There can be many aspects and variations of payment systems. A Payment System is very broa
gateway/3rd Party/ provider/merchant...etc. Cook up your requirements and choose your approa

Note:

Choose your role and MVP. Drag to your conclusive system design. Your design should be Technical (r
a. Functional Requirements(in short) - description of the service , activities each user role can perform ,
b. Non-Functional Requirements (in short) - Performance / Availability / Scalability / Security Encoding /
c. Any Extended Requirements you can think of is essential(in short) - Double spend / transaction timeo
d. Design consideration -
Iimpose size limit on any data ?
Read and Write volumes and based on latency throughput , any trade-off you might choose to build you
Authentication models best fitting your system and why ? How your system prevents anti-money launde
e. Capaity , Traffic & Storage Estimation
f. Exposed and Internal APIs + Parameters
g. Entities & their attributes - e.g User: userId, name, email, address, dob, creationDate, lastLogin, etc.
h. Database Schema + description of essential relationship
i. Choice of your storage and tradeoffs - Metadata storage / File Storage / Cloud Storage, Transient Dat
j. Any special Data Structure or Algorithm needed for any specific purpose ?
k. Any specific service we need as a - BackGround/Off-line/Pipeline Services for Synchronization OR M
l. Component Interaction diagram
m. Data Partitioning , Sharding, Replication - Range Based / Hash Based / or any custom key scheme
n. Pull/Push/Hybrid the Notification
o. what you would Cache ? Justify your caching strategy ?
p. Reason you choices for Encodings , Permissions and Securing your aplication - Double spend / trans

Related blogs / topics / architecture diagrams are enncouraged

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Accepted bakaiti002 ★ 153 May 28, 2021 9:15 PM

This is so generic, could be applied to all systems. Was expecting something specific given the title was de

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ommishra ★ 9 June 13, 2022 6:34 PM

https://newsletter.pragmaticengineer.com/p/designing-a-payment-system?s=r

3 Reply

YubiDesu ★ 267 February 28, 2023 11:54 PM