MASTABA: A Digital Shrine for Family

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ABSTRACT
MASTABA is a household Digital Shrine in the future. Digital Shrine, in our definition, is the thing with which someone hands down one’s memories to posterity. And it consists of “digital data” and “physical viewing system”. In case of MASTABA, we designed it as the Digital Shrine including digital photo data with a physical space archiving and showing photos. Photos of Family members over some generations are archived with MASTABA. In the building of MASTABA, there are 100 stairways and a tabletop interface. User can select 0 to 99 ages by lighting each step. And he can view his own photos and his family and ancients’ photos with operating the table.

Keywords
Digital Shrine, Tangible Interface, Ubiquitous Computing, RFID, Digital Photograph, photo viewer, architecture

INTRODUCTION
Do you know your ancients’ faces, lives and times? Now almost person has seen their parents, brothers or sisters and grandpa or grandma. But have you seen your grandma’s childhood? Have you seen your father at age 18? We recognize that we do not know that much about our near relations.

Emergence of digital data enabled us to save our memory forever. Some people write one’s own weblog by using digital words. Some people capture and save your memories by using digital images. But will you manage your digital memories after your death?

We suggest a new life that you archive your memories for your child and posterity with using Digital Shrine since your birth to ending. Already, we can find some Digital Shrines. For example, some dead person hands down his memories in his website to public people by his will. But we are shy about exposing our private memories in websites.

Our aim in this research is that many people hand down family memories to their posterity with using Digital Shrine. We designed MASTABA as a type of Digital Shrine for family. In MASTABA user can see the photos of you, your families and your ancestors, which are taken when they were at the same age, side by side. [1]

DIGITAL SHRINE
Digital Shrine, in our definition, is the thing, with which someone hands down one’s memories to posterity, including digital data and physical viewing system. For example, your website or weblog have possibility to be Digital Shrine in the future, because these works contains a lot of your digital memories, which anyone can see with using web browser and PC.

Nobody can use digital data without physical devices. Now our most popular physical device is PC, but in ubiquitous computing there will be other physical devices. Digital Shrine, we think, will also consist of physical shapes and digital data with including our precious memories. [3]

There are being some Digital Shrines in websites and other digital space now. “The Eternal Gandhi Multimedia Museum” [5] is an example of “physical” Digital Shrine museum. “I Photograph to Remember” [2] show us a dead person’s memory forever in CD-ROM or website. This photo work is the one of masterpieces at the time when PC was emerged in 1990s. “The Blog of Death” [6] is a weblog to write dead people’s memories by a third person.

These previous works already realized Digital Shrines. But these were available to the public. We designed MASTABA for family, not for public people. And we think that designing Digital Shrine includes some nervous problems. Digital Shrine designers should care one’s individual privacy, feeling, will and more.

STRUCTURE OF PROTOTYPE
MASTABA consists of a building, a spiral stairway and a table. The shape of building is an octagon prism whose diameter of about 3m, and a height of about 2m. It is surrounded by the spiral stairway consists of each 100 steps of cube 10cm on a side. Each steps are printed 0 to 99 numbers and indicate the age of human. At a floor in MASTABA, there is a table on which is shown the photos by the projector set on a ceiling.

With using the spiral stairway, user can select the age of people when their photos were taken. Each steps have
compartment incorporating CDS light sensors with doors. User takes a light into the compartment, and the sensor recognizes the shine and identifies which step is selected. The light represents the Japanese candlelight.

With using the table at the floor, user can see and change some photos. RFID antenna is mounted with its tabletop. A rotary board is set in the table. User puts a cup including RFID tag on the table and RFID reader can identify whose cup is here. And user can change and see a number of pictures with turning the rotary board. Each cup has the ID of each user. Some cups are the things each family members use in everyday life. Some cups are the things ancestors have used in past years. Without a certain person’s cup, nobody can see the certain person’s photos.

**FUTURE VISION**

In the future, if the photos of MASTABA are shared in networked server, some distant relatives can share their photos each other. Current prototype of MASTABA is not connected to Internet network or local networks etc. Some photo sharing services, for example “Flickr”, already exist in the web. And many people around the world use these services. MASTABA will be able to be administrated in networked server from the technical viewpoint.

How to archive private memories into MASTABA is one of the primary problems. Current prototype of MASTABA is a photo viewing system but a photo archiving system. We must design the new photo archiving structure, which is suitable for anyone to hand down family’s memory to posterity. We want to find the answers from investigations of the interaction in MASTABA with using some different photos including private memories.

This problem is also relative to how to make one’s own Digital Shrine in one’s life. We will research and design several styles of future Digital Shrines. But, in the world, many people live with different thought, religion, culture and more differences. For example, the difference of between Western individualism and Oriental collectivism is a very important difference. We must discuss the problem with caring these differences over the world in designing Digital Shrines.

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**REFERENCES**


