

URL Shortening

Emmanuel Eppinger - Aditya Shekar





Purpose?

- To make URLs more aesthetically pleasing for users in a variety of contexts.
- Offers them the ability to type the address in directly if need be
- Addresses can be rather long otherwise.





Let's Try It Out!

- Popular Link Shortener
 - <https://bitly.com/>
 - Google's link shortener
 - Offers not only a short link but a means to view analytics on your data
 - Check it out!
- Other options:
 - tinyurl.com
 - Lets you choose what extension your url goes to



Example TIME

- <https://www.nytimes.com/2019/10/11/opinion/mormons-trump-romney.html?action=click&module=Opinion&pgtype=Homepage>
- tinyurl.com/yeaaaahh-donner



How does it work tho?

- Websites bit.ly randomly generate shorter keys which they then use in a database lookup to redirect you to the target URL.
- As a result, you only need to remember a much shorter url
- They also let you collect analytics on the visitors to the url



We're going to build our own!!

- We're going to hack github into a url shortener
- We'll use [github pages](#)
 - GH pages lets you host a website for free!!!
 - Automatically goes at [your-github-username].github.io
 - But you can setup your own custom domain. Mine is eppi.ng
 - Also can auto-generate websites for your projects on github
 - [your-github-username].github.io/project-name



How is a website structured

- We first need to understand how a website is structured
 - When you go to a url you are accessing either a folder or file on the internet
 - Ex: <http://cs.cmu.edu/~07131>
 - Ex: <http://www.cs.cmu.edu/~07131/f19/images/staff/ashekar1.jpg>
 - If you go to a folder, you access the index.html file in that folder if one exists
- How can we use this for our url shortener?



High level design of our url shortener

- We'll have a repository with GH pages setup
- When we want to shorten a url, we can put a folder in that repo with the extension we want to use for shortening
- We can put an index.html file there that will redirect to the site we want
- What will this look like
 - `[your-github-username].github.io/[url-shortener-repository]/[shortened-address]`
 - In our repository in a folder named `[shortened-url]` we put a redirecting `index.html`
- What do we need to put in this `index.html`?
- So we will automatically make a folder with the right folder and `index.html`, then add, commit, and push it



Redirecting in HTML

- I dk how to do this so I googled it and got this:
- <https://stackoverflow.com/questions/5411538/redirect-from-an-html-page>
- ```
<meta http-equiv="refresh" content="0; url=http://redirected-url.com/" />
```



# Ok cool beans!! Let's do it!!

- [github.com/eppingere/gpi-url-shortener](https://github.com/eppingere/gpi-url-shortener)
- Follow the instructions in the readme to set this up
- We'll be doing this with you so that no one gets lost
- But first you need to do one thing first...



# Setup for adding a new SSH key for Github

- So we wrote the url shortener code in Python. In order to use git commands automatically to do the automatic pushing and pulling, you need to setup ssh keys
- They're like a unique username/password for your github that works only on one computer [aka yours]
- <https://bit.ly/2HhWwqB>
- Follow these directions ^
- You should do this on a linux/unix system, so lsw if your on windows