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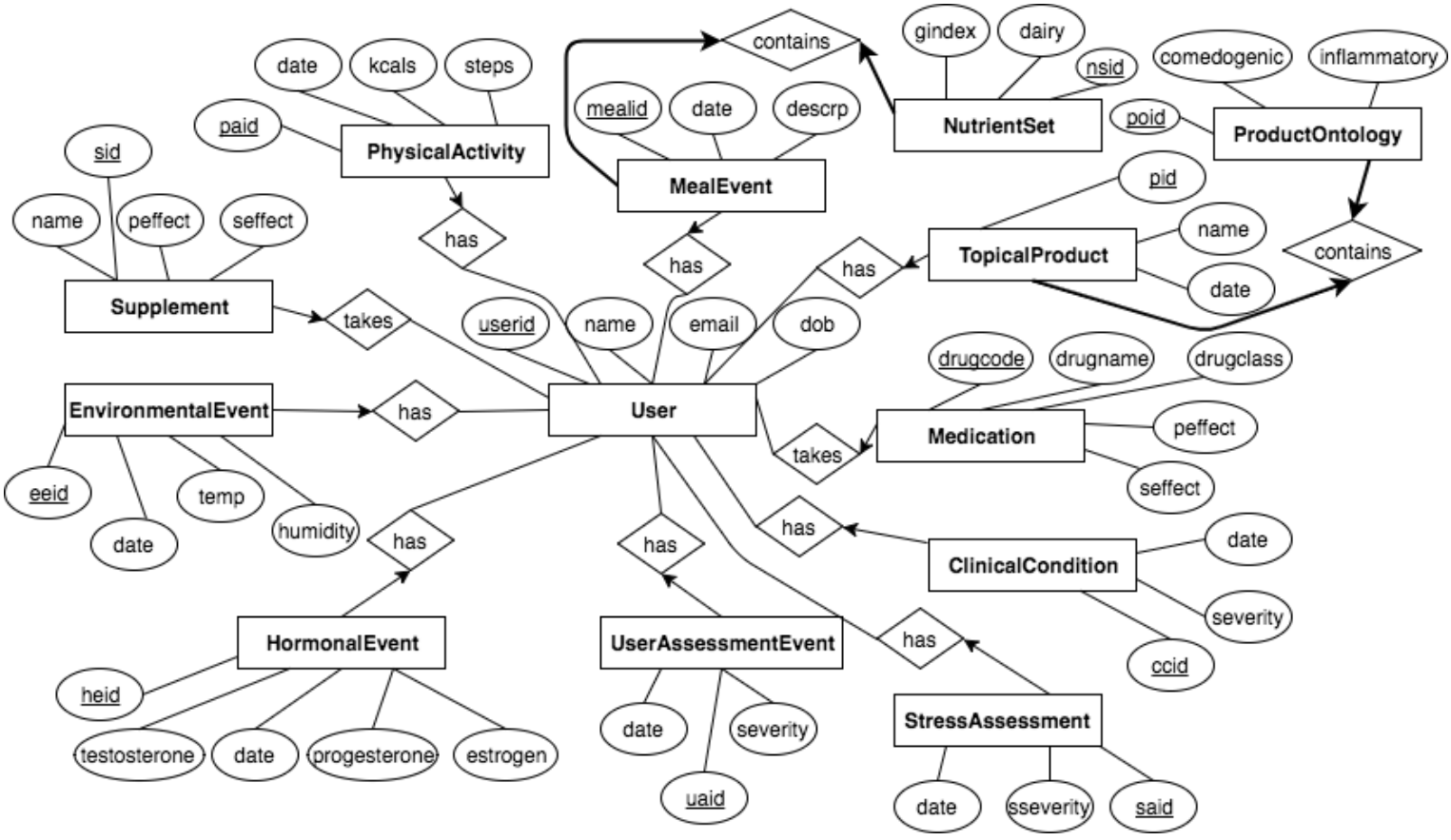
The RDMS we will design & build will serve as a component of the backend of a mobile health (mHealth) application that uses data science to help people manage mild to moderate acne. The front-end of the application will collect data related to established triggers of acne exacerbations and formulate recommendations for the user based on their individual history as collected in the app. The application database itself will store information about users, the pharmaceutical drugs they take, hormonal activity captured using a period tracker, stress levels, nutrition, and other sources of information.

The schema will be oriented around a single user and as such, a unique user identifier (e.g. UserID) will be the *foreign key* for most tables. Other tables, such as MealEvent and TopicalProduct entities will have relationships with reference tables. Moreover, these will have participation constraints different then those of tables that have relationships with the UserCharacteristics table (1 to many); each unique row in the MealEvent and TopicalProduct tables will have either zero or one corresponding entity in their respective reference tables (1 to 1). The ER diagram includes the additional entities we may use for extending the database as a contingency plan. This project has been approved by the TA Rujia Yang with permission from Prof. Biliris.

ER Diagram



Relational Schema