

# Media Formats

Faculty, staff and student researchers working in the Creative Technologies Lab come with an expertise in interaction design, user-experience, spatial experience, and user-interface design, beside others. In our teaching we focus on intuitive, effective, and clever designs that are visually correct and pleasant. Our students explore how users engage with digital and physical interfaces and systems.

In their studies our students explore several media formats. Those formats define how information, interaction, and experiences are presented and accessed across digital and physical contexts, representing the intersection of technology, content, and design. They shape user engagement through diverse applications, ranging from handheld devices and touchscreens to embodied media, interactive installations, augmented environments, and virtual architectures. These formats, tailored to specific use cases and technological possibilities, play a crucial role in determining how information is communicated and how audiences interact with it, offering unique opportunities to create meaningful and engaging experiences that bridge the gap between the digital and physical worlds.

The study and application of media formats extend far beyond technological innovation, serving as powerful tools for storytelling, problem-solving, education, and exploration. Through hands-on engagement with diverse formats, students gain the skills to design interactive and memorable experiences, transforming everyday interactions into meaningful engagements. By analyzing and experimenting with different media formats, they learn to create tailored solutions that respond to evolving user behaviors and technological demands, ultimately shaping how users connect with information in an increasingly interconnected and media-driven world.

## 1. Screen-based Formats

Screen-based media are one of the foundational formats. These include devices such as smartphones, tablets, information kiosks, and traditional touchscreen media stations running autoactive and/or interactive content. They provide an intuitive and interactive interface between users and digital content. Touchscreen-based applications, in particular, are frequently used for example in museums, exhibitions, or public information systems to present content in an engaging and user-friendly way. Thanks to their versatile applications, screen formats are suitable for both individual and public use, effectively bridging technology and everyday experiences.

## 2. Medial Artefacts & Embodied Media

Artefacts & Embodied Media include physical objects enriched with integrated technology, bridging the physical and digital worlds. These artefacts combine tangible forms with embedded sensors, electronics, or communication systems, enabling dynamic and innovative user experiences. Examples include wearables, such as smartwatches, fitness trackers, or e-textiles, which integrate personal accessories with interactive technologies. They also encompass interactive toys and educational tools, equipped with electronics and sensors to respond to touch, sound, or movement, fostering playful and educational engagement.

In addition, medial artefacts can also take form of kinetic installations, where physical structures or components move or react in response to user input or environmental stimuli. These installations merge mechanics and media to create dynamic interactions, often serving as artistic expressions or

functional systems in public spaces, exhibitions, or industrial contexts. IoT devices, such as smart home systems, further exemplify how medial artefacts enhance everyday objects with connectivity and responsiveness, while augmented tools integrate traditional functions with digital enhancements, such as AR-enabled repair kits or interactive measuring devices.

These artefacts can also include autonomous systems like robots or reactive exhibits, as well as prototyping artefacts, which explore potential applications of emerging technologies in design and user interaction. By embedding technology into tangible, reactive, and interactive forms, medial artefacts create opportunities for storytelling, exploration, and engagement, making technology accessible and meaningful in both functional and creative contexts.

### **3. Media-based Installations**

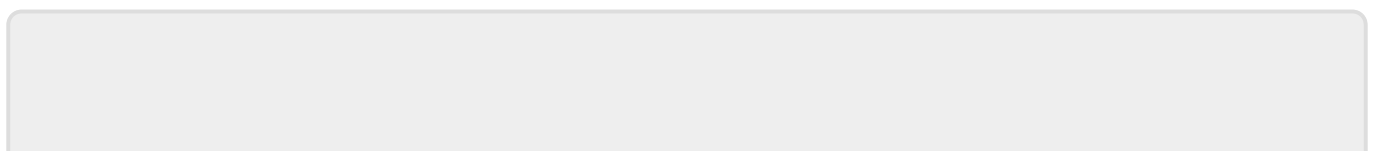
Media-based installations provide an immersive way to experience content and are often used in public spaces, museums, exhibitions, trade fairs, or other industrial contexts. These installations often utilize touch-sensitive surfaces to ensure a high level of user engagement and enable dynamic interaction with the presented content. Examples include reactive and interactive exhibits that allow users to explore data, media tables designed for collaborative interaction, and industrial applications that for example visualize and control Industry 4.0 processes. Media installations in these contexts create compelling experiences, combining cutting-edge technology with intuitive design to engage audiences in diverse settings.

### **4. Media-enriched Spaces**

Media-enriched spaces transform physical environments into interactive experiences by integrating media content such as live computational visuals, images, videos, or audio. These spaces allow visitors to immerse themselves deeply in a subject, making it accessible from various perspectives. Media-enriched spaces are ideal for enhancing traditional spaces, creating engaging and interactive experiences for educational institutions, showrooms, or thematic exhibitions.

### **5. Virtual Worlds and Media Architectures**

Virtual worlds and media architectures push the boundaries of spatial perception through technologies like Virtual Reality (VR), Mixed Reality (MR), or Augmented Reality (AR). These formats create immersive and engaging environments that enable entirely new ways of interacting with virtual and physical spaces. Scholars of the Lab enjoy pushing the boundaries of what is possible. They have for example worked on a VR meeting room prototype to explore collaborative virtual work environments. In the realm of media architecture, large-scale projects such as media façades demonstrate how digital content can transform urban spaces into visually dynamic environments. These formats seamlessly combine architecture, media, and technology, opening new possibilities for design and communication.



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