Romadoro: Leveraging Nudge Techniques to Encourage Break-Taking

Katarina Jurczyk, Christopher You, Mahsan Nourani, Manas Gupta, Lisa Anthony, Benjamin Lok
Department of CISE, Herbert Wertheim College of Engineering, University of Florida
kjurczyk@ufl.edu

Problem

- Excessive screen-time has negative impacts on mental and physical well-being, and taking breaks is important to keeping creativity, interest, and productivity high [1]. Time management techniques exist to help people regulate their breaks; however, users might ignore the intended breaks. This reduces the productivity and health benefits of taking time off from the screen.

Our Solution

- Using the Pomodoro Technique [1], we built a Google Chrome plugin called Romadoro to test the effectiveness of computer mediated nudges [2] in motivating users to take breaks.

Definitions

- Nudges are aspects of choice architecture that alter, in a predictable way, the behavior of people [2] – they “nudge” them to behave in a certain way.
- The Pomodoro Technique [1] is a time management method used to promote productivity and focused work through periods of focus followed by regulated periods of rest (breaks).

Method

- 36 participants interacted with the Romadoro interface over the course of 4 days. They were split into two groups – those who interacted with our interface without nudges and those who had nudges. Those with nudges interacted with a different random nudge each day.

Results

- Notifications with nudges are more effective in motivating users to take breaks than notifications without nudges.
  \( \chi^2(1,34) = 5.14, p < 0.05 \)

Dashboard

- Our homepage: Romadoro Dashboard – users interacted with the timer, changed the times of their focus sessions and breaks, and viewed how many Pomodoro cycles they completed that day.

Without Nudge Notifications

- Default – Google Chrome notification received by those in the no nudge condition.

With Nudge Notifications

- Facilitate – aims to improve the decision-making process by reducing or eliminating mental or physical efforts from the users.
- Leverage Social Influence – uses the human tendency to conform with social “norms” and what people believe is expected of them.
- Confront – leverages the tendency to make more careful decisions after being made aware of consequences.
- Reinforce – increase the presence in an individual’s thinking and reinforce specific behaviors.

Definitions

- The Pomodoro Technique [1] is a time management method used to promote productivity and focused work through periods of focus followed by regulated periods of rest (breaks).

Table: Effectiveness of Nudge Notifications

<table>
<thead>
<tr>
<th>Condition</th>
<th>Effectiveness (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Nudge</td>
<td>50</td>
</tr>
<tr>
<td>With Nudge</td>
<td>80</td>
</tr>
</tbody>
</table>

\( \chi^2(3) = 1.46, \eta^2_p=0.02, p = 0.63 \) (NS)