Project Step 1 Draft

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Project title: "Dads with Babies"

a) Overview (one paragraph)
   a. Daddy's Daycare offers childcare for ages 0-5, for a monthly payment that ranges between $800 to $1200 (depending on the age of the child). A database driven website will help match each of the customer's children with one of the 12 teachers by efficiently tracking their ages and capacity of the teacher (4 students per teacher). Tracking includes information about the child, and the teachers. The daycare has a lot of enrollee applications. This database will enable us to strategize where to place children, how close we are to capacity, and revenue/tuition payment statuses. It will also help us track inventory on learning resources for the children and purchasing status of the items.

b) DB outline (bullet format, 4 entity tables, 4 relationships)

a. **Classes**: This is any of the classes, as separated by age in years. Each age group has two classes of a maximum of four children each.
- Class_id: int, not NULL, PK, unique
- Class_name: varchar, not NULL
- Cost_per_child: float, not NULL ($)
- Class_size: int, NULL if there aren't any children enrolled, max 4
- *Relationship*: 1:1 relationship between Employee and Classes with Classes (class_id) as FK inside of Employee. 1:M relationship between Child and Classes with Classes (class_id) as FK in Employee. M:M relationship between LearningResource and Classes with LearningResources (item_code) as FK in Child.
- *One class can have many children, many learning resources and one teacher*.

b. **Employee**: This contains the full list of teachers available, and which age group they work with. Must have a class field for activation. It also shows they have access to the database for tracking, Note: Need a credential table (facilitates intersection table?(not an entity))
- Employee_id: int, not NULL, PK, unique
- First_name: varchar, not NULL
- Last_name: varchar, not NULL
- Days_available: varchar, could "Mon-Thurs", "Tue-Fri", not NULL
- Class_id: int, FK, not NULL
- *Relationship*: 1:1 relationship between Classes and Employee with Classes (class_id) as FK in Employee.
- *One teacher can have many children, many learning resources, and one class*

c. **Child**: This contains information on the children currently enrolled, with reference to their teacher, class, age and tuition (including paid status)
- Child_id: int, not NULL, PK, unique
- First_name: varchar, not NULL
- Last_name: varchar, not NULL
- Age: int, NULL for children under 1 year old
- Teacher_id: int, FK(employee_id), not NULL
- Payment_status: varchar, can be "paid" or "unpaid", not NULL
- Learning_resource: int, FK(item_code), not NULL
- *Relationship*: 1:1 relationship between Child and LearningResources with LearningResources (item_code) as FK in Child. M:1 relationship between Classes and Child with Employee (teacher_id) as FK in Child
- *One child can have one teacher, one learning resource and one class*.

d. **LearningResource**: List of learning resources and educational toys that each child uses. A child can use one learning resources at a time and many classes can utilize the same learning resource or multiple learning resources at once.
- Item_code: int, not NULL, PK
- Item_name: varchar, not NULL

- item_price: float, not NULL
- Renewal_status: varchar, not NULL (for subscription-based items)
- *Relationship*: M:M relationship between Classes and LearningResources with LearningResources (item_code) as FK in Child. 1:M relationship between Child and LearningResource with LearningResource (item_code) s FK in Child
- *One Learning resource can have many classes, many teachers and many children*

c) Entity-relationship diagram (logical model of DB, match the DB outline with correct notation)

Employee

Child

Classes

LearningResource

A child will be a part of one and only one class. A class could have 0 or more children (max 4)

A class has one and only one teacher and a teacher is a part of one and only one class

A child will have one and only one favorite item. An item could be the favorite of 0 or more children

A class will have many items. An item could exist in one or many classes