## CFP ULTIMATE MEDIA WORKSHOP HIGHLIGHTS

Much of the discussion focused on defining and understanding the television experience: what were people's most memorable experiences? How has this changed over time? Has what we think of as television changed? How do we define television, and what are its definitional/conceptual boundaries or limits? At what point does it become something else? What does it become, and what do we call it?

The experience has changed in terms of the content we consume, how it is presented and delivered to us, how we navigate it (search and discover), the contexts in which it is consumed, and most recently, the additional media applications that we consume concurrently, which we assemble ourselves or that are integrated into TV services to create "composite applications." The latter pose integration challenges particularly in terms of privacy and identity management, as well as other types of capabilities.

The television industry is a classic case of industry disruption, where a disruptive technology has the potential to displace incumbent players. That means "OTT" video and cord cutting. But a lot of the industry disruption we've seen has not led to experience disruption, despite the new technology.

Understanding experience disruption is complicated and ambiguous because 1) the experience itself is comprised of content and surrounding services, networks, and devices, where the whole is greater than the parts. You need to look at the whole ecosystem – from content to creation to the final presentation. And 2) what constitutes disruption is not always clearly understood. Technically speaking, it is based on the features of the new technology. But user demands – what features they want and don't want – are in flux. We've seen a lot of smaller or "localized" disruption, e.g., releasing a whole series at once, but at some point these add up to

something fundamentally different.

There are a few main elements of the experience that we have determined have legs; they're here to stay for a while: 1) narrative entertainment 2) information about events in society and 3) a means for navigating and interacting with this universe of content. Social networking has become integral to the latter in the form of "social TV." The Media Lab's Ultimate TV project will build a platform to demonstrate and explore what can be done in terms of tracking the expanding world of media without constraints like bandwidth, processing power, etc.

There are many ways to architect the network to accommodate the various TV experiences. CSAIL focuses on understanding congestion at interconnection points. (Other groups are focused on access and home networks.)

Metrics are important. We are going beyond measures of speed to measures associated with QOE, e.g., reliability. In Europe, the community is working on the "nutritional value" of broadband such that users buy a broadband connection in terms of a larger number of features related to qoe, e.g., speed, peak, average, noise. Different aspects of "quality" are more or less important depending on the experience. For example, in the case of live news events, the ability to have information or images at all is more important than the actual resolution. We are working with content providers to understand how we can integrate our measurements into their services and apps. The other goal of metrics is to inject good data into the debates about bandwidth and strategic throttling of traffic by ISPs.