
Storyteller: In-Situ Reflection on Study Experiences

Benjamin Poppinga

OFFIS – Institute for
Information Technology
Oldenburg, Germany
poppinga@offis.de

Stefan Oehmcke

University of Oldenburg
Oldenburg, Germany
stefan.oehmcke@
uni-oldenburg.de

Wilko Heuten

OFFIS – Institute for
Information Technology
Oldenburg, Germany
heuten@offis.de

Susanne Boll

University of Oldenburg
Oldenburg, Germany
boll@informatik.uni-oldenburg.de

Abstract

Diary studies are often applied in HCI research to collect qualitative user impressions. Unfortunately, the period between creation of a diary entry and the later reflection can be too long, which leads to a limited currentness and contextuality. This eventually results in incomplete or misinterpreted data. In this paper we present Storyteller, a mobile application that allows a quick creation of diary entries and encourages users to reflect on these in-situ through a storytelling approach. We argue that this can lead to more accurate and substantial qualitative insights.

Author Keywords

Evaluation method; Diary study; Storytelling

ACM Classification Keywords

H.5.1 Information interfaces and presentation (e.g., HCI): Multimedia Information Systems—*Evaluation/methodology*.

Introduction

User studies are an essential part of many common design processes and widely applied in HCI research [5]. Beside quantitative measures a researcher is often interested in qualitative insights, as these are particularly helpful to assess the overall user experience. To do so, diary studies are used frequently.

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Unfortunately, such diary studies come with some challenging disadvantages. Sometimes, people simply forget to create a diary entry. Further, diary entries are often reflected on several days after they have been initially created. That makes it hard for the user to remember the context and motivation behind an entry and the potential interconnection to other diary entries. In fact, the entries lose their currentness and contextuality over time, which was definitely present during creation. From a researchers' perspective both problems eventually result into missing or partly distorted information, which are threats for the overall study outcomes and validity.

In this paper we present a mobile diary application, Storyteller, which allows a quick creation of entries and encourages users to reflect on earlier recorded entries through a storytelling approach. The idea behind the storytelling approach is that the user reflects on the individual diary entries at an early stage and combines them to a holistic story. This story is then able to represent and convey the overall user experience and feelings beyond individual diary entries. We argue that this would lead to more and better qualitative insights and is thereby overcoming the most crucial problems of traditional diary studies. This paper reports on the design rationale, implementation details and results from an initial user study.

Related Work

Diary studies have a long-lasting history [7] and are widely applied in HCI research [3, 4]. Typically diary entries are used as a starting point for post-hoc discussions, where recorded material can jog the participants' memories [6, 8].

Carter and Mankoff [3] investigated the role of different media in diary studies. They analyzed three diary studies, whereby they discuss how each media type can support participants' recall process. They found that photos are very supportive to recognize the *who* and *where* of a situation and that timing and sequencing of events is important for activity reconstruction. They conclude with a proposal of the *Reporter* diary study pipeline, which is optimized for post-hoc handling of diary entries. In contrast, Storyteller encourages early, in-situ reflection on elements.

Brandt et al. [2] noted that study participants are unwilling or unable to invest time in thorough, reflective entries when these are initially created. They proposed to record small snippets in-situ, which serve as prompts for participants when completing full diary entries at a convenient time. Because they used first-generation smart phones their research was mostly focused on text entries. In this paper, we focus on multimedia data that is combined with a storytelling approach.

Bonsignore [1] presented a study on *StoryKit*, which investigates how storytelling is used in practice to create and share stories. They found that a multi-modal input mechanism and a simple mobile interface with a storybook template enable people to create expressive and vibrant stories. However, the *StoryKit* application is designed to be very open and widely usable for various purposes. In contrast, we limit ourselves to create stories from diary entries that are created during a study.

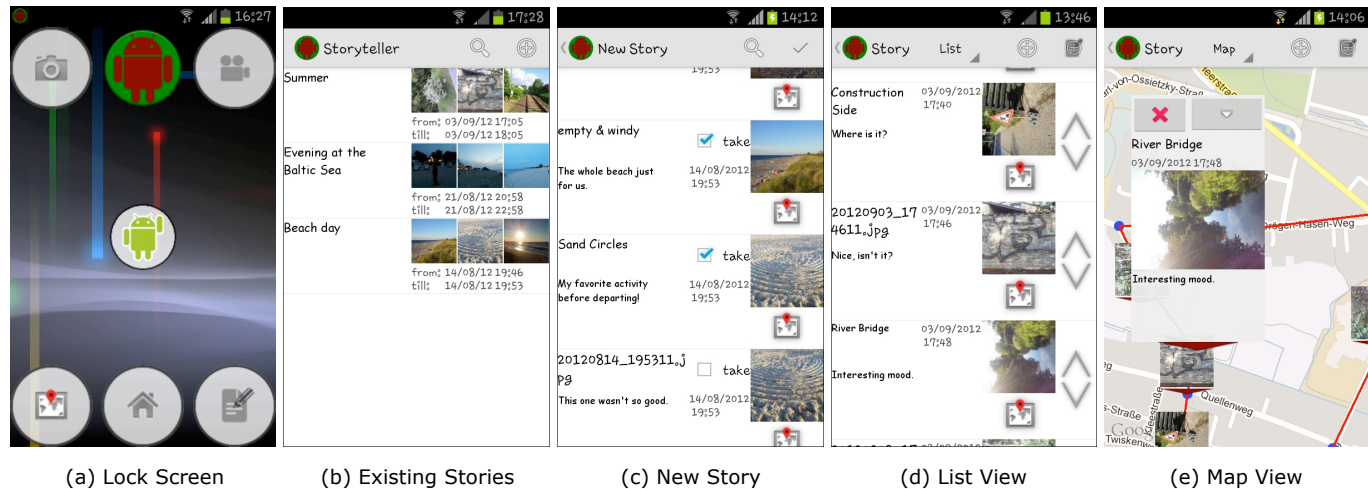


Figure 1. Storyteller is a mobile application that allows convenient capturing of diary entries. Further, these entries can be combined to a holistic story, which we argue can better represent and convey the feelings and impressions beyond a single diary entry.

Realization of Storyteller

Storyteller is a mobile application, which combines the diary study technique with in-situ reflection and storytelling. The design of Storyteller is inspired by literature and by insights and inspirations we got from a small requirements study. In Storyteller the use of various types of media is supported, ranging from text over photos and videos to geo-locations. All media can be used, and combined to frame a holistic story.

The Storyteller runs on Android and consists of five different views (see Figure 1), of which one is for capturing the media. To do the actual capturing as quickly as possible, we replaced the default lock screen through out custom-made one (see Figure 1a). Our unlock pattern is similar to established patterns for lock-screens. A user has to drag an icon, localized in the center of the screen, over a certain distance and

release it afterwards to unlock the phone or trigger certain functions, e.g., take a photo. All described actions are located at the border of the screen to prevent from accidental misuse. With this replaced lock screen a user can get the phone out of his/her pocket and record a variety of media instantaneously.

Besides the replaced lock screen, a separate application exists. This application shows an overview of existing stories (see Figure 1b). Further, the user can create a new story (see Figure 1c) where earlier created multimedia elements can be selected for inclusion in a story. Existing stories can be shown in a list view (see Figure 1d), where the user can sort the individual elements by drag and drop or add annotations. Further, existing stories can also be shown in a map view, where each diary entry is represented in a pop-up on its representative geo-location (see Figure 1e).

Evaluation

In an initial user study we wanted to investigate the general uptake of the Storyteller. We were curious what the advantages and disadvantages of the overall technique are and what might be implications for future design iterations and studies. In a within subjects experiment with ten participants we compared Storyteller against a set of pre-existing Android applications. We asked our participants to go shopping, record their experiences, and report them afterwards with the help of the provided tools.

We learned that users particularly appreciated the quick and easy capturing of diary entries with Storyteller's lock-screen replacement. Unfortunately, our initial assumption that because of this more entries are created could not be supported. Our second assumption, that participants start to prepare stories in-situ and therefore more qualitative insights could be revealed, was also not supported. However, we got the impression that participants were less interrupted and less often needed to collect themselves when reporting with Storyteller. We think that this limited success can be credited to the short study period.

Future Work and Demo

In this paper we presented Storyteller, a mobile application that supports in-situ reflection and addresses some essential problems of traditional diary studies. In our future work we want to improve Storyteller and run a comparative, long-term study to validate the benefits, which we think Storyteller can offer.

Visitors of the demo can freely explore the Storyteller application. Example stories will be prepared and can

be modified. Further, visitors are invited to download the application¹ to their personal phones and create their own stories during the conference.

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¹ <http://www.benjaminpoppinga.de/portfolio-item/storyteller/>