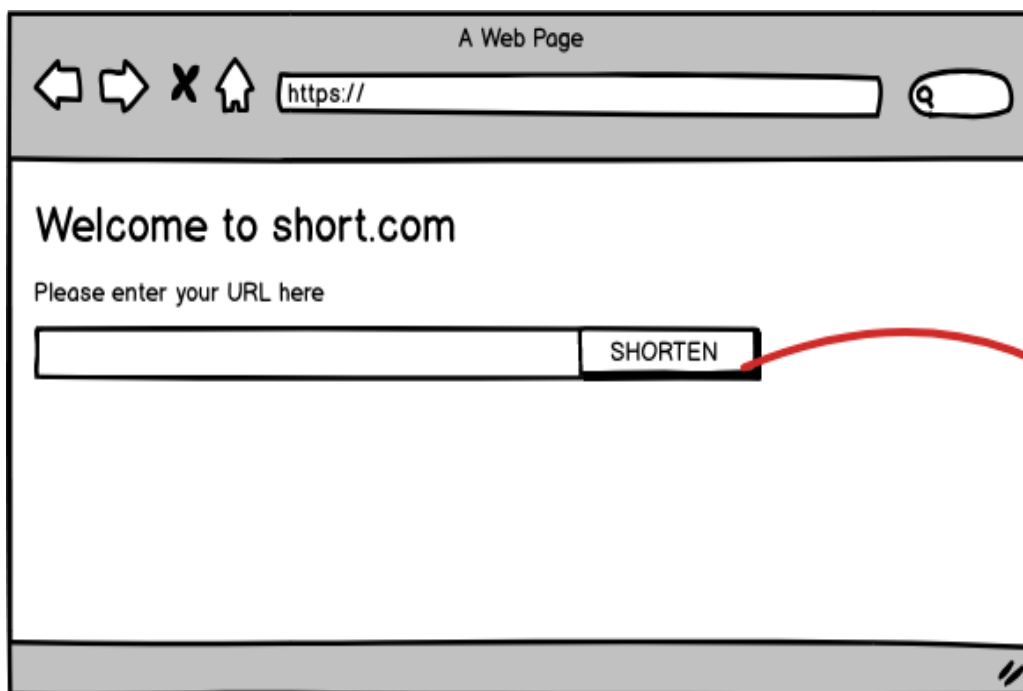


# Build a URL shortener

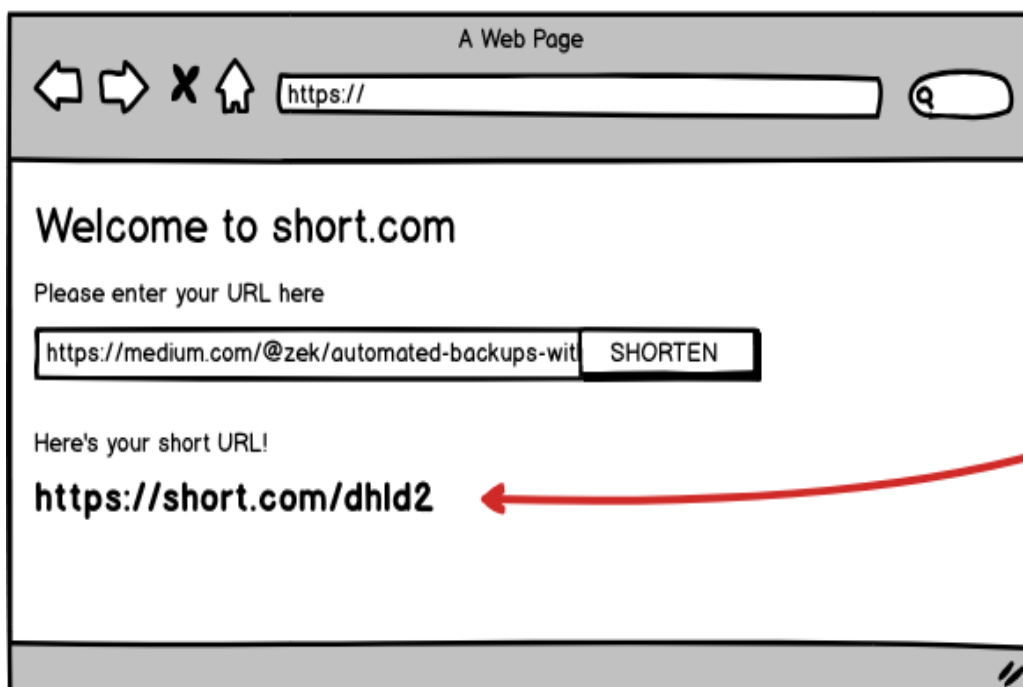
## Problem:

Build a URL shortening service that takes in the URL provided by the user and returns a short URL which can be shared by the user easily. When the short URL is accessed, it should do a redirect to the original URL. Please see [bitly.com](https://bitly.com) if you need to see how such a service might work.



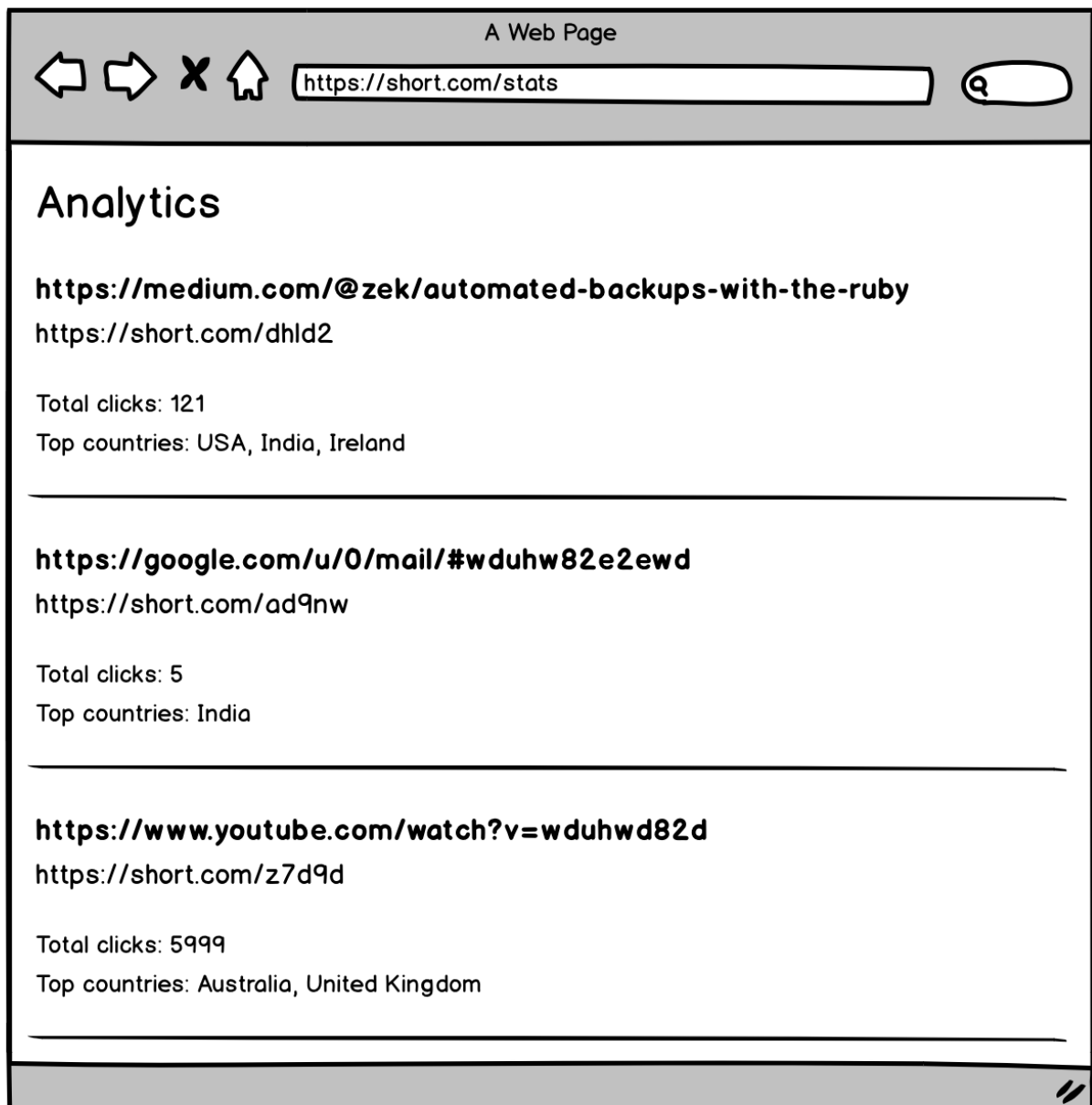
After user enters URL and clicks "SHORTEN", they see the shortened URL below.

**\*\*Page should not reload.\*\***



## Spec:

1. You can use any web framework / language to implement this (Rails, Sinatra, Spring, Flask, etc)
2. It needs to have a basic HTML user interface according to the above mockup. It's not necessary to spend time making the UI look polished. Not necessary to use any front-end frameworks (Bootstrap, etc), and will not count towards final grading.
3. When user submits the URL, the short version should load below without the page reloading. Please use AJAX.
4. The generated short URL path should have 5 random alpha-numeric characters. (The `short.com` domain is just a placeholder, you can leave it at `localhost:3000` or something).
5. When a user accesses the short URL, they should be redirected properly to the original URL.
6. Short URLs will need to expire after one month of creation. Accessing the URLs after a month should return a 404.
7. Short URL analytics needs to be tracked. The tracked data could include the following, you can try to track as much as you can.
  - a. Number of clicks
  - b. IP Addresses
  - c. Country
8. Analytical data needs to be presented to the user at `/stats` URL and it can look like the below wireframe:



## What we will look for?

1. Your submission needs to have enough instructions for us to run and test it.
2. Your approach of software design, code quality, maintainability, etc.
3. Code cleanliness & naming of symbols.
4. Your use of git will be judged. Try to use granular well-defined atomic commits with clear commit messages
5. Tests are a massive bonus.
6. Zero importance will be given to the user interface. We do not want to waste your time.

## **Bonus**

If you can provide a write up of what sort of scalability issues this service might encounter as users from *across the world* start using it and how we might go about improving the service will be useful and interesting to know your thought process and experience in this area.

## **Questions?**

If you have any questions, try to leave them as comments on this document. It will be useful for other candidates as well.