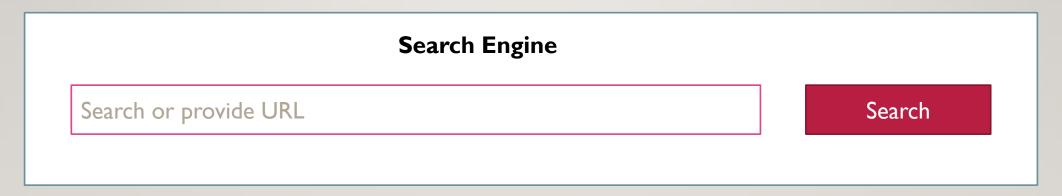# SEARCH ENGINE
HIGH LEVEL DESIGN

REQUIREMENTS FOR SEARCH ENGINE:

- URL Server.
- Crawlers.
- Store Server.
- Indexer.
- URL Resolver.
- PageRank.
- Sorter
- Dump Lexicon.
- Searcher.

BASIC UI

- Search Box

- Search on enter / Trigger HTTP GET Request on enter on Enter button.

Search Engine

Search or provide URL   Search

UI Design should be simple for better understanding and fast loading.

HTTP REQUEST

- <URL>/<Searched words>

Search word can fall under two categories:

   Wrongly spelled word (Eg. Shurt)

   Correctly spelled word (Eg. Shirt)

For both cases search results should be shown, but when spelling is wrongly typed assumption of E.g Shirt should be made by intelligently analysing system for above example.

HTTP RESPONSE

- Response returned should have following attributes:

➢ URL

➢ Title

➢ Description

➢ Index

➢ Image if needed for first 5 results.

IMPORTANT POINTS TO NOTE:

- Search engine should be fast.

- Search engine should show accurate results.

- Search engine should be highly available.

- Search engine should support multiple languages.

- Search engine should have cache mechanism.

- Search engine should show order of results based on relevance.

KEY TO BUILD A SUCCESSFUL SEARCH ENGINE

- Algorithms used for retrieval of relevant results from a pool of billions of results should be studied thoroughly.

- Algorithm should be simple yet fast and accurate.

  - Simple enough to have less or no need of modifying it frequently.

  - Fast enough to provide faster retrieval of results.

  - Accurate enough to list relevant results to the user.