## Ecosystem of Open Burt Lum

From an early age, Aaron Swartz recognized that open and freely accessible information sharing would helped raise the tide of understanding for everyone. One of the first things he created was the InfoBase (described in the film as an early version of wikipedia) that featured the tagline: "Share your Knowledge". All of his efforts, from work on RSS, Creative Commons, Wikipedia, liberating PACER and JStor docs, reflected this philosophy. What made his work truly remarkable -- and his loss so tragic -- was that he wasn't just solving individual problems, he was singlehandedly building an ecosystem.

Open knowledge needs an ecosystem to work. Individual tools and initiatives play a role, but are not enough on their own. For example, in 2013, two seminal open data bills were passed: Act 263 in the State of Hawaii and Ordinance 13-39 in the City & County of Honolulu. These policy victories are critical, but alone, they do not make government data public. If there is no executive mandate, departments will not be motivated to liberate their data.

Like a biological ecosystem, an open ecosystem is a complex community of living organisms (humans, leaders, policymakers, organizations, educators, coders, entrepreneurs, designers, engaged citizens, etc) interacting with non-living elements (data, internet, infrastructure, software, digital content, smart devices, computers, etc.) as a system.

At a foundational level there is data, APIs and digital content. Datasets such as TheBus API: <a href="http://hea.thebus.org/api\_info.asp">http://hea.thebus.org/api\_info.asp</a> that powers one of the City's most popular apps.

Another foundational piece is education. Journalists can use open data to help tell their stories, whether it be campaign spending, crime data or 311 data. But before that can happen journalism students need exposure to data analytics, spreadsheets, and statistics to understand what the data means. Curriculum at the university level is critical

Then there are the collaborative environments that bring community together with the institutional holders of the data (government, university, museums, archives, libraries) to brainstorm, innovate and create applications based on that data. In addition to building applications, the community can interact with key stakeholders and subject matter experts (SME) to understand the process and integrity of the data.

Outreach shares this data in application formats that help citizens learn, understand, discover and then make informed decisions or have a greater appreciation. Data journalism and visualization are both important tools and reaching the broader community.

Like the basic building blocks of life, an open ecosystem needs basic elements to grow. It's up to us to recognize the key elements of that system and to nurture it to point where it becomes self sustaining and perpetuating. In retrospect, that was what was so special about Aaron. The ability to identify and create those basic building blocks. Our opportunity now is to celebrate his legacy and make our own contributions to the ecosystem of open, moving people from open minds to open action.