



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment No: 1

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Branch: B.E./C.S.E.

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Subject Name: System Design

Subject Code: 23CSH-314

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Section/Group: KRG-3B

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1. Aim: URL Shortner Designing

2. Requirement Gathering:

a. Functional Requirements

- Create a short URL from a Long URL
- Optional:
 - (a) Support custom URL
 - (b) Supports expiration date : Default + Custom expiration
 - (c) Unique Short URL
- User should get redirected to the original URL from short URL.

b. Non-Functional Requirements

- Low Latency: response in least amount of time: (On URL-creation, on URL Redirect) - 200 ms
- Scalability: 100M daily active user & application should be able to short 1B URL
- Unique: Shorten URL should be Unique.
- Availability: 24 x 7 available

3. Core Entities

- Short – URL
- Long – URL
- User



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4. Tool Used

- Postman API
- draw.io
- Lucid Chart
- excalidraw

5. API Designing

i. POST Endpoint :

- /v1/url -> short-URL
- Body
 - {
 - longURL,
 - customURL ? (optional),
 - expirationDate

ii. GET Endpoint:

- /v1/url/{short-url}