Taewook KIM

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RESEARCH INTERESTS	Human-Computer Interaction, Social Computing, Communication, Conversational Behavior

EDUCATION

M.Phil. in Computer Science and Engineering — 2018–2020
Hong Kong University of Science and Technology, Hong Kong SAR
Facilitating Social Messaging in Romantic Context with Computer Mediated Textual Manifestation
Committee: Dr. Xiaojuan Ma (Advisor), Dr. Pan Hui (Chair), Dr. Dongwon Lee

B.S. in Business Administration — 2012–2018
B.S. in Computer Science and Engineering
Hanyang University, Seoul, South Korea
Advisor: Dr. Jong Woo Kim

APPOINTMENTS

Visiting Researcher, KAIST Interaction Lab (KIXLAB), Daejeon, South Korea — Summer 2020
Advisor: Dr. Juho Kim

Commander's Translator, 2nd Infantry Division, United States Army, Camp Casey — 2013–2015
Supervisor: CPT Gregory Gemedschiew (Honorably discharged as MAJ)

PUBLICATIONS

Conference & Journal Papers

[c.5] **Kim, T.**, Guo, Q., Kim, H., Yang, W., Li, M., and Ma, X.
Under Review – (CHI 2021.)

[c.4] **Kim, T.**, Kim, H., Kim, J., and Ma, X.
Under Review – (CHI 2021.)

[c.3] **Kim, T.**, Lee, J., Peng, Z., and Ma, X.
Love in Lyrics: An Exploration of Supporting Textual Manifestation of Affection in Social Messaging.
CSCW 2019.

[c.2] Wu, Z., **Kim, T.**, Li, Q., and Ma, X.
Understanding and Modeling User-Perceived Brand Personality from Mobile Application UIs.
CHI 2019.

[c.1] Wu, Z., Sun, Z., **Kim, T.**, Reani, M., Jay, C., and Ma, X.
Mediating Color Filter Exploration with Color Theme Semantics Derived from Social Curation Data.
CSCW 2018.

[j.1] **Kim, T.**, Kim, D., Kim, D., and Kim, J.
Multidimensional Analysis of Consumers' Opinions from Online Product Reviews.
APJIS. Vol. 29, No. 4, (December 2019)

Poster Paper

[p.1] Peng, Z., **Kim, T.**, and Ma, X.
GremoBot: Exploring Emotion Regulation in Group Chat.
CSCW 2019.

TEACHING EXPERIENCES

Teaching Assistant, Human-Computer Interaction, HKUST — Fall 2019
Teaching Assistant, Design and Analysis of Algorithms, HKUST — Spring 2019

GRANTS

Postgraduate Studentship (HKUST), US$ 26,600 per year — 2018–2020
Overseas Graduate Study Grants (Hanyang Univ.), US$ 6,000 per year — 2018–2020

SERVICE

Reviewer CHI (2019–Present)

Love in Lyrics: An Exploration of Supporting Textual Manifestation of Affection in Social Messaging

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Affectionate communication, the conveyance of closeness, care, and fondness for another, plays a key role in romantic relationships. While the pervasive use of digital technology for communication limits affectionate interaction through nonverbal cues – a major channel of expression in face-to-face settings, there have been few approaches which scaffold couples' romantic text conversations. To bridge this gap, we propose a novel interactive system Lily which gives users inspirations to enrich their romantic expressions in text messaging. It first listens to users' original input and then recommends romantic lyrics holding the closest meaning in real-time during chats with partners. After a three-day empirical study, participants who are real-life couples reported that they not only received useful cues from Lily in terms of how to polish their affectionate expressions, but also learnt to enrich the conversation with topics enlightened by its recommendations. Based on our findings, we finally provide several design considerations for actual deployment of such an application.

CCS Concepts: • **Human-centered computing** → **Empirical studies in HCI**; *Empirical studies in collaborative and social computing.*

Additional Key Words and Phrases: Affectionate communication; Expression; Interpersonal communication; Lyrics; Recommendation; Text messaging

1 INTRODUCTION

Affectionate communication, "an individual's intentional and overt enactment or expression of feelings of closeness, care, and fondness for another" [25], is essential for relationship definition, development, and maintenance [12, 29]. Compared to instrumental communication, which revolves around specific tasks, affectionate communication unfolds the expressive side – "the heart" – of a relationship [61]. While affection is often expressed via nonverbal behaviors (*e.g.,* touch, eye contact, etc. [9, 21]), prior studies have shown clear evidence of the importance of verbal affectionate interactions (*e.g.,* [14, 50, 60]). In the era of information technology and social media, more and more communication between couples is carried out in the form of instant text messaging, as

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Understanding and Modeling User-Perceived Brand Personality from Mobile Application UIs

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ABSTRACT

Designers strive to make their mobile apps stand out in a competitive market by creating a distinctive brand personality. However, it is unclear whether users can form a consistent impression of brand personality by looking at a few user interface (UI) screenshots in the app store, and if this process can be modeled computationally. To bridge this gap, we first collect crowd assessment on brand personalities depicted by the UIs of 318 applications, and statistically confirm that users can reach substantial agreement. To further model how users process mobile UI visually, we compute UI descriptors including Color, Organization, and Texture at both element and page levels. We feed these descriptors to a computational model, achieving a high accuracy of predicting perceived brand personality (MSE = 0.035 and R^2 = 0.78). This work could benefit designers by highlighting contributing visual factors to brand personality creation and providing quick, low-cost design feedback.

CCS CONCEPTS

• **Human-centered computing → Graphical user interfaces**.

KEYWORDS

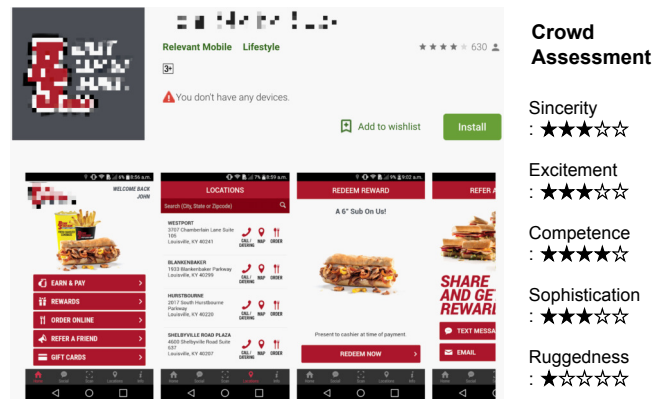Mobile user interfaces; brand personality; computational design assessment

Figure 1: Each application on Google Play has several screenshots of its UI displayed in the app store. We invite crowd workers to rate the screenshots with respect to the perceived brand personalities in 5-point Likert scale from strongly disagree to strongly agree (0 being "strongly disagree").

1 INTRODUCTION

The user interface (UI) of a mobile application defines its look and feel, giving end users an early impression of the app's detailed design [51]. Designers often tailor the graphic representation of app UIs, (*e.g.,* color, layout, font, transition effect, *etc.*), to the target audience and context [1]. This is not only for engaging users by the appeal [49], but also for building competitive advantage in a crowded app market through the conveyance of a consistent brand personality [2, 15]. The development of brand personality, defined as "a set of human characteristics associated to a brand", contributes to users' perception and preference toward a product [22]. When expressed properly, brand personality, *e.g.,* high sincerity and competence for business apps [15], can positively affect user loyalty on, satisfaction with, and emotional connection to a mobile service [17, 27, 51].

As the brand personality of a mobile app is communicated indirectly through its look and feel, a gap may exist between designers' intention and users' perception [21, 53]. However, few empirical studies have investigated the extent to which users can form a consistent impression of brand personality

Mediating Color Filter Exploration with Color Theme Semantics Derived from Social Curation Data

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Despite the popularity of photo editors used to improve image attractiveness and expressiveness on social media, many users have trouble making sense of color filter effects and locating a preferred filter among a set of designer-crafted candidates. The problem gets worse when more computer-generated filters are introduced. To enhance filter findability, we semantically name and organize color effects leveraging data curated by creative communities online. We first model semantic mappings between color themes and keywords in everyday language. Next, we index and organize each filter by the derived semantic information. We conduct three separate studies to investigate the benefit of the semantic features on filter exploration. Our results indicate that color theme semantics constructed through social curation enhance filter findability, and provide important evidence with regard to using the wisdom of the crowd to improve user experience with image editors.

CCS Concepts: • **Human-centered computing** → **Collaborative and social computing design and evaluation methods**;

Additional Key Words and Phrases: Color filter; color theme semantics; data-driven design; social curation

1 INTRODUCTION

Digital filters which are used on photos to perfect their appeal have become increasingly popular among social media users. Instead of tweaking individual image parameters manually, users can now dramatically transform a photo, for instance making it appear richer, softer or dated, with a simple click. Interestingly, research has shown that filtered images can affect viewers' interpretations, judgments, attitudes, and memories of the visual content [30], and most importantly, can attract

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