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Histogram: Spatiotemporal Photo-Displaying Interface

Soomin Kim, JongHwan Oh, Joonhwan Lee
human-computer interaction + design lab., Seoul National University

INTRODUCTION

New Media Usage Pattern

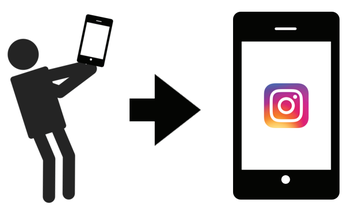
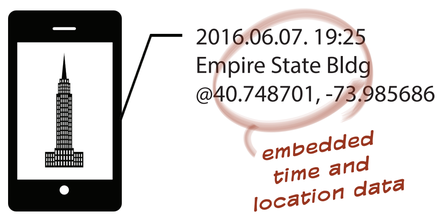


image-based communication is emerging as a new social media usage pattern

Embedded Geo-temporal Data



the embedded data of time and place are providing meaningful information about each location

Research Motivation

How can we utilize 'Big Photos' uploaded by the public to function as **historic documents**?

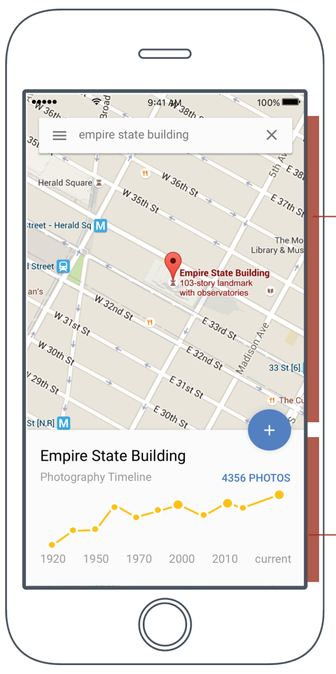
"Our goal is to present a mobile interface for displaying **location-related photos chronologically** to trace the **transition.**

SYSTEM OVERVIEW

Key Features

1. Arranging the representative photos of the location chronologically to trace its history all at once
2. Clustering photos by time to easily find the pictures of the past

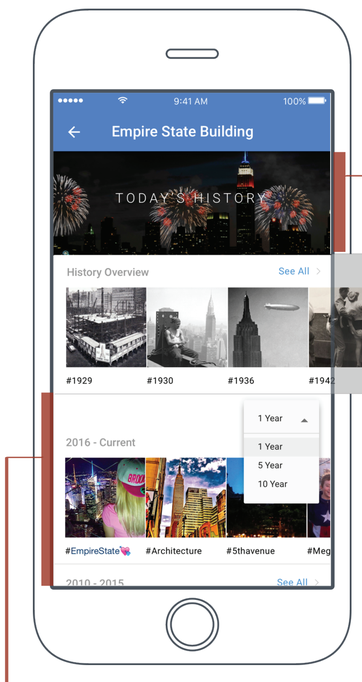
Search



Location Selection
: Map-based Interface

Photograph Timeline Overview
: Information about the number of photos uploaded by year with a line graph
➡ Track changes and discern the popularity of the spot over time

Browse



Today's History
: Exposing users' photo on the main screen to encourage users' participation

History Overview
: Browsing all of the representative photos of the year at once by swiping
➡ Trace the transition of the location

Photograph by Time
: Containing photos clustered by the specific period which is selected from the dropdown menu
➡ Easily find the scene of the particular time

Gallery

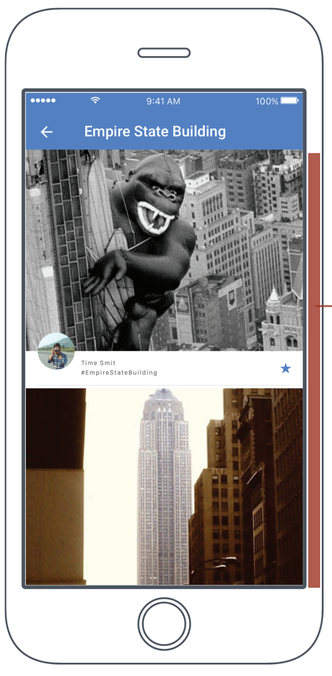
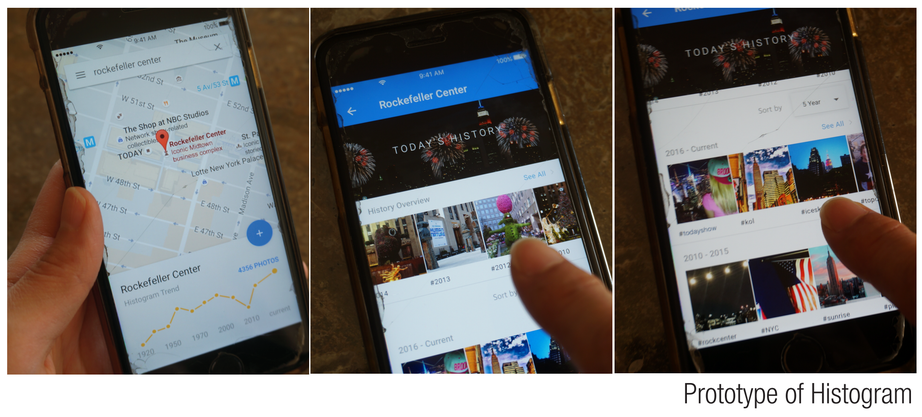


Photo Gallery
: Displaying all the photos of the selected area and time
: By scrolling down, users can skim through the photos

FURTHER STUDY

1, Collect the image data from online and develop the system

2. Research about how to select the representative photos and about visual display methods



Prototype of Histogram

References

1. Ames, M., & Manguy, L. (2006, April). PhotoArcs: a tool for creating and sharing photo-narratives. In CHI'06 Extended Abstracts on Human Factors in Computing Systems (pp. 466-471). ACM.
2. Drucker, S. M., Wong, C., Roseway, A., Glenner, S., & De Mar, S. (2004, May). MediaBrowser: reclaiming the shoebox. In Proceedings of the working conference on Advanced visual interfaces (pp. 433-436). ACM.
3. Fisher, D. (2007). Hotmap: Looking at geographic attention. IEEE transactions on visualization and computer graphics, 13(6), 1184-1191
4. Matzen, K., & Snavely, N. (2014, September). Scene chronology. InEuropean Conference on Computer Vision (pp. 615-630). Springer International Publishing.
5. Ratti, C., Frenchman, D., Pulselli, R. M., & Williams, S. (2006). Mobile landscapes: using location data from cell phones for urban analysis.Environment and Planning B: Planning and Design, 33(5), 727-748.

Contact

soominkim@snu.ac.kr, whee0501@snu.ac.kr, joonhwan@snu.ac.kr