How to Inform Privacy Agents on Preferred Level of User Control?

Jessica H. Colnago
Dr. Hélio Crestana Guardia
“THE MOST PROFOUND TECHNOLOGIES ARE THOSE THAT DISAPPEAR. THEY WEAVE THEMSELVES INTO THE FABRIC OF EVERYDAY LIFE UNTIL THEY ARE INDISTINGUISHABLE FROM IT.” – Mark Weiser, The Computer for the 21st Century
PRIVACY

INTERRUPTIONS

CONTROL

How to Inform Privacy Agents on Preferred Level of User Control?
PRIVACY IN THE INTERNET OF THINGS

Too many interruptions or too little control

AUTOMATED APPROACHES

NOTICE AND CONSENT
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Privacy in the Internet of Things
Too many interruptions or too little control

Intelligent Privacy Agents
System-oriented

Automated Approaches
Copigneaux (2014)
Schaub et al. (2012)
Toch (2011)
Bunnig and Cap (2009)

Notice and Consent

High system autonomy | Low system autonomy

Low user control | High user control
Identify when the privacy agent should give the control to the user and when it should retain control in order to avoid interrupting him/her.
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**INTELLIGENT PRIVACY AGENTS**
System-oriented

**BALANCE AGENT**
AUTONOMY AND USER CONTROL

Intelligent Privacy Interruptions

INTELLIGENT PRIVACY INTERRUPTIONS

**CAN I BE INTERRUPTED?**
- Mood
- Frequency of Interruptions

**DO I WANT TO BE INTERRUPTED?**
- Activity Engagement
- Social Expectation
- Prediction Certainty
- Need for Control
- Perceived Trust
- Privacy Concern
- Sharing Sensitivity

**Interruptions**

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Intelligent Privacy Interruptions

How much control do I want? How can I be interrupted? mood, frequency of interruptions, activity engagement, social expectation, prediction certainty, need for control, perceived trust, privacy concern, sharing sensitivity.
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1. **Can I be interrupted?**
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In a nutshell...
Thank you.
Contact me at jcolnago@andrew.cmu.edu
BUT HOW TO APPLY THE VARIABLES?

Mental process extracted from the interviews
STEP 1
Examine current situation
Am I …

STEP 2
Examine scenario

STEP 3
Re-examine the current situation
Am I …

Delegate directly or Ignore

Delegate
Choose

Focus on a significant risk?

Am I comfortable with the use?

Am I confident with the certainty?

Is there a significant risk?

Am I in a bad mood?

Am I focused?

Am I annoyed?

Delegation

Focus on people?

Focus on annoyed?

Focus on true?

Focus on no?

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The literature review was performed in three stages and based on an exploratory approach.

The variables selected were the most predominant and consistent in the literature, either directly or indirectly identified.