



HYPERLEDGER

BLOCKCHAIN TECHNOLOGIES FOR BUSINESS

How the National Association of REALTORS® Improved Member Services with Hyperledger Fabric





NAR is America's largest trade association, representing 1.3 million members belonging to approximately 1,200 local associations and 54 state and territory associations.

Challenge

The various local and state associations are independent corporations working together to deliver programs under a Code of Ethics that is over a hundred years old. There is an existing centralized database containing members' billing information. Engagement information such as volunteerism, professional development and committee service is not shared. While sharing member engagement information is essential, it is difficult to get 1200 organizations to agree to contribute and relinquish control of their data to a single database.

Approach

NAR used Hyperledger Fabric to build the REALTOR® Association Blockchain (nicknamed BlockR), a blockchain-based tool for recording and sharing information about member engagement across the nation's realtor associations.

Result

Searching for member engagement now takes seconds, where it used to take hours of emails and phone calls. The pilot was developed by six associations and included contributed data from an additional four associations. In the week following the presentation of the pilot in March 2018, 51 associations asked to be part of it.



How do you solve a problem like data sharing?

It all started with data analytics. The National Association of REALTORS® (NAR) was looking for ways to better serve their members and felt that analyzing members' engagement would help them achieve this goal. Member engagement events from local, state and national needed to be collected and made available to all associations. Unfortunately, member engagement events were only available to the association where the event occurred.

NAR is America's largest trade association, representing 1.3 million members involved in all aspects of the residential and commercial real estate transactions. Members belong to one or more of approximately 1,200 local associations/boards and 54 state and territory associations of realtors. All of these organizations are independent, even though they work together.

Data analytics could open up many new opportunities. For example, when a member moves to a new state where they do not know anyone, the new association could suggest relevant committees and political advocacy groups for them to join, based on their experience and interests. This would benefit both the member and the association. There is just one problem: data analytics requires data.

“Our members are our assets. So we needed a good asset manager.”

Mark Lesswing, CTO of NAR



When a member becomes a REALTOR®, they automatically join the local, state and national association. These are three independent entities, and each has its own processes and systems. With over 1200 entities nationwide, NAR does not have a unified membership database. Karl Berron, CEO of the Indiana Association of REALTORS®, said, “We have been looking for a while for a way to consolidate these systems, and do it in a way that respects the individual needs of each organization.”

Getting over 1200 CEOs to agree to give up control of their data and processes by switching to one common database sounded unlikely. Instead, Mark Lesswing, CTO of NAR, came up with the idea of using distributed ledger technology. “We are a group of independent associations working together. What we have in common is information about our members”, he explains. “Our members are our assets, although not in the way people usually think about assets. So we needed a good asset manager”.

Lesswing started looking for a distributed ledger technology. Given the nature of the project, he wanted it to be open-source and allow permission-based access. He explains, “If it weren't open-source, I wouldn't have even looked into it. The technology is so new that I wanted to be able to look into the code to thoroughly understand it”. Permission-based access was important because of the sensitive nature of the data. This set of criteria quickly led Lesswing to Hyperledger Fabric.



Governance Before Code

Hyperledger Fabric is a blockchain framework implementation and one of the Hyperledger projects hosted by The Linux Foundation. Intended as a foundation for developing applications or solutions with a modular architecture, Hyperledger Fabric allows components, such as consensus and membership services, to be plug-and-play. Hyperledger Fabric leverages container technology to host smart contracts called “chaincode” that comprise the application logic of the system.

Lesswing spent the initial several months learning and experimenting with the technology himself. Once he felt comfortable with it, he assembled a team of executives from several state realtor associations to create a proof of concept. They called themselves “the gang of six.” Before the team wrote a single line of code, they created a governance document outlining in detail the policies the system would follow. This was important given that no single organization controls the system. The document has been crucial in getting buy-in for the project from senior executives.

While working on the project, the NAR team discovered that they needed some functions that did not exist in the code library; so they created them and shared them with the Hyperledger community. As an open-source project, Hyperledger Fabric relies on such contributions to keep improving.

The Pilot

The team created the REALTOR® Association Blockchain (also known as BlockR), a blockchain-based tool for recording and sharing information about member engagement across the nation’s realtor associations. It was unveiled at an industry event and was a rousing success. In the first week following the presentation, 51 associations asked to be part of it.

With BlockR, searching for member engagement history now takes seconds, where it used to take hours of emails and phone calls (and thus was impossible to do at scale). This means that REALTOR® associations will be able to provide better opportunities to their members. Robert Authier, CEO of the Massachusetts Association of REALTORS®, gives an example: “Knowing that a realtor who just relocated to our area was active for many years in their former home’s Government Affairs operations, or was involved with one of our Councils or specialties, allows us to engage them and continue

Member Engagement History

- 2016
NAR Land Use Committee
- 2016
CAR CFA #9
- 2016
RPAC Donation
- 2015
NAR CFA #2
- 2013
Relief Fund Donation
- 2011
CAR Issues Committee
- 2010
RPAC Donation
- 2005
CCAR President
- 2005
CAR CFA #6
- 2004
Bay East Membership Committee
- 2004
NAR CFA #2



that professional involvement to further their careers, and leverage their interests to make the organization stronger. Without sharing that information, the member may not know what resources exist or whom to talk to, to pick up their involvement where they left off, and we all lose something”.

Not Just a Database

There are several reasons why blockchain technology fits the bill for the National Association of REALTORS®.

First, it allows sharing important member engagement information in a way that is platform-agnostic and future-proof. Authier explains, “Removing the need to think about the specifics of data archiving helps preserve something that’s very important (and notoriously hard to pin down) in all industries: institutional knowledge. Because of the reality of platform drift and staff turnover, these are insights that are often impossible to gain otherwise. There must be an independent system that’s subject to verification for accuracy and resilient to the effects of technological changes at individual organizations”.

“We can keep very good records across all of our systems, working collectively, but not depend on (or be exposed to failures in) our partners’ systems.”

Robert Authier, CEO of the Massachusetts Association of REALTORS®

Second, it ensures accuracy and security. Any incorrect changes (whether accidental or malicious) will be verified along the entire chain, leaving no single point of failure exposed. This is an improvement over most currently available options. “We can keep very good records across all of our systems, working collectively, but not depend on (or be exposed to failures in) our partners’ systems,” says Authier.

A “Medical Record” for Realtors

With the BlockR project a success, Lesswing is now looking into applying the technology to other business problems at NAR. One idea that has received enthusiastic response is to go beyond member engagement data to incorporate other information

5 Tips for a Successful Blockchain Project



Start with a real business problem



Learn the technology



Build a coalition



Write a governance document



Give back to the community



related to members' careers. This could include their licensing data, sales data, professional designations, etc. Right now real estate professionals get this information or certifications from several different entities, and any reduction in the number of these entities would be of great help. Eventually, this could become a "one-stop-shop" for their real estate practice. This would be similar to a medical record that combines information from various doctors, labs, and hospitals. Karl Berron, CEO of the Indiana Association of REALTORS®, said, "This information is yours – it can go with you. This would allow us to create a member-centric record that's based on them, not us."

ABOUT NAR

The National Association of REALTORS® is America's largest trade association, representing 1.3 million members, including NAR's institutes, societies, and councils, involved in all aspects of the residential and commercial real estate industries.

ABOUT HYPERLEDGER

Hyperledger is an open source collaborative effort created to advance cross-industry blockchain technologies. It is a global collaboration including leaders in finance, banking, Internet of Things, supply chains, manufacturing and Technology. The Linux Foundation hosts Hyperledger under the foundation.

