**Data Modeling Checklist**

**1. Determine Business Rules**

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|  | Document the business rules |
|  | Verify business rules with client(s) |
|  | Analyze business rules to build the data requirements |
|  | Determine the entities, relationships, and constraints from the business rules |

**2. Data Modeling: Entities**

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|  | Use requirements to determine entities for Entity Relationship Diagram (ERD) |
|  | Each entity should represent a single object |

**3. Data Modeling: Attributes**

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|  | Determine attributes for each entity (including any primary or foreign keys: mark these with PK or FK) |
|  | Ensure attribute names are unique within the entire model (don’t have five “id” fields) |
|  | Ensure all tables and names are lowercase & use underline naming (client\_id vs. clientId) |
|  | Attributes should be simple and single-valued (ensures atomic data) |
|  | Should not have redundancy in attributes unless justified for accuracy or significant performance issues |

**4. Data Modeling: Relationships**

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|  | Ensure all relationships added to ERD |
|  | Ensure cardinality (0 or 1) & connectivity (one to one, one to many, many to many) are fully documented |

**5. Normalize & Relational Algebra**

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| --- | --- |
|  | Ensure ERD is in 3NF or higher; Justify any entities below 3NF |
|  | Build initial relational algebra (SQL queries) based on Business Rules |