

Application Example

NDN Tutorial – ACM ICN 2015

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Goals

A modern-looking, running web-based application to demonstrate intermediate NDN concepts such as sync and verification.

Use NDN-JS so anyone with a browser and text editor can follow along.

Another Chat Application?

Chat is an intuitive problem

Natural abstraction layers: dive into or hide details as desired

Showcases a wide range of NDN concepts:

- Naming

- Synchronization

- Trust & Verification

- Data persistence

Web ChronoChat Powered by [NDN-JS](#)

Chatroom: *ndnchat* Username: *Dave*

Dave-7:53:19 PM: Join
slacker-7:52:31 PM: Join

slacker-7:52:31 PM:
Yo.

Dave-7:53:30 PM:
We should do productive things here.

slacker-7:57:28 PM: Leave

Member
• Dave

Press Enter to Send Message

leave send

<http://named-data.net/apps/live/chat/>

<https://github.com/named-data/ChronoChat-js>

Application Model: *Slack*

<http://slack.com/>

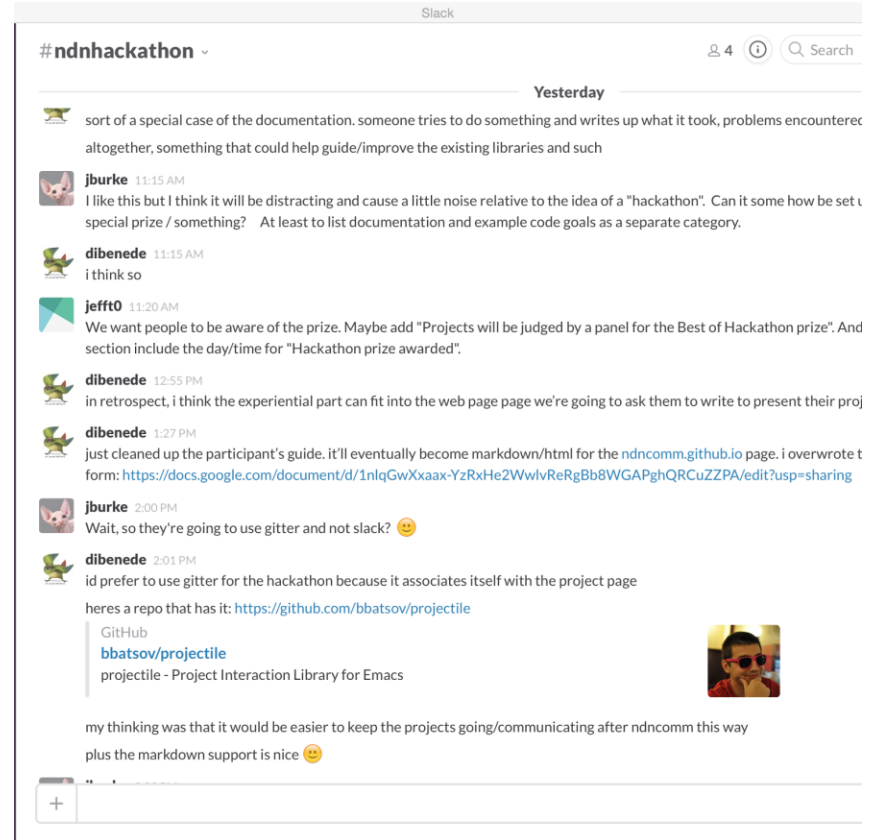
Org-oriented chat

Persistent chat log

- users can join at any time and see entire history

Rich media support


- share files, multimedia, etc.





Slack


#ndnhackathon 4 4 Search


Yesterday


 sort of a special case of the documentation. someone tries to do something and writes up what it took, problems encountered altogether, something that could help guide/improve the existing libraries and such


 **jburke** 11:15 AM
I like this but I think it will be distracting and cause a little noise relative to the idea of a "hackathon". Can it some how be set u special prize / something? At least to list documentation and example code goals as a separate category.


 **dibenede** 11:15 AM
i think so

 **jefft0** 11:20 AM
We want people to be aware of the prize. Maybe add "Projects will be judged by a panel for the Best of Hackathon prize". And section include the day/time for "Hackathon prize awarded".


 **dibenede** 12:55 PM
in retrospect, i think the experiential part can fit into the web page page we're going to ask them to write to present their proj

 **dibenede** 1:27 PM
just cleaned up the participant's guide. it'll eventually become markdown/html for the ndncomm.github.io page. i overwrote t form: <https://docs.google.com/document/d/1nIqGwXxaax-YzRxHe2WwlvReRgBb8WgAPghQRCuZZPA/edit?usp=sharing>

 **jburke** 2:00 PM
Wait, so they're going to use gitter and not slack? 😊

 **dibenede** 2:01 PM
id prefer to use gitter for the hackathon because it associates itself with the project page
heres a repo that has it: <https://github.com/bbatsov/projectile>

GitHub
[bbatsov/projectile](https://github.com/bbatsov/projectile)
projectile - Project Interaction Library for Emacs



my thinking was that it would be easier to keep the projects going/communicating after ndncomm this way
plus the markdown support is nice 😊

+

NDN App Differences

P2P NDN network, overlaid on Websockets.

Chat log persisted by users maintaining replicas.

- Only store verified messages

- Visually distinguish verified & unverified messages

Demonstrate ease of building this type of app in a true P2P fashion using sync and verification.

For this demo:

- Open access for easy participation

- No encryption

- Limit to 1 channel

- All participants connect to a single hub.

Organization Oriented

Slack:

Users join org's chat by invitation or having a whitelisted email domain

Demo:

Users request a certificate from demo CA

Associated key is authorized to publish Data under demo chat namespace

Simple analogy to key hierarchies for tutorial trust model

Persistent Chat Log

Slack:

Slack-owned servers maintain chat history, files, etc.

Demo:

Data persistence via user user replication

Content is signed: able to retrieve verifiable copy from any participant

Rich Media

Slack:

Many supported service integrations in addition to homegrown ones

Demo:

Focus on text and simple file/picture sharing

All messages exchanged will be HTML

Use NDN names for image links (viewable via our Firefox addon)

Chat Protocol

Sync notification of new messages

Application data carries new messages as HTML

- Text inline

- Images are NDN links that are optionally retrieved

Browser renders accordingly with CSS

Application Demo

Requires Firefox version > 40

<http://memoria.ndn.ucla.edu/icn-tutorial/icn-tutorial-app/>

OR

Run locally with Chrome

git clone <https://github.com/zhehaowang/icn-tutorial-app>

Running the App Yourself

Requires Firefox version > 40

OR

Run locally with Chrome:

```
git clone https://github.com/zhehaowang/icn-tutorial-app
```