# Faculty of Humanities and & Social Sciences



# Internet of Things for Distant relationships

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# **Abstract**

Numerous individuals are living away from their loved ones – such as parents, partners– for various reasons such as education, work or simply growing up and moving away from their parents' home. This can lead to distant families where family members can feel lonely and lack intimacy due to the separation.

Research shows that intimacy and feelings of closeness play a very important role in people's lives and have an impact on their well-being (Firmin, Firmin, & Lorenzen, 2008). Information and communication technologies (ICT) have been recognized as helping people to retain contact over distance via the Internet - using tools such as video chat, instant messaging, SMS, and email. Yet this communication alone is not sufficient to create intimacy in distant relationships (Neustaedter et al., 2015). People can also find technological communication intrusive or exhausting - they report that they get annoyed or disturbed by constantly receiving emails and ringing or vibrating phones that demand attention (Tsujita, Siio, & Tsukada, 2007).

My research therefore focuses on whether novel technologies – such as those that fall within the category of Internet of Things (IoT) – may enable less intrusive feelings of presence and generate closeness in distant relationships.



# **Definitions of Terms**

## Internet of Things:

The Internet of Things refers to technology objects that are connected to each other via wired or wireless medium. These objects or 'things' have a unique identity and they communicate by receiving and sending data.

They often have sensors installed in them, which are used to gather data about the surroundings, and are also equipped with processing power that allows them to make decisions.

## **Social Presence:**

The feeling of being together, of social interaction with a virtual or remotely located communication partner. Communication is central to social presence (Riva, Davide, & IJsselsteijn, 2003).



# PhD Objectives

- To understand how people interact with Internet of Things objects
- If and how IoT objects can create presence and awareness in geographically distant parent and adult-child relationships
- Design guidelines for technologies for distant relationships

# Gaps in literature:

Most studies don't pay sufficient attention to the importance of design

Most studies are pilot studies where detailed user evaluations are not carried out

Most studies are done in labs, not factoring in the impact of testing in such an unnatural environment

Little is known about when social presence is desirable and what interpersonal needs can be satisfied by experiencing social presence

## Proposed solution:

Pays attention to the design

Uses technologies that are unobtrusive

Is embedded in the natural surroundings of user



# Smart lamp, an IoT system based on connected objects

**Research question:** Does this specific IoT system impact ratings of social presence and closeness in a relationship?

**Hypothesis:** Providing awareness information through 'smart lamps' will increase social presence

Increased ratings of social presence will increase overall closeness

System description: It is a asymmetric-synchronous system. When an adult-child arrives at a certain space his/her GPS co-ordinates are shared and a lamp is switched on in his/her parents home.

Participant: Seven pairs adult-children and parents living in different cities (who consider themselves in a distant relationship).

**Location:** Participants' home, workplace or any place that is meaningful to the participant.

**Duration:** 4 weeks

**Method:** Mixed method: Diary study + Interviews

Inclusion of other in the self (IOS) measured is used to measure closeness in the relationship and semantic differentials are used to measure social presence.

Qualitative data is gathered by interviews and open ended questions in diary

## Reference

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