



Usability Study: Kodak Moments Mobile Application

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Executive Summary

The purpose of this study was to evaluate the new, re-designed version of the Kodak Moments mobile application, with younger, social-media and photo-active students.

Kodak Moments mobile application is used to create personalized photo products, such as greeting cards, photobooks, gifts, collages and prints, anytime, anyplace. The products can be ordered off-line for pick-up at retail stores, or to be delivered at home. In store, users can wirelessly connect to Wi-Fi enabled Kodak Picture Kiosk to create photo products. Also, users can share the moments that matter with people, and print from their social moments. Versions of the application are available for iPhone (iOS) and Android smartphones, however, we were required to test only the iOS version.

The usability testing was an exploratory study, consisting of 6 female and 4 male participants. All participants, with an exception of a female participant, were first-time users of the app.

Test sessions were conducted under controlled settings, in the usability testing lab, at the B. Thomas Golisano College of Computing and Information Sciences, Rochester Institute of Technology (RIT), Rochester, New York.

Each test session lasted for less than an hour, wherein each participant was required to perform a series of four tasks. Test equipment included participants' iPhone. The test sessions consisted of four subparts – pre-test arrangements, introduction to test session, test session, and post-test debriefing. At the conclusion of each study session, every participant was provided with a \$25 Target incentive gift card.

Introduction

Objectives

The usability test was conducted to evaluate the new, re-designed version of the Kodak Moments mobile application, with younger, social-media and photo-active students.

The primary goals were to:

- find usability issues and their potential solutions,
- gather comparative appeal quotient with the competitive apps, such as Instagram and Shutterfly,
- evaluate what is working; what needs improvement; what are the missing features, if any; and how can the app drive more traffic,
- understand the expectations and needs of the younger target audience,
- analyze the complete user experience, from downloading to posting a moment and creating a product,
- assess both, the social and shop aspects – perception, appeal and interaction behavior, and
- identify the cues that convey quality of the product and interactions.

Research Questions

In addition to the primary goals as mentioned above, we came up with the following set of research questions for the test:

- How quickly and easily can users create photo products using the mobile application?
- How easily can users map artifacts/signifiers with their functions?
- How closely does the flow of the application map to users' mental models?
- Is the user interface first-use intuitive and aesthetically pleasing?
- What usability issues do users encounter while performing tasks, and what is their reaction?
- How willing are users to share their photos/moments with friends and family, using the application?
- How appropriate do users find the idea/concept of sharing moments, with a select private group of people?

Methodology

Location and Setup

Test sessions were conducted under controlled settings, in the usability testing lab (Figure 1), at the B. Thomas Golisano College of Computing and Information Sciences, RIT, Rochester, New York.

Test equipment included participants' iPhones. We used Mr. Tappy, in order to record participants' interactions, while using the Kodak Moments mobile application on their iPhones. The Morae Suite was used to record and analyze the collected data.



Figure 1. The usability testing lab at RIT: testing room (left) and observation room (right).

Date Range of Study

Participant Recruitment: April 1, 2016 – May 1, 2016

Usability Study: May 6, 2016 – May 7, 2016

Methodology

Recruitment Procedure

For the recruitment procedure, we put up 60 flyers around the RIT campus, along with our contact details. Once interested students contacted us, they were provided with the link to an online participant screener survey. Based on the survey responses, and in accordance with the desired characteristics and mix, 6 female and 4 male participants were recruited for the usability study.

Participants

All participants recruited for the study, with an exception of a female participant, were first-time users of the Kodak Moments app. Table 1 below shows the number of participants by age group and gender.

Age Group	Female	Male
18-24 years	4	4
25-30 years	2	0
Total	6	4

Table 1. Recruited participants by age group and gender.

Tasks and Scenarios

The following task scenarios were designed relative to the test objectives.

1. It's your best friend's 21st birthday, and you are looking for gift ideas. You want to do something special for them. One of your friends suggested that you try the Kodak Moments mobile application, to create a photo product, such as a greeting card, photobook, collage, using memories dearest to you and your best friend. So, you download the app on your iPhone.
2. You decide to create a collage, choosing your favorite 4-5 photos of you and your best friend, from your iPhone Photos gallery, and add some background to it.
3. Once you have created the collage, you want to order a 12x18 copy of the collage. So, you add your collage to the cart and select a store for pickup (not purchase).
4. Since it is your best friend's birthday, you want to express your friendship by posting a birthday wish, with a photo and short message, on the Kodak Moments app.

Methodology

Test Personnel Roles

During the usability study, our team members assumed two primary roles: Observer and Moderator, interchangeably. At any given time during the test sessions, four members played the role of observers and one member was the moderator.

- **Observer Role:** Before every session, the observers set up the recording devices. During the test sessions, they observed participants' behavior, took down detailed notes, and recorded qualitative data as the participants thought aloud, commented or did something notable.
- **Moderator Role:** The moderator assisted participants throughout the test sessions. The moderator was also responsible for starting and stopping the audio/video recording and screen capturing, during the testing sessions.

Test Design

The usability test was conducted to evaluate the new, re-designed version of the Kodak Moments mobile application, with 10 social-media and photo-active students, aged 18-30 years. It was an exploratory study, consisting of a 60-40 ratio of females-males. All participants, with an exception of a female participant, were first-time users of the app.

Each test session lasted for less than an hour, wherein each participant was required to perform a series of four tasks (Table 2). At the conclusion of each study session, every participant was provided with a \$25 Target incentive gift card, and was required to sign a payment receipt, acknowledging that they had received the incentive for their participation in the usability study of the Kodak Moments mobile application.

Participants	Tasks			
P ₁	T ₁	T ₂	T ₃	T ₄
P ₂	T ₁	T ₂	T ₃	T ₄
P ₃	T ₁	T ₂	T ₃	T ₄
P ₄	T ₁	T ₂	T ₃	T ₄
P ₅	T ₁	T ₂	T ₃	T ₄
P ₆	T ₁	T ₂	T ₃	T ₄
P ₇	T ₁	T ₂	T ₃	T ₄
P ₈	T ₁	T ₂	T ₃	T ₄
P ₉	T ₁	T ₂	T ₃	T ₄
P ₁₀	T ₁	T ₂	T ₃	T ₄

Table 2. Exploratory design matrix, where P_n = Participants and T_n = Tasks; T₁ was to download the app, T₂ was to create a collage, T₃ was to add a 12x18 copy of the collage to cart and select a pickup store, and T₄ was to post a birthday wish with a photo and short message.

Test Design

Pre-test Arrangements

In the pre-test arrangements, we first welcomed the participants, introduced ourselves to them, and explained the test instruments. Once the informed consent form and non-disclosure agreement had been signed, we proceeded by requesting the participants to answer the background questionnaire and pre-test questionnaire.

Introduction to Test Session

We familiarized the participants to the flow of the testing session, test environment and equipment. We explained the purpose of the study, the concept of think aloud practice, and the importance of data collection to them. We made sure to emphasize the fact that we were testing the application, and not the participants' abilities. We addressed participants' concerns and answered any questions that they had regarding the test session. We then proceeded and presented the participants with the task scenarios.

Test Session

Participants were required to answer post-task questions at the end of each task, and the post-test questionnaire on completion of the entire test session.

Post-test Debriefing

At the end of each session, we conducted post-test debriefing and asked follow-up questions, to understand participants' expectations, behavior and response to particular tasks, in order to re-iterate our observations, noted during the test session.

Test Design

Session Outline and Timing

The entire session, for each participant, lasted for less than an hour. Each test session consisted of four subparts – pre-test arrangements, introduction to test session, test session, and post-test debriefing.

Table 3 briefly lists the different parts of each test session and their estimated duration.

Test Session Subparts	Duration (minutes)
Pre-test Arrangements	5
Introduction to Test Session	10
Test Session	30
Post-test Debriefing	10

Table 3. Session outline and timing.

Deviation from Test Plan

Ideally, we were required to recruit equal ratio of male and female participants, that is, 5 males and 5 females, for a total of 10 participants. However, few of the finalized participants did not turn up on their scheduled days, and ultimately we had to conduct the study with back-up participants. As a result of this, the final recruited participant set consisted of 6 females and 4 males.

Data Collection and Evaluation Measures

We addressed the research questions discussed earlier, based on the qualitative data collected throughout the testing sessions. We maintained a datasheet, in order to track participants' task sequences, successes and failures to achieve the particular task goals, and their overall performance. We considered two measures – qualitative metrics and preference data, as mentioned below, to evaluate the performance of the Kodak Moments mobile application.

Qualitative Metrics

The following helped evaluate participants' understanding of the functions and their attitude towards the overall experience of the application:

- Positive comments about the features in the application.
- Negative comments about the features in the application.
- Comments on the overall feel and experience of the application.
- Suggestions for improvements regarding certain functionalities in the application.

Preference Data

The following helped evaluate participants' experience of using the Kodak Moments application, against its competitive products, such as Facebook, Instagram:

- Users' willingness to share photos/moments with friends and family, using the application.
- Learnability of the application functions.
- Rating the aesthetics, layout and navigation of functions in the application.
- Mapping the appropriateness of functions, with users' perception of the functions and their expectations from them.
- Users' preference of the application over other similar products.

Findings

By Task

Participants were required to answer post-task questions at the end of each of the four tasks, generating the results as shown below in Figures 2 and 3.

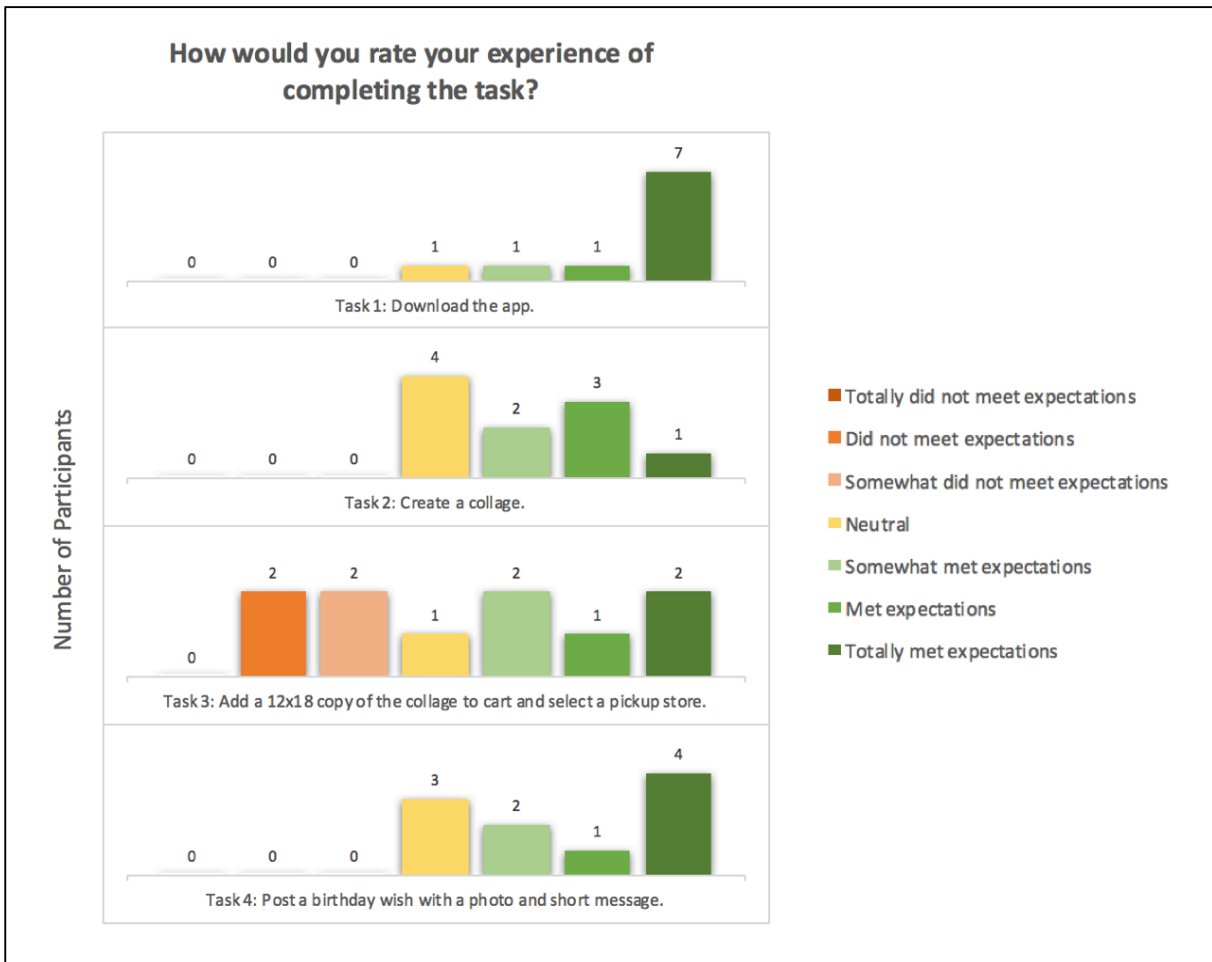


Figure 2. Rating of participants' experience, by task.

Findings

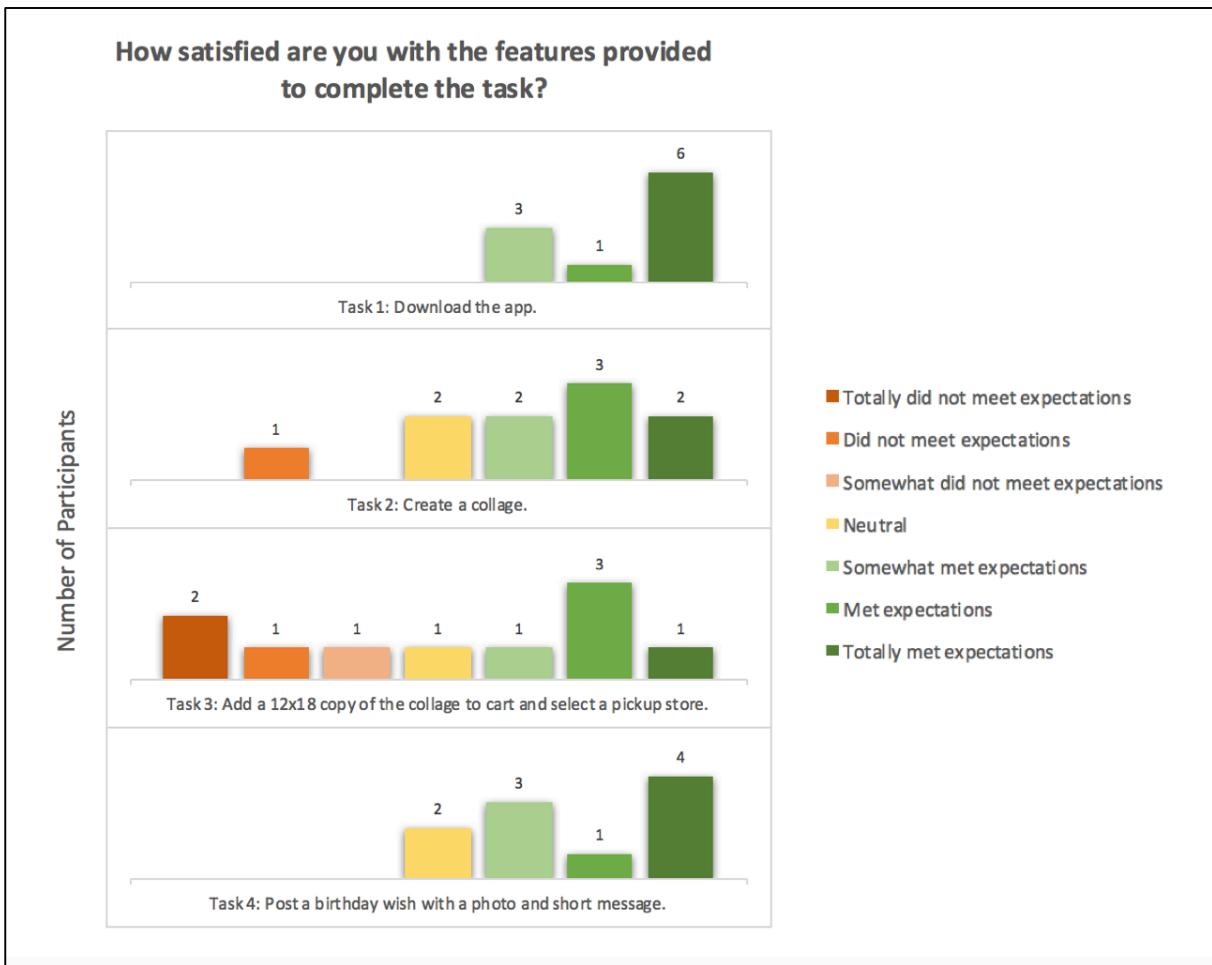


Figure 3. Rating of features provided, by task.

Findings

Qualitative Metrics

During the test sessions, observers studied participants' behavior, took down detailed notes, and recorded user impressions as the participants thought aloud, commented or did something notable.

- **Positive impressions about the app features:**

"Experience of sharing moments met my expectations because it was quite easy and looked good as well."

"The direction of this app is definitely innovative but there are some benchmarks that an app should first achieve before trying to make it progressive."

- **Negative impressions about the app features:**

"There is no description for any of the icons here (collage). I don't know what this does."

"If I would be using this app in real and it does not show me any stores, I won't buy anything."

"I think the sign-in is a long process... If I login once they shouldn't ask me to type in names again."

- **Impressions on the overall feel and experience of the app:**

"I feel like this is something my grandparents would do."

"I like the feature that you can buy photo products, that's the only thing that is different."

"It's more like a photo purchasing app than sharing app."

- **Suggestions for improvements regarding certain app functionalities:**

"There should be a pop-up which tells me how to start creating moments."

"While logging in, it asked me to enter password only once. So if there was confirm password option, I must have known that I entered the password correctly."

"I think there can be more options for editing, filters and stuff like that."

Findings

Preference Data

At the completion of each test session, participants were required to answer the post-test questionnaire, as a result of which, participants' experience of using the Kodak Moments application, against its competitive products, such as Facebook and Instagram, was evaluated (Figures 4 and 5).

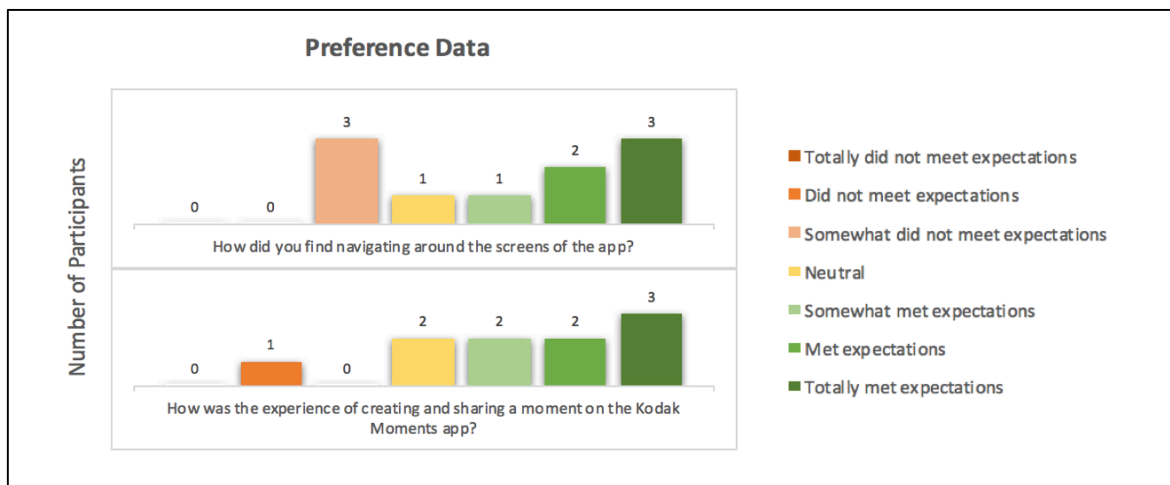


Figure 4. Rating of aesthetics, layout and navigation of functions in the application.

During the test sessions, observers studied participants' behavior, took down detailed notes, and recorded user impressions as the participants thought aloud, commented or did something notable.

- **Participants' preference of the application over other similar products:**

"Comparing Instagram and Kodak, I will use Instagram because it is very easy to share your pictures on Instagram."

"If I have more friends on Kodak I would like to use this app because I don't like fancy stuff which Facebook has like events, ads..."

"I think I will stay with Instagram or Facebook, because the flow of navigation was easier there....and here you don't know if you are in the store or in the Moments."

"The interface is pretty much like Instagram, there is post and a follow button."

"The first thing I liked is that I can share a post or moment with friends I want to. I have like 400 friends on Facebook and if I am happy about getting a dog at my place, I don't want all 400 of them to know. So, that is a very unique and cool thing about Moments which stands out."

Findings

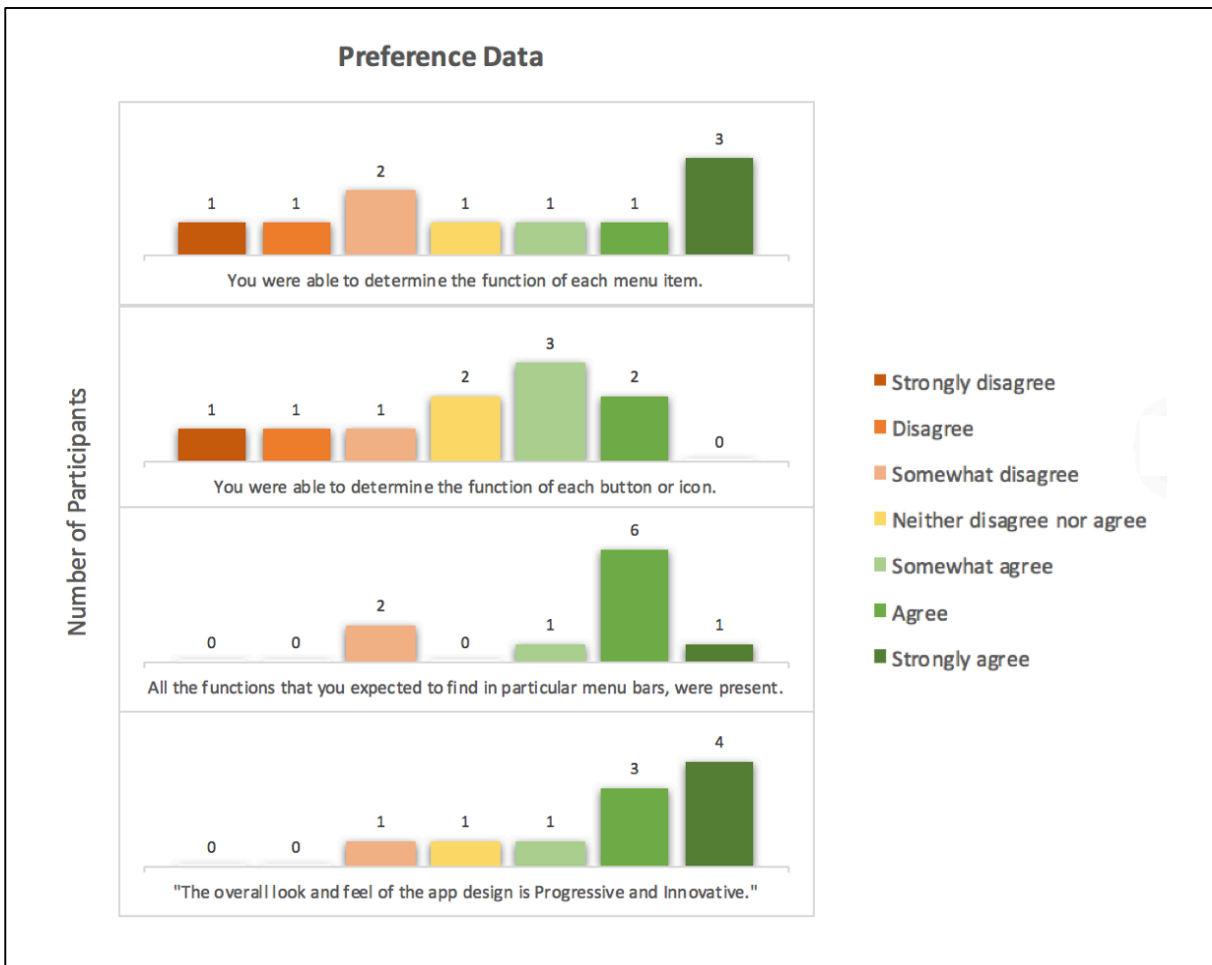


Figure 5. Participants' perception of the functions and their expectations from them.

Net Promoter Score

In the post-test questionnaire, we asked participants the Net Promoter Score question:

How likely are you to recommend this app to your friends and family?

Extremely unlikely										Extremely likely	
0	1	2	3	4	5	6	7	8	9	10	

Participants' responses were grouped as follows:

- Promoters (score 9-10)
- Passives (score 7-8)
- Detractors (score 0-6)

Subtracting the percentage of Detractors from the percentage of Promoters yields the Net Promoter Score, which can range from a low of -100 (if every participant is a Detractor) to a high of 100 (if every participant is a Promoter).

For the Kodak Moments mobile application, we obtained a Net Promoter Score of **-30** (Figure 6).

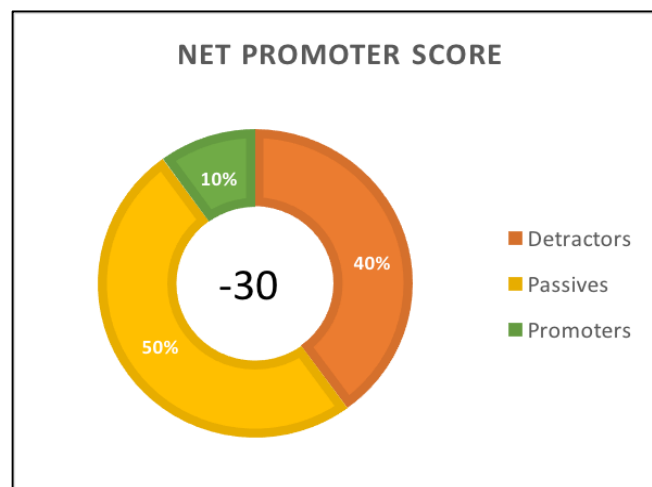


Figure 6. Net Promoter Score for the Kodak Moments mobile app.

Recommendations

Workflow

- Set the 'Moments' page as the default home page when starting the app.
- Provide better introduction or walk-through to first-time users.
- During the photo editing process, provide an option for sharing to the Moments.
- Add email validation after a user has created an account.
- Add password confirmation when a user is creating a new password.
- Simplify the account creation process.
- Optimize response time.

Interface

- Add text notation next to photo editing icons, or use icons with more external consistency with other similar apps.
- Change the wordings from "Save" to "Post" or "Share" in the Moments editing page.
- Unify the user interface color scheme with either black-and-yellow or white-and-red.
- Use more externally consistent features and options in the background editing page for changing the background color and pattern.

Bugs and Errors

- Fix the issue of not being able to identify a nearby store in the location search.
- Some size options for printing photo are missing in the size

Future Work

The focus should be on rethinking and improving the social aspect of the Kodak Moments app, in order to compete with other well-established social networking apps, such as Facebook and Instagram.

PARTICIPANTS NEEDED

Spring Semester 2016

For Usability Study of a Creative Photo Products Application



- > Participate in a 45 minutes study and receive a **\$25** gift voucher for your valuable time.
- > Study will be conducted starting second week of April 2016 at Golisano College of Computing and Sciences, RIT.
- > Flexible Scheduling.

Interested?

Simply send us an e-mail

usabilitystudy.photoapp@gmail.com

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Appendix B – Screener

The following set of questions would help us understand your background with respect to creating and sharing of photo products, in order to determine whether you qualify to participate in the usability study, that we are conducting on a creative photo products application.

Your RIT e-mail id will be collected so that we can identify you from all the screener responses and contact you when necessary.

****Please Note: This is only a screener to select participants for the usability study, and not the actual study itself.***

1. Which of the following age group do you belong to?
 - a. 17 years or younger
 - b. 18-24 years
 - c. 25-30 years
 - d. 31 years or older
2. What is your gender?
 - a. Female
 - b. Male
 - c. No answer
3. Do you own an iPhone (iOS)?
 - a. Yes
 - b. No
4. Would you be willing to use your iPhone for the study?
 - a. Yes
 - b. No
5. How frequently do you click pictures using your iPhone camera?
 - a. Rarely (0-10 times/week)
 - b. Moderately often (11-20 times/week)
 - c. Very often (21-50 times/week)
6. Have you ever used any application to create or share creative photo products (such as greeting card, photobook, collage) before?
 - a. Yes
 - b. No

Appendix B – Screener

7. Which of the following applications have you used to create or share your photo products?

- a. Facebook
- b. Instagram
- c. Snapchat
- d. Flickr
- e. Pinterest
- f. Fotor
- g. Snapseed
- h. Shutterfly
- i. Snapfish
- j. Others

*If 'Others', please mention the name of the application.

Appendix C – Informed Consent Form

ROCHESTER INSTITUTE OF TECHNOLOGY

INFORMED CONSENT FORM

Introduction

Thank you for volunteering to be a part of this usability study. This study is being conducted to evaluate the new, re-designed version of the Kodak Moments mobile application, with younger, social-media and photo-active students.

Information

Kodak Moments mobile application is used to create personalized photo products, such as greeting cards, photobooks, gifts, collages and prints, anytime, anyplace. The products can be ordered off-line for pick-up at retail stores, or to be delivered at home. In store, users can wirelessly connect to Wi-Fi enabled Kodak Picture Kiosk to create photo products. Also, users can share the moments that matter with people, and print from their social moments. Versions of the application are available for iPhone (iOS) and Android smartphones, however, the client requires us to test only the iOS version.

The primary objectives of this study are to: find usability issues and their potential solutions; gather comparative appeal quotient with the competitive apps, such as Instagram and Shutterfly; evaluate what is working, and what needs improvement; what are the missing features, if any, and how can the app drive more traffic; understand the expectations and needs of the younger target audience; analyze the complete user experience, from downloading to posting a moment and creating a product; assess both, the social and shop aspects – perception, appeal and interaction behavior; and identify the cues that convey quality of the product and interactions.

The test session will last for about an hour, wherein you will be required to perform a series of four tasks. Test equipment will include your iPhone. We will be using Mr. Tappy, in order to record your interactions, while using the Kodak Moments mobile application, on your iPhone; and the Morae Suite will be used to record and analyze the collected data. Also, during your participation in this study today, a video recording will be made, which may be used by Kodak Alaris Inc. for research and development purposes only, and not for profit.

Risks

We do not foresee any risks associated with your participation in this research study.

Benefit

There are no anticipated direct benefits to you, from participating in this study. Findings from the study will be used by Kodak Alaris Inc., to inform design of future versions of the Kodak Moments mobile application.

Confidentiality

Information collected during this study will be kept strictly confidential. The collected data will be stored securely, and will be accessible only by the individuals associated with the study. Each participant will be assigned a participant number. Only this number, and no personally identifiable information will be recorded on the test instruments. No reference will be made, whatsoever, in oral or written reports, so as to keep your identity from being discovered, or traced back to the study. Publications related to this work will not make reference to any individuals.

Incentives

At the conclusion of the study session, you will be given a \$25 Target gift card.

Your Rights as a Research Participant

Participation in this study is voluntary. You have the right to not participate at all, or to leave the study at any time. Deciding not to participate, or choosing to leave the study mid-way, will not result in any penalty or loss of benefits to which you are entitled.

Contact

If you have any questions regarding the study or the procedures, you may send us an e-mail at usabilitystudy.photoapp@gmail.com.

Consent of Participant (or Legally Authorized Representative)

Signature of Participant or Representative

Date

*Upon signing, the participant or the legally authorized representative will receive a copy of this consent form, and the original will be held in the participant's research records.

Appendix D – Non-Disclosure Agreement

Kodak Moments Usability Study

Participant: _____

Usability Test Confidentiality Agreement and Video Consent Form

As a condition to our proceeding with the usability study project from February 1, 2016 through July 31, 2016, all information obtained in the execution of the study and all rights to that information will be the exclusive property of Kodak Alaris Inc.

These conditions apply for all disclosures of information:

1. At present, Kodak Alaris Inc. is making no offer or commitment to sell or make available any products described as is in the study today.
2. Confidential information to be disclosed to you or obtained in the execution of the study must not be disclosed to anyone else for a period of one year from the date below. The information must be treated with the same level of security as for your own confidential personal or business information.
3. Any disclosure of information about today's study to anyone can only be made after prior written authorization by Kodak Alaris Inc.
4. While you are participating in the study today, a videotape recording may be made. The videotape may be used by Kodak Alaris Inc. for research and development purposes, but it will not be used for profit.
5. Any pictures used during this study may be used by Kodak Alaris Inc. for the purpose of research and development only. These pictures will not be used or sold for profit or used for advertising.
6. You are under no obligation to complete the study. If you are uncomfortable and feel that you no longer want to participate in the study, you may discontinue participating at any time.

If you understand and agree to abide by these conditions for disclosure of information, please sign below.

Signature: _____

Name (please print): _____

Date: _____

Project Witness: _____

Appendix E – Background Questionnaire

1. Do you enjoy creating photo products, such as greeting cards, photobooks, collages, using a mobile application?
 - a. Yes
 - b. No

2. Do you enjoy sharing photos on social networking applications?
 - a. Yes
 - b. No

Appendix F – Pre-test Questionnaire

1. Have you ever made any creative photo products, such as greeting cards, photobooks or collages, using a mobile application before?

- a. Yes
- b. No

*If 'Yes', which of the following creative photo products have you made before? (Select ALL that apply.)

- a. Greeting card
- b. Photobook
- c. Gift
- d. Collage
- e. Print
- f. Canvas

2. How frequently do you share photos using social networking applications?

- a. Rarely (0-10 times/week)
- b. Moderately often (11-20 times/week)
- c. Very often (21-50 times/week)

3. Which applications do you prefer to share your photos on?

- a. Facebook
- b. Instagram
- c. Others

Appendix G – Post-task Questions

1. How would you rate your experience of completing the task?

Totally did not meet expectations					Totally met expectations	
1	2	3	4	5	6	7

2. How satisfied are you with the features provided to complete the task?

Totally did not meet expectations					Totally met expectations	
1	2	3	4	5	6	7

Appendix H – Post-test Questionnaire

1. How did you find the experience of creating a birthday gift?

Totally did not meet expectations					Totally met expectations	
1	2	3	4	5	6	7

Comments: _____

2. How did you find the experience of creating and sharing a moment on the Kodak Moments app?

Totally did not meet expectations					Totally met expectations	
1	2	3	4	5	6	7

Comments: _____

3. In comparison to the other similar mobile applications that you have used before, how did you find the Kodak Moments app?

Worse						Better
1	2	3	4	5	6	7

4. The menu items were well organized and the functions were easy to find.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

5. You were able to determine the function of each menu item.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

6. You were able to determine the function of each button or icon.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

Appendix H – Post-test Questionnaire

7. All the functions that you expected to find in particular menu bars, were present.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

8. How did you find navigating around the screens of the app?

Totally did not meet expectations					Totally met expectations	
1	2	3	4	5	6	7

9. Do you agree with the statement: *“The overall look and feel of this design is Progressive and Innovative”* ?

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

Comments: _____

10. How likely are you to use this app?

Extremely unlikely					Extremely likely	
1	2	3	4	5	6	7

Comments: _____

11. How likely are you to recommend this app to your friends and family?

Extremely unlikely									Extremely likely	
0	1	2	3	4	5	6	7	8	9	10

Comments: _____

Appendix I – Payment Receipt

Kodak Moments Usability Study

Kodak Alaris User Study – Gift Card Receipt

I confirm that for my participation in the User Study in May 2016, I received a **\$25 Target's Gift Card** for participating in the study of **Kodak Moments** conducted by students of the Usability Testing – HCI course at RIT.

Signature: _____

Name (please print): _____

Date: _____

Project Witness: _____