



Conclusions

Let's sum up what we've learned in this course.

Before we conclude, we'd like to congratulate you for completing such a challenging course!

In this course, we learned system design activity from the lens of basic building blocks—the fundamental subsystems that combine to make a bigger system. Doing so enabled us to focus on the specific business use cases instead of repeating the recurring concepts.



We carefully selected our design problems from many different domains, and we've made an explicit effort to incorporate some unique aspects or issues of system design activity in each of them.

Unique Aspects of Each Design Problem

Design Problem	Unique Aspect of Design
YouTube	Building custom data stores like Vitess and BigTable to me
Quora	Vertical sharding of MySQL database to meet the scal
Google Maps	The use of segmentation of a map to meet scalability needs



Twitter	The use of client-side load balancers for multiple services that had thousands of users, resulting in high latency
Newsfeed	A recommendation system to ensure ranking and feed freshness
Instagram	A perfect example of how different building blocks combine to build a system
TinyURL	Encoding IDs in the base-58 system for generating unique URLs
Web crawler	Detection, identification, and resolution of Web crawling issues
WhatsApp	Message management for offline users
Typeahead	The usage of an efficient trie data structure to provide fast search results
Google Docs	Concurrency management for simultaneous writes, using techniques like Conflict-free Replicated Data Type (CRDT)

At this point, we've built our system design toolbox, and we can now pick the right tools for the job at hand. We hope that this course has helped you gain enough knowledge to design new problems and solutions using our building blocks. Let's put our system design knowledge to work and build great systems!

Finally, we would like to thank you for taking the time to complete this course! We hope that it was a great experience for you. Please feel free to drop us an email or leave a comment on our community forum about any suggestions that you may have.

— Team Educative

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