Practical Challenges in Piggyback Prototyping Social Media Experiences

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The concept of piggyback prototyping enables researchers and designers to leverage existing social media platforms to efficiently test out novel design ideas for social computing systems. In this workshop paper, we document practical challenges we have faced while piggyback prototyping a mobile app to support incorporating personal informatics data in stickers on Snapchat. We point out several emerging issues and discuss their implications.

Additional Key Words and Phrases: Piggyback prototyping; Ephemeral social media; Snapchat; Personal Informatics

1 INTRODUCTION

When we as researchers and designers create social experiences with emerging technology (e.g., virtual reality or self-tracking devices), we often struggle to evaluate those ideas in real-world scenarios. For example, design ideas could require dyads or other small groups of people who are all heavily involved in the experience, or buy-in and interest from large groups of individuals simultaneously to evaluate scalability. Piggyback prototyping, or leveraging existing social media platforms to test out new social media experiences [8] has been suggested as an effective approach for mitigating some development and community growth burden. The approach allows more focus to be placed on designing social interactions, rather than overcoming interface interaction issues or recruiting groups to evaluate our system.

Although the idea of piggyback prototyping can be effective at lowering the burden to testing new social media experiences, we have found the approach somewhat challenging to implement in practice (e.g., [3, 4, 9]). In this workshop submission, we describe practical challenges involved in a specific context we have recently been prototyping: sharing data-driven stickers on ephemeral social media. Past work has shown benefits of sharing personal informatics data (e.g. physical activity tracking data, location, or music listening history) with others through social media [5], but has also described people's concern that the accomplishments their data represent might be too trivial or might be of limited interest for some social media audiences [4, 10–12]. Sharing personal informatics data through ephemeral social media, such as Snapchat or Instagram Stories, could preserve similar benefits to archival platforms (e.g., Facebook, Twitter) for the sharer while lessening concerns around triviality and audiences. Through stickers, data can be effectively incorporated into sharing on ephemeral platforms [6]. In creating a mobile app which incorporates personal informatics data into stickers for sharing on Snapchat, we have faced challenges which likely persist across piggyback prototyping social media experiences.

2 PIGGYBACK PROTOTYPING A RICH AUTHORING EXPERIENCE FOR SOCIAL MEDIA

Investigating how people would incorporate personal informatics data on ephemeral social media in everyday life requires creating tools that enable people to actually share such data with friends and family. But because

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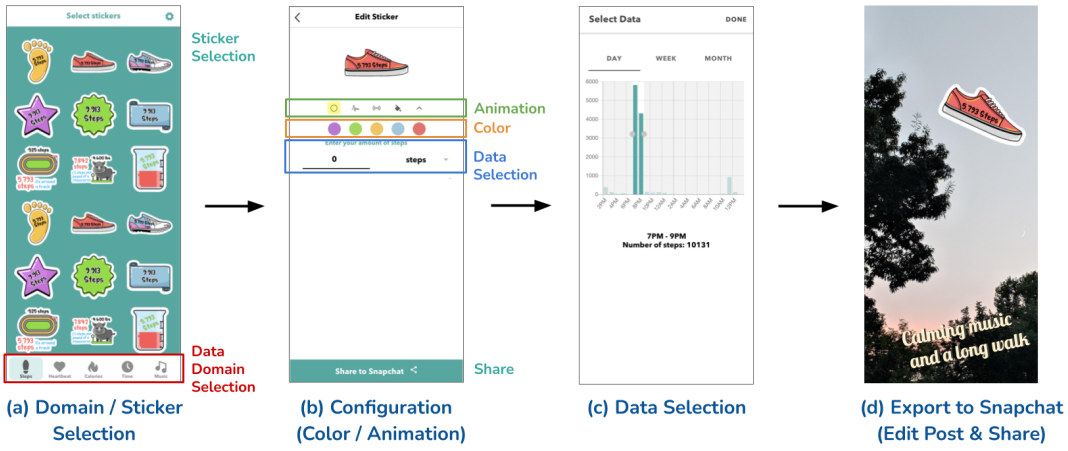

Fig. 1. The pipeline for the data-driven sticker generation: (a) Data Domain / Sticker Selection (b) Configuration (Color / Animation) (c) Data Selection (d) Export Sticker to Snapchat (Edit Post & Share)

this sharing experience is not readily supported by social media platforms, evaluating this design idea requires implementing new tools. Following the piggyback prototyping approach, we have been developing a mobile application to support authoring data-integrated stickers and exporting them to an existing ephemeral platform (Snapchat), enabling sharing of created stickers with connections who use that platform. The app supports a person in (a) selecting a data domain to create stickers with, (b) configuring how the sticker is presented, such as through animations or colors, (c) selecting data, such as data automatically collected by their phone or that they journal themselves, and (d) exporting it to Snapchat for sharing (Fig. 1). However, we have faced a few challenges when implementing this idea for an existing social platform.

2.1 Selecting Social Media Platforms Capable of Piggybacking on

The first challenge we faced in implementation was the limited set of social media platforms which allowed for piggyback prototyping at all through public APIs. Our prior work highlighted the importance of stickers being an add-on to content that people would have already shared (e.g., on top of a shared photo or video)[6], therefore our idea required that a platform would support importing an image which could be displayed on top of a post as it was being authored. In our case, this limited us to Snapchat, as Instagram and Facebook Stories do not support APIs enabling importing external graphics. However, a challenge as researchers and designers is that people often have different intended audiences on different platforms or leverage different social profiles and ways to manage impressions among each of them [13, 14]. The limitation might lead to a mismatch between the platform we support piggyback prototyping with and the audience our participants want to reach, which would impact our ability to answer research questions about the effectiveness of our approach.

2.2 Reinventing Common Features of Social Media Platforms

Our past work and work by others has suggested that people desire systems for sharing self-tracked data that support personalizing the visuals, text, and numbers they share [4, 5, 10, 11]. We therefore implemented an authoring process for generating and customizing content (stickers, in our case), enabling a person to change a sticker's color and whether and how it is animated. While this authoring process was necessary to support

personalization, the feature duplicates how many social media platforms support authoring, including editing of text and graphics and selecting colors or animations. When designing our authoring feature, we often referred to how other commercial platforms support authoring and reimplemented the authoring parameters in the social media platform we were piggybacking off of. To lower development burden, we chose to leave out some common features, such as customizing fonts. However, doing so may limit participants' ability to personalize content as they wish, impeding what and how they share and interfering with our ability to achieve our research goal of understanding people's perspectives and use of sharing self-tracked data on ephemeral social media.

2.3 Outsourcing Computation Tasks Due to Device Limitations

The devices that people use to interact with social media also introduce practical computational challenges, particularly when combined with the expectations of the APIs we are piggyback prototyping off of. In our case, it is important to support the app on mobile devices because of the nature of how people usually collect and access personal tracking data and interact with social media apps. However, the limited processing power of mobile devices required us to work with external services to achieve computationally expensive tasks. To support the timely rendering of the animated sticker into GIFs, we had to outsource rendering to an external server and retrieve the sticker from it. People might assume that data they share is private to themselves and their social audiences [1], though likely not a significant concern in our case.

2.4 Workarounds for Collecting Data from Participant's Social Circles

To understand the effectiveness of our approach, that is, what our participants use our app to create and share on their social media, we have designed our study protocols to enable collecting data in a real social environment where participants are interacting with their connections in everyday life. Since the content of social platform we are piggybacking off of is typically not public, we have to invade our participant's social circles to understand how they use the app. In our case, we plan to ask participants to become our friends on Snapchat and send us the content they create. Furthermore, as the posts are ephemeral, we will have to save them for later analysis, which might violate their privacy expectations. If we were instead piggybacking off of a platform where we could monitor public behavior (e.g., Twitter) or the behavior of other social contacts (e.g., friends of friends on Facebook), we might be observing or studying our participant's social engagements with respondents who did not consent to being a part of our study process. Prior work has illustrated that people have mixed perspectives on their public social media content being used for research purposes [7].

3 WORKSHOP PARTICIPATION

Research on social computing systems often relies on access to industry platforms, but suffers from a lack of access to them [2]. We are excited by the workshop's aim to bridge the research community and social media platform designers and developers through collaborations. We also see potential for developing toolkits or open-source libraries that replicate important features of social media experiences that could be reused in different research settings as part of piggybacking. We would be excited to discuss how we, as a research community, could contribute to lowering the barrier of piggyback prototyping, which would improve our collective ability to studying how people interact with social computing systems and improve solutions. We are also looking forward to using the workshop as a venue to discuss our early empirical findings, as we are currently finishing the implementation of the app and will soon start to recruit for our field study.

ACKNOWLEDGMENTS

We thank Ryan Kato and Julie Tran for assisting in design and development. This work was funded in part by the National Science Foundation (IIS-1850389) and the UCI Council on Research, Computing, and Libraries (CORCL).

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