Serendipitous Interactions via Freezones

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> "There's a temptation in our networked age to think that ideas can be developed by email and iChat — that's crazy. Creativity comes from spontaneous meetings, from random discussions. You run into someone, you ask what they're doing, you say 'Wow,' and soon you're cooking up all sorts of ideas." - Steve Jobs [2]

Since the beginning of the COVID-19 pandemic spontaneous meetings have become practically non-existent. With huge parts of the world in lockdown for most of 2020/2021, much of the workforce faced a shift from co-located to remote. While this development came with perceived benefits such as an absence of commute and fewer distractions at the office, it also often led to a decrease in productivity [5]. Collaboration also suffered by becoming more static and siloed with communication between coworkers shifting from synchronous to asynchronous [8]. Considering these benefits and drawbacks, many believe a hybrid format, that combines the best aspects of both remote and co-located work, to be the future [3, 4]. This necessitates a major restructuring of the workplace as we know it with the question of "what could a seamless integration of the remote into the co-located / the virtual into the real look like?" at the centre. A question some of the world's leading companies have already started to try and find an answer to [6].

Previous research by Satyanarayanan et al. (2022) [7] explored utilising ubicomp/IoT technologies to facilitate serendipitous meetings between colleagues to create a network of privacy-controlled physical spaces, which they refer to as Freezones. The proposed system initiates audio-video connections between remote colleagues when both parties are in the range of a Freezone unit simultaneously and are part of each other's predefined social network. Although, the concept is similar to the media space research of the 1980s to early 2000s, technological advances, the establishment of online social networks and the element or serendipity make the system both technically feasible and distinguish it from its predecessors.

Our work has focused on exploring the value proposition of a system such as Freezone that facilitate serendipitous connections between remote and co-located individuals. In particular, we were interested in potential privacy issues and the perceived effects on collaboration, performance and effectiveness. To achieve this, we conducted an online survey and an in-the-wild deployment of a prototype system which consisted of an onboarding interview, a week-long usage phase, and an offboarding interview.

During the online survey, we provided a scenario introducing the Freezone system to capture participants' attitudes towards possible benefits and risks of using such a system. The results of the survey showed, that although the majority of participants were able to see value in the system, willingness to embrace a system such as Freezone was moderate, with privacy concerns at the forefront of participants' minds.

However, while the data acquired via the online survey provides valuable insights and implications for Freezone, pervasive display systems in general need to be evaluated in-the-wild [1]. We, therefore, built on the findings gained from the online survey with the in-the-wild deployment. For the onboarding interview, we focused on the individuals participants included in their social network of people they would like to interact with via the system, why they had chosen to include the person and their relationship with said person. In addition, we gathered information on how regularly participants communicated with the selected individuals in everyday life and whether they would like to converse more. During the deployment our prototype gathered participants' responses on whether a conversation with an individual from their social network would be desirable at the given time. We adjusted the questions of the off-boarding interview based on the usage data collected during the deployment. However, the base questions focused on participants' opinions about the deployment locations of our prototype, reasons and instances where participants would not have wanted to establish a connection, and whether they would want to use the system in everyday life. Our findings indicate, that by translating the abstract concept of the system as presented in the online survey into something more tangible with our prototype, readiness to engage with the system increased dramatically and privacy concerns were reduced considerably.

This abstract has presented an outline of our results that will be explored in greater depth during our talk, as well as the aim of our future research: to create a technically viable Freezone prototype and to evaluate its usability in a real-world context.

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