Supplementary

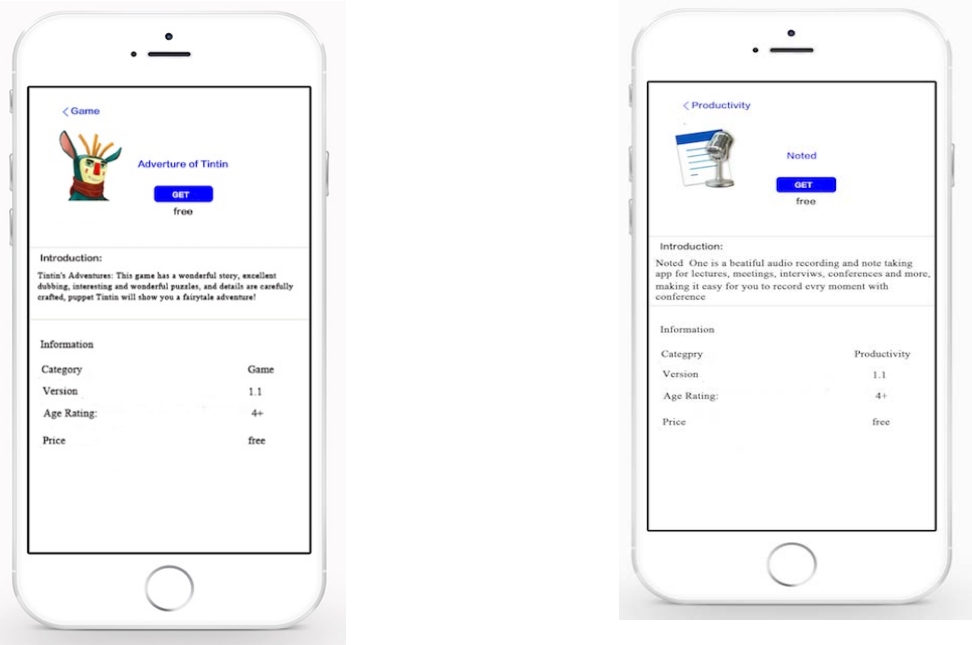

Figure S1. Manipulation of hedonic and utilitarian product

Table S1. Manipulation of frequency.

Hedonic Product		Utilitarian Product	
The Adventures of "Tintin" is a casual game. It was initially released in January 2017.		*"Noted everything" is an audio recording and note taking app. It was initially released in January 2017.*	
Low frequency pattern: The average release cycle of our product is approximately 2–4 times per year, and the latest version was released yesterday. The next version shall be released in three months, and the following enhancements will be included:	***High frequency pattern:*** The average release cycle of our product is approximately 2–4 times per month, and the latest version was released yesterday. In the next quarter, each of the following enhancements will be released separately with a new version every two weeks:	***Low frequency pattern:*** *The average release cycle of our product is approximately 2–4 times per year, and the latest version was released yesterday. The next version shall be released in three months, and the following enhancements will be included:*	***High frequency Pattern:*** *The average release cycle of our product is approximately 2–4 times per month, and the latest version was released yesterday. In the next quarter,* each of the following enhancements will be released separately with a new version every two weeks:
(1) A new map will be added to the extant story. *(2) Debugging will be performed to improve the picture fluency.* *(3) The challenge difficulty will be increased* *(4) Detail optimization about the level setting will be implemented* *(5) More background music will be added.* *(6) Debugging will be conducted to repair the existing problems and improve the experience.*	*(1) A new map will be added to the extant story* ***(Week 2)****.* *(2) Debugging will be performed to improve the picture fluency* ***(Week 4)****.* *(3) The challenge difficulty will be increased* ***(Week 6).*** *(4) Detail optimization about the level setting will be implemented* ***(Week 8).*** *(5) More background music will be added.* ***(Week 10).*** *(6) Debugging will be conducted to repair existing problems and improve the experience* ***(Week 12).***	*(1) A call-voice recording function is added.* *(2) Debugging will be implemented to improve the voice transcoding speed.* *(3) Note-sharing functions (email, WeChat, and Weibo) will be added* *(4) Debugging will be implemented to optimize the note-sharing fluency.* *(5) A face recognition password function will be added* *(6) Face recognition sensitivity will be optimized*	*(1) A call-voice recording function will be added* ***(Week 2).*** *(2) Debugging will be implemented to improve the voice transcoding speed* ***(Week 4).*** *(3) A note-sharing function (email, WeChat, and Weibo) will be added* ***(Week 6)*** *(4) Debugging will be implemented to optimize the note-sharing fluency* ***(Week 8).*** *(5) A face recognition password function will be added* ***(Week 10).*** *(6) Face recognition sensitivity will be optimized* ***(Week 12).***

Note: Original materials were given in Chinese and the translation is presented here.

Table S2. Questionnaire Structure

Questionnaire Structure		*item*	*source*
Update intention		How interested will you be in updating the product?	Ma et al. (2015)
(Study 2&3)		(1 = not at all interested; 9 = extremely interested)	
		How likely is it that you will update the product?	
		(1 = not at all likely; 9 = extremely likely)	
Perceived Benefits	hedonic benefit	How do you think about the benefits of the product in the following dimensions?	Batra and Ahtola (1991)
(Study 2&3)		1. pleasant	
		(1=Not at all,7=Very pleasant)	
		2. nice	
		(1=Not at all,7=Very Nice)	
		3. agreeable	
		(1=Not at all,7=Very agreeable)	
		4. happy	
		(1=Not at all,7=Very happy)	

	utilitarian benefit	1. useful (1=Not at all,7=Very useful) 2. valuable (1=Not at all,7=Very valuable) 3. beneficial (1=Not at all,7=Very beneficial) 4. wise (1=Not at all,7=Very wise)
Perceived Risk **(Study 2&3)**	performance risk	1. the product might not perform well and create problems (Featherman & Pavlou, 2003; Reichel, Fuchs, & Uriely, 2007). with my work/study (1=Strongly disagree,7=Strong agree) 2. The product is not strong enough to facilitate my work (1=Strongly disagree,7=Strong agree) 3. What is the likelihood that there will be something wrong with the product to assist my work/study, (1=Very Low,7=Very high) 4. Considering the expected level of service performance of the product, for you to sign up for and use it would be (1=Not risky at all,7=risky)
	time risk	1.If you had begun to use the product, what are the chances that you will lose time due to having to switch to this product (1=Low,7=high loss of time risk) 2. My signing up for and using the product would lead to a loss of convenience of me because I would have to waste a lot of time solving problems when use it, (1=Improbable,7=probable)

	3. Considering the investment of my time involved to switch to (and set up) the product makes them (1=Not risky at all,7=very Risky) 4. The possible time loss from having to set-up and learn how to use hte product makes them (1=Not risky at all,7=very Risky)	
product knowledge **(Study 2&3)**	1. I'm familiar with the product of this kind. (1=Strong disagree,7=Strong agree) 2. I know a lot about the product of this kind (1=Strong disagree,7=Strong agree)	Ma et al. (2015)
usage frequency **(Study 2&3)**	How often do you need to use this kind of product in your daily life? (1=Not at all,7=Very frequently)	Ma et al. (2015)
attractiveness of the ad **(Study 2&3)**	How do you think about the attractiveness of the ad? (1=Not at all,7=very attractive)	Luo et al.(2016)
Update type/product type **(Study 2&3)**	please rate for the given product (1 = Definitely intended to increase pleasure and 5 = Definitely intended to increase practical benefit)	Manipulation check
update frequency **(Study 2&3)**	How frequently did the product update? (1 = "never", 2 = "less than once a month," 3 = "once a month," 4 = "twice to thrice a month," 5 = "once a week," 6 = "twice to thrice a week," and 7 = "daily")	Manipulation check
update level **(Study 3)**	To what extent did the developer make a large/radical update each time? (1=Not at alll,7=Very large amount)	Manipulation check