Scalable Civic Action Networks

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Executive Summary

We propose Civic Link as an implementation of a large-scale peer-to-peer network based on locality of information, personal privacy, connectivity based on content, and as an extensible/modular set of built-in applications. We do this in the domain of civic action. We intend Civic Link to be a plug-and-play “organization in a box” that allows ground-up creation of entities with an infrastructure heretofore available only to large-scale campaigns that use bespoke software. Civic Link is being developed in the context of an MIT course through which it will be deployed, tested, and developed. It will help to create an active, participatory, informed society and it will teach us how we can build information networks that preserve privacy and easily create a topically-defined network that is useful for the general public for whom networking is a means, not an occupation. It will be open and extensible; it will shine a light on how we can form social action platforms that are not reliant on industrial or advertiser-supported data silos. It will do this by design and through use. Specifically, we seek support for one graduate student for one year plus related deployment expenses.

Description

We hereby propose support for a program we have begun at the Media Lab’s Viral Communications group addressing “Scalable Civic Action Networks.” Specifically, we propose developing a system called “Civic Link,” that is targeted at grassroots community organizations. The problem they face is that there is no available software on which small organizations can base their operations, and no way for them to bind together with other similar activities to grow and scale. Civic Link is easier to use than a pencil and paper or Facebook page and is quite literally an operating system for organizations with an extensible set of easily integrated application extensions.

While Civic Link has societal ends, it is an opportunity to explore intelligent, peer-to-peer networking with fully-functioning nodes on a large scale and in the context of a “civilian” use case. It is a social network where the network graph and all data that flows between nodes is contained within the network itself, in effect a social mesh. All elements in the system run the same software as peers, and we thereby exploit the power of personal devices to become more than browsers of silo’ed data but use them as repositories of personal information, privately held and intelligently shared.

The system is plug-and-play: an organizer, or moderator, simply fires up a Civic Link unit, registers members, and can then open discussions, schedule events, manage participation in activities, and tabulate participation. Civic Link can be used in political campaigns, for community outreach, or to develop any civic activity one chooses. It is an organization-in-a-box. It brings the power of networks to local organizations for whom sophisticated interconnection is a technical side-trip. They can concentrate on their org’s purpose, the rest is virtually automatic. One of our themes is: “One org, one link.” That is to say, we envision that an individual might well join more than one org, and each one will operate its own link.
A key ethos behind the idea is organizational privacy. What happens in your Civic Link stays in your Civic Link. All contributions, discussions and databases reside on the moderator’s link or within the members application; data is not deeded to commercial silos that might mine it or use it for other purposes.

Civic Links form a decentralized network where connections between them are created and defined as channels that are based on topics or tags about which they elect to share information. For example, in a political context they can share canvassing maps, best practices, event coordination while keeping their fundraising operations and membership lists private. In a local historical district, links might share discussions of home paint colors, renovation practices, or city permit application procedures. Connections are established by broadcasting through the network topic tags that open channels between them. Moderators can see the tag flow and adopt them as networking opportunities.

We view the system as “recursive.” The application that members of a group use to connect to a link is the Civic Link software itself, running locally on an Android, iPhone, or in a web browser application. Each individual participant is in fact a moderator working on his or her own behalf. And each can therefore create new organizations or promote discussion among diverse ones.

We take the notion of local computing seriously. We recognize that the center of information for most people is the mobile device and we exploit the power of that device to operate that individual’s link. The phone or tablet is not merely a web access point, it maintains the user’s data and state. The only difference between the organization’s home link and the member’s is that home link is always on; that is not required for individuals.

To summarize, Civic Link is both a novel social activator and an opportunity to rebuilt personal networking as an end-to-end, intelligently operated mesh of peers. The bullet-point synopsis is shown below.

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**Community organizing and personal mesh networking**

**What it does:**
- A locally owned and operated platform for posting and discussion of community events. Everything from political meetings to protests, to hearings.
- All data remains local: what goes on here stays here
- Single issue per link; convenient, easy, oriented to civilians
- Simple management/moderation by community leaders
- Extensible and open architecture; links interconnect as desired

**It is a platform on which we can build a suite of applications:**
- Civic Link in a box: just plug it in to the wall and your Internet connection
- Modules for special events and options
- Intelligent search for events of interest
- Links to other civic links deployed through the country
- Learning/analysis to automatically suggest related issues among a network of civic links
- Reputation and moderation management

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Networking design

Civic Link nodes are connected by one or more publication/subscription relationships called "channels." Nodes are private by default: for any nodes A and B, A can access only the data that B has explicitly included in channels to which A is subscribed. Channels can be temporary mechanisms for sharing content on the fly, or persistent, named abstractions for ongoing communication. They are defined by "contracts" that specify authentication requirements, communication protocols, and replication logic.

Contracts allow channels to emulate centralized, federated, or distributed networking: a Civic Link channel might publish a read-only event for public subscription, serve a shared calendar to authenticated clients, or synchronize conflict-free replicated data with peers. By default, every Civic Link comes with "administration" and "invitation" channels. The administration channel is a proxy for all other channels, allowing organizers to moderate headless group nodes, i.e., the Civil Link box from their personal devices. The invitation channel is a public interface for nodes to negotiate new connections with their peers.

Setup and Interface design

System setup is largely automatic and uses base practices. Of note, the administrator uses the same software as any user and any Civic Link home box. The interface allows all members to see a representation of current connections, a picture of the global state of related civic efforts. Members can also propose connections between organizations.

Work Plan

Work is proceeding in the Viral Communications group at the MIT Media Lab. The initial system will be deployed in an MIT course jointly listed in the Sloan School and the Media Lab. This course creates project teams that will test the idea in real-world groups in Fall, 2019. We will then iterate and use it in the course in Fall, 2020. We seek support for one graduate student for one year. Code for this project will be open source and free.