

# PHOROL: Interactive Wall Clock Art of Online Shared Snapshots

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## 1 Introduction

Photographic technology that appeared in the early 19th century has been integrated into many aspects of our lives with many technical innovations such as snapshots of 35 mm films, digital photography and snapshots, and online photo sharing service. As a result, today many people can enjoy expressiveness of photography compared to the fact that only limited people were allowed to use photography when it was emerged.

On the other hand, mechanical clocks appeared in the 14th century. They behave as devices telling correct time and provide various models from large horologes in church or pendulum clocks at home to atomic clocks on the cutting edge.

“PHOROL” is a device that generates various artworks by integrating the clock model and the time to accumulations of people’s expressions using digital snapshots on the online photo sharing service. It is realized when clocks that have been assumed the same role for a long time meet photographic technologies and cultural innovation. PHOROL provides us novel experience to recognize the complexly intertwined past memories of people and the flux of time, which is far from our common aspect of the clock as a thing that ticks the exact time.

## 2 Performance

PHOROL has two performance modes; ambient wall clock and interactive photo display.

Located in daily life or at home, PHOROL displays each user’s past photos related to a day or a time. For example, if today is Christmas, photos of Christmas parties in the past years will be displayed. When it is 8 o’clock p.m., photos taken at around the same particular time will be displayed. The user’s “Flickr” accounts provides the photos and are linked with each pendulums that have a color of its own. The edge of photos blink with a color that corresponds to the pendulum’s one. If an additional user’s pendulum is hung, his/her photos will be displayed. At hourly intervals, PHOROL tells the hours by automatically beating the pendulums and ringing the time tone on a regular schedule like an old wall clock.

The interactive interface enables users to touch and explore the photos. When finding an interesting photos, users can select and search other photos related to it by touching the monitor. The displayed photos change corresponding to the movement of the pendulum. If the pendulum is hung with the long pole in the wooden box, the speed will be slow. But it is hung with the short pole, the speed will be fast. Each user’s photos are sorted by the time and changed from new one to old one.

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## 3 Architecture

See, Figure 1’s right. PHOROL consists of two aspects; integrating networked system and interactive or physical computation system. The network architecture is implemented by Windows C# based Bayesian Networks engine with server application and *Adobe Flash* based client application. The Bayesian Networks engine models the photos related to today and the current time, and generates a photo list. The server application gets the list sent by this engine, generates a XML format, and sends it to the *Flash* client. The *Flash* reads the XML, accesses to *Flickr* URL, downloads photos, and displays them. Interactive architecture connecting with the *Flash* client is implemented by *Xtel* [Tokuhisa et al. 2009], the *Xbee* based wireless communication framework. Each pendulum includes an acceleration sensor and *Xtel* module, which sends to main circuit connected with the *Flash* through a serial communication. The main circuit recognizes the pendulums and receives a signal sent from the pendulum swinging now.

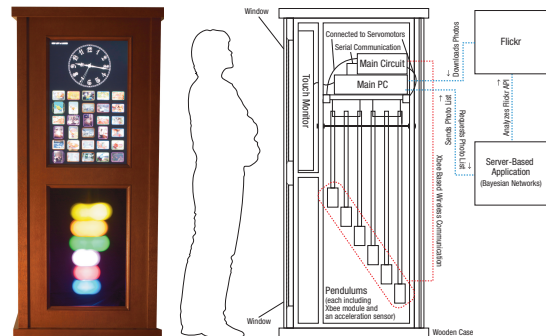


Figure 1: Left: Front Image, Right: Architecture

## 4 Conclusion

This paper described the design concept, performance, and architecture about PHOROL, which realizes mainly two experiences in each user’s daily life; making their own artworks of photographs and reflecting back on their past memories. Users linked to the PHOROL appreciate various types of view in the display, which is updated everyday, only by taking photos and sharing them on the *Flickr*. They sometimes find past event related to a certain day serendipitously and do storytelling about these events with other people. PHOROL not only alarms the current time as normal clock but also encourage people to remember past times.

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## References

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