

URL Shortener – web application that allows shortening links.

User interface – to achieve our functionality we need input field, where we paste long link, a button „Short” and a text field, where shows our short link. This is the minimum. Good application could also have customization fields – domain (choose from list), alias – txt field, to better fit. To make the application easier to use another button can be added – short and extra copy new short link.

The diagram illustrates the user interface of a URL Shortener. It consists of the following elements:

- A large rounded rectangular input field labeled "long link - input field".
- Below the input field, there are two smaller rounded rectangular fields: "domain - select" and "alias - txt".
- Below these, there are two buttons: "short - button" and "short & copy button".
- At the bottom, there is a large rounded rectangular text field labeled "short link -text field".

When short link would be generated and used by Client ([www.shortenedLinkDomain.com/linkID=1232d](http://www.shortenedLinkDomain.com/linkID=1232d)), then ID would be assigned with value from query parameter and passed to backend service which would return related long link. After receiving it, UI would call redirect method to open long link target).

Service would be responsible for:

1. Generating unique ID aligned with long link
2. Validation of prepared record (pair of ID and LongLink) to make sure ID is not occurring multiple times in database
3. Saving record in file or external DB (better solution)
4. Fetching record from file by ID received from UI (when it is launched in redirect mode)