

Designing for impact: Time to make healthcare visual communications better



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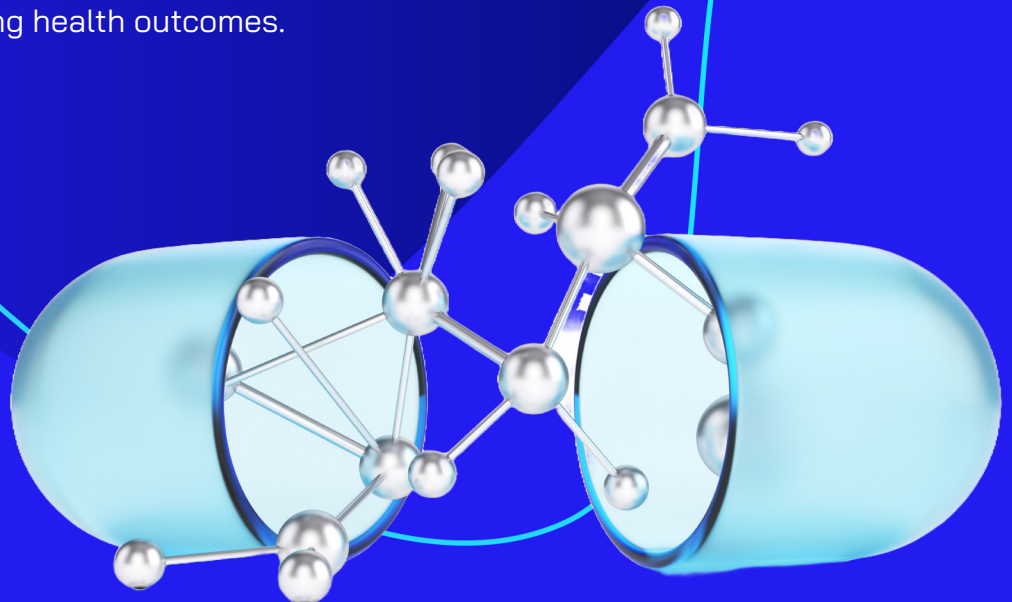
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Introduction

We often perceive excellent design in terms of aesthetics. But there's more to it!

Throughout human history, visual design has been the common thread of communication between societies and civilizations. Universally accepted signs and symbols bridge the gap even when people are faced with a language barrier.

That's why we use advertisements, signage, posters, infographics, and websites to communicate and convey our message, evoke emotions, and build connections. Brands across industries rely on visual communication to make information more engaging and memorable for various demographics, and healthcare providers are no exception. Many care providers today leverage visual communication to streamline the interaction between care providers, payers, and patients while improving health outcomes.



Importance of visual communication in healthcare

A 2023 study⁽¹⁾ shows that well-designed visuals help convey health messages clearly and more effectively to non-experts. Another study revealed that using infographics in visual communication resulted in a 22% increase in patient knowledge comprehension and retention⁽²⁾ compared to text-only formats.

Visual design enhances communication by making complex medical concepts, terminologies, processes, etc., more understandable.

Here's why visual design is crucial to healthcare communication:

- **Enhance understanding:** Medical information can be intricate, technical, and challenging to comprehend, especially for individuals without a medical background. Well-designed and appropriate visuals not only communicate health risks, preventive measures, and healthy behaviors to the general public but can also solidify their understanding of the underlying issues in a relaxed manner. For example, visuals in medical reports can increase comprehension, attention, and adherence to doctor instructions.
- **Educate and spread awareness:** Visual design can be a powerful tool for health education campaigns and public health initiatives. As shown in image 1, thoughtful visuals accompanying text content can effectively communicate health risks, preventive measures, and healthy behaviors to people.



Image 1: An infographic by WHO about COVID-19 self-isolation practices⁽³⁾

- **Capture attention:** Visuals within text-heavy content can help catch viewers' attention and guide them through the layers of mundane content. Visual cues designed using a combination of colors, typography, and layout structure direct the eye to important information, ensuring that key messages do not get lost while simplifying navigation.

- **Engage and improve information retention:** Visual elements are more engaging and memorable than text alone. 65% of people around the world are visual learners.^[4] When people encounter engaging visuals, they are more likely to remember the information and stay engaged with the material.
- **Communicate effectively:** Time is often limited in healthcare settings. Visual depiction of processes, procedures, etc., allow healthcare professionals to convey complex information efficiently, reducing the time required to explain intricate concepts.
- **Connect emotionally:** The NIH^[5] reported that some medical schools have introduced visual art instruction to enhance patient empathy among medical students. This shows the importance of visual communication in evoking emotions and empathy in people. It makes healthcare information relatable and humanizes medical communication.
- **Create wider access:** Time Many health-related factors, like vision changes and reduced dexterity, can affect how people interact with technology. To ensure successful and enjoyable experiences, we need to create a design keeping these considerations in mind. This means incorporating features like adjustable text size and color contrast for better readability, simple and intuitive navigation that's easy to understand, and clear and concise information presentation helps avoid confusion.
- **Setup a universal language:** Visual design transcends language barriers. Medical concepts can be communicated visually without relying solely on text, making healthcare information accessible to individuals from diverse linguistic backgrounds.
- **Build trust:** Professional, well-designed communication materials contribute to an organization's credibility. Patients and healthcare professionals tend to trust information that is aesthetic and visually appealing.
- **Create brand identity:** Consistent visual design across multiple products and communication helps healthcare organizations build a recognizable brand identity. Patients associate consistent design elements with reliability, leading to increased brand loyalty.
- **Easy scalability:** A design system can easily scale to accommodate new products or features, ensuring that the visual communication remains consistent even as the product grows or evolves.
- **Clarify complex procedures:** For procedures and treatments, visual step-by-step guides presented in a simplistic manner can help patients understand what to expect. This reduces anxiety and increases compliance with medical recommendations. It also allows patients to participate in critical healthcare decisions and make informed choices.
- **Manage compliance and adherence:** In healthcare, adherence to treatment plans is vital. Transforming long descriptions and technical communication into appropriate forms of visual communication reduces cognitive load and helps patients easily grasp how to take medication, perform exercises, or follow specific dietary guidelines, leading to improved compliance.

The principles and critical considerations

The principles of visual communication include balance, contrast, unity, and variety. Understanding these elements and principles is important because they are the building blocks of all visual messages.

Key considerations

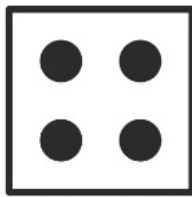
- **Clarity and simplicity:** Healthcare information should be presented in a way that is easy to understand, even for individuals with limited medical knowledge. Using a straightforward layout with clear information hierarchies for easy scanning and findability of the information they seek. Breaking down content into discrete and concise sections prevents overwhelming the audience with unnecessary information.
- **Color palette:** Colors that match the general tone of the healthcare industry set the context even before the user starts to interact with the solution. It should establish the desired emotion for the tasks to be performed. For instance, natural soothing colors like green and blue evoke a sense of calm and trust, while the color red can convey urgency. However, it's essential to be mindful of the potential cultural and emotional associations that different colors carry, as ignoring these may lead to significant implications and a permanent dent in the brand.
- **Icons and illustrations:** Icons and simple illustrations can clarify medical concepts quickly. Choosing universally recognized icons helps avoid confusion with the audience, reduces the learning curve, and creates an intuitive UI—for example, a heart icon for cardiac information. Illustrations should be relevant and easy to understand, aiding in conveying complex procedures or conditions.



Image 2: Icons depicting different elements of mental health^[6]

- **Consistency:** A consistent visual theme across all communication materials reinforces the brand identity and helps the audience recognize the materials across various consumer touchpoints easily. Consistent use of colors, fonts, and design elements creates a cohesive and professional experience.
- **Collaboration and Communication:** A design system serves as a central source of truth for all design-related decisions, facilitating collaboration among designers, developers, and other stakeholders. It ensures everyone is aligned on the visual direction and maintains consistency throughout the design process.
- **Data visualization:** Graphs, charts, and infographics can visually represent medical data and trends. Choosing appropriate chart types to communicate the information effectively helps to convey the correct data so that users can make sense of and analyze it for their benefit.

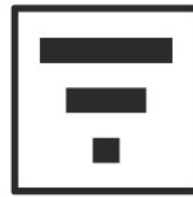
Visual Design Principles



1. Unity



2. Gestalt



3. Hierarchy



4. Balance



5. Contrast



6. Scale



7. Dominance

Image 3: A chart depicting seven critical visual design principles ⁽⁷⁾

- **Cultural sensitivity:** When selecting imagery and design elements, consider cultural differences. Certain symbols, colors, or images have different meanings in various cultures. Aim for inclusivity and avoid anything that might be offensive or misinterpreted.
- **Branding:** A consistent branding builds trust and recognition. Using the organization’s logo, colors, and visual elements across all communication materials would foster a sense of reliability and credibility.
- **Imagery:** High-quality images can humanize healthcare communication and evoke emotions that may be required to be conveyed from a business and user perspective. Using images of real people that accurately represent the target audience’s demographics plays an important role in evoking empathy, authority, confidence, etc.

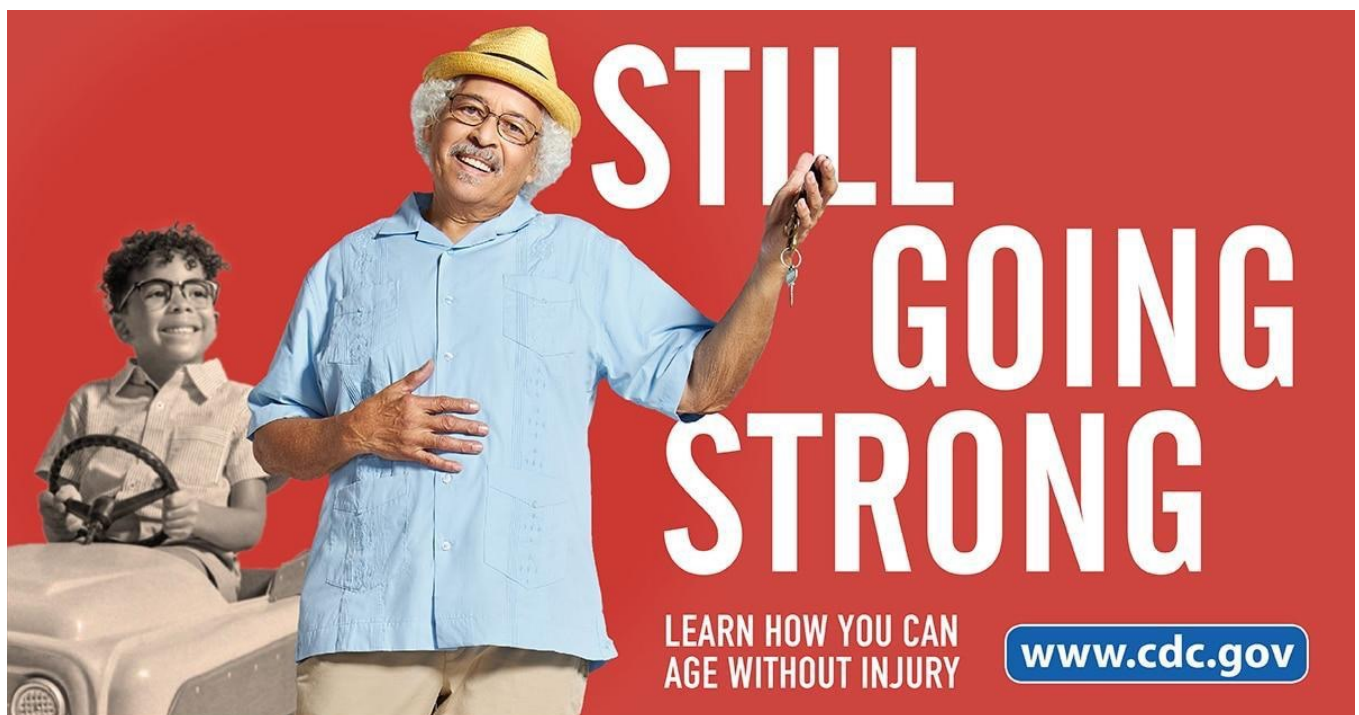


Image 4: A campaign poster on “aging without injury” from the CDC.^[8]

- **Hierarchy of information:** Design elements such as font size, color, and spacing can establish a hierarchy of information. Important information should be more prominent and easily distinguishable. Headings, subheadings, and bullet points guide the reader’s attention through the content.

Understanding key personas in Healthcare for appropriate visual designs

Though multiple user archetypes exist in the healthcare industry, two important ones emerge distinctly – patients and providers. The following is a list of their pain points:

Patient persona and their pain points



Low emotional and mental state, especially when the user is the patient, which occurs the majority of the time. Here, the user is already stressed mentally, physically, and emotionally.

Limited appointment availability, office hours

Many healthcare organizations offer a typical set of office hours for patient visits. However, for working adults or parents, the specified slots may only sometimes be helpful. Patients need convenient office hours that allow them to visit the doctor outside of their work or school schedules.

Geographic, clinician shortage issues

Patients in rural and suburban areas need help accessing their clinicians than those in urban or suburban areas.

Transportation barriers

Even when a patient can access a provider and schedule an appointment, transportation barriers can keep patients from meeting clinicians. Patients who can't drive, face financial barriers, or otherwise cannot obtain transportation to the clinician's office often go without care.

Limited education about care sites

Patient care access issues often are about something other than getting a foot in the door. Instead, it's about getting a foot in the right door. While healthcare organizations need to remove obstacles barring patients from getting to the office, it is equally important for organizations to make sure patients are getting to the right type of facility.

High healthcare costs

Provider persona and their pain points



- Keeping up-to-date with changing technology, regulations, and processes
- Inability to consult in a short time
- Increasing administrative tasks – Adding data to EHRs/EMRs
- Patients not completing treatment
- High levels of mutual stress

- Paperwork and administrative tasks
- Staffing
- Numbers and length of visits
- Patients don't understand medical processes and terminologies

Now that we have understood the user types and their challenges let's analyze how visual communication can improve their lives.

The visual design framework

Establishing a visual design theme for a healthcare digital solution is challenging since it's subjective to each solution, and many decision-makers are involved in the game. These include users from different domains, backgrounds, states of mind, and high-pressure scenarios.

Getting buy-in from each of these involves a creative yet structured iterative process starting from being aware of the business and user pain points, vision, and scenarios – as well as the future state, expectations, and wish lists; so that towards the end of the process, the designer has mitigated the major challenges of most of the stakeholders through shared solutions.

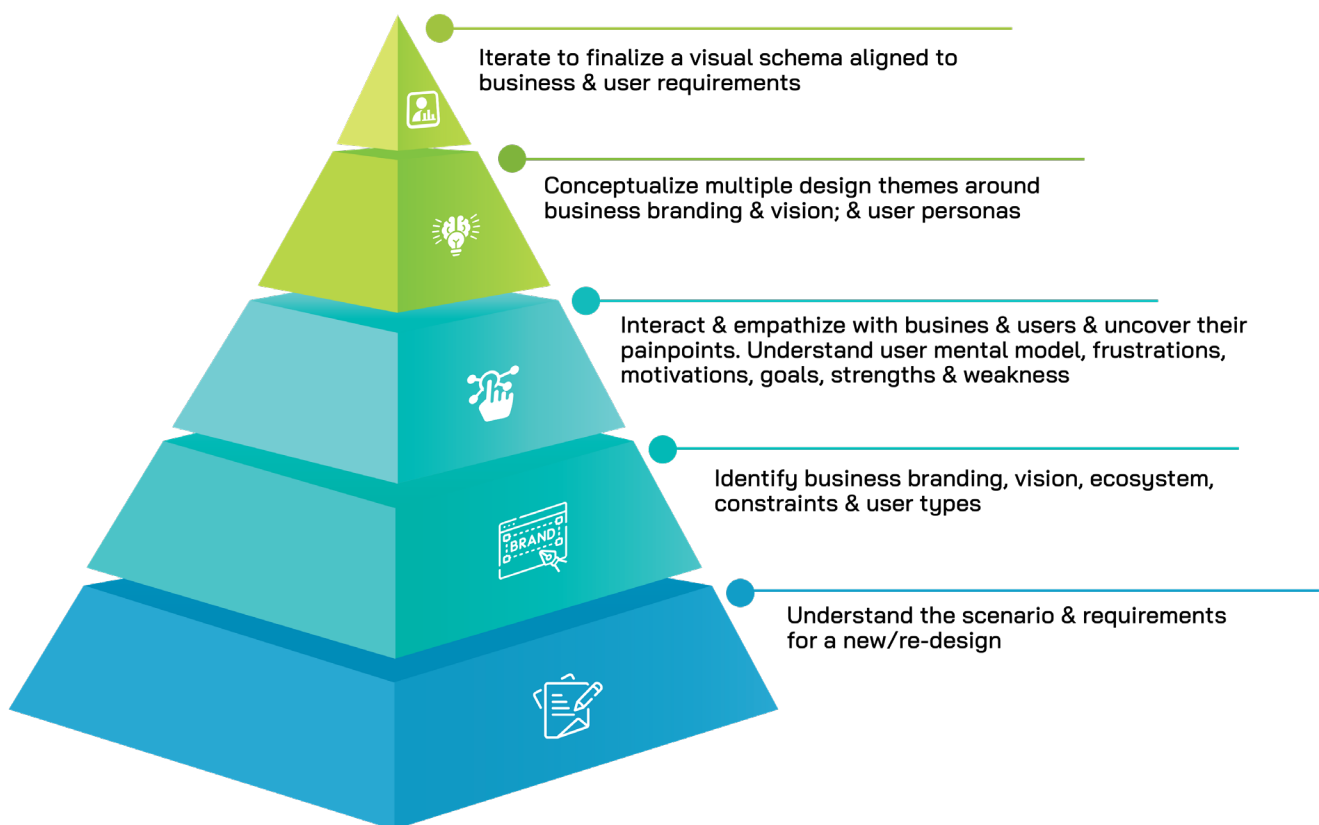


Image 5: How CitiusTech typically approaches a design project

However, there is no substitute for talking to people in the target audience for each business or user pain point. A few open-ended interviews, structured around the problem area, will often reveal the challenges faced by users and stakeholders and provide insight into how to solve them.

A proven case in point

An intuitive app for elderly users suffering from COPD

One of our clients recently encountered the challenge of designing a mobile application for elderly users. User research revealed the patient’s stressful ‘Day In The Life’ and other crucial insights like technology-savviness, scan-ability and legibility of elements on the screen, and ability to comprehend instructions through text and visuals.

Building on these user research insights, we helped the client design a visual communication framework enriched with iconography and illustrations, assisted by clear instructions for easy understanding. Thanks to such strategic design improvement, our client was able to comply with Web Content Accessibility Guidelines (WCAG) guidelines. This was a major milestone for this project since it caters to the elderly user base.

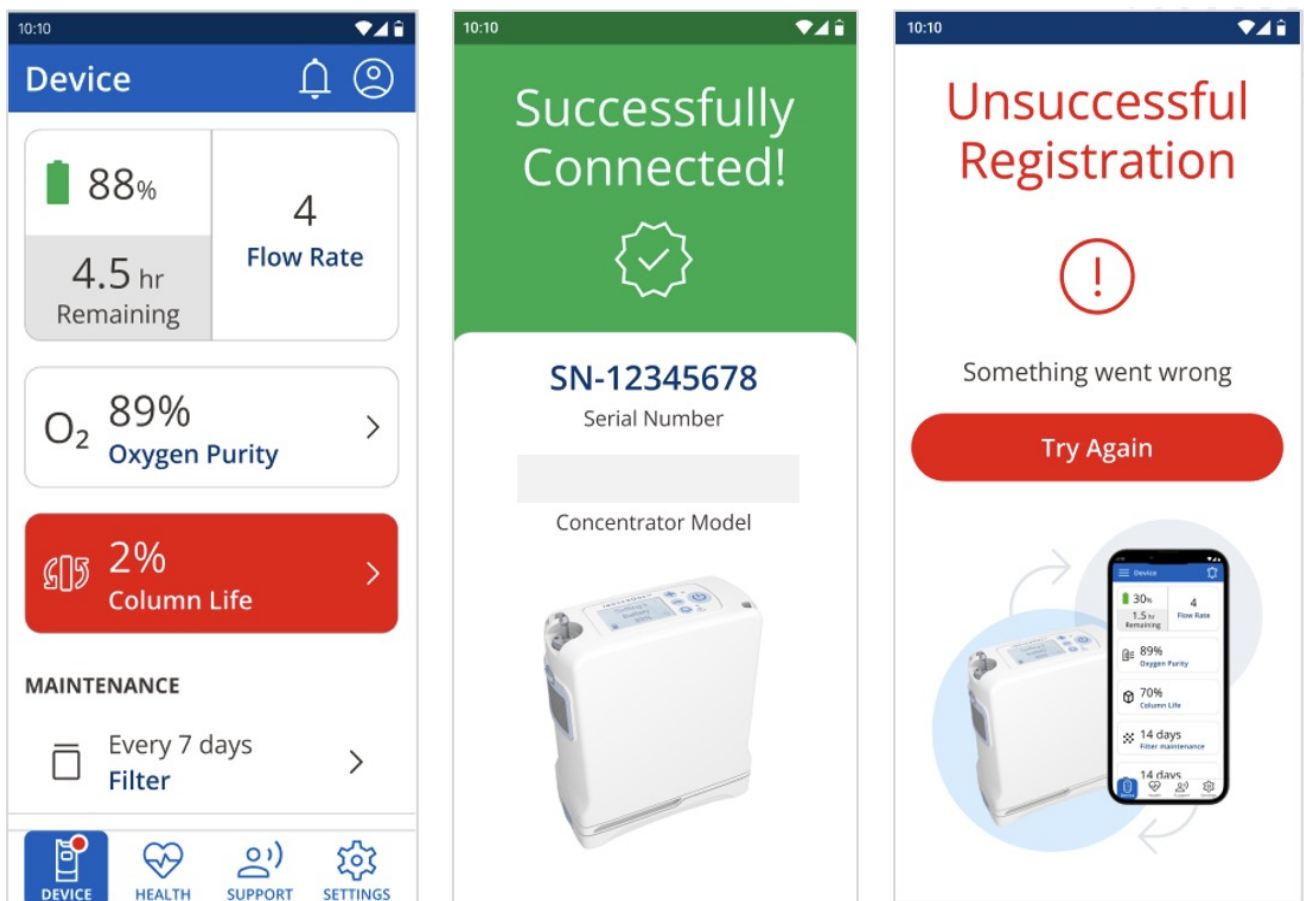


Image 6: Snippets of the updated app UI that improved the experience for elderly users

An intuitive DICOM viewer for Providers

The DICOM viewer is a critical tool that practitioners, medical imaging technologists, researchers, scientists, and physicians use to transmit, store, and share medical images and related information. One of the large provider organizations was facing challenges related to data complexity, interoperability, performance optimization, usability for diverse users, and workflow integration, the design of this application was informed by user research findings.

A proven case in point

Getting into physicians' "Day In The Life" experiences, our design aimed to minimize cognitive load and stress by presenting clean, clear, and easily understandable flows, content, and visuals. To achieve this, we developed a design framework prioritizing high visibility of crucial information – employing extra-large font sizes, contrasting colors for different states (error, caution, success), and realistic visuals that mirror the real-world product ecosystem.

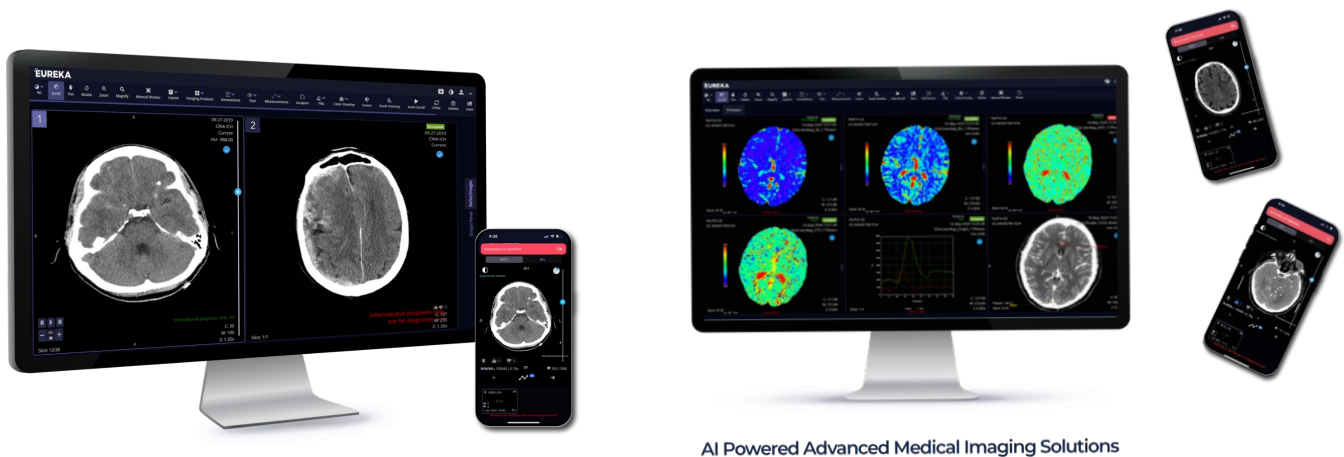


Image 7: The redesigned DICOM viewer

Towards a healthy tomorrow

Even though the importance of comprehensive and engaging visual communication in healthcare cannot be overstated, the path to ensuring the same remains a challenge. An effective design strategy to solve user and business needs eventually guides the execution of a delightful patient, provider, and payer experience. However, design in visual communication is not limited to aesthetics. It should be able to strike up a conversation, evoke emotions, convey messages, and enhance the overall communication experience.

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6. Stock image from Google
7. Interactive Design Foundation ([interaction-design.org](https://www.interaction-design.org))
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