nano.



Project

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