Personalizing User Interface Design of Mobile Applications

Prof. Tamer Abdellatif Abdellrazik

Professor of Design, Department of Advertising, Faculty of Applied Arts, Helwan University and Dean of school of Applied Arts, Badr University in Cairo, Tamer.abdellatif@buc.edu.eg

Prof. Samar Hany Alsaied

Professor of Interactive Advertising Design, Department of Advertising, Faculty of Applied Arts - Helwan University, SAMAR_ABODONIA@a-arts.helwan.edu.eg

Amina Hussien Abdelwahab

Teaching assistant at the Higher Institute of Applied Arts, 6th of October – Egypt, amina.hussien@appliedarts.edu.eg

Abstract:

Mobile applications have now become an essential part of daily life, as applications meet the needs of different users and simplify daily human activities. The user interface contains a set of elements through which the user interacts with the application, and with the global mobility of users, the design of the user interface must change from One user to another according to the capabilities and cultures of the users derived from the user's behavior, and thus a culturally customized user interface is presented to him in what is called personalization of user interface design. There are a set of formal elements that can be changed from one user to another according to his personality, such as font style and size, spacing, and formatting, display style, shapes, and icons, it is also possible for the user to change the format of the application interface after downloading it according to his personal desires, which is called customization. The difference between personalization and customization lies in the person who makes the modification. In customization, the user himself does it or asks the company to do so, but in Personalization Changes are made using user data that was kept during their dealings with the company, and through the company's expectations of user preferences, which works to strengthen the relationship between the user and the brand. The problem of the research is how to personalize the design of the user interface for mobile phone applications and what are the formal elements that the user can change in the design of the user interface after downloading the application to feel loyalty towards the brand. Thus, the research aims to employ advanced technological means to make the user feel loyal to the brand. By using the application and taking advantage of collecting user data to personalize the design of the user interface, which works to strengthen the relationship between the user and the brand, The research follows the descriptive approach in the theoretical framework to study how to personalize the user interface design of mobile phone applications, and the impact of this on strengthening the relationship between the user and the brand, and then conduct an analytical study of some applications that personalize the user interface design. There are many competing applications that provide the same service, so we find that personalizing the user interface design of mobile applications gives users a reason to continue using the application, which offers them recommended content and experiences specifically for their history and interests, so users no longer need to search for the content that they want. They want it, as the application selects the content and presents it to users, which saves users time, gives them what they want faster, and improves user satisfaction, which enhances their loyalty towards the brand.

Research problem: The research problem is delineated by the quest to address the following inquiries: 1 .How to personalize User Interface Design? 2. What formal elements can the user change in the user interface design after downloading the application to feel loyal to the brand?Top of Form

Research Significance: The importance of mobile phone applications in our lives expands with time because of the services they provide that facilitate life functions for users, and reduce time, effort and money. Every day there are new applications that are uploaded to application markets, and there are many competing applications that provide the same service, so it was necessary to research On a different point to attract users, which is that the design of the user interface will differ from one user to another according to his personal preferences by collecting data about users to know the nature of their personality. The user feels that the design of the application interface is for him only. The user can also change a group of formal elements after downloading the application, which makes him feel loyal to the brand.

Research Objective: 1 .Employing advanced technological means to make the user feel loyal to the brand through using the application. 2. Benefiting from collecting user data to personalize the user interface design, which works to strengthen the relationship between the user and the brand.

Research Hypothesis: The research assumes that: 1. Collecting user data can be used to personalize the user interface design of mobile applications. 2. The connection between the user and the brand can be strengthened by changing the design of the application interface from one user to another, so that each user will feel loyal to the application that meets his personal preferences.

Research Limits 1 .Objective limits: studying criteria for personalizing user interface design for mobile applications. 2 . Spatial boundaries: Study of the design of a group of user interfaces on some phone applications inside and outside Egypt. 3. Time limits: Study of user interface design for mobile applications from 2021 to 2024.

Research Methodology: The research follows the descriptive approach in the theoretical framework to study the user interface elements of mobile phone applications and how to personalize the interface design by changing some elements from one user to another according to the capabilities and cultures of the users derived from the user's behavior, and then conducting an analytical study of some applications that personalize I design the user interface for mobile applications.

Results: 1 .With the global mobility of users, user interface design must change from one user to another according to the capabilities and cultures of users derived from user behavior, which works to enhance the user experience by improving ease of use. 2 .There are many competing applications that provide the same service, so we find that personalizing mobile applications gives users a reason to continue using the application that offers them recommended content and experiences specifically for their history and interests. 3. Searching for user satisfaction increases user loyalty towards the brand. Designing a custom user interface goes deep into the user's mind, because it is designed specifically for his needs and preferences.

Keywords:

User Interface Design- Personalization- Customized User Interface.

References:

1- Nesamoney, D (2015), Personalized Digital Advertising: How Data and Technology Are Transforming How We Market, Library of Congress-United States of America,p.31, retrieved 20 January 2017 from Personalized Digital Advertising: How Data and Technology Are Transforming How We Market (paperback): Nesamoney, Diaz: 9780134686189: Amazon.com: Books

2- Loya, A (2022), Build Customized Apps with Amazon Honeycode: Quickly create interactive web and mobile apps for your teams without programming, Packet Publishing Ltd-Livery Place-Birmingham,p.83, retrieved 17-Jun 2022 from Build Customized Apps with Amazon Honeycode: Quickly create interactive web and mobile apps for your teams without programming: Loya, Aniruddha: 9781800563698: Amazon.com: Books

3- Cheng,Y , Sharma,S, Sharma,P and Kulathunga,K (2020), Role of Personalization in Continuous Use Intention of Mobile News Apps in India, Information Magazine,p.3, retrieved 7 January 2020 from (PDF) Role of Personalization in Continuous Use Intention of Mobile News Apps in India: Extending the UTAUT2 Model (researchgate.net)

4- Miraz,M,H, Ali,M and Excell,P (2022), Cross-cultural usability evaluation of AI-based adaptive user interface for mobile applications, Acta Scientiarum Technology ,Vol 44, retrieved 7 July2022 from Cross-cultural usability evaluation of AI-based adaptive user interface for mobile applications - Google Search

5- Asghar,M,Z, Subhan,F, Ahmad,H, Khan,W,Z, Saqib, Senti-eSystem: A Sentiment-based eSystem-using hybridized Fuzzy and Deep Neural Network for Measuring Customer Satisfaction, Vol 51, retrieved 3 August 2020 from Senti-eSystem: A sentiment-based eSystem-using hybridized fuzzy and deep neural network for measuring customer satisfaction - Asghar - 2021 - Software: Practice and Experience - Wiley Online Library

6- Petar Simic (2022),17 elements for designing a great mobile app, retrieved from https://decode.agency/article/mobile-app-design-elements/ , accessed on 19 -September 2022.

7- Anne Dang (2023), Checklist of input controls in UI design, retrieved from Checklist of input controls in UI design | by Anne Dang | Bootcamp (uxdesign.cc) , accessed on 10 February 2023.

8- Michal Barla (2024), The Perfect Search Bar Design: UI/UX Best Practices, retrieved from Search Bar Design: Meet Best UX/UI Practices - Luigi's Box (luigisbox.com) , accessed on 27 -February 2024.

9- Maria De La Riva (2023), 32 UI Elements for UI Designers in 2024, retrieved from 32 UI Elements Designers Need To Know: 2024 Guide (careerfoundry.com) , accessed on 10 -May 2023.

10- Queenie Wong (2022), Facebook Rolls Out Short-Form Video Format Reels Globally, retrieved from https://www.cnet.com/tech/mobile/facebook-rolls-out-short-form-video-format-reels-globally/ , accessed on 22 -February 2022.

11- Christian Zibreg (2020), Spark now lets you change font size, supports, retrieved from https://www.idownloadblog.com/2020/04/22/spark-dynamic-type-support/ , accessed on 23 -April 2020.

12- Baptiste Guerre (2022), Android 13: Getting ready for the new push notification permission, retrieved from Batch | Blog | Android 13: Getting ready for the new push notification permission , accessed on 20 -September 2022.

13- Dave Kearney (2023), 4 Leading Techniques to Design Personalized Apps, retrieved from https://vwo.com/blog/4-leading-techniques-to-design-personalized-apps/ , accessed on 9 -November 2023.

Paper History: