YouTube reorganises video with automated channels by Hal Hodson

The world's most popular video website is quietly transforming itself. YouTube's massive archive of video is being automatically organised into niche channels that apparently cover everything from daredevil wingsuit flying to an odd style of finger dancing called "tutting".

A redesign launched last week will make these automated channels - not the same as existing channels that belong to users - a core part of what people experience when they log on. It's all part of parent company Google's efforts to get you to watch more videos online. Put simply, Google wants YouTube to be the future of television.

"It's somewhat unlikely that someone will go out there and program 24 hours a week of wingsuit flying," says Noam Lovinsky, director of product management at YouTube. "But we want to make sure there is a channel for that."

Algorithms build the automated channels by tracking user activity. When someone enters a term like "wingsuits" into YouTube, for example, the site records how they navigate the search results, which video they end up clicking, which clips they go on to after that, and so on. It then scans user comments for each video, looking for words that help describe the clip.

Software also watches as people program their own channels, gathering metadata which, when aggregated over millions of users, can be used to build an interesting channel for everyone.

Even the content of videos is analysed by machine vision and listening software to help assign them to channels (see "Operation Finding Bieber"). Detecting laughter in a clip will help refine the automated comedy channels, for instance. "We can tell that there's music in the video, or laughing, or whether it's shot outside or inside," says Cristos Goodrow, YouTube's head of search and discovery.

YouTube will also be pushing users to tag video using labels from a structured library called Freebase. The idea is that using a limited set of terms that a computer is programmed to understand will ultimately make it easier to slot newly uploaded videos into the appropriate channel. The company hopes this will compel users to watch more videos, so it can serve more advertisements.

To help spark interest in the new channels, YouTube has launched what it calls The Guide. Similar in style to the menus on digital video recorders used with TVs, the personalised panel follows users around as they watch videos, helping them keep track as new content is added to the channels they follow. The Guide also gently pushes new channels to them based on their viewing habits. A user who searches for videos about the US Open tennis tournament, then proceeds to watch nothing but Roger Federer clips, for example, might get a recommendation to subscribe to the Roger Federer channel.

Ultimately, YouTube's engineers are trying to create a new formula for building television channels, one that relies on the entire YouTube-watching community for programming advice. But first it needs to classify its vast amount of content.

"Discovery is the absolute number one challenge for YouTube," says Rich Greenfield of BTIG Research, the research arm of investment firm BTIG in New York City. "Automated channels is their attempt to simplify it."

In many ways, the site is where cable television was back in the early 90s, he adds. "If you'd asked people back then whether cable television would ever have the same level of content as broadcast, they'd have laughed." His guess is that "it won't take YouTube 30 years" to assert itself as a major competitor for today's television channels.