

## System Design Document

1. The system is a URL shortener with features to create short links, track clicks, and handle expiry.
2. It follows a client-server model with React frontend and Flask backend communicating via REST API.
3. MySQL is used for reliable relational data storage of URLs and click logs.
4. URLs table stores original URL, shortcode, timestamps, and click count; Clicks table logs individual clicks.
5. Shortcodes are unique identifiers for usability; expiry helps manage storage; clicks are logged separately.
6. No user authentication; shortcodes can be user-defined or auto-generated.
7. APIs are stateless to support scaling; database and code are designed for easy maintenance.