Multimedia Appendix 2: The PSD model (Oinas-Kukkonen, 2009)

Primary Task Support			
Principle	Example requirement	Example implementation	
Reduction	System should reduce effort that	Mobile application for healthier	
A system that reduces complex	users expend with regard to	eating habits lists proper food choices	
behavior into simple tasks helps users	performing their target behavior.	at fast food restaurants [Lee et al.	
perform the target behavior, and it		2006]. Smoking cessation Web site	
may increase the benefit/cost ratio		provides an interactive test that	
of a behavior.		measures how much money a user	
		will save with quitting.	
Tunneling	System should guide users in the	Smoking cessation Web site offers	
Using the system to guide users	attitude change process by providing	information about treatment	
through a process or experience	means for action that brings them	opportunities after a user has taken	
provides opportunities to persuade	closer to the target behavior.	an interactive test about how	
along the way.		addicted (s)he is on tobacco.	
Tailoring	System should provide tailored	Personal trainer Web site provides	
Information provided by the system	information for its user groups.	different information content for	
will be more persuasive if it is tailored		different user groups, e.g. beginners	
to the potential needs, interests,		and professionals. Web site for	
personality, usage context, or other		recovering alcoholics presents stories	
factors relevant to a user group.		that are close to the user's own story.	
Personalization	System should offer personalized	Arguments most likely to be relevant	
A system that offers personalized	content and services for its users.	for the user presented first on a	
content or services has a greater		professional Web site rather than in	
capability for persuasion.		random order.	
Self-monitoring	System should provide means for	Heart rate monitor presents a	
A system that keeps track of one's	users to track their performance or	user's heart rate and the duration of	
own performance or status supports	status.	the exercise. Mobile phone	
the user in achieving goals.		application presents daily step count	
		[Consolvo et al. 2006].	
Simulation	System should provide means for	Before-and-after pictures of people	
Systems that provide simulations can	observing the link between the cause	who have lost weight are presented	
persuade by enabling users to	and effect with regard to users'	on a Web site.	
observe immediately the link	behavior.		
between cause and effect.			
Rehearsal	System should provide	A flying simulator to help flight	
A system providing means with which	means for rehearsing a target	pilots practice for severe	
to rehearse a behavior can enable	behavior.	weather conditions.	
people to change their attitudes or			
behavior in the real world.			

Dialogue Support			
Principle	Example requirement	Example implementation	
Praise	System should use praise via words,	Mobile application that aims at	
By offering praise, a system can make	images, symbols, or sounds as a way	motivating teenagers to exercise	
users more open to persuasion.	to provide user feedback	praises user by sending automated text	
	information based on his/her	messages for reaching individual goals.	
	behaviors.	[Toscos et al. 2006]	
Rewards	System should provide virtual	Heart rate monitor gives users a virtual	
Systems that reward target behaviors	rewards for users in order to give	trophy if they follow their fitness	
may have great persuasive powers.	credit for performing the target	program. Game rewards users by	
	behavior.	altering media items, such as sounds,	
		background skin, or a user's avatar	
		according to user's performance. [Sohn	
		and Lee 2007]	
Reminders	System should remind users of their	Caloric balance monitoring application	
If a system reminds users of their	target behavior during the use of the	sends text messages to its users as	
target behavior, the users will more	system.	daily reminders. [Lee et al.2006]	
likely achieve their goals.			
Suggestion	System should suggest that users	Application for healthier eating habits	
Systems offering fitting suggestions	carry out behaviors during the	suggests that children eat fruits instead	
will have greater persuasive powers.	system use process.	of candy at snack time.	
Similarity	System should imitate its users in	Slang names are used in an application	
People are more readily persuaded	some specific way.	which aims at motivating teenagers to	
through systems that remind them of		exercise. [Toscos et al. 2006]	
themselves in some meaningful way.			
Liking	System should have a look and feel	Web site that aims at encouraging	
A system that is visually attractive for	that appeals to its users.	children to take care of their pets	
its users is likely to be more		properly has pictures of cute animals.	
persuasive.			
Social role	System should adopt a social role.	E-health application has a virtual	
If a system adopts a social role, users		specialist to support communication	
will more likely use it for persuasive		between users and health specialists.	
purposes.		[Silva et al. 2006]	

System Credibility Support			
Principle	Example requirement	Example implementation	
Trustworthiness	System should provide information	Company Web site provides	
A system that is viewed as	that is truthful, fair and unbiased.	information related to its products	
trustworthy will have increased		rather than simply providing biased	
powers of persuasion.		advertising or marketing information.	
Expertise	System should provide information	Company Web site provides	
A system that is viewed as	showing knowledge, experience, and	information about their core	
incorporating expertise will have	competence.	knowledge base. Mobile application is	
increased powers of persuasion.		updated regularly and there are no	
		dangling links or out-of-date	
		information.	
Surface credibility	System should have competent look	There are only a limited number of,	
People make initial assessments of	and feel.	and a logical reason for, ads on a Web	
the system credibility based on a		site or mobile application.	
firsthand inspection.			
Real-world feel	System should provide information of	Company Web site provides	
A system that highlights people or	the organization and/or actual	possibilities to contact specific people	
organization behind its content or	people behind its content and	through sending feedback or asking	
services will have more credibility.	services.	questions.	
Authority	System should refer to people in the	Web site quotes an authority, such as a	
A system that leverages roles of	role of authority.	statement by government health	
authority will have enhanced powers		office.	
of persuasion.			
Third-party endorsements	System should provide endorsements	E-shop shows a logo of a certificate	
Third-party endorsements, especially	from respected sources.	that assures that they use secure	
from well-known and respected		connections. Web site refers to its	
sources, boost perceptions on system		reward for high usability.	
credibility.			
Verifiability	System should provide means to	Claims on a Web site are supported by	
Credibility perceptions will be	verify the accuracy of site content via	offering links to other web sites.	
enhanced if a system makes it easy	outside sources.		
to verify the accuracy of site content			
via outside sources.			

Principle Example requirement Example implementation	Social Support			
A person will be more motivated to perform a target behavior if (s)he can use a system to observe others performing the behavior. Social comparison System sures will have a greater motivative in the performance with the performance of others. Normative influence A system can leverage normative influence or peer pressure to increase the likelihood that a person will adopt a target behavior. Social facilitation System should provide means for discerning other users who are performing the behavior along with them. Cooperation A system can motivate users to adopt a target behavior by leveraging human beings' natural drive to co-operate. System should provide means for compartive in the same time as them be analyzed at the group level in more detail [Lee et al. 2006]. System should provide means for compartive in the same time as them. System consume that others are performing the behavior by leveraging human beings' natural drive to co-operate. System should provide means for compartive in the patients are studied through a mobile application, which collects data and sends it to a central server where it can be analyzed at the group level in more detail [Lee et al. 2006]. Competition System should provide means for compartive in the patients are studied through a mobile application, which collects data and sends it to a central server where it can be analyzed at the group level in more detail [Lee et al. 2006]. Competition System should provide means for compartive in the patients are studied through a mobile application, which collects data and sends it to a central	Principle	Example requirement	Example implementation	
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	By offering public recognition for an	recognition for users who	"stopper of the month," are published	
individual or group, a system can	individual or group, a system can	perform their target behavior.	on a Web site. Personal stories of the	
increase the likelihood that a person/ people who have succeeded in their	increase the likelihood that a person/		people who have succeeded in their	
group will adopt a target behavior. goal behavior are published on a	group will adopt a target behavior.		goal behavior are published on a	
smoking cessation Web site.			smoking cessation Web site.	