

MyYoutube Entrega 2

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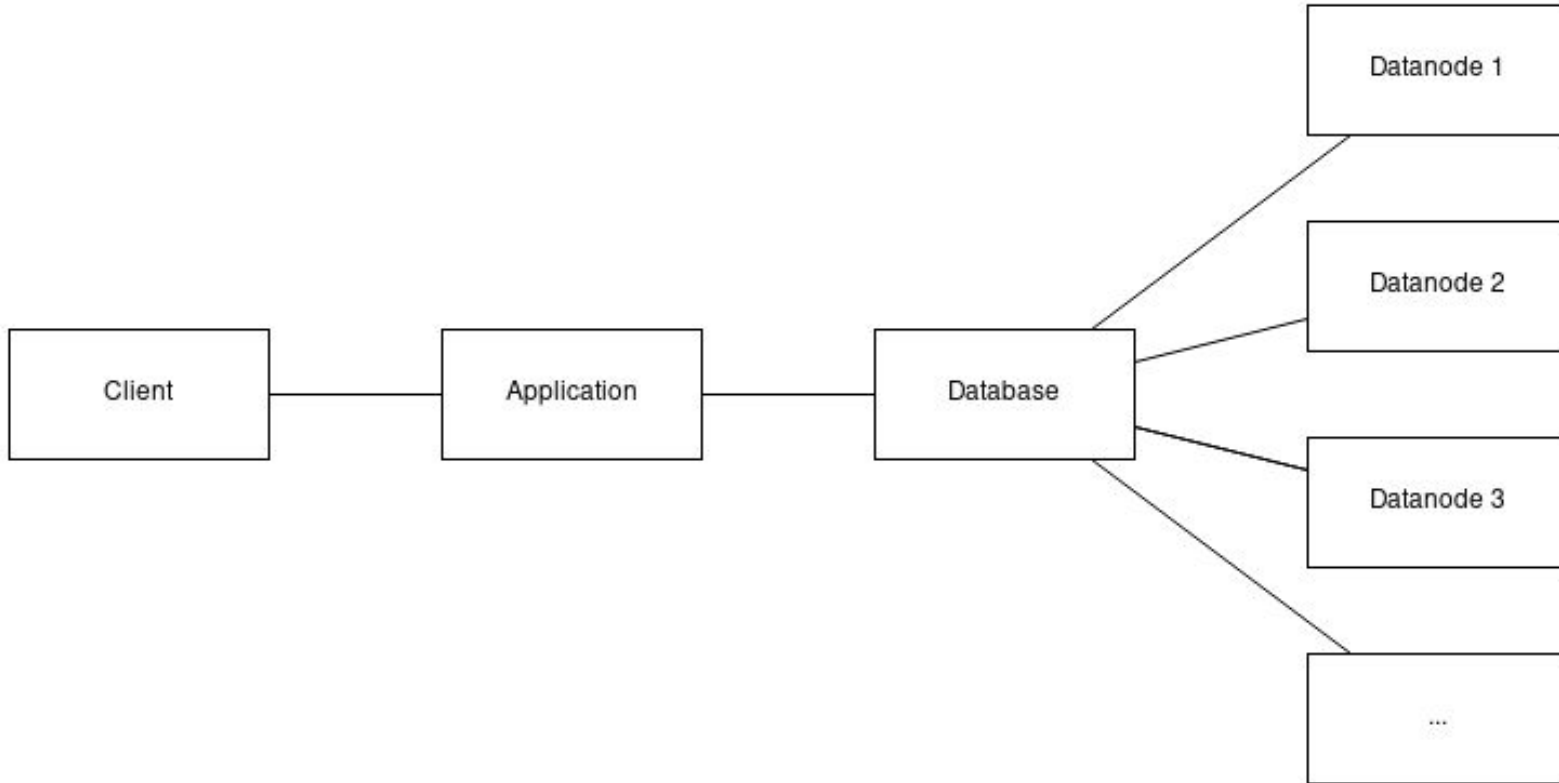


Architecture

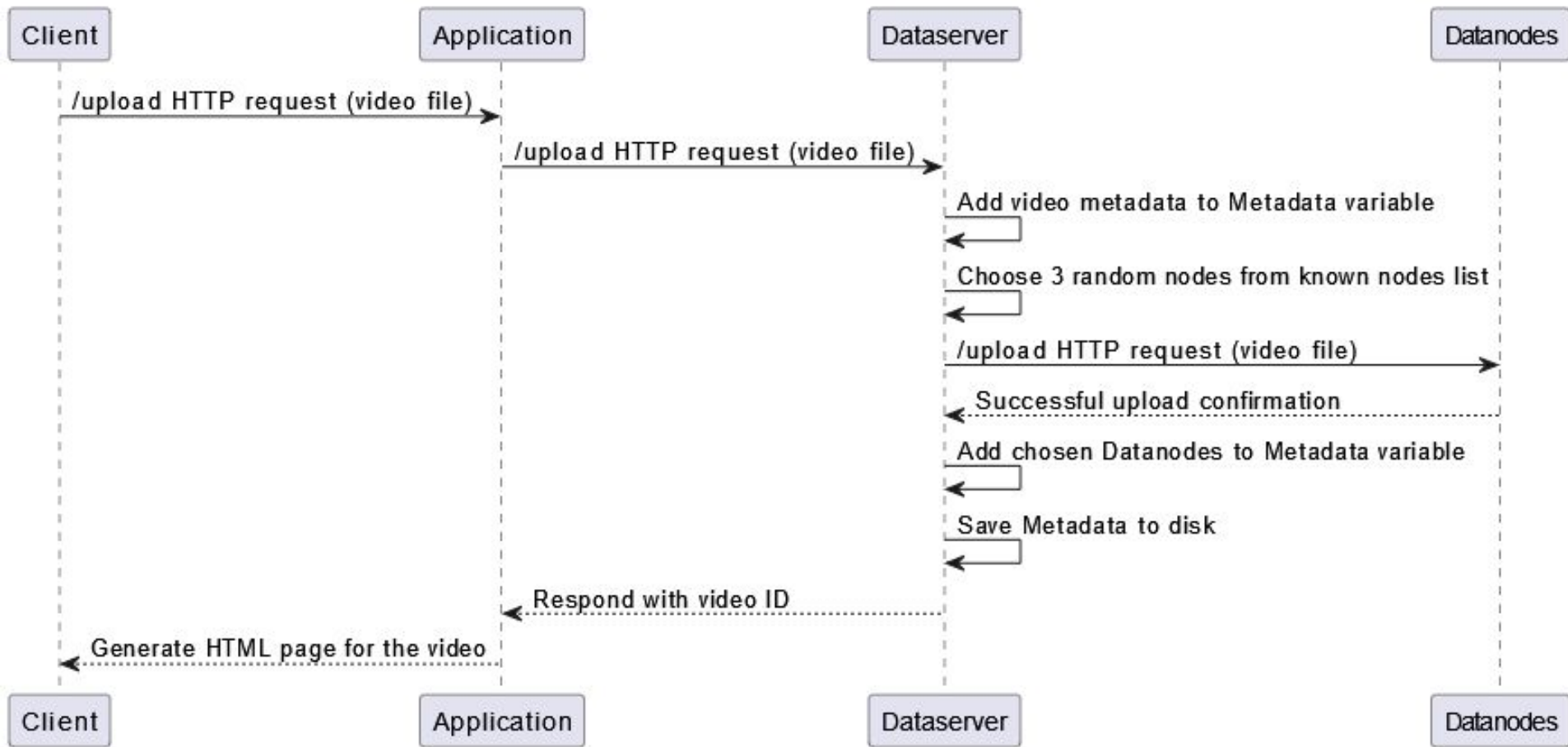
The system architecture comprises four core components: Client, Application, Database, and Data Nodes.

- The Client represents the user's browser used to access the application.
- The Application orchestrates all business logic and interfaces with the Database.
- The Database abstracts data storage and interfaces with multiple Datanodes, responsible for actual data storage. It coordinates and manages access to these nodes, maintaining the distributed index.
- The Datanode simply receives a file from the Database and writes it to disk, or retrieves a file and sends it to the Database.

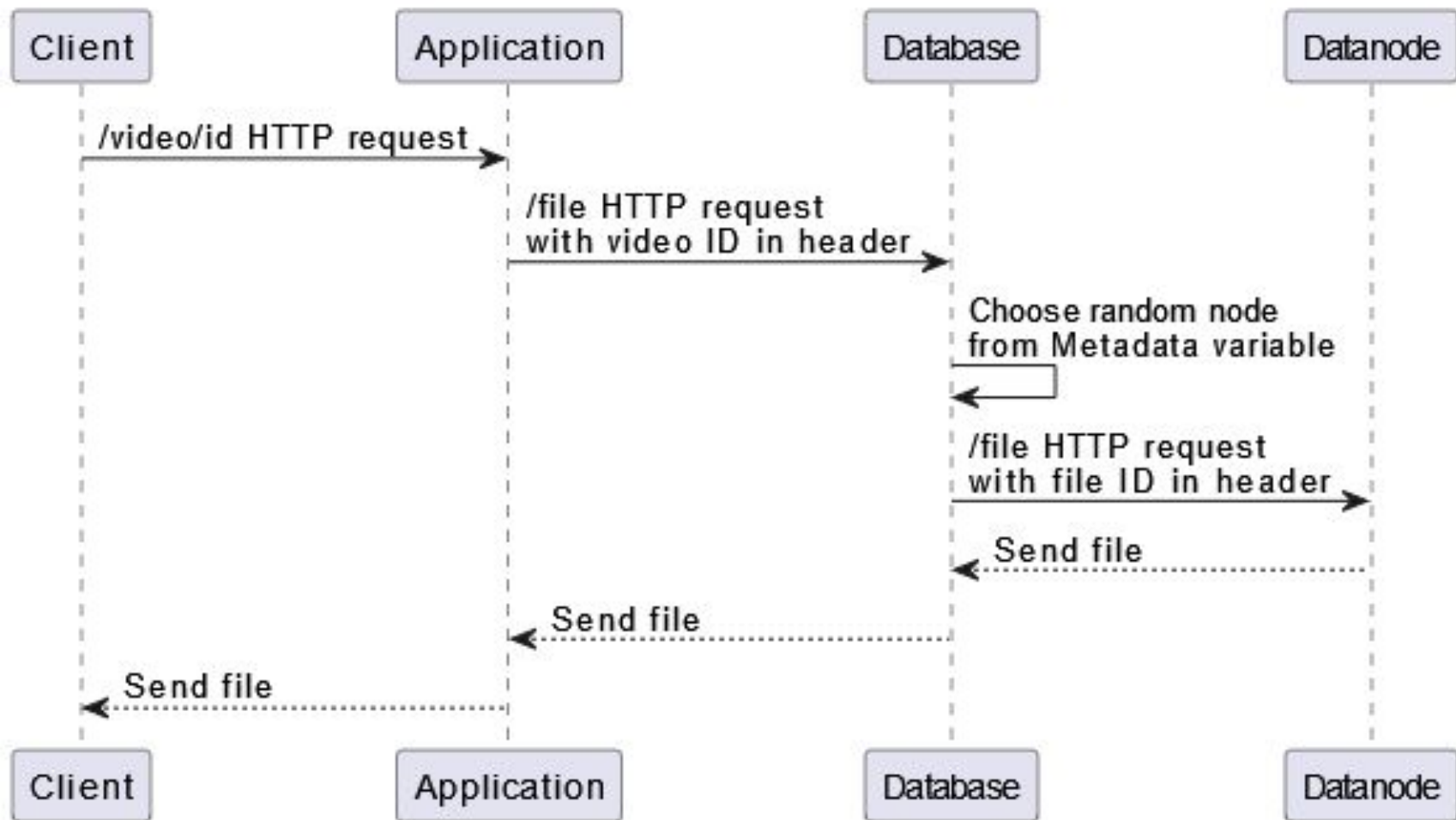
Architecture



Video Upload Sequence Diagram



Video Download Sequence Diagram





Future Work

- Automatic inclusion of Datanodes
- Implement Error Handling
- Utilization of Remote Procedure Calls (RPC) for ease of development
- Fault detection on Datanodes
 - Needs a new service that monitors the status of Datanodes.
- Load Balancing
 - Might need a new service.
 - Upload: Prioritize nodes with free space, that are underutilized, have SSDs, or some other criteria.
 - Download: Prioritize underutilized nodes.
- Distribute the Index to multiple servers
- Utilization of an actual database instead of storing data on files

Fin



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