Persuasive Systems Design for Health Behaviour Change

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THE PSD MODEL
Persuasive Systems Design Model

Framework

1. Understanding Persuasion Postulates
2. Analysis of Persuasion Context
   – To discern opportune and/or inopportune moments for delivering the message(s)
3. Design of Persuasive Features
   – To implement the actual software

Step 1: Understanding Persuasion Postulates

① Information technology is never neutral
② People like their views about the world to be organized as consistent
③ Persuasion is often incremental
④ Direct and indirect routes are key persuasion strategies
⑤ Persuasive systems should be both useful and easy to use
⑥ Persuasion through persuasive systems must always be unobtrusive to a user’s primary tasks
⑦ Persuasion through persuasive systems should always be transparent
Step 2: Analysis of Persuasion Context

The intent
- Persuader, Intended O/C, Bias

The event
- Use, user and technology contexts

The strategy
- Message, route

PERSUASION CONTEXT
Table 1
Persuasion context addressed in this study following the guidelines of Oinas-Kukkonen and Harjumaa [32] and Oinas-Kukkonen [14].

<table>
<thead>
<tr>
<th>The Intent</th>
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<tbody>
<tr>
<td><strong>Persuader</strong></td>
<td>The hospital district and university researchers are key stakeholders behind the intervention platform. The system itself is designed to be autogenous to the extent that users could influence their own attitudes and/or behaviors without the need for active continuous consultation with health professionals</td>
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<tr>
<td><strong>Intended Outcome/Change</strong></td>
<td>The primary aim of the system is to alter users’ health behavior regarding the prevention of metabolic syndrome (A-Outcome, B-Change). The secondary aim is to reinforce the users’ newly adopted behaviors (R-Outcome) thanks to the long intervention period (12 months)</td>
</tr>
<tr>
<td><strong>Designer Bias</strong></td>
<td>The intervention is a modern web application, which enables reaching a very wide population with minimal technical restrictions. Those less technically inclined may not be familiar with the look and feel the designer takes for granted</td>
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<td><strong>Use Context</strong></td>
<td>The problem domain is the prevention of metabolic syndrome. User groups received health exercise and information relating to lifestyle habits. Each week a weekly article, exercise, and a brief health tip are provided</td>
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<tr>
<td><strong>User Context</strong></td>
<td>A user’s phase of intervention is taken into account by providing suitable information for that phase. The content of the BCSS is delivered based on the progress of 52 weeks of intervention. The users are also encouraged to set their own target weight and new lifestyle goals</td>
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<tr>
<td><strong>Technology Context</strong></td>
<td>The system was developed as a generic web application that users can access both on their desktop and on their mobile devices without requirements for any specific operating system or device. On par with the web-based application, interface email is used to interact with users. The system was developed by applying modern web technologies, such as an MVC web application framework [41], REST-based software architecture [42], and a mobile-aware responsive layout. For a more detailed description of the technological implementation, please see Ref. [31]</td>
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<td><strong>Message</strong></td>
<td>The aim was to increase users’ self-efficacy in their lifestyle change. The content system offered was based on the principles of the cognitive behavioral model</td>
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<tr>
<td><strong>Route</strong></td>
<td>A direct route is used to persuade users to change their health behavior. The system provides users with strong arguments in the form of weekly informational content provided by health professionals</td>
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</table>
Step 3: Design of Persuasive Features

The intent
Persuader, Intended O/C, Bias

The event
Use, user and technology contexts

The strategy
Message, route

Primary task support
Dialogue support
Perceived credibility
Social influence

PERSUASION CONTEXT

PERSUASIVE FEATURE CATEGORIES
Persuasive feature categories

help set emphasis

help select and specify suitable features

Note. All paths p<0.01; DIAL=Dialogue support; SOID=Social identification; SOCS=Social support; PRIM=Primary task support; CRED=Perceived credibility; EFFO=Perceived effort; EFFE=Perceived effectiveness; CONT=Continuance intention.
The PSD model helps

- Understand the ways in which we are being influenced by/through/with IT
- Evaluate and compare persuasive technologies
- Design and develop effective interventions
Humanized technologies

Being part of our everyday lives opens up tremendous opportunities for influencing people’s behaviors.

The role of these persuasive systems design keeps growing.

Oinas-Kukkonen et al. (2013) Humanizing the web: Change and social innovation, Palgrave Macmillan.
References


