ASSIGNMENT

Design the architecture of a web service responsible for the URL shortening, similar to https://bitly.com/ or https://goo.gl/.

High-Level Requirements

As a user I'm visiting the website, which doesn't ask for a log in, and I insert inside a textbox the URL I want to shortner. When I submit the request, I obtain a short URL (based on a hypothetical domain, i.e. http://cor.to/ plus a unique string, short as needed, composed by simple character to be inserted in mobile pad.

The shortened URL resulting from this operation is usable by me or other people (without any limitation about the frequency of the usage), and if inserted in a browser cause a redirect to the longer URL.

The shortened URL is usable for a fixed amount of time (few months) and after that it will expire (after the validity timeframe its functioning is no more granted).

Execution

As a Tech Leader and architectural responsible for that project, we ask you to describe, adding picture, chart or whatever the high level architecture of this service.

- Which are the functional information (from the user point of view) you need to understand functionalities and limits? Which are the specific information (from the service administrator point of view) you need?
- Explain the architecture, describing the modules of the service both from a functional and technical point of view.
- Be ready to motivate your choices: we will challenge them to see your reaction to our comments.
- Don't think only to the applicative side of the service, we'll ask you either something about the infrastructural and the distribution aspects.
- Regarding the generation algorithm of the shorted URL, we would ask you to draft it in paper or programming. In that case we expect you to use C#.NET as a tech language.
- Be prepared to receive questions about possible future evolutions of the service: from anonymous to authenticated, with user profiles and so on.

Advice

- Don't' take anything for granted
- Key words to guide your design: resiliency, graceful degradation, stability
- Be open to advice and objections.

GOOD LUCK!