

# Lifebrowser: Data mining gets (really) personal at Microsoft

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(PhysOrg.com) -- Microsoft Research is doing research on software that could bring you your own personal data mining center with a touch of Proust for returns. In a recent video, Microsoft scientist Eric Horvitz demonstrated the Lifebrowser, which is prototype software that helps put your digital life in meaningful shape. The software uses machine learning to help a user place life events, which may span months or years, to be expanded or contracted selectively, in better context.

Navigating the large stores of personal information on a user's computer, the program goes through the piles of [personal data](#), including photos, emails and calendar dates. A search feature can pull up landmark [events](#) on a certain topic. Filtering the data, the software calls up memory landmarks and provides a timeline interface. Lifebrowser's timeline shows items that the user can associate with "landmark" events with the use of artificial intelligence algorithms.

A calendar crawler, working with Microsoft Outlook extracts various properties from calendar events, such as location, organizer, and relationships between participants. The system then applies Bayesian machine learning and reasoning to derive atypical features from events that make them memorable. Images help human memory, and an image crawler analyzes a photo library. By associating an email with a relevant calendar date with a relevant document and photos, significance is gleaned from personal life events. With a timeline in place, a user can zoom in on details of the timeline around landmarks with a "volume control" or search across the full body of information.

The user can slide the "volume control" to change how significant data has to be if it is to appear on the timeline. Lifebrowser's machine-learning techniques are key to the way it works. At [Microsoft](#), [machine learning](#) has been a focus of research interest as scientists look for further advancements in algorithms and technologies to glean knowledge from data.

Lifebrowser looks for clues about whether a file is especially significant, but if the program is not sure, it asks the user for helpful hints. The questions are in the form of prompts that ask the user if a photo is of a landmark event or if some calendar invitation relates to a landmark event. The premise is that, over time, machines learn what is important to the user.

Searching a person's name made it possible for Horvitz to find the first e-mail that person sent him. Lifebrowser then went to work showing a photo of a family event that took place around the same time. The idea was to walk away with a fuller recollection of the period. Aside from general personal use, one can imagine an application where the software might help someone with memory loss.

Lifebrowser was engineered to make life-spanning search and content-serving easy while providing powerful intelligent software as its foundation. The design is based on studies of human memory that suggest humans often use special events or "landmarks" to guide recall.

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