# Designing the default privacy settings for facebook applications

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# Designing the Default Privacy Settings for Facebook Applications

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## INTRODUCTION

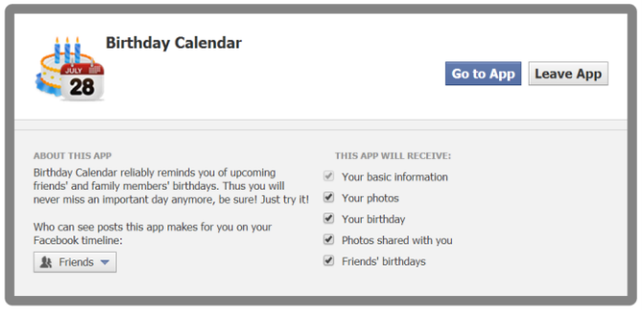
Our research aims to explore the effects of different designs of default settings embedded in privacy notices on influencing users' privacy behaviors and perceptions.

We use Nissenbaum's theory of *contextual integrity* to frame the design of our study. According to Nissenbaum, the relevance of information in respect to the situational ***context*** and the information ***attributes*** (type of information being shared) are two key parameters in terms of how individuals develop their privacy expectations and norms. We used these two theoretical concepts in our design of four variations of a privacy notice for a Facebook app.

## METHODOLOGY

### *Experimental Design*

***Context*:** Sample prototype of the privacy notice for a Facebook Birthday App

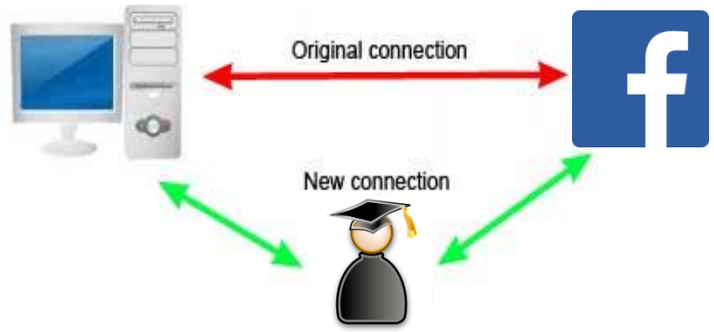



***Attributes*:** Four manipulating conditions of default settings in privacy notices

| | None selected (NONE) (N=47) | App-relevant selected (RVT) (N=52) | App-irrelevant selected (IRVT) (N=50) | All selected (ALL) (N=50) |
|---|---|---|---|---|
| **Birthday App** | THIS APP WILL RECEIVE:<br>☑ Your basic information<br>☐ Your photos<br>☐ Your birthday<br>☐ Photos shared with you<br>☐ Friends' birthdays | THIS APP WILL RECEIVE:<br>☑ Your basic information<br>☐ Your photos<br>☑ Your birthday<br>☐ Photos shared with you<br>☑ Friends' birthdays | THIS APP WILL RECEIVE:<br>☑ Your basic information<br>☑ Your photos<br>☐ Your birthday<br>☑ Photos shared with you<br>☐ Friends' birthdays | THIS APP WILL RECEIVE:<br>☑ Your basic information<br>☑ Your photos<br>☑ Your birthday<br>☑ Photos shared with you<br>☑ Friends' birthdays |

### *Experiment Implementation*

***A Chrome browser extension was developed to override Facebook's default privacy notice for adding our Facebook app. We followed the experimental procedure we established in Wang et al. (2013).***




**Man-in-the middle**
**(Our mimicked version of interface via browser extension)**

### *Pre-Experiment Survey*

***We asked:***

- Participants' online experience
- Personal characteristics
- Demographic information

### *App Installation Task*

***We captured:***

- Participants' behaviors to install the app
- Participants' behaviors to modify the default settings

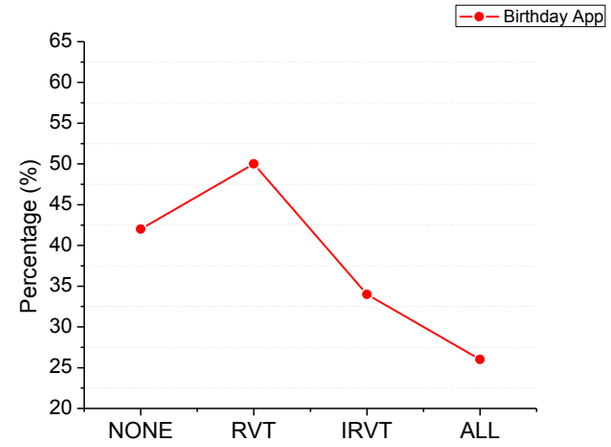
### *Post-Experiment Survey*

***We measured:***

- Comfort levels in disclosing different types of personal information via apps
  ***Please indicate how comfortable you feel to release the following information to Birthday Calendar.***
  **(**1 = always uncomfortable, 7 = always comfortable. **)**
- Perceived usefulness of the default settings (Davis, 1989)
  ***The default setting of the interface effectively helped me decide what personal information was appropriate to reveal to the app*.**
  (1 = strongly disagree, 7 = strongly agree. )
- Perceived privacy threat of the default settings (Dinev & Hart, 2006)
  ***There would be a high potential for privacy loss associated with giving the default selected personal information to the app.***
  (1 = strongly disagree, 7 = strongly agree. )

## PRELIMINARY RESULTS

### *Authorization Rates of the App*




### *Comfort Level of Releasing Information*

| | Birthday App | | |
|---|---|---|---|
| | **μ** | M | **σ** |
| **Basic information** | 3.36 | 3 | 1.87 |
| **Your photos** | 2.50 | 2 | 1.62 |
| **Your birthday** | **3.62** | 4 | 1.92 |
| **Friends' photos** | 2.73 | 2 | 1.73 |
| **Friends' birthdays** | **3.47** | 3 | 1.93 |

### *Perceived Usefulness of the Default Settings*

| | Birthday App | | | |
|---|---|---|---|---|
| | **NONE** | **RVT** | **IRVT** | **ALL** |
| **Mean** | 4.45 | 5.13 | **4.48** | 4.48 |
| **Median** | 5 | 5 | **5** | 5 |
| **SD** | 1.49 | 1.21 | **1.65** | 1.16 |

### *Perceived Privacy Threat of the Default Settings*

| | Birthday App | | | |
|---|---|---|---|---|
| | **NONE** | **RVT** | **IRVT** | **ALL** |
| **Mean** | **4.54** | **4.50** | 5.20 | 5.51 |
| **Median** | **5** | **4** | 5 | 5 |
| **SD** | **1.43** | **1.46** | 1.41 | 1.18 |

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