

Narrative Camera Player: A Tool for Enriching Perception by Narratives

Satoshi Kuribayashi and Masaki Suwa

Keio University

culi@sfc.keio.ac.jp, suwa@sfc.keio.ac.jp

Introduction

How can we perceive environments as richly as poets or photographers do? The environment surrounding a person contains infinite number of “variables” in terms of ecological psychology. His/her perception is determined by what kind of variables are selectively attended to in the sensory and cognitive system. We conjecture that, when he/she finds ever-unheeded variables valuable for attention, his/her perception becomes “enriched”.

We argue that meta-cognitive verbalization (Suwa 2008) of what is experienced without losing live feeling and sensation is crucial for enriched perception. We thus have developed a tool named Narrative Camera Player that enables users to narrate what they see, feel and think of during walking, and also to listen to a past narrative recorded in a near location. Verbalization by narrating does not require users to stop walking, nor deprive gazes for attention to the environment. Moreover, reflection by listening to past narratives provides cues for retrieving past feeling, in voice changes or speech pattern.

Narrative Camera Player

Narrative Camera Player records and replays photos and narratives depending on the user’s location and movement. The camera component enables a user to narrate as he/she walks, and archives that narrative. The player component replays a past narrative of his/her own or another user, and lets him/her listen to it, when a user comes near to the spot where the narrative was recorded.

Camera Component The component is composed of a computer (iPhone), a touch display, a flash memory disk, a camera, a microphone, a database, a magnetic sensor, and a GPS sensor. The component constantly obtains data on the current location from GPS satellites, and shooting direction from the magnetic sensor.

When a user is inspired by something in a scene, even if a tiny thing, during taking a walk, and wants to take a photo and record whatever he/she thinks of about the scene, the camera component enables doing so. When the camera-ON button is touched, the system changes to the recording mode and displays the recording screen. Touching the recording button starts and stops recording a narrative or murmur in a toggle manner, and touching the shooting

button enables taking a photo. The user’s narrative and a photo taken are saved in a flash memory disk, with a file name and the data on latitude, longitude, date-time and shooting direction being written into the sql database. When the camera-OFF button is touched, the system changes back to the playing mode (default mode) in which the player component works.

Player Component The component is composed of a computer (iPhone), a touch display, a flash memory disk, a database, an acceleration sensor, and a GPS sensor.

In order for a past narrative to be replayed, the component needs to determine candidate narrative files for replay. First, the component searches for files within a circle of 13-meter radius from the user’s current location. For each file, if its location is within the front semicircle viewed from the current location, and if the angle between the shooting direction when the photo for the file was taken and the direction the user has come to the current location is less than 90 degrees, it becomes a candidate file. The direction the user has come to the current location is calculated based on the trajectory of the GPS data.

As soon as a user comes to a location where the component finds at least one candidate file, it starts replaying the narrative and the photo of one randomly selected file so that the user can listen to it and look at it. Then, if the user keeps walking, the file is replayed only for ten seconds. If the user stops to listen to it and to watch the surrounding scene inspired by the replayed narrative, the whole file is replayed. If the user starts walking again during the replay, it stops replaying. Whether a user is moving or stays is judged based on the data from the GPS sensor and the acceleration sensor.

Practice Three users have practiced fieldworks using this tool for 8 months. We found that the length of the narratives verbalized has increased for all users; they have become able to verbalize on the kind of things they could not at first. Further, the number of variables they paid attention to has increased, too; this seems to be evidence for enriched perception.

References

Suwa, M. 2008, A cognitive model of acquiring embodied expertise through meta-cognitive verbalization, *Information and Media Technologies*, Vol.3, No.2, 399-408.