
Support material for investigating the factors that influence users' perceptions about the Pragmatic and Hedonic dimensions of UX

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Abstract: This technical report presents the artifacts we used in our study to investigate the factors that may influence users' perceptions about the Pragmatic and Hedonic dimensions of UX. We employed three different evaluation methods (inspection, testing, and a UX evaluation questionnaire) to evaluate a mobile shopping application that employs a chatbot to facilitate the purchasing process. In order to provide all the details about the study, we also included the raw data for making replication possible.

Keywords: user experience, usability, inspection, testing, subjective experience, influencing factors.

1. Introduction

In this technical report, we provide the artifacts we have used in this study to evaluate the UX of a shopping application and to investigate the factors that may influence users' perceptions about the Pragmatic and Hedonic dimensions of UX. In addition to the artifacts, we also included the raw data. Bellow we describe each section present in this technical report.

Section 2 presents the UX-Tips method. The first part contains some instructions on how to perform a UX evaluation using UX-Tips. They are part of the method and were designed to support participants using it. In Section 3, we present the problem reporting form from UX-Tips aimed to provide a standardized way for users to report the problems they faced and their experiences. We present, in Section 4, the shortened version of User Experience Questionnaire (UEQ) (**Schrepp et al., 2017**) we used to evaluate the UX of the application. Finally, in Section 5, we provide the raw data of the study.

2. UX-Tips Evaluation Method

Let's evaluate the **User eXperience** of the _____ app! To do so, you will use the **UX-Tips technique** that is on the next page.



How to **use** the technique's items to **evaluate** the User eXperience?



The items represent **positive aspects** that the evaluated application **should have**. When the application **does not** have a feature related to a given item, this **should be indicated** as a **negative aspect** of the application. See the example below:



Item **AST1** means: "The application features a nice and beautiful interface design".

But by using it, I am indicating that the application interface is **NOT** nice, as the way the elements are presented is disorganized, **violating** the AST1 item.

Note: If you think a problem may be related to more than one technique item, please indicate the items in the Problem Table.



Aesthetic Dimension	
Item	Description
AST1	The application features a nice and beautiful interface design.
AST2	The color and contrast scheme shown is appropriate.

Emotion Dimension	
Item	Description
EMT1	It is pleasant/I like to use the application.
EMT2	The application allows the user to feel happy using it.

Engagement Dimension	
Item	Description
EGT1	The application arouses the interest in obtaining it.
EGT2	The application stimulates the desire to recommend it to others.
EGT3	The application stimulates the curiosity to know it more.

Innovative Dimension	
Item	Description
INO1	The application has innovative features (different ways to meet the user's need).

Social Dimension	
Item	Description
SOC1	The application lets you share information with others.
SOC2	The application allows being always updated (informed) about the contents it provides.
SOC3	The application is known and widely used by other people.

Physical Characteristics Dimension (Applicable for Mobile Applications)		
Item	Description	Do these items apply to the evaluated app?
PSC1	The application has good battery management (i.e., it does not consume a lot of battery).	<input type="checkbox"/> Yes <input type="checkbox"/> No
PSC2	The application allows/enables the use of sensors to provide interaction in different ways: through GPS (location), accelerometer (movement), gyroscope (gestures) and voice recognition.	<input type="checkbox"/> Yes <input type="checkbox"/> No

Learning and Ease of Use Dimension	
Item	Description
LUA1	The application interface is consistent (i.e., same interface items represent the same things).
LUA2	The application content (text, images, information, icons) are displayed in a visible and understandable way.
LUA3	The app's features do what they seem to do.
LUA4	The application is easy enough to perform the activities without difficulties.
LUA5	The application visibly provides tips or guides on how to use it.
LUA6	The application does not require much mental effort to remember how to use it.

Utility Dimension	
Item	Description
UTL1	The application assists in an important activity.

Control Dimension	
Item	Description
CTR1	The application allows controlling the interaction the way the user wants.

Feedback Dimension	
Item	Description
FCK1	The application provides information about the actions the user performs.
FCK2	Information about user actions is objective and understandable.

Dimension Efficiency	
Item	Description
EFF1	The application processes the information quickly.
EFF2	The application allows using shortcuts to perform some activities.

Value Added Dimension	
Item	Description
VLE1	The application generates value (has benefits that make the user prefer this application over the competitors).
VLE2	The application has/represents values that are important to the user.

Satisfaction Dimension	
Item	Description
STF1	The application meets user's expectations.
STF2	The application fulfills what it is expected to do.

3. Problem Reporting Form

UX-Tips provides a form to report the problems that users encountered during the UX evaluation. In the first column, users enter the technique item code to which the problem is related. In the second column, the users describe the problems they have encountered.

Table for identified issues

Technique Item Code	Problem Description (Describe the problem you encountered)

4. UX Evaluation Questionnaire

In this study, we employed the shortened version of UEQ (Schrepp et al., 2017), added with the valence dimension from SAM (Self-Assessment Manikin) (Bradley and Lang, 1994) for getting participants' overall satisfaction with the application they use. The questionnaire comprised two parts. The first part (below) was filled only by the participants who had used similar applications before. The second part (next page) was filled by all participants.

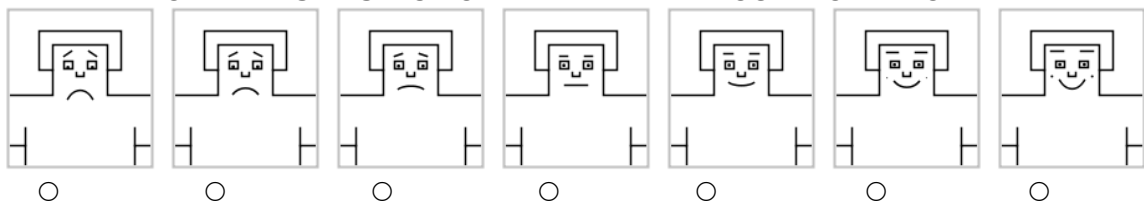
Name: _____

Do you use any application similar to the app you just used? Which one?

Please rate your experience with the **APP YOU WROTE ABOVE**:

clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	confusing	1
inefficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	efficient	2
complicated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	easy	3
obstructive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	supportive	4
boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	exciting	5
not interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	interesting	6
conventional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	inventive	7
usual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	leading edge	8

OVERALL SATISFACTION WITH THE APP YOU WROTE ABOVE:



5. Raw Data

We present the raw data of the UX evaluation from usability testing and inspection groups.

ID	Script	Already used the app?	Used similar apps?	Usage Frequency	UEQ								SAM
					1	2	3	4	5	6	7	8	Satisfaction
U1	2	No	No	None	2	3	3	3	1	2	2	2	2
U2	2	No	No	None	-1	2	2	-2	-1	0	-1	2	-1
U3	2	No	No	None	2	0	-1	-1	-3	-3	-3	-2	1
U4	2	No	No	None	1	2	1	2	3	3	3	3	2
U5	1	No	Yes	None	2	2	1	1	1	1	2	2	2
U6	1	No	No	None	2	3	2	3	0	2	3	3	2
U7	1	No	Yes	Low	1	2	2	1	1	3	1	3	2
U8	1	No	No	None	2	2	2	2	0	3	3	3	2
U9	2	No	Yes	Medium	-2	1	-2	0	-1	-1	0	-1	-1
U10	2	No	No	None	3	3	1	2	-3	0	3	1	1
U11	1	No	Yes	None	-2	1	-1	1	1	2	2	2	1
U12	1	No	Yes	None	-2	1	0	-1	1	1	2	2	0
U13	2	No	Yes	Low	-2	2	0	-1	0	2	2	2	1
U14	1	No	Yes	Medium	-3	0	-3	-3	-3	-2	2	0	-2
U15	2	No	Yes	Low	1	-1	-1	0	1	3	3	3	1
U16	1	No	No	Low	2	2	3	3	3	3	3	3	3
U17	1	No	No	None	2	-1	0	0	1	2	3	3	2
U18	1	No	No	None	1	2	2	1	3	3	2	1	2
U19	1	No	Yes	None	-1	2	2	2	0	0	-2	1	1
U20	2	No	Yes	Low	-1	1	-1	1	0	2	3	2	1
U21	2	No	Yes	Medium	3	3	3	3	3	3	2	2	3
U22	2	No	No	None	2	3	3	2	2	3	3	2	2

Table 1. Raw data from the participants who acted as users in usability testing.

ID	Script	Already used the app?	Used similar apps?	Usage Frequency	UEQ								SAM
					1	2	3	4	5	6	7	8	Satisfaction
I1	2	No	Yes	None	-3	1	-3	-3	-1	2	3	3	-1
I2	1	No	Yes	None	-1	2	2	2	2	2	2	2	1
I3	1	Yes	Yes	Medium	-2	-1	-2	-1	-2	0	3	3	-1
I4	1	No	No	None	-1	1	1	0	2	3	3	3	1
I5	1	No	Yes	Medium	-1	-1	-2	-1	1	1	1	-1	0
I6	2	No	Yes	Low	-1	0	-1	-1	0	1	2	2	0
I7	2	No	Yes	Medium	-2	-2	-1	-1	-3	-2	1	1	-1
I8	1	No	Yes	None	0	-1	1	0	1	0	2	2	0
I9	1	Yes	Yes	Low	-3	-3	-2	-2	-1	0	2	2	-2
I10	2	Yes	Yes	Medium	-3	-1	-1	-1	-3	-1	1	0	-3
I11	2	No	Yes	None	2	-2	-2	-1	-1	-1	1	0	-1

Table 2. Raw data from the participants from the inspection group.

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