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Module 5 of Path: Deep Dive into System Design Interview

Design Problems

Module Overview

This module presents the RESHADED framework for designing web-scale applications by determining requirements, constraints, and assumptions. It then dives into a step-by-step design process. Later in this module, we'll design several popular services using modular building blocks in unique combinations.

Module Objectives

Learn to use different building blocks to solve a real-world system design problem.

Start Learning

75 Lessons

59 Quizzes

1 Playground

55 Code Snippets

286 Illustrations

Module 4

Contents (Module 5)

Module 6

1. RESHADED Approach for System Design

- ☐ The RESHADED Approach for System Design

2. Design YouTube

- ☐ System Design: YouTube
- ☐ Requirements of YouTube's Design
- ☐ Design of YouTube
- ☐ Evaluation of YouTube's Design
- ☐ The Reality Is More Complicated
- ☐ Quiz on YouTube's Design

3. Design Quora

- ☐ System Design: Quora
- ☐ Requirements of Quora's Design
- ☐ Initial Design of Quora
- ☐ Final Design of Quora
- ☐ Evaluation of Quora’s Design

4. Design Google Maps

- ☐ System Design: Google Maps
- ☐ Requirements of Google Maps' Design
- ☐ Design of Google Maps
- ☐ Challenges of Google Maps' Design
- ☐ Detailed Design of Google Maps
- ☐ Evaluation of Google Maps' Design

5. Design a Proximity Service / Yelp

- ☐ System Design: Yelp
- ☐ Requirements of Yelp's Design
- ☐ Design of Yelp
- ☐ Design Considerations of Yelp
- ☐ Quiz on Yelp's Design

6. Design Uber

- ☐ System Design: Uber
- ☐ Requirements of Uber's Design
- ☐ High-level Design of Uber
- ☐ Detailed Design of Uber
- ☐ Payment Service and Fraud Detection in Uber Design
- ☐ Evaluation of Uber's Design
- ☐ Quiz on Uber's Design

7. Design Twitter

- ☐ System Design: Twitter
- ☐ Requirements of Twitter's Design
- ☐ High-level Design of Twitter
- ☐ Detailed Design of Twitter
- ☐ Client-side Load Balancer for Twitter
- ☐ Quiz on Twitter's Design

8. Design Newsfeed System

- ☐ System Design: Newsfeed System
- ☐ Requirements of a Newsfeed System's Design
- ☐ Design of a Newsfeed System
- ☐ Evaluation of a Newsfeed System's Design

9. Design Instagram

- ☐ System Design: Instagram
- ☐ Requirements of Instagram's Design
- ☐ Design of Instagram
- ☐ Detailed Design of Instagram
- ☐ Quiz on Instagram's Design

10. Design a URL Shortening Service / TinyURL

- ☐ System Design: TinyURL
- ☐ Requirements of TinyURL's Design
- ☐ Design and Deployment of TinyURL
- ☐ Encoder for TinyURL
- ☐ Evaluation of TinyURL's Design
- ☐ Quiz on TinyURL's Design

11. Design a Web Crawler

- ☐ System Design: Web Crawler
- ☐ Requirements of a Web Crawler's Design
- ☐ Design of a Web Crawler
- ☐ Design Improvements of a Web Crawler
- ☐ Evaluation of Web Crawler's Design

12. Design WhatsApp

- ☐ System Design: WhatsApp
- ☐ Requirements of WhatsApp's Design
- ☐ High-level Design of WhatsApp
- ☐ Detailed Design of WhatsApp
- ☐ Evaluation of WhatsApp's Design
- ☐ Quiz on WhatsApp's Design

13. Design Typeahead Suggestion

- ☐ System Design: The Typeahead Suggestion System
- ☐ Requirements of the Typeahead Suggestion System's Design
- ☐ High-level Design of the Typeahead Suggestion System
- ☐ Data Structure for Storing Prefixes
- ☐ Detailed Design of the Typeahead Suggestion System
- ☐ Evaluation of the Typeahead Suggestion System's Design
- ☐ Quiz on the Typeahead Suggestion System's Design

14. Design a Collaborative Document Editing Service / Google Docs

- ☐ System Design: Google Docs
- ☐ Requirements of Google Docs' Design
- ☐ Design of Google Docs
- ☐ Concurrency in Collaborative Editing
- ☐ Evaluation of Google Docs' Design

15. Conclusion

- ☐ Final Remarks

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