Changing Perspectives of Time in HCI

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Time has traditionally been measured in relation to physical phenomena witnessed in our environment. From the transit of heavenly bodies across prehistoric skies to the distance to walk from here to there or the arrival of birds on the wing from other continents. Observable, predictable physical phenomena have shaped our understanding of and standardisation of time. Since then the drive to measure in increasingly precise increments has led us to the fundamental building blocks of our physical world. Observing emissions of particles from the predictable decay of isotopes takes our traditional, anecdotal measurement of the physical nature of time to it's ultimate root in the very fabric of matter. (1)

However, as we increasingly begin to inhabit a post-physical world, these measures of time lose their universal appeal and control of our experience of time becomes the final superpower we evolve. The new laws of time are evolving from a numerical digital reality that bears scant relation to the physical one we have originated in, the fabric of which is built of significantly different fundamental elements. Old presumptions that time is immutable, of it's relation to space, that it moves in one direction, no longer have significance. (2)

The new kind of time is strange and yet to be clearly defined but its collision with and transcendence of the old time is becoming apparent all around us - as bright sparkles shining at us like pin holes in reality everywhere we look. Our ability to perceive and subsequently manipulate this new non-physically embodied time is coming of age.

As Nam June Paik intuits in his 1976 article "input-time and output-time" (3)our experience and our expression of time and events are necessarily unequal. He illustrates clearly how the incidents that create what we decide to express have no relationship to each other, as Paik points out in the example of Proust, a momentary incident of childhood may take a lifetime to express. The notion of input-time vs output-time in our expressions and our creative acts is necessarily unequal.

When one takes these human experiential aspects of the quandary of time and lays their representations side by side against the abstracted, perfected tempo of technologies we see perhaps the most interesting of contrasts.

The collision of time-as-a-commodity and experience-as-a-commodity.

The automated pedestrian crossing, enforcing it's algorithmic control of the procession and halt of human traffic. The choices people make to observe or ignore the simple rule of red and green lights. Whilst human labour is defined and paid by the hour our experiences are defined by a different quality. Watching the sunrise from a remote mountaintop or the exhilaration felt at the end of a bungee rope are minutes and seconds without price when contrasted with the same temporal divisions waiting for a supermarket checkout.

Representation and management of these varied perceptions, values and qualities of time collide all around us in our increasingly post-physical world. The new rules of temporality at the fundament of digital media cross changes in contemporary language when considering and comparing representations of time. These personal representations and the pervasive tempo of technologies and the increased commoditisation of time present new challenges to researchers and developers seeking to design for increasing socialized media rich digital technologies.

The experiential/structural notion of interactivity with computer systems that Brenda Laurel (4) raises when she asks "How can people participate as agents within representational contexts? Actors know a lot about that, and so do children playing make-believe." links directly to Paik's observations of experience and expression as intrinsically unequal from a temporal perspective.

From the experiments with life logging to notions of the quantified self (5), in human computer interaction and in user experience design we see these contradictions and collisions becoming increasing apparent. As Martin and Holtzman (6) ask

"If everyone says time is relative, why is it still so rigidly defined?"

References

(1) Smart, Jack. "River of Time". In Anthony Kenny. *Essays in Conceptual Analysis*. pp. 214–215.

(2) Callender, Craig. "Is Time an Illusion ?"
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(3) 'Input-Time and Output-Time'
Nam June Paik
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(4) 'Computers as Theatre'
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(5) http://quantifiedself.com/

(6) Kairoscope: managing time perception and scheduling through social event coordination
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“That Mysterious Flow,” by Paul Davies; Scientific American, September 2002]