

As radio systems evolve and become more complex, the number of interfering signals steadily increases. The demand for more efficient and effective spotting of interfering signals shines a light on the process that is currently in place. Interference hunting relies heavily on human expertise – both skills obtained through practice, and theoretical understanding. Next to that, operators maneuver multiple pieces of complex, hefty technology. This highlights the need for an improved process set-up, that aids the interference hunters in their efforts, instead of burdening them.

The research, performed for this work, covers an overview of the interference hunting process, and an explorative view of the development of augmented technologies, with a focus on user experience. Having these topics as a basis, this work further focuses on the potential role of augmentation in the interference hunting process. It explores different aspects of the current process and tackles how an AR system could fit to make a difference in it. A potential solution is discussed and is developed through a tangible, short-term concept, and an adaptable, long-term vision.

The results of the research and design conclude that augmented reality technologies can significantly improve the current interference hunting process and can be integrated within it. To achieve this, the core information pillars are identified, and the augmented experience is tailored to them. Versatile ways of presenting the information are explored. Based on them, and conducted research, the application architecture is defined, and supported by guidelines on how to build an interaction. A takeaway is that the application should allow personalization, as the technology at hand offers a wide range of information, and user needs vary. To aid users best, and realize the potential of augmented reality technologies, information should be embedded in the real world. Next to that, user interactions should be intuitive, with deliberate affordance provision.

