Yalantis

BEST PRACTICES FOR CREATING A WELL-STRUCTURED DATA MODEL

We share key best practices for streamlined data modeling that we follow at Yalantis.

CONDUCT DATA MODELING SESSIONS WITH ALL CRITICAL STAKEHOLDERS.

Avoid the common mistake of only involving technical experts in the data modeling process. Make sure that all crucial business representatives are also invited to participate. This way, you can ensure that everyone is on the same page before project development starts, resulting in fewer conflicts during the actual development and deployment.

CLEARLY DEFINE YOUR DATA NEEDS AND REQUIREMENTS.

Together with technical and non-technical team members, you can discern necessary data elements that will apply to your software solution. In such a manner, you can ensure high application performance and optimal memory use from the outset.

BEGIN WITH A CONCEPTUAL DATA MODEL.

It may be tempting to avoid building a conceptual data model, but you should consider building it right away, as it will help you see the big picture of your core data assets. Once you have a clear vision of what business entities your application should include and how they're organized and connected with each other even at the most basic level, you'll reduce your chances of missing out on important entities and build an end-to-end system that works without disruptions.

APPLY DATA NORMALIZATION AND DENORMALIZATION APPROACHES WHEN NECESSARY.

With the help of **data normalization or normalized forms**, you can remove redundant or duplicate data right at the data modeling stage, ensuring enhanced application performance and scalability. Normalized forms can be of three types.

FORM	WHAT IT ELIMINATES
1NF (first normal form)	Data redundancy
2NF (second normal form)	Partial dependencies between entities (all attributes of an entity should depend on the primary key)
3NF (third normal form)	Transitive partial dependencies (when one non-prime attribute of an entity depends on another non-prime attribute, whereas all should depend only on the primary key)

On the contrary, **data denormalization** combines data elements into larger units for more efficient data management. It increases data redundancy in exchange for much quicker data queries and retrieval. You can define which approach is the most appropriate for you based on your project requirements.

GET PROFESSIONAL HELP.

Cooperating with an experienced data architecture team can help you speed up data modeling, as professionals know the right tools to work with and also how to quickly transform your unique requirements into schematic components of a data model.