

Having studied the diagram of the Kando relational model provided and through executing the queries for this assessment. I have come to the conclusion that the following improvements could be made to the Kando database:

Probably most importantly I discovered through the queries that a User can be allocated tasks on a Checklist but not be returned as being assigned to the Card that the Checklist belongs to. This could be remedied by relating ChecklistItem to User via CardAssignment and making the connection clearer by replacing AssignedTo with UserID in ChecklistItem. This would also require the inclusion of an entity between Card and User to determine the identity of the Creator attribute in Card- CardCreator.

The use of TinyInt as a datatype for CheckListItem.Completed, BoardInvite.InviteAccepted and User.AccountValidated should all be replaced with Bit(1). These attributes need to mimic Booleans and leaving them as TinyInt allows for the possibility of values that are not 0 or 1 to be entered which would exclude them from being used in IF statements to check their status.

The use of LongBlob as datatype for Attachment.Attachment could be replaced with a JSON Path type as storing the attachments in the database itself may cause problems at scale. Without knowing what size files could potentially be attached it would be a gamble to include them as part of the database itself. JSON Path type would allow the attachments to be stored externally from the database.

For User.ProfilePic again the use of LongBlob may be too much for the database at scale, the use of Blob would be more appropriate here. Given the display size of profile pics they could easily be compressed to fit within the 64Kb limit and still be legible, this would allow them to be stored within the database allowing for ease of access.

An attribute called IsUserRegistered, with datatype Bit(1), should be included in BoardInvite as it could then be leveraged to adjust the contents of the invite email that is issued e.g. email would contain a direct link to board for existing users whereas new users would receive a link to set up a new account. This attribute could even be leveraged to issue invites within Kando itself e.g in an existing users Notification tab and thus reduce the amount of emails to be sent or allow an existing user to determine what notification emails they receive from Kando.

Please see submitted Draw.io diagram for illustrations of the above changes.