

Project: NDN Mailing List Search Tool

9th NDN Hackathon

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What we are going to solve and Why?

- NDN mailing list archives
 - are collection of discussion by the NDN community, where NDN researchers (especially those who are new to NDN) across the world ask questions from the experts of NDN.
- Sometimes, people ask exactly the same question, which already answered by someone else in the mailing list.
- This happens because questions on the NDN archives are growing exponentially and there is no “dedicated search tool” available in the NDN mailing lists archive. The only way to search the archives is “Google.”
- However, most of the time, people are not familiar with the Google search techniques/tricks.
- In fact, sometime people don’t bother to search a question before posting it.
- Therefore, users sometimes post very simple questions. Although most of the answers are available on the mailing list, still people post on mailing list and expect for answers.
- As a result, some experts don’t answer questions due to repetition and simplicity. It becomes very hectic to answer the same question to multiple people again and again.

What we are going to solve and Why?

- We observe, that there should be a tool that can find out the existing answers and questions relevant to NDN.
- In case there is no such answers available then the user needs to post a question on mailing list.
- Such tool will reduce the frequency of same question on mailing list and repetition will be avoided.
- Therefore, in this hackathon project, we develop a search tool for NDN mailing lists where NDN researchers can search the question before posting it on the mailing list.
- For example, if someone is looking for the solution of “AdHoc faces”, then he/she may enter the key word “AdHoc faces” in the search text box, and our tool will return a list of all questions related to “AdHoc faces”, which were asked by the others before and answered by the NDN experts.
- It will save the time of both the person who is asking the question and the one who will answer it.

Tasks In This Project

- Task 1: NDN mailing lists scrapping
 - Scrapping the existing content of all NDN mailing list
 - Check for the latest updates periodically (Questions/answers)
- Task 2: NDN mailing list search app (web search)

Tools and Programming Languages

- Programming Languages
 - C#, Entity Framework, SQL for first task
 - HTML, CSS, JavaScript, ASP.NET MVC, Entity Framework, SQL for the second task

Scrapping The Existing Content of All NDN Mailing List

The screenshot displays the Visual Studio IDE with the following components:

- Code Editor:** Shows the `MailingListScraper.cs` file. The `using` statement is circled in red. The code defines a `WebScraper` namespace and a `MailingListScraper` class with two methods: `FetchCompleteMailingList` and `FetchMontlyURLs`.
- Solution Explorer:** Located on the right, it shows the project structure. The `WebScraper` project is highlighted with a red circle. Below it, the `MailingListScraper.cs` file is listed.
- Properties Window:** Located at the bottom right, it shows the properties of the selected file.
- Output Window:** Located on the far right, it displays a list of URLs being scraped, such as `https://www.lists.cs.ucla.edu/pipermail/ndn-interest/2015-February/000449.html`.

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Net;
using System.Text;
using System.Threading.Tasks;
using HtmlAgilityPack;

namespace WebScraper
{
    public class MailingListScraper
    {
        #region public

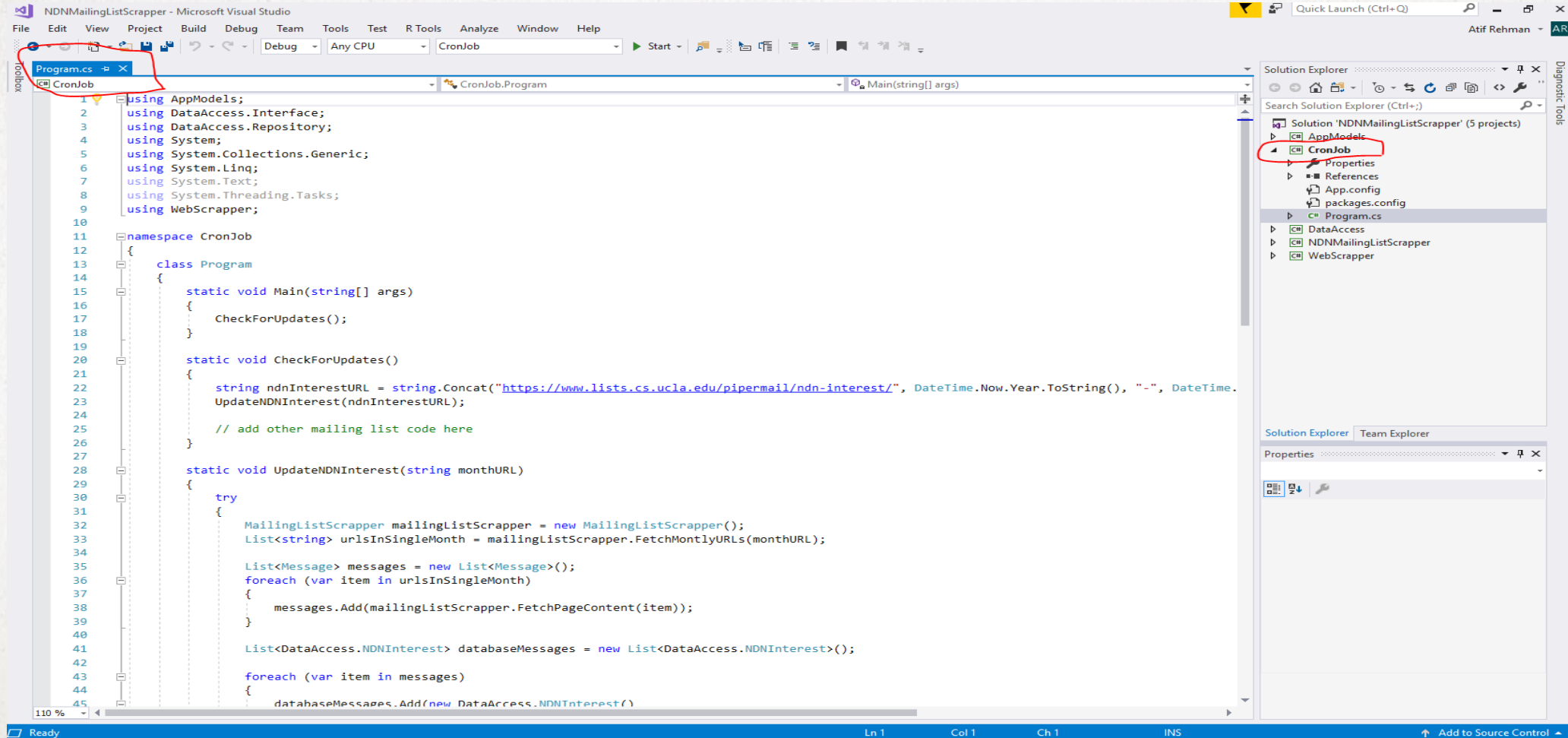
        public List<Message> FetchCompleteMailingList(string url)
        {
            List<Message> messages = new List<Message>();
            // mailing list url
            List<string> mailingListURLs = FetchMailingListMonths(url);
            foreach (var monthURL in mailingListURLs)
            {
                List<string> urlsInSingleMonth = FetchMontlyURLs(monthURL);
                foreach (var item in urlsInSingleMonth)
                {
                    messages.Add(FetchPageContent(item));
                }
            }

            return messages;
        }

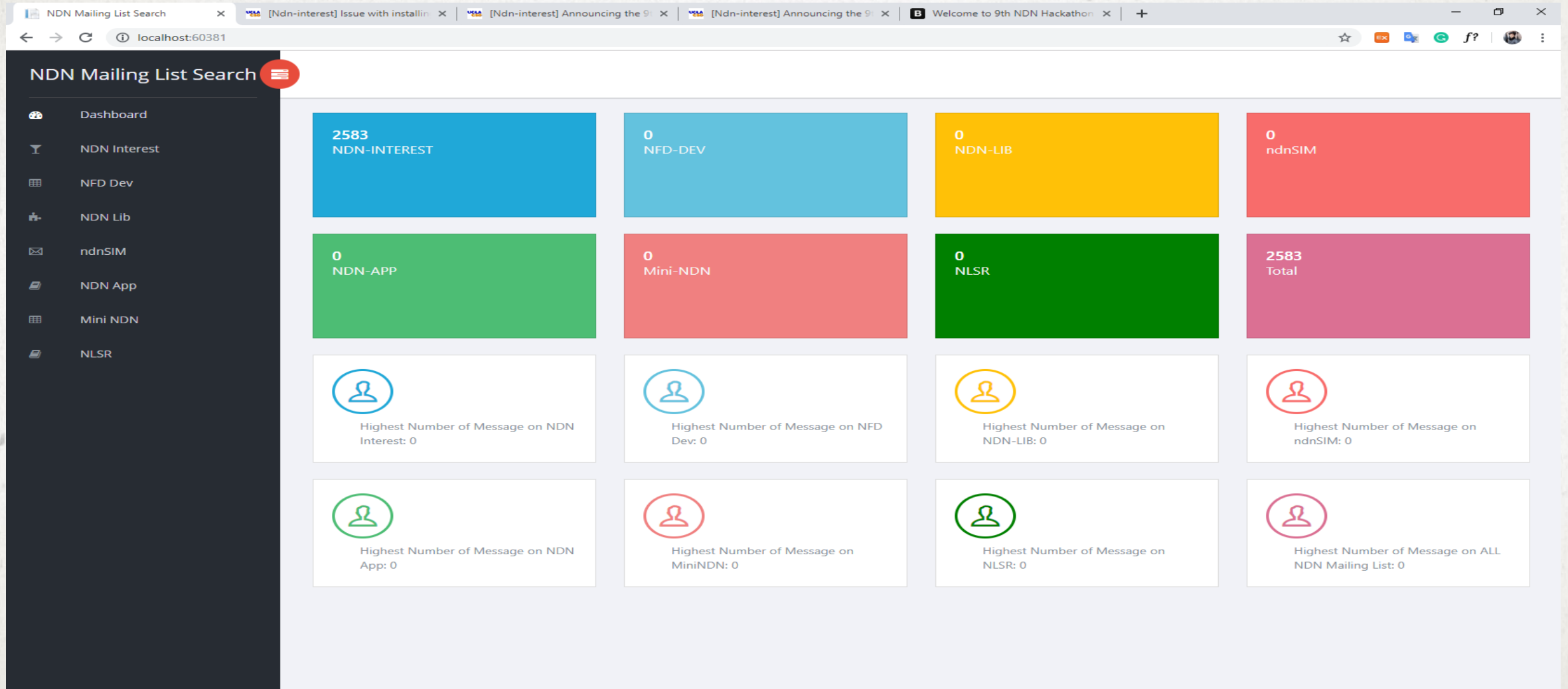
        public List<string> FetchMontlyURLs(string monthURL)
        {
            try
            {
                List<string> urls = new List<string>();

                HtmlWeb web = new HtmlWeb();
                HtmlDocument document = web.Load(monthURL);
                HtmlNodeCollection nodeCollection = document.DocumentNode.SelectSingleNode("//body").ChildNodes;
                List<HtmlNode> allUllist = nodeCollection.Where(x => x.Name == "ul").ToList();
                if (allUllist.Count > 1)
                {
                    HtmlNode urlsULNode = allUllist[1]; // fetching ul
                    foreach (var liItem in urlsULNode.ChildNodes.Where(x => x.Name == "li").ToList())
                    {
                        HtmlNode urlNode = liItem;
                        urls.Add(liItem.FirstChild.Attributes["href"].Value);
                        if (liItem.ChildNodes.FirstOrDefault(x => x.Name == "ul") != null)
                        {
                        }
                    }
                }
            }
            catch { }
        }
    }
}
```


Check For The Latest Updates Periodically (Questions/Answers)



NDN Mailing List Search App (Web Search)



NDN Mailing List Search App (Web Search)

The screenshot shows a web browser window with the address bar displaying 'localhost:60381/NDNInterest/'. The browser has several tabs open, including 'NDN Mailing List Search', '[Ndn-interest] Issue with installin...', '[Ndn-interest] Announcing the 9...', and 'Welcome to 9th NDN Hackathon'. The application interface consists of a dark sidebar on the left and a main content area on the right.

NDN Mailing List Search

- Dashboard
- NDN Interest
- NFD Dev
- NDN Lib
- ndnSIM
- NDN App
- Mini NDN
- NLSR

NDN Interest Search

0 Records Found

Title	From Name	From Email	Posted Date	Message Text
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NDN Mailing List Search App (Web Search)

The screenshot displays the NDN Mailing List Search App interface. On the left is a dark sidebar with navigation links: Dashboard, NDN Interest (highlighted with a red circle), NFD Dev, NDN Lib, ndnSIM, NDN App, Mini NDN, and NLSR. The main content area shows a search bar with 'NFD' entered (also circled in red). Below the search bar, it states '853 Records Found' (circled in red). A table of search results follows, with columns: Title, From Name, From Email, Posted Date, and Message Text (the last three columns are grouped by a red circle). The table lists several email entries, including announcements for the 9th-NDN-Hackathon Projects and issues regarding ndn-cxx and NLSR sequence numbers.

Title	From Name	From Email	Posted Date	Message Text
[Ndn-interest] Announcing the 9th-NDN-Hackathon Projects	Ju Pan	pjokk722 at email.arizona.edu	Tue Sep 3 08:44:22 PDT 2019	Dear folks .. View More
[Ndn-interest] Issue with installing ndn-cxx	Junxiao Shi	shijunxiao at email.arizona.edu	Fri Aug 16 04:34:36 PDT 2019	Hi Athreya .. View More
[Ndn-interest] Network inconsistency and NLSR sequence numbers	Viktor S. Wold Eide	viktor.s.wold.eide at gmail.com	Fri Aug 23 05:37:40 PDT 2019	Thanks a l .. View More
[Ndn-interest] Network inconsistency and NLSR sequence numbers	WENTAO SHANG	wentaoshang at ucla.edu	Fri Aug 23 22:36:34 PDT 2019	On Fri, Au .. View More
[Ndn-interest] Network inconsistency and NLSR sequence numbers	Viktor S. Wold Eide	viktor.s.wold.eide at gmail.com	Mon Aug 26 02:18:11 PDT 2019	On Sat, Au .. View More
[Ndn-interest] Network inconsistency and NLSR sequence numbers	WENTAO SHANG	wentaoshang at ucla.edu	Mon Aug 26 08:52:17 PDT 2019	On Mon, Au .. View More
[Ndn-interest] jdn Library	Junxiao Shi	shijunxiao at email.arizona.edu	Mon Jul 8 10:49:45 PDT 2019	Dear folks .. View More
[Ndn-interest] Questions about NACK packets	Ahmed BENMOUSSA	ah.benmoussa at lagh-	Fri Jul 5	Dear all; ..

DEMO



- Recycle Bin
- 9-7-2019
- MaGziAppS...
- ndn-hacka...