

PROVOCATION 03

The Body

due 07 dec 2021

Technology is not neutral. We're inside of what we make, and it's inside of us. We're living in a world of connections – and it matters which ones get made and unmade.

— Donna Haraway

Cosmetic Computing is a vociferous expression of radical individuality and an opportunity for deviance from binary gender norms. It is a catalyst towards an open, playful, and creative expression of individuality through wearable technologies. It's a liberation call across gender, race, and body types. Leveraging the term "cosmetics", originally meaning "technique of dress", we envision how intentionally designed new-wearables, specifically those that integrate with fashionable materials and overlays applied directly atop the skin or body, can (and should) empower individuals towards novel explorations of body and self-expression. Unlike many modern traditional cosmetics that are culturally laden with prescriptive social norms of required usage that are restrictive, sexually binary, and oppressive, we desire a new attitude and creative engagement with wearable technologies that can empower individuals with a more personal, playful, performative, and meaningful "technique of dress" — Cosmetic Computing.

Are we what we wear? We are awash in a growing tide of wearable technologies from our phones, to smartwatches, Fitbits, and Spectacles. But what are the new wearables that go beyond this vocabulary? Where do they attach? How do they look, feel, or conceal? How do they act, assist, perform, distort, or distract? What are the roles we desire from these new wearables?

Wearable technology is becoming increasingly personal and visible — moving from smartphone "bricks" that we hide in our pocket until we need them to watches, textiles, contact lenses, patches, paints, and cosmetics we openly display. It is clear that new wearable technologies will become closely intertwined with concerns of fashion as well as function. Just as we make coordinated choices about which clothing to wear, we may also find ourselves with different sets of wearable technologies for different days or different activities (office verses date night verses workout etc). It is also not just about a single wearable but an ecosystem of wearable devices. How will your phone, watch, clothing, rings, cosmetics, jewelry, tattoos, and new wearables interact? You may want to reflect back on your design and our critique of your classmates' designs from *Field Activity 02: Encountering Paik* where you first encountered a form of these questions.

In this provocation, you are challenged to design a new wearable within this landscape of cosmetic computing. That is, a new physical object (or collection of objects) that are body-worn. By definition, they must be able to be worn on the body. They cannot be variations of well established or existing technologies — they cannot be a new shaped Fitbit for your finger or a smartwatch design with a new screen. They may be a watch or bracelet but they must offer significantly novel interactions and abilities beyond currently marketed products. One way to start your brainstorm is to imagine all of the places on the body you can or might wear "things". This will likely open up a broader conversation of ideas around wearables.

You will face challenges of size, weight, and power. Focus on the desired experience and form for now. We will work with you to enable you to fabricate the most functional prototypes possible within the constraints of the class. We are anticipating a range of debates as to which wearable technologies are in or out of bounds for

this provocation. We prefer that you select wearable technologies that you are not familiar with. You will need to check with us concerning all final selections. You are allowed to modify, tweak, hack, or combine existing wearable objects and technologies. Please check with us if you have concerns or questions.

In this provocation, you will need to work within the constraints of power, size, and form-giving more directly. Your final design must function on or in the body as described. It must be of appropriate size, weight, and be carried on or within the body. You will need to use a computational platform that is the appropriate scale and power requirements. You will not be able to have a design that is on the body that requires a physical tether to a laptop or other computation device. You cannot propose a solution that is only possible if a user dons a heavy, awkward backpack that carries the necessary power or computing. We realize you are not going to design and produce your own silicon wafers, custom screen geometries, or wireless hardware. So, of course, there is some room for a designerly negotiation around these ideas. But you must check with us. You may, if you deem it necessary, use any desired form of wireless communication to offload computation or power-hungry elements of your design to a nearby phone or computer. This will allow you to also open your designs to employ any of the various cloud services you are familiar with including speech, vision, or beyond.

TEN IDEAS

Assignment: Prepare 10 ideas for next class on 8 Nov. One of the ideas must be simple and one “extreme”. You are free to interpret “extreme” however you like but such “extreme” ideas must not be immediately feasible, marketable, or maybe even desirable. Prepare no more than one slide per idea to be presented in class.

The provocation will be graded as follows:

PRESENTATION

Each team will have 12 minutes to present in a special critique class on 7 Dec. It is vital that you design and practice your presentation not only for timing but for content, vision, and project quality. You will be allowed to use your own presentation tools. However, as such, you will be graded on how well you operate and interact with your presentation and technology. You are strongly encouraged to review the materials from the How to Present lecture as to strategies to embrace and pitfalls to avoid. You are free to be creative in your style and method of presentation. In brief, your presentation will include the following (see below). You are free to tackle these in any order you find most effective for your project. You also need to focus on the final design and avoid giving us a strict, temporally accurate narrative of your project’s history. Below is one such format:

- Introduce your team
- Describe your users and needs
- Motivation for your design (why should we care?)
- Present a competitive analysis detailing how your design is different from existing solutions
- Describe your design and interaction with and through it

- A brief video selection of your wearable design in context
- Show a live demo of your functional wearable
- Describe important issues of your design process such as intermediate designs, user studies findings, technical implementation challenges, research investigations, and other insights
- Summarize potential improvements, variations, alternative usages, ethical dilemmas, and end strongly

POSTER

You must prepare a poster as a single PDF presenting your project that will print in a 30"x40" format (either horizontal or vertical). We are intentionally not providing a template because we want each group to be creative in their designs. Do not send us any other format other than a PDF with all necessary fonts embedded. This is a skill you will need to have as a designer. This poster should stand alone in describing your project. We will use the poster during the public MDes Design Fest session on 10 December. As a designer you are free to choose how you wish to communicate your idea and represent your project.

Be visual with your poster design. Ask yourself how often you have read all of the text on a poster and then find visual ways to remove text and maintain content. Your poster should contain images that illustrate your design. However, don't be so minimal that it is just two or three images. You need the poster to convey the passion and vision of your project even if you are not there to explain it. All posters must include the name of the final design as well as the name of all team members. Posters will be graded as follows:

- Does the poster clearly communicate the project?
- Were adequate visual elements used?
- Does the poster make good use of graphic design elements in terms of typography, layout, and color choices?
- Were the required elements included on the poster?

We will print all posters. To allow time for printing, all poster files are due on Tuesday, 7 December, 11:59pm. Please upload to bCourses

VIDEO

A stand-alone video describing your project and showing it in use in situ (3 min max) will be shown at the final MDes Design Showcase. We will need final videos uploaded to bCourses by Wednesday, 8 December, 11:59pm.

INTRODUCTORY MATERIALS

A series of small but important introductory materials will also be required to be handed in prior to the showcase event by Tuesday, 7 December, 11:59pm via bCourses:

- A title for your project
- A single representative image (landscape at 1600:900 pixels jpg or png). If you are

documenting your device, you are also encouraged to use a light box to capture your images.

- One paragraph of text describing your project (max of 150 words)

REPORT AND SOURCE FILES

By Saturday, 11 Dec 11:59pm you must upload all additional materials and a final project report. An outline of the final materials is as follows:

- Observational Documentation – interviews, and/or user studies
- Design Process Documentation – intermediate designs, sketches, ideas, design language
- Fabrication and Function Documentation – details describing the files, models, custom code generated, to make the final design. It also shows a system-level architecture diagram of the operational elements of the final design. Detailed code is submitted separately not in this document.
- Any code or modeling files required to create the prototype.

GRADING

- 25% Quality of idea and originality of concept
- 30% Execution of design (technical elements and formgiving)
- 15% Critique Presentation
- 10% Video
- 10% Poster
- 10% Documentation



Atsuko Tanaka Electric Dress 1956



Chris Burden Shoot 1971



Valie Export Touch Cinema 1968



Marina Abramović Rhythm 0, 1974



Pope.L The Great White Way 1978



Rebecca Horn Unicorn 1972



Oskar Schlemmer Triadic Ballet 1926