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“OnQ”: Contextual Information Design

by

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A Thesis Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of Fine Arts in Visual Communication Design

School of Design

College of Art and Design

Rochester Institute of Technology

Rochester, NY

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Committee Approval:

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Advisor

Abstract

There is a countless amount of entertainment media available to a single viewer, and the internet makes that media easily accessible. However, keeping up with the rules, objectives, backstory, or culture of each one is difficult, and confusion hinders enjoyment. My thesis, “OnQ” dismantles the barrier of information in broadcast sports, viewership of which has been declining for 10-20 years. By exploring the flow of information, user interaction, user multitasking, and graphic design via on-demand explanations and statistics on top of live video, “OnQ” takes existing multitasking behavior and integrates it onto the same screen as the broadcast. Instead of dividing attention and sifting through irrelevant information by searching questions on a separate, internet-accessible device, “OnQ” aims to customize and summarize information, making learning low-effort and promoting enjoyment of the original media.

Keywords

User interaction, user interface, user experience, UI/UX, graphic design, motion graphics, branding, sports, broadcast, rock climbing, sport climbing, contextual information, interaction design

Special thanks to Daniel DeLuna, Joel Rosen, Django Skorupa, and my friends and colleagues at the Red Barn for informal discussions and feedback throughout this process.

Problem Statement

Broadcast sports are hard to understand and enjoy for new viewers because educational resources are dense and hard to access.

Solution Statement

How can contemporary interaction opportunities like computer live streams and television plugins present contextual information that allows viewers to learn about the sport at the same time as watching the broadcast? How can this system be designed in a way that is able to be customized for multiple sports and other genres of broadcast? “OnQ” is an on-demand, contextual information system that augments broadcast television by displaying information on top of the live footage. Using Olympic Sport Climbing as a vehicle, it combats current commentating and info graphic standards that were insufficient for making the broadcasts understandable and enjoyable to newcomers. By capitalizing on that contemporary technology, it provides basic facts and descriptions to viewers specialized for the sport at whatever time they desire, eliminating the reliance on commentators for anticipating fundamental questions.

“OnQ”: Critical Analysis and Summary

Initially, research was required to support key needs for “OnQ.” According to statistics supported by Forbes, Reuters, and Sports Media Watch, broadcast sports viewership in America and internationally has been trending downwards for approximately 20 years, but has become noticeably more dramatic in the last 10.¹ Both Summer and Winter Olympics viewership hit record lows in 2021 and 2022 [see Appendix B - Figure 2] despite general television consumption remaining higher than it was in 2019.² At the same time, the average age of sports viewers is rising as time passes, indicating that young people are not watching. The rules and history of each sport are dense and complex, making understanding and enjoyment difficult, particularly for more niche sports included in the Olympics. By creating easy access to information directly linked to the broadcast, the sport becomes more accessible to newcomers and receives increased viewership.

After considering Major League Baseball (MLB) or National Hockey League (NHL) broadcasts as a source for interaction opportunities, I decided to design “OnQ” based on the women’s Olympic Sport Climbing broadcast. While their viewership is also declining, they are still major American institutions, and relatively few people understand climbing internationally, let alone in the US. As a climber myself, I identified that the National Broadcasting Company (NBC) and International Olympic Committee (IOC) commentaries: A) explained of the sport’s rules at the beginning of the broadcast, but that information was useless to anyone tuning in after the first five minutes, B) missed opportunities to explain what a climber was doing strategically, and C) used specialized terminology multiple times without defining them. A balance of non-chronological and situational information would combat all three issues. In a way, it would replicate the experience of having an expert with them to introduce the concepts and answer questions.

¹ Lewis, Jon aka Paulsen. “Tokyo Olympics Least-Watched Ever, Summer or Winter.”

² Broughton, David and Lombardo, John. “Going Gray: Sports TV Viewers Skew Older.”

Content creation began with a long flow chart, branching off from basic explanations of sport climbing and its categories into deeper explanations of strategies, goals, and statistics in a way one would verbally convey to a newcomer. Specialized vocabulary words began to appear in multiple branches of the flow chart, to a point where it was clear that a custom dictionary would be a necessary and familiar organizational tool. In addition to exploring the idea that auditory recognition of key words in the broadcast would prompt overlaid graphic definitions, terms should be available for browsing. With the flow chart in mind, I picked out a handful of situations to explore and develop appropriate copy and graphics for: a basic sport summary, a browsable dictionary, and audio-prompted visual education. Video game menus and Wikipedia summary bars served as strong inspiration for the typographic design experience, as this information would be most digestible in short, bold copy organized into linked, nested windows. The information can be consumed quickly and only continues as deeply as the user desires.

“OnQ” had a number of color, texture, and style variations. Stylistically, there were pros and cons of realism vs. abstraction and graphic vs. illustrative sensibilities. Texturally, I explored a number of material replications in Illustrator, Photoshop, and Cinema 4D to create plastic-, paper-, and paint-like qualities. Possible colors followed common trends in sports league logos: red, blue, yellow, black, and white. Yellow initially appeared to be a sensible connection to gold medals, but it was hard to see in busy layouts and was generally unappealing to viewers. Red was more appropriate in creating contrast and still pushed an energetic, vibrant feel. Stylistically, the abstracted, graphic human figures allowed for easy animation of varied body motions and distanced itself from a particular athlete or gender, making it easy to transfer between clips and, theoretically, other sports. The rounded, abstract figure matched with the paint-like texture balanced a distinct graphic look with a familiar physical object [see Appendix B - Figure 1].

In designing the final demo animations, I focused on utilizing contrast, hierarchy, and balance in tandem with animation principles such as anticipation, exaggeration, and secondary action to create straightforward but appealing overlays. Basic indications such as smooth menu openings and the transition of content within each menu went through multiple iterations. Should terms slide off screen or fade when one is clicked? What order should facts and animations appear in, and how long should they remain on screen? What font weights and sizes could emphasize body vs. title copy? What combinations of visuals and text are most clear?[see Appendix B - Figure 1]

Conclusion

“OnQ” successfully establishes a solid base of layout, interaction, and visual exploration for contextual broadcast overlays. In initial testing and demo displays, users came away knowing more about sport climbing upon a single viewing or interaction and enjoyed the experience of watching the broadcast. Definitions were concise, clear, and adequately supported by visuals. Many users independently identified possible implementation in other sports or genres of media. To become a more cohesive system, the project requires hours and manpower to populate and refine definitions and graphics, plus AI and coding specialists to convert the full visual realization into a functional program. In the end, “OnQ” starts a conversation about how contemporary design can combat the ailing popularity of broadcast sports.

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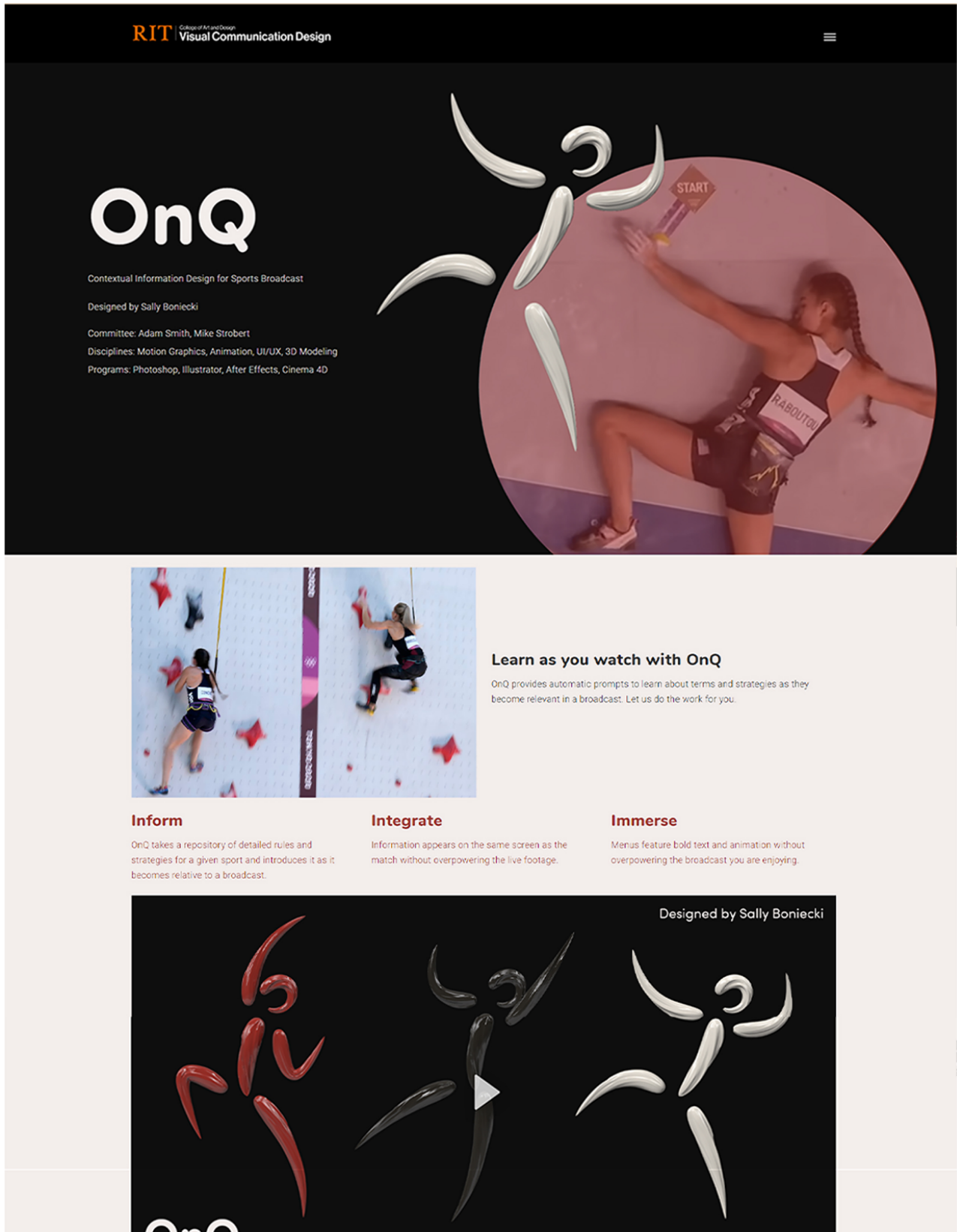
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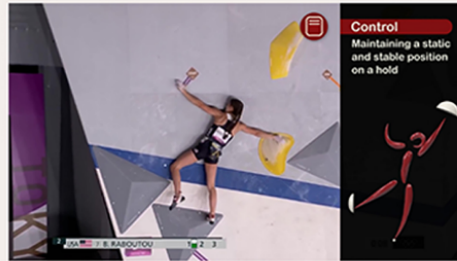
Appendix B:

Figure 1: Case Study Website



Vocabulary Recognition

OnQ recognizes terms as announcers use them, providing a definition prompt to access while the term is immediately relevant.

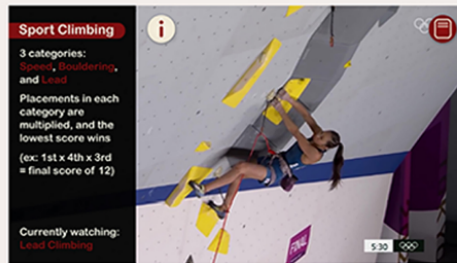


Permanent Dictionary

Access a permanent repository of information that outlines strategy, equipment, and terminology for the sport.

Specialized Summaries

Get a quick but comprehensive sense of what the steps and goals of the broadcast are.



Design Process

Contextual Information Adds Meaning to Video



Contextual Information Adds Meaning to Video



Olympics and mainstream sports broadcast viewership has been trending significantly lower in the last 10-20 years. At the same time, the average viewer age is going up. If a someone didn't grow up playing sports and didn't have a sports fan in their life, jumping right into a broadcast is confusing. OnQ targets the barrier of knowledge and the effort required to obtain it in order to draw in young adult viewers.

Step 1

A. Determine and categorize critical information in an order and context that beginners can understand.

B. Make the text as short as possible with the help of supporting visuals. It becomes more digestible in short language, and allows for text to be large and more readable.



Sport Climbing

3 categories:
Speed, Bouldering, and Lead

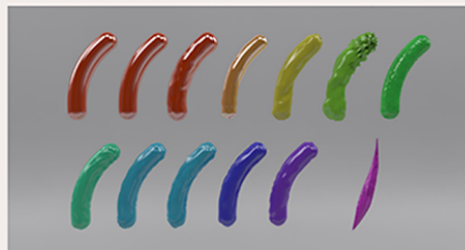
Placements in each category are multiplied, and the lowest score wins

(ex: 1st x 4th x 3rd = final score of 12)

Currently watching:
Lead Climbing

Step 2

Make it visually distinct and stylish. Weigh the pros and cons of realism, abstraction, and color in making the figure attractive and easy to animate.



Step 3

Develop a layout that is easy to read, yet doesn't completely overpower the broadcast. High contrast allows copy to be readable and the figure to stand out from the background. Proper hierarchy leads the eye through the copy and visuals. Animation principles like follow through, secondary animation, and squash and stretch bring life to such an abstracted human figure.



The colors are bright, but a bit inconsistent, and the black box is very wide and stark, making it jarring and clunky. A viewer may be lost on where to focus.



The drop shadows are not enough to stand out from the background, and the colors are still a bit much. It is impossible to predict what colors will appear in a busy background, so a more natural reintroduction of the box is necessary.



The grid is a bit sloppy, and the white box's color feels arbitrary. The figure is too small to draw focus, and the text is so big that it creates messy breaks in the sentence, interrupting the flow. The bullets are taking up limited space without contributing anything significant. However, with the better contrast, blurring the background behind the white box is unnecessary.



The figure is larger on screen, demanding focus. There is just enough of the broadcast visible behind the background box in order to follow if the athlete passes behind it, and the color palette is consistent, clean, and appealing.

Results



Visual
Communication
Design
MFA

Communication
Interaction
Motion & 3D
Design Studies

About the Program

Figure 2: Graph of Olympic Broadcast viewership from 1988-2022

