

GOAL	RECOMMENDED DB	NOTES
Fast test + Field search	Elasticsearch/OpenSearch	It's great for searching both text and structured fields. It is also very powerful for scoring and aggregations (Kibana-style dashboards). It could be difficult to maintain, but it provides an excellent search user experience. It's worth it if we need real search features.
Fast relational filtering	PostgreSQL + pgvector / TimescaleDB	It has solid indexing and good spatial support (PostGIS). TimescaleDB adds time-series and caching features. It feels like a good balance for medium-sized datasets where we still want the flexibility of SQL.
Geospatial Dashboard	PostGIS (PostgreSQL)	It has native spatial indexes (GiST and SP-GiST), which are great for map heatmaps, distance queries and “find nearby” features. It's basically the go-to option for location-based stuff.
High throughput caching / Ephemeral data	Redis / Redis Stack	Super fast. It supports geospatial queries (GEOADD and GEORADIUS). It is perfect for autocomplete, temporary data or caching layers. We should decide whether we need the Redis Stack for its additional features or if the core version is sufficient.
Streaming + Search together	ClickHouse	It is excellent for real-time analytics and large datasets. It has a columnar engine (like BigQuery) but runs efficiently on local or VM setups. It is probably our best option for heavy dashboards or aggregated event logs.